Supplemental Listing Document

If you are in any doubt as to any aspect of this document, you should consult your stockbroker or other registered dealer in securities, bank manager, solicitor, accountant or other professional adviser.

Application has been made to the Singapore Exchange Securities Trading Limited (the "**SGX-ST**") for permission to deal in and for quotation of the Certificates (as defined below). The SGX-ST takes no responsibility for the contents of this document, makes no representation as to its accuracy or completeness and expressly disclaims any liability whatsoever for any loss howsoever arising from or in reliance upon the whole or any part of the contents of this document. Admission to the Official List of the SGX-ST is not to be taken as an indication of the merits of SG Issuer, Société Générale, the Certificates, or the Company (as defined below).

1,091,000 European Style Cash Settled Long Certificates

relating to the ordinary shares of par value US$0.50 each of HSBC Holdings plc

with a Daily Leverage of 5x

issued by

SG Issuer

(Incorporated in Luxembourg with limited liability)

unconditionally and irrevocably guaranteed by

Société Générale

Issue Price: S$2.20 per Certificate

This document is published for the purpose of obtaining a listing of all the above certificates (the "**Certificates**") to be issued by SG Issuer (the "**Issuer**") unconditionally and irrevocably guaranteed by Société Générale (the "**Guarantor**"), and is supplemental to and should be read in conjunction with a base listing document dated 21 June 2018 including such further base listing documents as may be issued from time to time (the "**Base Listing Document**"), as supplemented by an addendum to the Base Listing Document dated 5 November 2018 (the "**Addendum**"), for the purpose of giving information with regard to the Issuer, the Guarantor and the Certificates. Information relating to the Company (as defined below) is contained in this document.

This document does not constitute or form part of any offer, or invitation, to subscribe for or to sell, or solicitation of any offer to subscribe for or to purchase, Certificates or other securities of the Issuer, nor is it calculated to invite, nor does it permit the making of, offers by the public to subscribe for or purchase for cash or other consideration the Certificates or other securities of the Issuer.

Restrictions have been imposed on offers and sales of the Certificates and on distributions of documents relating thereto in Singapore, Hong Kong, the European Economic Area, the United Kingdom and the United States (see "Placing and Sale" contained herein).

Investors are warned that the price of the Certificates may fall in value as rapidly as it may rise and holders may sustain a total loss of their investment. The price of the Certificates also depends on the supply and demand for the Certificates in the market and the price at which the Certificates is trading at any time may differ from the underlying valuation of the Certificates because of market inefficiencies. It is not possible to predict the secondary market for the Certificates. Although the Issuer, the Guarantor and/or any of their affiliates may from time to time purchase the Certificates or sell additional Certificates on the market, the Issuer, the Guarantor and/or any of their affiliates are not obliged to do so. Investors should also note that there are leveraged risks because the Certificates integrate a leverage mechanism and the Certificates will amplify the movements in the increase, and in the decrease, of the value of the Underlying Stock (as defined below) and if the investment results in a loss, any such loss will be increased by the leverage factor of the Certificates. As such, investors could lose more than they would if they had invested directly in the Underlying Stock.

The Certificates are classified as capital markets products other than prescribed capital markets products[1] and Specified Investment Products (SIPs)[2], and may only be sold to retail investors with enhanced safeguards, including an assessment of such investors' investment knowledge or experience.

The Certificates constitute general unsecured obligations of the Issuer and of no other person, and the guarantee dated 21 June 2018 (the "**Guarantee**") and entered into by the Guarantor constitutes general unsecured obligations of the Guarantor and of no other person, and if you purchase the Certificates, you are relying upon the creditworthiness of the Issuer and the Guarantor and have no rights under the Certificates against any other person.

Application has been made to the SGX-ST for permission to deal in and for quotation of the Certificates and the SGX-ST has agreed in principle to grant permission to deal in and for quotation of the Certificates. It is expected that dealings in the Certificates will commence on or about 26 February 2019.

As of the date hereof, the Guarantor's long term credit rating by S&P Global Ratings is A, and by Moody's Investors Service, Inc. is A1.

The Issuer is regulated by the Luxembourg Commission de Surveillance du Secteur Financier on a consolidated basis and the Guarantor is regulated by, *inter alia*, the Autorité des Marchés Financiers, the Autorité de Contrôle Prudentiel et de Résolution and the European Central Bank.

25 February 2019

[1] As defined in the Securities and Futures (Capital Markets Products) Regulations 2018.
[2] As defined in the MAS Notice SFA 04-N12: Notice on the Sale of Investment Products and MAS Notice FAA-N16: Notice on Recommendations on Investment Products.

Subject as set out below, the Issuer and the Guarantor accept full responsibility for the accuracy of the information contained in this document, the Base Listing Document and the Addendum in relation to themselves and the Certificates. To the best of the knowledge and belief of the Issuer and the Guarantor (each of which has taken all reasonable care to ensure that such is the case), the information contained in this document, the Base Listing Document and the Addendum for which they accept responsibility (subject as set out below in respect of the information contained herein with regard to the Company) is in accordance with the facts and does not omit anything likely to affect the import of such information. The information with regard to the Company as set out herein is extracted from publicly available information. The Issuer and the Guarantor accept responsibility only for the accurate reproduction of such information. No further or other responsibility or liability in respect of such information is accepted by the Issuer and the Guarantor.

No person has been authorised to give any information or to make any representation other than those contained in this document in connection with the offering of the Certificates, and, if given or made, such information or representations must not be relied upon as having been authorised by the Issuer or the Guarantor. Neither the delivery of this document nor any sale made hereunder shall under any circumstances create any implication that there has been no change in the affairs of the Issuer, the Guarantor or their respective subsidiaries and associates since the date hereof.

This document does not constitute an offer or invitation by or on behalf of the Issuer or the Guarantor to purchase or subscribe for any of the Certificates. The distribution of this document and the offering of the Certificates may, in certain jurisdictions, be restricted by law. The Issuer and the Guarantor require persons into whose possession this document comes to inform themselves of and observe all such restrictions. In particular, the Certificates and the Guarantee have not been and will not be registered under the United States Securities Act of 1933, as amended or any state securities law, and trading in the Certificates has not been approved by the United States Commodity Futures Trading Commission (the "**CFTC**") under the United States Commodity Exchange Act of 1936, as amended. Accordingly, Certificates, or interests thereon, may not at any time be offered, sold, resold, traded, pledged, exercised, redeemed, transferred or delivered, directly or indirectly, in the United States or to, or for the account or benefit of, U.S. persons, nor may any U.S. person at any time trade or maintain a position in the Certificates. In addition, in the absence of relief from the CFTC, offers, sales, re-sales, trades, pledges, exercises, redemptions, transfers or deliveries of Certificates, or interests therein, directly or indirectly, in the United States or to, or for the account or benefit of, U.S. persons, may constitute a violation of United States law governing commodities trading. Consequently, any offer, sale, resale, trade, pledge, exercise, redemption, transfer or delivery made, directly or indirectly, within the United States or to, or for the account or benefit of, a U.S. person will not be recognised. A further description of certain restrictions on offering and sale of the Certificates and distribution of this document is given in the section headed "Placing and Sale" contained herein.

The SGX-ST has made no assessment of, nor taken any responsibility for, the financial soundness of the Issuer or the Guarantor or the merits of investing in the Certificates, nor have they verified the accuracy or the truthfulness of statements made or opinions expressed in this document.

The Issuer, the Guarantor and/or any of their affiliates may repurchase Certificates at any time on or after the date of issue and any Certificates so repurchased may be offered from time to time in one or more transactions in the over-the-counter market or otherwise at prevailing market prices or in negotiated transactions, at the discretion of the Issuer, the Guarantor and/or any of their affiliates. Investors should not therefore make any assumption as to the number of Certificates in issue at any time.

References in this document to the "**Conditions**" shall mean references to the Terms and Conditions of the European Style Cash Settled Long/Short Certificates on Single Equities contained in the Addendum. Terms not defined herein shall have the meanings ascribed thereto in the Conditions.

Table of Contents

	Page
Risk Factors	**6**
Terms and Conditions of the Certificates	**15**
Terms and Conditions of the European Style Cash Settled Long/Short Certificates on Single Equities	**24**
Summary of the Issue	**37**
Information relating to the European Style Cash Settled Long Certificates on Single Equities	**39**
Information relating to the Company	**54**
Information relating to the Designated Market Maker	**55**
Supplemental Information relating to the Guarantor	**57**
Supplemental General Information	**58**
Placing and Sale	**60**
Appendix I	
Appendix II	

RISK FACTORS

The following are risk factors relating to the Certificates:

(a) investment in Certificates involves substantial risks including market risk, liquidity risk, and the risk that the Issuer and/or the Guarantor will be unable to satisfy its/their obligations under the Certificates. Investors should ensure that they understand the nature of all these risks before making a decision to invest in the Certificates. You should consider carefully whether Certificates are suitable for you in light of your experience, objectives, financial position and other relevant circumstances. Certificates are not suitable for inexperienced investors;

(b) the Certificates constitute general unsecured obligations of the Issuer and of no other person, and the Guarantee constitutes general unsecured obligations of the Guarantor and of no other person. In particular, it should be noted that the Issuer issues a large number of financial instruments, including Certificates, on a global basis and, at any given time, the financial instruments outstanding may be substantial. If you purchase the Certificates, you are relying upon the creditworthiness of the Issuer and the Guarantor and have no rights under the Certificates against any other person;

(c) since the Certificates relate to the price of the Underlying Stock, certain events relating to the Underlying Stock may cause adverse movements in the value and the price of the Underlying Stock, as a result of which, the Certificate Holders (as defined in the Conditions of the Certificates) may, in extreme circumstances, sustain a significant loss of their investment if the price of the Underlying Stock has fallen sharply on the Expiry Date;

(d) due to their nature, the Certificates can be volatile instruments and may be subject to considerable fluctuations in value. The price of the Certificates may fall in value as rapidly as it may rise due to, including but not limited to, variations in the frequency and magnitude of the changes in the price of the Underlying Stock, the time remaining to expiry, the currency exchange rates and the creditworthiness of the Issuer and the Guarantor;

(e) if, whilst any of the Certificates remain unexercised, trading in the Underlying Stock is suspended or halted on the relevant stock exchange, trading in the Certificates will be suspended for a similar period;

(f) as indicated in the Conditions of the Certificates and herein, a Certificate Holder must tender a specified number of Certificates at any one time in order to exercise. Thus, Certificate Holders with fewer than the specified minimum number of Certificates in a particular series will either have to sell their Certificates or purchase additional Certificates, incurring transactions costs in each case, in order to realise their investment;

(g) investors should note that in the event of there being a Market Disruption Event (as defined in the Conditions) determination or payment of the Cash Settlement Amount (as defined in the Conditions) may be delayed, all as more fully described in the Conditions;

(h) certain events relating to the Underlying Stock require or, as the case may be, permit the Issuer to make certain adjustments or amendments to the Conditions. Investors may refer to the Conditions 4 and 6 on pages 28 to 32 and the examples and illustrations of adjustments set out in the "Information relating to the European Style Cash Settled Long Certificates on Single Equities" section of this document for more information;

(i) the Certificates are only exercisable on the Expiry Date and may not be exercised by Certificate Holders prior to such Expiry Date. Accordingly, if on the Expiry Date the Cash Settlement Amount is zero, a Certificate Holder will lose the value of his investment;

(j) the total return on an investment in any Certificate may be affected by the Hedging Fee Factor (as defined below), Management Fee (as defined below) and Gap Premium (as defined below);

(k) investors holding their position overnight should note that they would be required to bear the annualised cost which consists of the Management Fee and Gap Premium, which are calculated daily and applied to the value of the Certificates, as well as certain costs embedded within the Leverage Strategy (as described below) including the Funding Cost (as defined below) and Rebalancing Cost (as defined below);

(l) investors should note that there may be an exchange rate risk relating to the Certificates where the Cash Settlement Amount is converted from a foreign currency into Singapore dollars.

Exchange rates between currencies are determined by forces of supply and demand in the foreign exchange markets. These forces are, in turn, affected by factors such as international balances of payments and other economic and financial conditions, government intervention in currency markets and currency trading speculation. Fluctuations in foreign exchange rates, foreign political and economic developments, and the imposition of exchange controls or other foreign governmental laws or restrictions applicable to such investments may affect the foreign currency market price and the exchange rate-adjusted equivalent price of the Certificates. Fluctuations in the exchange rate of any one currency may be offset by fluctuations in the exchange rate of other relevant currencies;

(m) investors should note that there are leveraged risks because the Certificates integrate a leverage mechanism and the Certificates will amplify the movements in the increase, and in the decrease, of the value of the Underlying Stock and if the investment results in a loss, any such loss will be increased by the leverage factor of the Certificates. As such, investors could lose more than they would if they had invested directly in the Underlying Stock;

(n) when held for longer than a day, the performance of the Certificates could be more or less than the leverage factor that is embedded within the Certificates. The performance of the Certificates each day is locked in, and any subsequent returns are based on what was achieved the previous day. This process, referred to as compounding, may lead to a performance difference from 5 times the performance of the Underlying Stock over a period longer than one day. This difference may be amplified in a volatile market with a sideway trend, where market movements are not clear in direction, whereby investors may sustain substantial losses;

(o) investors should note that the Air Bag Mechanism (as defined below) reduces the impact on the Leverage Strategy if the Underlying Stock falls further, but will also maintain a reduced exposure to the Underlying Stock in the event the Underlying Stock starts to rise after the Air Bag Mechanism is triggered, thereby reducing its ability to recoup losses;

(p) there is no assurance that the Air Bag Mechanism will prevent investors from losing the entire value of their investment, in the event of (i) an overnight fall in the Underlying Stock, where there is a 20% or greater gap between the previous day closing price and the opening price of the Underlying Stock the following day, as the Air Bag Mechanism will only be triggered when market opens the following day or (ii) a sharp intraday fall in the price of the Underlying Stock of 20% or greater (comparative to the previous closing price of the Underlying Stock or the previous observed price in case of an air bag previously on the same day) during the Observation Period. Investors may refer to pages 47 to 48 of this document for more information;

(q) certain events may, pursuant to the terms and conditions of the Certificates, trigger (i) the implementation of methods of adjustment or (ii) the early termination of the Certificates. The Issuer will give the investors reasonable notice of any early termination. If the Issuer terminates the Certificates early, then the Issuer will, if and to the extent permitted by applicable law, pay an amount to each Certificate Holder in respect of each Certificate held by such holder equal to the fair market value of the Certificate less the cost to the Issuer of unwinding any underlying related hedging arrangements, all as determined by the Issuer in its sole and absolute discretion. The performance of this commitment shall depend on (i) general market conditions and (ii) the liquidity conditions of the underlying instrument(s) and, as the case may be, of any other hedging transactions. Investors should note that the amount repaid by the Issuer may be less than the amount initially invested. Investors may refer to the Condition 13 on pages 34 to 36 of this document for more information;

(r) there is no assurance that an active trading market for the Certificates will sustain throughout the life of the Certificates, or if it does sustain, it may be due to market making on the part of the Designated Market Maker. The Issuer acting through its Designated Market Maker may be the only market participant buying and selling the Certificates. Therefore, the secondary market for the Certificates may be limited and you may not be able to realise the value of the Certificates. Do note that the bid-ask spread increases with illiquidity;

(s) in the ordinary course of their business, including without limitation, in connection with the Issuer or its appointed designated market maker's market making activities, the Issuer, the Guarantor and any of their respective subsidiaries and affiliates may effect transactions for their own account or for the account of their customers and hold long or short positions in the Underlying Stock. In addition, in connection with the offering of any Certificates, the Issuer, the Guarantor and any of their respective subsidiaries and affiliates may enter into one or more hedging transactions with respect to the Underlying Stock. In connection with such hedging or market-making activities or with respect to proprietary or other trading activities by the Issuer, the Guarantor and any of their respective subsidiaries and affiliates, the Issuer, the Guarantor and any of their respective subsidiaries and affiliates may enter into transactions in the Underlying Stock which may affect the market price, liquidity or value of the Certificates and which may affect the interests of Certificate Holders;

(t) various potential and actual conflicts of interest may arise from the overall activities of the Issuer, the Guarantor and/or any of their subsidiaries and affiliates.

The Issuer, the Guarantor and any of their subsidiaries and affiliates are diversified financial institutions with relationships in countries around the world. These entities engage in a wide range of commercial and investment banking, brokerage, funds management, hedging transactions and investment and other activities for their own account or the account of others. In addition, the Issuer, the Guarantor and any of their subsidiaries and affiliates, in connection with their other business activities, may possess or acquire material information about the Underlying Stock. Such activities and information may involve or otherwise affect issuers of the Underlying Stock in a manner that may cause consequences adverse to the Certificate Holders or otherwise create conflicts of interests in connection with the issue of Certificates by the Issuer. Such actions and conflicts may include, without limitation, the exercise of voting power, the purchase and sale of securities, financial advisory relationships and exercise of creditor rights. The Issuer, the Guarantor and any of their subsidiaries and affiliates have no obligation to disclose such information about the Underlying Stock or such activities. The Issuer, the Guarantor and any of their subsidiaries and affiliates and their officers and directors may engage in any such activities without regard to the issue of Certificates by the Issuer or the effect that such activities may directly or indirectly have on any Certificate;

(u) legal considerations which may restrict the possibility of certain investments:

Some investors' investment activities are subject to specific laws and regulations or laws and regulations currently being considered by various authorities. All potential investors must consult their own legal advisers to check whether and to what extent (i) they can legally purchase the Certificates (ii) the Certificates can be used as collateral security for various forms of borrowing (iii) if other restrictions apply to the purchase of Certificates or their use as collateral security. Financial institutions must consult their legal advisers or regulators to determine the appropriate treatment of the Certificates under any applicable risk-based capital or similar rules;

(v) the credit rating of the Guarantor is an assessment of its ability to pay obligations, including those on the Certificates. Consequently, actual or anticipated declines in the credit rating of the Guarantor may affect the market value of the Certificates;

(w) the Certificates are linked to the Underlying Stock and subject to the risk that the price of the Underlying Stock may decline. The following is a list of some of the significant risks associated with the Underlying Stock:

– Historical performance of the Underlying Stock does not give an indication of future performance of the Underlying Stock. It is impossible to predict whether the price of the Underlying Stock will fall or rise over the term of the Certificates; and

– The price of the Underlying Stock may be affected by the economic, financial and political events in one or more jurisdictions, including the stock exchange(s) or quotation system(s) on which the Underlying Stock may be traded;

(x) the value of the Certificates depends on the Leverage Strategy performance built in the Certificate. The Calculation Agent will make the Leverage Strategy last closing level and a calculation tool available to the investors on a website;

(y) two or more risk factors may simultaneously have an effect on the value of a Certificate such that the effect of any individual risk factor may not be predicted. No assurance can be given as to the effect any combination of risk factors may have on the value of a Certificate;

(z) as the Certificates are represented by a global warrant certificate which will be deposited with The Central Depository (Pte) Limited ("**CDP**"):

(i) investors should note that no definitive certificate will be issued in relation to the Certificates;

(ii) there will be no register of Certificate Holders and each person who is for the time being shown in the records maintained by CDP as entitled to a particular number of Certificates by way of interest (to the extent of such number) in the global warrant certificate in respect of those Certificates represented thereby shall be treated as the holder of such number of Certificates;

(iii) investors will need to rely on any statements received from their brokers/custodians as evidence of their interest in the Certificates; and

(iv) notices to such Certificate Holders will be published on the web-site of the SGX-ST. Investors will need to check the web-site of the SGX-ST regularly and/or rely on their brokers/custodians to obtain such notices;

(aa) the US Foreign Account Tax Compliance Act ("**FATCA**") withholding risk:

FATCA generally imposes a 30 per cent. withholding tax on certain U.S.-source payments to certain non-US persons that do provide certification of their compliance with IRS rules to disclose the identity of their US owners and account holders (if any) or establish a basis for exemption for such disclosure. The Issuer is subject to FATCA and, as a result, is required to obtain certification from investors that they have complied with FATCA disclosure requirements or have established a basis for exemption from FATCA. If an investor does not provide us with such certification, the Issuer and the Guarantor could be required to withhold U.S. tax on U.S.-source income (if any) paid pursuant to the Certificates. In certain cases, the Issuer could be required to close an account of an investor who does not comply with the FATCA certification procedures.

FATCA IS PARTICULARLY COMPLEX. EACH INVESTOR SHOULD CONSULT ITS OWN TAX ADVISER TO OBTAIN A MORE DETAILED EXPLANATION OF FATCA AND TO DETERMINE HOW THIS LEGISLATION MIGHT AFFECT EACH INVESTOR IN ITS PARTICULAR CIRCUMSTANCES;

(bb) U.S. withholding tax

U.S. Treasury regulations issued under Section 871(m) of the U.S. Internal Revenue Code of 1986 ("**Section 871(m) Regulations**") generally impose a 30% withholding tax on dividend equivalents paid or deemed paid to a non-United States holder as defined pursuant to Section 871(m) Regulations (a "**Non-U.S. Holder**") with respect to certain financial instruments linked to U.S. equities or indices that include U.S. equities ("**U.S. Underlying Equities**"). The 30% withholding tax on dividend equivalents paid or deemed paid to Non-U.S. Holders may be reduced by an applicable tax treaty, eligible for credit against other U.S. tax liabilities or refunded, provided that the beneficial owner claims a credit or refund from the United States Internal Revenue Service ("**IRS**") in a timely manner, but the Issuer makes no assessment as to whether any such tax credits will be available to Non-U.S. Holders.

Specifically, Section 871(m) Regulations will generally apply to Certificates the pricing date of which occurs from 1 January 2017 and that substantially replicate the economic performance of one or more U.S. Underlying Equity(ies) as determined by the Issuer on the date for such Certificates as of which the expected delta of the product is determined by the Issuer (such date being the "pricing date") based on tests in accordance with the applicable Section 871(m) Regulations (for the purposes of the Notice, such Certificates are deemed "delta-one" instruments) ("**Specified Certificates**"). If one or more of the U.S. Underlying Equities are expected to pay dividends during the term of the Specified Certificates, withholding generally will still be required even if the Specified Certificate does not provide for payments explicitly linked to dividends. Even where a Certificate is a Specified Certificate, no tax should be imposed under Section 871(m) as long as either (1) no dividend is paid with respect to any U.S. Underlying Equity during the term of the Certificates or (2) both (x) no additional amount is paid to the holder of a Certificate in respect of any such dividend and (y) as estimated by the Issuer (with the meaning of Treas. Reg. § 1.871-15(i)(2)(iii)) at the time of issuance the amount of all such dividends will be zero (Zero Estimated Dividends Certificates). In such case, the Issuer will estimate the amount of dividends to be paid with respect to U.S. Underlying Equities for all periods during the term of the Certificates to be zero and will not make any adjustments for dividends, including extraordinary dividends, that are taxable as dividend for U.S. federal income tax purposes, and thus there should be no tax imposed under section 871(m) on the Certificates even if one or more dividends are paid with respect to a U.S. Underlying Equity.

Certificates linked to U.S. Underlying Equities which the Issuer has determined not to be a Specified Certificate will not be subject to withholding tax under Section 871(m) Regulations. In withholding this tax, the Issuer will regularly apply the general tax rate of 30% to the payments subject to U.S. provisions (or amounts deemed payments) without regard to any applicable treaty rate. Therefore, in such cases, an investor's individual tax situation will not be taken into account.

The Issuer has determined that generally Certificates should not be "delta-one" transactions within the meaning of the relevant notices and, therefore, should not be Specified Certificates subject to withholding tax under Section 871(m) Regulations. Investors are advised that the Issuer's determination is binding on all Non-U.S. Holders of the Certificates, but it is not binding on the IRS and the IRS may therefore disagree with the Issuer's determination.

The rules of Section 871(m) Regulations require complex calculations in respect of the instruments that include U.S. Underlying Equities and application of these rules to a specific issue of Certificates may be uncertain. **Consequently the IRS may determine they are to be applied even if the Issuer initially assumed the rules would not apply. There is a risk in such case that holders of the Certificates are subject to withholding tax ex post.**

As neither the Issuer nor the withholding agent will be required to gross up any amounts withheld in connection with a Specified Certificate, holders will receive smaller payments in such case than they would have received without withholding tax being imposed.

Investors should consult their tax adviser regarding the potential application of Section 871(m) Regulations to their investment in the Certificates; and

(cc) risk factors relating to the BRRD

French law and European legislation regarding the resolution of financial institutions may require the write-down or conversion to equity of the Certificates or other resolution measures if the Issuer or the Guarantor is deemed to meet the conditions for resolution

Directive 2014/59/EU of the European Parliament and of the Council of the European Union dated 15 May 2014 establishing a framework for the recovery and resolution of credit institutions and investment firms (the "**BRRD**") entered into force on 2 July 2014. As a Directive, the BRRD is not directly applicable in France and had to be transposed into national legislation. The French ordonnance No. 2015-1024 of 20 August 2015 transposed the BRRD into French law and amended the French Code monétaire et financier for this purpose. The French ordonnance has been ratified by law no. 2016-1691 dated 9 December 2016 (Loi n°2016-1691 du 9 décembre 2016 relative à la transparence, à la lutte contre la corruption et à la modernisation de la vie économique) which also incorporates provisions which clarify the implementation of the BRRD.

The stated aim of the BRRD and Regulation (EU) No. 806/2014 of the European Parliament and of the Council of the European Union of 15 July 2014 (the "**SRM Regulation**") is to provide for the establishment of an EU-wide framework for the recovery and resolution of credit institutions, investment firms, certain financial institutions and certain holding companies (each a relevant entity). The regime provided for by the BRRD is, among other things, stated to be needed to provide the authority designated by each EU Member State (the "**Resolution Authority**") with a credible set of tools to intervene sufficiently early and quickly in an unsound or failing relevant entity so as to ensure the continuity of the relevant entity's critical financial and economic functions while minimising the impact of a relevant entity's failure on the economy and financial system (including taxpayers' exposure to losses).

Under the SRM Regulation a centralised power of resolution is established and entrusted to the Single Resolution Board (the "**SRB"**) and to the national resolution authorities.

The powers provided to the Resolution Authority in the BRRD and the SRM Regulation include write-down/conversion powers to ensure that capital instruments (including subordinated debt instruments) and eligible liabilities (including senior debt instruments if junior instruments prove insufficient to absorb all losses) absorb losses of the issuing relevant entity under resolution in accordance with a set order of priority (the "**Bail-in Tool**").

The conditions for resolution under the French Code monétaire et financier implementing the BRRD are deemed to be met when: (i) the Resolution Authority or the relevant supervisory authority determines that the relevant entity is failing or is likely to fail, (ii) there is no reasonable prospect that any measure other than a resolution measure would prevent the failure within a reasonable timeframe, and (iii) a resolution measure is necessary for the achievement of the resolution objectives (in particular, ensuring the continuity of critical functions, avoiding a significant adverse effect on the financial system, protecting public funds by minimising reliance on extraordinary public financial support, and protecting client funds and assets) and winding up of the relevant entity under normal insolvency proceedings would not meet those resolution objectives to the same extent.

The Resolution Authority could also, independently of a resolution measure or in combination with a resolution measure where the conditions for resolution are met, write-down or convert capital instruments (including subordinated debt instruments) into equity when it determines that the relevant entity or its group will no longer be viable unless such write down or conversion power is exercised or when the relevant entity requires extraordinary public financial support (except when extraordinary public financial support is provided in the form defined in Article L. 613-48 III, 3° of the French Code monétaire et financier).

The Bail-in Tool or the exercise of write-down/conversion powers by the Resolution Authority with respect to capital instruments (including subordinated debt instruments) could result in the full (i.e., to zero) or partial write-down or conversion of the Certificates into ordinary shares or other instruments of ownership, or the variation of the terms of the Certificates (for example, the maturity and/or interest payable may be altered and/or a temporary suspension of payments may be ordered). Extraordinary public financial support should only be used as a last resort after having assessed and applied, to the maximum extent practicable, the resolutions measures, including the Bail-in Tool. In addition, if the Issuer's or the Guarantor's financial condition deteriorates, the existence of the Bail-in Tool could cause the market price or value of the Certificates to decline more rapidly than would be the case in the absence of such power.

In addition to the Bail-in Tool, the BRRD provides the Resolution Authority with broader powers to implement other resolution measures with respect to relevant entities that meet the conditions for resolution, which may include (without limitation) the sale of the relevant entity's business, the creation of a bridge institution, the separation of assets, the replacement or substitution of the institution as obligor in respect of debt instruments, modifications to the terms of debt instruments (including altering the maturity and/or the amount of interest payable and/or imposing a temporary suspension on payments), removing management, appointing an interim administrator, and discontinuing the listing and admission to trading of financial instruments.

Before taking a resolution measure or exercising the power to write down or convert relevant capital instruments, the Resolution Authority must ensure that a fair, prudent and realistic valuation of the assets and liabilities of the institution is carried out by a person independent from any public authority.

Since 1 January 2016, French credit institutions (such as the Issuer and the Guarantor) have to meet, at all times, a minimum requirement for own funds and eligible liabilities ("**MREL**") pursuant to Article L. 613-44 of the French Code monétaire et financier. The MREL, which is expressed as a percentage of the total liabilities and own funds of the institution, aims at avoiding institutions to structure their liabilities in a manner that impedes the effectiveness of the Bail-in Tool. From January 2019, G-SIBs (global systemically important banks) such as the Issuer and the Guarantor will also have to comply with the total loss absorbing capacity (TLAC) requirements.

In accordance with the provisions of the SRM Regulation, when applicable, the SRB, has replaced the national resolution authorities designated under the BRRD with respect to all aspects relating to the decision-making process and the national resolution authorities designated under the BRRD continue to carry out activities relating to the implementation of resolution schemes adopted by the SRB. The provisions relating to the cooperation between the SRB and the national resolution authorities for the preparation of the banks' resolution plans have applied since 1 January 2015 and the SRM has been fully operational since 1 January 2016.

The application of any resolution measure under the French BRRD implementing provisions or any suggestion of such application with respect to the Issuer, the Guarantor or the Group could materially adversely affect the rights of Certificate Holders, the price or value of an investment in the Certificates and/or the ability of the Issuer or the Guarantor to satisfy its obligations under the Certificates, and as a result investors may lose their entire investment.

Moreover, if the Issuer's or the Guarantor's financial condition deteriorates, the existence of the Bail-in Tool or the exercise of write-down/conversion powers by the Resolution Authority independently of a resolution measure with respect to capital instruments (including subordinated debt instruments) or in combination with a resolution measure when it determines that the institution or its group will no longer be viable could cause the market price or value of the Certificates to decline more rapidly than would be the case in the absence of such powers.

Implementation of BRRD in Luxembourg

The BRRD was implemented by the Luxembourg act dated 18 December 2015 (the "**BRR Act 2015**"). Under the BRR Act 2015, the competent authority is the CSSF and the resolution authority is the CSSF acting as Resolution Council (le Conseil de *résolution*).

The BRR Act 2015 provides for certain resolution measures, including the power to impose in certain circumstances a suspension of activities. Any suspension of activities can, to the extent determined by the CSSF, result in the partial or complete suspension of the performance of agreements entered into by a Luxembourg incorporated credit institution or investment firm. The BRR Act 2015 also grants the power to the Resolution Council to take a number of resolution measures including (i) a forced sale of a Luxembourg incorporated credit institution or investment firm (sale of business), (ii) the establishment of a bridge institution or, (iii) the forced transfer of all or part of the assets, rights or obligations of a Luxembourg incorporated credit institution or investment firm (asset separation) and (iv) the application of the general bail-in tool. The powers set out in the BRR Act 2015 will impact how credit institutions, investment firms or relevant financial institutions (such as SG Issuer) established in Luxembourg, are managed as well as, in certain circumstances, the rights of creditors.

If the general bail-in tool and the statutory write-down and conversion power become applicable to SG Issuer, the Certificates may be subject to write-down or conversion into equity (ordinary shares or other instrument of ownership) on any application of the bail-in tool, which may result in such Certificates' holders losing some or all of their investment (notably, the amount of the outstanding may be reduced, including to zero). Subject to certain conditions, the terms of the obligations owed under the Certificates may also be varied by the Resolution Council (e.g. as to maturity, interest and interest payment dates). The exercise of any power under the BRR Act 2015 or any suggestion of such exercise could materially adversely affect the rights of the holders of the Certificates, the price or value of their investment in any Certificates and/or the ability of SG Issuer to satisfy its obligations under any Certificate.

Regulation (EU) no. 806/2014 of the European Parliament and of the Council of 15 July 2014 establishing uniform rules and a uniform procedure for the resolution of significant credit institutions and financial groups, in the framework of a Single Resolution Mechanism and a Single Resolution Fund, established a centralised power of resolution and entrusted to a Single Resolution Board and to the national resolution authorities of participating EU Member States (including Luxembourg and the CSSF through the Resolution Council). Since 1 January 2015, the Single Resolution Board works in close cooperation with the Resolution Council, in particular in relation to the elaboration of resolution planning, and has assumed full resolution powers since 1 January 2016.

TERMS AND CONDITIONS OF THE CERTIFICATES

The following are the terms and conditions of the Certificates and should be read in conjunction with, and are qualified by reference to, the other information set out in this document, the Base Listing Document and the Addendum.

The Conditions are set out in the section headed "Terms and Conditions of the European Style Cash Settled Long/Short Certificates on Single Equities" in the Addendum. For the purposes of the Conditions, the following terms shall have the following meanings:

Certificates:	1,091,000 European Style Cash Settled Long Certificates relating to the ordinary shares of par value US$0.50 each of HSBC Holdings plc (the "**Underlying Stock**")
Company:	HSBC Holdings plc (RIC: 0005.HK)
Underlying Price[3] and Source:	HK$64.2 (Reuters)
Calculation Agent:	Société Générale
Strike Level:	Zero
Daily Leverage:	5x (within the Leverage Strategy as described below)
Notional Amount per Certificate:	SGD 2.20
Management Fee (p.a.)[4]:	0.40%
Gap Premium (p.a.)[5]:	6.90%, is a hedging cost against extreme market movements overnight.
Funding Cost[6]:	The annualised costs of funding, referencing a publically published interbank offered rate plus spread.
Rebalancing Cost[6]:	The transaction costs (if applicable), computed as a function of leverage and daily performance of the Underlying Stock.
Launch Date:	19 February 2019
Closing Date:	25 February 2019
Expected Listing Date:	26 February 2019

[3] These figures are calculated as at, and based on information available to the Issuer on or about 25 February 2019. The Issuer is not obliged, and undertakes no responsibility to any person, to update or inform any person of any changes to the figures after 25 February 2019.

[4] Please note that the Management Fee is calculated on a 360-day basis and may be increased up to a maximum of 3% p.a. on giving one month's notice to investors. Any increase in the Management Fee will be announced on the SGXNET. Please refer to "Fees and Charges" below for further details of the fees and charges payable and the maximum of such fees as well as other ongoing expenses that may be borne by the Certificates.

[5] Please note that the Gap Premium is calculated on a 360-day basis.

[6] These costs are embedded within the Leverage Strategy.

Last Trading Date:	The date falling 5 Business Days immediately preceding the Expiry Date, currently being 18 February 2022
Expiry Date:	25 February 2022 (if the Expiry Date is not a Business Day, then the Expiry Date shall fall on the preceding Business Day and subject to adjustment of the Valuation Date upon the occurrence of Market Disruption Events as set out in the Conditions of the Certificates)
Board Lot:	100 Certificates
Valuation Date:	24 February 2022 or if such day is not an Exchange Business Day, the immediately preceding Exchange Business Day.
Exercise:	The Certificates may only be exercised on the Expiry Date or if the Expiry Date is not a Business Day, the immediately preceding Business Day, in a Board Lot or integral multiples thereof. Certificate Holders shall not be required to deliver an exercise notice. Exercise of Certificates shall be determined by whether the Cash Settlement Amount (less any Exercise Expenses) is positive. If the Cash Settlement Amount (less any Exercise Expenses) is positive, all Certificates shall be deemed to have been automatically exercised at 10:00 a.m. (Singapore time) on the Expiry Date or if the Expiry Date is not a Business Day, the immediately preceding Business Day. The Cash Settlement Amount less the Exercise Expenses in respect of the Certificates shall be paid in the manner set out in Condition 4(c) of the Conditions. In the event the Cash Settlement Amount (less any Exercise Expenses) is zero, all Certificates shall be deemed to have expired at 10:00 a.m. (Singapore time) on the Expiry Date or if the Expiry Date is not a Business Day, the immediately preceding Business Day, and Certificate Holders shall not be entitled to receive any payment from the Issuer in respect of the Certificates.
Cash Settlement Amount:	In respect of each Certificate, shall be an amount payable in the Settlement Currency equal to: Closing Level multiplied by the Notional Amount per Certificate Please refer to the "Information relating to the European Style Cash Settled Long Certificates on Single Equities" section on pages 39 to 53 of this document for examples and illustrations of the calculation of the Cash Settlement Amount.
Hedging Fee Factor:	In respect of each Certificate, shall be an amount calculated as: Product (for t from 1 to Valuation Date) of (1 – Management Fee x (ACT (t-1;t) ÷ 360)) x (1 – Gap Premium (t-1) x (ACT (t-1;t) ÷ 360)), where: "**t**" refers to "**Observation Date**" which means each Underlying Stock Business Day from (and including) the Underlying Stock Business Day immediately preceding the Expected Listing Date to the Valuation Date; and

ACT (t-1;t) means the number of calendar days between the Underlying Stock Business Day immediately preceding the Observation Date (which is "t-1") (included) and the Observation Date (which is "t") (excluded).

An "**Underlying Stock Business Day**" is a day on which The Stock Exchange of Hong Kong Limited (the "**HKEX**") is open for dealings in Hong Kong during its normal trading hours and banks are open for business in Hong Kong.

Please refer to the "Information relating to the European Style Cash Settled Long Certificates on Single Equities" section on pages 39 to 53 of this document for examples and illustrations of the calculation of the Hedging Fee Factor.

Closing Level: In respect of each Certificate, shall be an amount payable in the Settlement Currency equal to:

$$\left(\frac{\text{Final Reference Level} \times \text{Final Exchange Rate}}{\text{Initial Reference Level} \times \text{Initial Exchange Rate}} - \text{Strike Level}\right) \times \text{Hedging Fee Factor}$$

Initial Reference Level: 1,000

Final Reference Level: The closing level of the Leverage Strategy (as described below) on the Valuation Date

The calculation of the closing level of the Leverage Strategy is set out in the "Specific Definitions relating to the Leverage Strategy" section on pages 19 to 23 below.

Initial Exchange Rate[3]: 0.1721

Final Exchange Rate: The rate for the conversion of HKD to SGD as at 5:00pm (Singapore Time) on the Valuation Date as shown on Reuters, provided that if the Reuters service ceases to display such information, as determined by the Issuer by reference to such source(s) as the Issuer may reasonably determine to be appropriate at such a time.

Air Bag Mechanism: The "**Air Bag Mechanism**" refers to the mechanism built in the Leverage Strategy and which is designed to reduce the Leverage Strategy exposure to the Underlying Stock during extreme market conditions. If the Underlying Stock falls by 15% or more ("**Air Bag Trigger Price**") during the trading day (which represents approximately 75% loss after a 5 times leverage), the Air Bag Mechanism is triggered and the Leverage Strategy is adjusted intra-day. The Air Bag Mechanism reduces the impact on the Leverage Strategy if the Underlying Stock falls further, but will also maintain a reduced exposure to the Underlying Stock in the event the Underlying Stock starts to rise after the Air Bag Mechanism is triggered, thereby reducing its ability to recoup losses.

Trading of Certificates is suspended for at least 30 minutes after the Air Bag is triggered.

The Leverage Strategy is floored at 0 and the Certificates cannot be

	valued below zero. Please refer to the "Extraordinary Strategy Adjustment for Performance Reasons ("Air Bag Mechanism")" section on pages 21 to 23 below and the "Description of Air Bag Mechanism" section on pages 45 to 46 of this document for further information of the Air Bag Mechanism.
Underlying Stock Currency:	Hong Kong Dollar ("**HKD**")
Settlement Currency:	Singapore Dollar ("**SGD**")
Exercise Expenses:	Certificate Holders will be required to pay all charges which are incurred in respect of the exercise of the Certificates.
Relevant Stock Exchange for the Certificates:	The Singapore Exchange Securities Trading Limited ("**SGX-ST**")
Relevant Stock Exchange for the Underlying Stock:	HKEX
Business Day and Exchange Business Day:	A "**Business Day**" is a day on which the SGX-ST is open for dealings in Singapore during its normal trading hours and banks are open for business in Singapore. An "**Exchange Business Day**" is a day on which the SGX-ST and the HKEX are open for dealings in Singapore and Hong Kong respectively during its normal trading hours and banks are open for business in Singapore and Hong Kong.
Warrant Agent:	The Central Depository (Pte) Limited ("**CDP**")
Clearing System:	CDP
Fees and Charges:	Normal transaction and brokerage fees shall apply to the trading of the Certificates on the SGX-ST. Investors should note that they may be required to pay stamp taxes or other documentary charges in accordance with the laws and practices of the country where the Certificates are transferred. Investors who are in any doubt as to their tax position should consult their own independent tax advisers. In addition, investors should be aware that tax regulations and their application by the relevant taxation authorities change from time to time. Accordingly, it is not possible to predict the precise tax treatment which will apply at any given time. Investors holding position overnight would also be required to bear the Management Fee and Gap Premium, which are calculated daily and applied to the value of the Certificates, as well as certain costs embedded within the Leverage Strategy including the Funding Cost and Rebalancing Cost. The Management Fee may be increased up to a maximum of 3% p.a. on giving one month's notice to investors in accordance with the terms and conditions of the Certificates. Any increase in the Management Fee will be announced on the

SGXNET.

Further Information: Please refer to the website at dlc.socgen.com for more information on the theoretical closing price of the Certificates on the previous trading day, the closing price of the Underlying Stock on the previous trading day, the Air Bag Trigger Price for each trading day and the Management Fee and Gap Premium.

Specific Definitions relating to the Leverage Strategy

Description of the Leverage Strategy

The Leverage Strategy is designed to track a 5 times daily leveraged exposure to the Underlying Stock.

At the end of each trading day of the Underlying Stock, the exposure of the Leverage Strategy to the Underlying Stock is reset within the Leverage Strategy in order to retain a daily leverage of 5 times the performance of the Underlying Stock (excluding costs) regardless of the performance of the Underlying Stock on the preceding day. This mechanism is referred to as the Daily Reset.

The Leverage Strategy incorporates an air bag mechanism which is designed to reduce exposure to the Underlying Stock during extreme market conditions, as further described below.

Leverage Strategy Formula

$\mathbf{LSL_t}$ means, for any Observation Date(t), the Leverage Strategy Closing Level as of such day (t).

Subject to the occurrence of an Intraday Restrike Event, the Leverage Strategy Closing Level as of such Observation Date(t) is calculated in accordance with the following formulae:

On Observation Date(1):

$$\mathrm{LSL_1} = 1000$$

On each subsequent Observation Date(t):

$$\mathrm{LSL_t} = \mathrm{Max}\left[\mathrm{LSL_{t-1}} \times \left(1 + \mathrm{LR_{t-1,t}} - \mathrm{FC_{t-1,t}} - \mathrm{RC_{t-1,t}}\right), 0\right]$$

$\mathbf{LR_{t-1,t}}$ means the Leveraged Return of the Underlying Stock between Observation Date(t-1) and Observation Date(t) closing prices, calculated as follows:

$$\mathrm{LR_{t-1,t}} = \mathrm{Leverage} \times \left(\frac{\mathrm{S_t}}{\mathrm{S_{t-1}} \times Rfactor_t} - 1\right)$$

$\mathbf{FC_{t-1,t}}$ means, the Funding Cost between Observation Date(t-1) (included) and Observation Date(t) (excluded) calculated as follows :

$$\mathrm{FC_{t-1,t}} = (\mathrm{Leverage} - 1) \times \frac{\mathrm{Rate_{t-1}} \times \mathrm{ACT(t-1,t)}}{\mathrm{DayCountBasisRate}}$$

$\mathbf{RC_{t-1,t}}$	means the Rebalancing Cost of the Leverage Strategy on Observation Date (t), calculated as follows : $\mathrm{RC_{t-1,t}} = \text{Leverage} \times (\text{Leverage} - 1) \times \left(\left\lvert\frac{\mathrm{S_t}}{\mathrm{S_{t-1}} \times Rfactor_t} - 1\right\rvert\right) \times \mathrm{TC}$
TC	means the Transaction Costs applicable (including Stamp Duty) that are equal to : 0.10%
Leverage	5
$\mathbf{S_t}$	means, in respect of each Observation Date(t), the Closing Price of the Underlying Stock as of such Observation Date(t), subject to the adjustments and provisions of the Conditions.
$\mathbf{Rate_t}$	means, in respect of each Observation Date(t), a rate calculated as of such day in accordance with the following formula: $\mathrm{Rate_t} = \mathrm{CashRate_t} + \%\mathrm{SpreadLevel_t}$
$\mathbf{Rfactor_t}$	means, in the event Observation Date (t) is an ex-dividend date of the Underlying Stock, an amount determined by the Calculation Agent, subject to the adjustments and provisions of the Conditions, according to the following formula : $Rfactor_t = 1 - \frac{Div_t}{\mathbf{S_{t-1}}}$ where Div_t is the dividend to be paid out in respect of the Underlying Stock and the relevant ex-dividend date which shall be considered net of any applicable withholding taxes.
$\mathbf{CashRate_t}$	means, in respect of each Observation Date(t), the Overnight HKD Hong Kong Interbank Offered Rate (HIBOR) Fixing, as published on Reuters RIC HIHKDOND= or any successor page.
$\%\mathbf{SpreadLevel_t}$	means, in respect of each Observation Date(t), a rate which shall be determined with respect to such Valuation Date(t) by the Calculation Agent as the difference between (1) the 12-month HKD Hong Kong Interbank Offered Rate (HIBOR) Fixing, as published on Reuters RIC HIHKD1YD= and (2) Overnight HKD Hong Kong Interbank Offered Rate (HIBOR) Fixing, as published on Reuters RIC HIHKDOND= or any successor page. Provided that if such difference is negative, $\%\mathbf{SpreadLevel_t}$ should be 0%.
ACT(t-1,t)	ACT (t-1;t) means the number of calendar days between the Underlying Stock Business Day immediately preceding the Observation Date (which is “t-1”) (included) and the Observation Date (which is “t”) (excluded).
DayCountBasisRate	365

Extraordinary Strategy Adjustment for Performance Reasons ("Air Bag Mechanism")

Extraordinary Strategy Adjustment for Performance Reasons

If the Calculation Agent determines that an Intraday Restrike Event has occurred during an Observation Date(t) (the **Intraday Restrike Date,** noted hereafter **IRD**), an adjustment (an **Extraordinary Strategy Adjustment for Performance Reasons**) shall take place during such Observation Date(t) in accordance with the following provisions.

(1) Provided the last Intraday Restrike Observation Period as of such Intraday Restrike Date does not end on the TimeReferenceClosing, the Leverage Strategy Closing Level on the Intraday Restrike Date (LSL_{IRD}) should be computed as follows :

$$\mathrm{LSL_{IRD}} = \mathrm{Max}\left[\mathrm{ILSL_{IR(n)}} \times \left(1 + \mathrm{ILR_{IR(n),IR(C)}} - \mathrm{IRC_{IR(n),IR(C)}}\right), 0\right]$$

(2) If the last Intraday Restrike Event Observation Period on the relevant Intraday Restrike Date ends on the TimeReferenceClosing:

$$\mathrm{LSL_{IRD}} = \mathrm{Max}\left[\mathrm{ILSL_{IR(n)}}, 0\right]$$

$\mathbf{ILSL_{IR(k)}}$

means, in respect of IR(k), the Intraday Leverage Strategy Level in accordance with the following provisions :

(1) for k = 1 :

$$\mathrm{ILSL_{IR(1)}} = \mathrm{Max}\left[\mathrm{LSL_{IRD-1}} \times \left(1 + \mathrm{ILR_{IR(0),IR(1)}} - \mathrm{FC_{IRD-1,IRD}} - \mathrm{IRC_{IR(0),IR(1)}}\right), 0\right]$$

(2) for k > 1 :

$$\mathrm{ILSL_{IR(k)}} = \mathrm{Max}\left[\mathrm{ILSL_{IR(k-1)}} \times \left(1 + \mathrm{ILR_{IR(k-1),IR(k)}} - \mathrm{IRC_{IR(k-1),IR(k)}}\right), 0\right]$$

$\mathbf{ILR_{IR(k-1),IR(k)}}$

means the Intraday Leveraged Return between IR(k-1) and IR(k), calculated as follows :

$$\mathrm{ILR_{IR(k-1),IR(k)}} = \mathrm{Leverage} \times \left(\frac{\mathrm{IS_{IR(k)}}}{\mathrm{IS_{IR(k-1)}}} - 1\right)$$

$\mathbf{IRC_{IR(k-1),IR(k)}}$

means the Intraday Rebalancing Cost of the Leverage Strategy in respect of IR(k) on a given Intraday Restrike Date, calculated as follows :

$$\mathrm{IRC_{IR(k-1),IR(k)}} = \mathrm{Leverage} \times (\mathrm{Leverage} - 1) \times \left(\left|\frac{\mathrm{IS_{IR(k)}}}{\mathrm{IS_{IR(k-1)}} \times Rfactor_t} - 1\right|\right) \times \mathrm{TC}$$

$\mathbf{IS_{IR(k)}}$

means the Underlying Stock Price in respect of IR(k) computed as follows :

(1) for k=0

$$\mathrm{IS_{IR(0)}} = \mathrm{S_{IRD-1}} \times \mathrm{Rfactor_{IRD}}$$

(2) for k=1 to n

means in respect of IR(k), the lowest price of the Underlying Stock during the respective Intraday Restrike Observation Period

(3) with respect to IR(C)

$$\mathrm{IS_{IR(C)}} = \mathrm{S_{IRD}}$$

In each case, subject to the adjustments and provisions of the Conditions.

IR(k) For k=0, means the scheduled close for the Relevant Stock Exchange for the Underlying Stock (or any successor thereto) on the Observation Date immediately preceding the relevant Intraday Restrike Date;

For k=1 to n, means the k^{th} Intraday Restrike Event on the relevant Intraday Restrike Date.

IR(C) means the scheduled close for the Relevant Stock Exchange for the Underlying Stock (or any successor thereto) on the relevant Intraday Restrike Date.

n means the number of Intraday Restrike Events that occurred on the relevant Intraday Restrike Date.

Intraday Restrike Event means in respect of an Observation Date(t):

(1) provided no Intraday Restrike Event has previously occurred on such Observation Date (t), the decrease at any Calculation Time of the Underlying Stock price by 15% or more compared with the relevant Underlying Stock Price $\mathbf{IS_{IR(0)}}$ as of such Calculation Time.

(2) if k Intraday Restrike Events have occurred on the relevant Intraday Restrike Date, the decrease at any Calculation Time of the Underlying Stock price by 15% or more compared with the relevant Underlying Stock Price $\mathbf{IS_{IR(k)}}$ as of such Calculation Time.

Calculation Time means any time between the TimeReferenceOpening and the TimeReferenceClosing, provided that the relevant data is available to enable the Calculation Agent to determine the Leverage Strategy Level.

TimeReferenceOpening means the scheduled opening time for the Relevant Stock Exchange for the Underlying Stock (or any successor thereto).

TimeReferenceClosing means the scheduled closing time for the Relevant Stock Exchange for the Underlying Stock (or any successor thereto).

Intraday Restrike Event Observation Period means in respect of an Intraday Restrike Event, the period starting on and excluding the Intraday Restrike Event Time and finishing on and including the sooner between (1) the time falling 15 minutes after the Intraday Restrike Event Time and (2) the TimeReferenceClosing.

Where, during such period, the Calculation Agent determines that (1) the trading in the Underlying Stock is disrupted or subject to suspension or limitation or (2) the Relevant Stock Exchange for the Underlying Stock is not open for continuous trading, the Intraday Restrike Event Observation Period will be extended to the extent necessary until (1) the trading in the Underlying

Stock is no longer disrupted, suspended or limited and (2) the Relevant Stock Exchange for the Underlying Stock is open for continuous trading.

Intraday Restrike Event Time	means in respect of an Intraday Restrike Event, the Calculation Time on which such event occurs.

The Conditions set out in the section headed "Terms and Conditions of the European Style Cash Settled Long/Short Certificates on Single Equities" in the Addendum are set out below. This section is qualified in its entirety by reference to the detailed information appearing elsewhere in this document which shall, to the extent so specified or to the extent inconsistent with the relevant Conditions set out below, replace or modify the relevant Conditions for the purpose of the Certificates.

TERMS AND CONDITIONS OF

THE EUROPEAN STYLE CASH SETTLED LONG/SHORT CERTIFICATES ON SINGLE EQUITIES

1. Form, Status and Guarantee, Transfer and Title

(a) *Form*. The Certificates (which expression shall, unless the context otherwise requires, include any further certificates issued pursuant to Condition 11) are issued subject to and with the benefit of:-

(i) a master instrument by way of deed poll (the "**Master Instrument**") dated 21 June 2018, made by SG Issuer (the "**Issuer**") and Société Générale (the "**Guarantor**"); and

(ii) a warrant agent agreement (the "**Master Warrant Agent Agreement**" or "**Warrant Agent Agreement**") dated any time before or on the Closing Date, made between the Issuer and the Warrant Agent for the Certificates.

Copies of the Master Instrument and the Master Warrant Agent Agreement or Warrant Agent Agreement are available for inspection at the specified office of the Warrant Agent.

The holders of the Certificates (the "**Certificate Holders**") are entitled to the benefit of, are bound by and are deemed to have notice of all the provisions of the Master Instrument and the Master Warrant Agent Agreement or Warrant Agent Agreement.

(b) *Status and Guarantee*. The Certificates constitute direct, general and unsecured obligations of the Issuer and rank, and will rank, equally among themselves and *pari passu* with all other present and future unsecured and unsubordinated obligations of the Issuer (save for statutorily preferred exceptions). The Certificates provide for cash settlement on exercise. The Certificates do not entitle Certificate Holders to the delivery of any Underlying Stock, are not secured by the Underlying Stock and do not entitle Certificate Holders to any interest in any Underlying Stock.

The due and punctual payment of any amounts due by the Issuer in respect of the Certificates issued by the Issuer is unconditionally and irrevocably guaranteed by the Guarantor as provided in the Guarantee (each such amount payable under the Guarantee, a "**Guarantee Obligation**").

The Guarantee Obligations will constitute direct, unconditional, unsecured and unsubordinated obligations of the Guarantor ranking as senior preferred obligations as provided for in Article L. 613-30-3 I 3° of the French Code *Monétaire et Financier* (the "**Code**").

Such Guarantee Obligations rank and will rank equally and rateably without any preference or priority among themselves and:

(i) *pari passu* with all other direct, unconditional, unsecured and unsubordinated obligations of the Guarantor outstanding as of the date of the entry into force of the law no. 2016-1691 (the "**Law**") on 11 December 2016;

(ii) *pari passu* with all other present or future direct, unconditional, unsecured and senior preferred obligations (as provided for in Article L. 613-30-3 I 3° of the Code) of the Guarantor issued after the date of the entry into force of the Law on 11 December 2016;

(iii) junior to all present or future claims of the Guarantor benefiting from the statutorily preferred exceptions; and

(iv) senior to all present and future senior non-preferred obligations (as provided for in Article L.613-30-3 I 4° of the Code) of the Guarantor.

In the event of the failure of the Issuer to promptly perform its obligations to any Certificate Holder under the terms of the Certificates, such Certificate Holder may, but is not obliged to, give written notice to the Guarantor at Société Générale, Tour Société Générale, 75886 Paris Cedex 18, France marked for the attention of SEGL/JUR/OMF - Market Transactions & Financing.

(c) Transfer. The Certificates are represented by a global warrant certificate ("**Global Warrant**") which will be deposited with The Central Depository (Pte) Limited ("**CDP**"). Certificates in definitive form will not be issued. Transfers of Certificates may be effected only in Board Lots or integral multiples thereof. All transactions in (including transfers of) Certificates, in the open market or otherwise, must be effected through a securities account with CDP. Title will pass upon registration of the transfer in the records maintained by CDP.

(d) *Title*. Each person who is for the time being shown in the records maintained by CDP as entitled to a particular number of Certificates shall be treated by the Issuer, the Guarantor and the Warrant Agent as the holder and absolute owner of such number of Certificates, notwithstanding any notice to the contrary. The expression "**Certificate Holder**" shall be construed accordingly.

(e) *Bail-In*. By the acquisition of Certificates, each Certificate Holder (which, for the purposes of this Condition, includes any current or future holder of a beneficial interest in the Certificates) acknowledges, accepts, consents and agrees:

(i) to be bound by the effect of the exercise of the Bail-In Power (as defined below) by the Relevant Resolution Authority (as defined below) or the Regulator (as defined below), which may include and result in any of the following, or some combination thereof:

(A) the reduction of all, or a portion, of the Amounts Due (as defined below), on a permanent basis;

(B) the conversion of all, or a portion, of the Amounts Due into shares, other securities or other obligations of the Issuer or another person (and the issue to the Certificate Holder of such shares, securities or obligations), including by means of an amendment, modification or variation of the Conditions of the Certificates, in which case the Certificate Holder agrees to accept in lieu of its rights under the Certificates any such shares, other securities or other obligations of the Issuer or another person;

(C) the cancellation of the Certificates; and/or

(D) the amendment or alteration of the expiration of the Certificates or amendment of the amounts payable on the Certificates, or the date on which the amounts become payable, including by suspending payment for a temporary period; and

(ii) that the terms of the Certificates are subject to, and may be varied, if necessary, to give effect to, the exercise of the Bail-In Power by the Relevant Resolution Authority or the Regulator.

"**Amounts Due**" means any amounts due by the Issuer under the Certificates.

"**Bail-In Power**" means any power existing from time to time under any laws, regulations, rules or requirements in effect in France, relating to the transposition of Directive 2014/59/EU of the European Parliament and of the Council of 15 May 2014 establishing a framework for the recovery and resolution of credit institutions and investment firms (as amended from time to time, the "**BRRD**"), including without limitation pursuant to French decree-law No. 2015-1024 dated 20 August 2015 (*Ordonnance portant diverses dispositions d'adaptation de la législation au droit de l'Union européenne en matière financière*) (as amended from time to time, the "**20 August 2015 Decree Law**"), Regulation (EU) No 806/2014 of the European Parliament and of the Council of 15 July 2014 establishing uniform rules and a uniform procedure for the resolution of credit institutions and certain investment firms in the framework of a Single Resolution Mechanism and a Single Resolution Fund and amending Regulation (EU) No 1093/2010 (as amended from time to time, the "**Single Resolution Mechanism Regulation**"), or otherwise arising under French law, and in each case the instructions, rules and standards created thereunder, pursuant to which the obligations of a Regulated Entity (or an affiliate of such Regulated Entity) can be reduced (in part or in whole), cancelled, suspended, transferred, varied or otherwise modified in any way, or securities of a Regulated Entity (or an affiliate of such Regulated Entity) can be converted into shares, other securities, or other obligations of such Regulated Entity or any other person, whether in connection with the implementation of a bail-in tool following placement in resolution or otherwise.

"**Regulated Entity**" means any entity referred to in Section I of Article L.613-34 of the French *Code monétaire et financier* as modified by the 20 August 2015 Decree Law, which includes certain credit institutions, investment firms, and certain of their parent or holding companies established in France.

"**Relevant Resolution Authority**" means the *Autorité de contrôle prudentiel et de résolution* (the ACPR), the Single Resolution Board established pursuant to the Single Resolution Mechanism Regulation, and/or any other authority entitled to exercise or participate in the exercise of any Bail-in Power from time to time (including the Council of the European Union and the European Commission when acting pursuant to Article 18 of the Single Resolution Mechanism Regulation).

"**Regulator**" means the European Central Bank and any successor or replacement thereto, or other authority having primary responsibility for the prudential oversight and supervision of the Issuer.

No repayment or payment of the Amounts Due will become due and payable or be paid after the exercise of the Bail-in Power by the Relevant Resolution Authority or the Regulator with respect to the Issuer unless, at the time such repayment or payment, respectively, is scheduled to become due, such repayment or payment would be permitted to be made by the Issuer under the laws and regulations in effect in France and the European Union applicable to the Issuer or other members of its group.

Upon the exercise of any Bail-in Power by the Relevant Resolution Authority or the Regulator with respect to the Certificates, the Issuer will provide a written notice to the Certificate Holders in accordance with Condition 9 as soon as practicable regarding such exercise of the Bail-in Power. Any delay or failure by the Issuer to give notice shall not affect the validity and enforceability of the Bail-in Power nor the effects on the Certificates described above.

Neither a cancellation of the Certificates, a reduction, in part or in full, of the Amounts Due, the conversion thereof into another security or obligation of the Issuer or another person, as a result of the exercise of the Bail-in Power by the Relevant Resolution Authority or the Regulator with respect to the Issuer, nor the exercise of any Bail-in Power by the Relevant Resolution Authority or the Regulator with respect to the Certificates will be an event of default or otherwise constitute non-performance of a contractual obligation, or entitle the Certificate Holder to any remedies (including equitable remedies) which are hereby expressly waived.

If the Relevant Resolution Authority or the Regulator exercises the Bail-in Power with respect to less than the total Amounts Due, unless otherwise instructed by the Issuer or the Relevant Resolution Authority or the Regulator, any cancellation, write-off or conversion made in respect of the Certificates pursuant to the Bail-in Power will be made on a pro-rata basis.

The matters set forth in this Condition shall be exhaustive on the foregoing matters to the exclusion of any other agreements, arrangements or understandings between the Issuer and each Certificate Holder. No expenses necessary for the procedures under this Condition, including, but not limited to, those incurred by the Issuer, shall be borne by any Certificate Holder.

2. Certificate Rights and Exercise Expenses

(a) *Certificate Rights*. Every Certificate entitles each Certificate Holder, upon due exercise and on compliance with Condition 4, to payment by the Issuer of the Cash Settlement Amount (as defined below) (if any) in the manner set out in Condition 4.

The "**Cash Settlement Amount**", in respect of each Certificate, shall be an amount payable in the Settlement Currency equal to the Closing Level multiplied by the Notional Amount per Certificate.

The "**Closing Level**", in respect of each Certificate, shall be an amount payable in the Settlement Currency equal to:

$$\left(\frac{\text{Final Reference Level} \times \text{Final Exchange Rate}}{\text{Initial Reference Level} \times \text{Initial Exchange Rate}} - \text{Strike Level}\right) \times \text{Hedging Fee Factor}$$

If the Issuer determines, in its sole discretion, that on the Valuation Date a Market Disruption Event has occurred, then that Valuation Date shall be postponed until the first succeeding Exchange Business Day on which there is no Market Disruption Event, unless there is a Market Disruption Event on each of the five Exchange Business Days immediately following the original date that, but for the Market Disruption Event, would have been a Valuation Date. In that case:-

(i) that fifth Exchange Business Day shall be deemed to be the Valuation Date notwithstanding the Market Disruption Event; and

(ii) the Issuer shall determine the Final Reference Level on the basis of its good faith estimate of the Final Reference Level that would have prevailed on that fifth Exchange Business Day but for the Market Disruption Event.

"**Market Disruption Event**" means the occurrence or existence on the Valuation Date of (i) any suspension of trading on the Relevant Stock Exchange of the Underlying Stock requested by the Company if that suspension is, in the determination of the Issuer, material, (ii) any suspension of or limitation imposed on trading (including but not limited to unforeseen circumstances such as by reason of movements in price exceeding limits permitted by the Relevant Stock Exchange or any act of God, war, riot, public disorder, explosion, terrorism or otherwise) on the Relevant Stock Exchange in the Underlying Stock if that suspension or limitation is, in the determination of the Issuer, material, or (iii) the closing of the Relevant Stock Exchange or a disruption to trading on the Relevant Stock Exchange if that disruption is, in the determination of the Issuer, material as a result of the occurrence of any act of God, war, riot, public disorder, explosion or terrorism.

(b) *Exercise Expenses*. Certificate Holders will be required to pay all charges which are incurred in respect of the exercise of the Certificates (the "**Exercise Expenses**"). An amount equivalent to the Exercise Expenses will be deducted by the Issuer from the Cash Settlement Amount in accordance with Condition 4. Notwithstanding the foregoing, the Certificate Holders shall account to the Issuer on demand for any Exercise Expenses to the extent that they were not or could not be deducted from the Cash Settlement Amount prior to the date of payment of the Cash Settlement Amount to the Certificate Holders in accordance with Condition 4.

(c) No Rights. The purchase of Certificates does not confer on the Certificate Holders any right (whether in respect of voting, dividend or other distributions in respect of the Underlying Stock or otherwise) which the holder of an Underlying Stock may have.

3. Expiry Date

Unless automatically exercised in accordance with Condition 4(b), the Certificates shall be deemed to expire at 10:00 a.m. (Singapore time) on the Expiry Date or if the Expiry Date is not a Business Day (as defined below), the immediately preceding Business Day.

4. Exercise of Certificates

(a) *Exercise*. Certificates may only be exercised on the Expiry Date or if the Expiry Date is not a Business Day, the immediately preceding Business Day, in accordance with Condition 4(b).

(b) *Automatic Exercise*. Certificate Holders shall not be required to deliver an exercise notice. Exercise of Certificates shall be determined by whether the Cash Settlement Amount (less any Exercise Expenses) is positive. If the Cash Settlement Amount (less any Exercise Expenses) is positive, all Certificates shall be deemed to have been automatically exercised at 10:00 a.m. (Singapore time) on the Expiry Date or if the Expiry Date is not a Business Day, the immediately preceding Business Day. The Cash Settlement Amount less the Exercise Expenses in respect of the Certificates shall be paid in the manner set out in Condition 4(c) below. In the event the Cash Settlement Amount (less any Exercise Expenses) is zero, all Certificates shall be deemed to have expired at 10:00 a.m. (Singapore time) on the Expiry Date or if the Expiry Date is not a

Business Day, the immediately preceding Business Day, and Certificate Holders shall not be entitled to receive any payment from the Issuer in respect of the Certificates.

(c) *Settlement*. In respect of Certificates which are automatically exercised in accordance with Condition 4(b), the Issuer will pay to the relevant Certificate Holder the Cash Settlement Amount (if any) in the Settlement Currency. The aggregate Cash Settlement Amount (less any Exercise Expenses) shall be despatched as soon as practicable and no later than five Business Days following the Expiry Date by way of crossed cheque or other payment in immediately available funds drawn in favour of the Certificate Holder only (or, in the case of joint Certificate Holders, the first-named Certificate Holder) appearing in the records maintained by CDP. Any payment made pursuant to this Condition 4(c) shall be delivered at the risk and expense of the Certificate Holder and posted to the Certificate Holder's address appearing in the records maintained by CDP (or, in the case of joint Certificate Holders, to the address of the first-named Certificate Holder appearing in the records maintained by CDP). If the Cash Settlement Amount is equal to or less than the determined Exercise Expenses, no amount is payable.

(d) *CDP not liable*. CDP shall not be liable to any Certificate Holder with respect to any action taken or omitted to be taken by the Issuer or the Warrant Agent in connection with the exercise of the Certificates or otherwise pursuant to or in connection with these Conditions.

(e) *Business Day*. In these Conditions, a "**Business Day**" shall be a day on which the SGX-ST is open for dealings in Singapore during its normal trading hours and banks are open for business in Singapore.

5. Warrant Agent

(a) *Warrant Agent*. The Issuer reserves the right, subject to the appointment of a successor, at any time to vary or terminate the appointment of the Warrant Agent and to appoint another Warrant Agent provided that it will at all times maintain a Warrant Agent which, so long as the Certificates are listed on the SGX-ST, shall be in Singapore. Notice of any such termination or appointment and of any change in the specified office of the Warrant Agent will be given to the Certificate Holders in accordance with Condition 9.

(b) *Agent of Issuer*. The Warrant Agent will be acting as agent of the Issuer and will not assume any obligation or duty to or any relationship of agency or trust for the Certificate Holders. All determinations and calculations by the Warrant Agent under these Conditions shall (save in the case of manifest error) be final and binding on the Issuer and the Certificate Holders.

6. Adjustments

(a) *Potential Adjustment Event*. Following the declaration by a Company of the terms of any Potential Adjustment Event (as defined below), the Issuer will determine whether such Potential Adjustment Event has a dilutive or concentrative or other effect on the theoretical value of the Underlying Stock and, if so, will (i) make the corresponding adjustment, if any, to any one or more of the Conditions as the Issuer determines appropriate to account for that dilutive or concentrative or other effect, and (ii) determine the effective date of that adjustment. The Issuer may, but need not, determine the appropriate adjustment by reference to the adjustment in respect of such Potential Adjustment Event made by an exchange on which options or futures contracts on the Underlying Stock are traded.

(b) *Definitions*. "**Potential Adjustment Event**" means any of the following:

(i) a subdivision, consolidation, reclassification or other restructuring of the Underlying Stock (excluding a Merger Event) or a free distribution or dividend of any such Underlying Stock to existing holders by way of bonus, capitalisation or similar issue;

(ii) a distribution or dividend to existing holders of the Underlying Stock of (1) such Underlying Stock, or (2) other share capital or securities granting the right to payment of dividends and/or the proceeds of liquidation of the Company equally or proportionately with such payments to holders of such Underlying Stock, or (3) share capital or other securities of another issuer acquired by the Company as a result of a "spin-off" or other similar transaction, or (4) any other type of securities, rights or warrants or other assets, in any case for payment (in cash or otherwise) at less than the prevailing market price as determined by the Issuer;

(iii) an extraordinary dividend;

(iv) a call by the Company in respect of the Underlying Stock that is not fully paid;

(v) a repurchase by the Company of the Underlying Stock whether out of profits or capital and whether the consideration for such repurchase is cash, securities or otherwise;

(vi) with respect to a Company an event that results in any shareholder rights pursuant to a shareholder rights agreement or other plan or arrangement of the type commonly referred to as a "poison pill" being distributed, or becoming separated from shares of common stock or other shares of the capital stock of such Company (provided that any adjustment effected as a result of such an event shall be readjusted upon any redemption of such rights); or

(vii) any other event that may have, in the opinion of the Issuer, a dilutive or concentrative or other effect on the theoretical value of the Underlying Stock.

(c) *Merger Event, Tender Offer, Nationalisation and Insolvency*. If a Merger Event, Tender Offer, Nationalisation or Insolvency occurs in relation to the Underlying Stock, the Issuer may take any action described below:

(i) determine the appropriate adjustment, if any, to be made to any one or more of the Conditions to account for the Merger Event, Tender Offer, Nationalisation or Insolvency, as the case may be, and determine the effective date of that adjustment. The Issuer may, but need not, determine the appropriate adjustment by reference to the adjustment in respect of the Merger Event, Tender Offer, Nationalisation or Insolvency made by an options exchange to options on the Underlying Stock traded on that options exchange;

(ii) cancel the Certificates by giving notice to the Certificate Holders in accordance with Condition 9. If the Certificates are so cancelled, the Issuer will pay an amount to each Certificate Holder in respect of each Certificate held by such Certificate Holder which amount shall be the fair market value of a Certificate taking into account the Merger Event, Tender Offer, Nationalisation or Insolvency, as the case may be, less the cost to the Issuer and/or any of its affiliates of unwinding any underlying related hedging arrangements, all as determined by the Issuer in its reasonable discretion. Payment will be made in such manner as shall be notified to the Certificate Holders in accordance with Condition 9; or

(iii) following any adjustment to the settlement terms of options on the Underlying Stock on such exchange(s) or trading system(s) or quotation system(s) as the Issuer in its reasonable discretion shall select (the "**Option Reference Source**") make a corresponding adjustment to any one or more of the Conditions, which adjustment will be effective as of the date determined by the Issuer to be the effective date of the corresponding adjustment made by the Option Reference Source. If options on the Underlying Stock are not traded on the Option Reference Source, the Issuer will make such adjustment, if any, to any one or more of the Conditions as the Issuer determines appropriate, with reference to the rules and precedents (if any) set by the Option Reference Source, to account for the Merger Event, Tender Offer, Nationalisation or Insolvency, as the case may be, that in the determination of the Issuer would have given rise to an adjustment by the Option Reference Source if such options were so traded.

Once the Issuer determines that its proposed course of action in connection with a Merger Event, Tender Offer, Nationalisation or Insolvency, it shall give notice to the Certificate Holders in accordance with Condition 9 stating the occurrence of the Merger Event, Tender Offer, Nationalisation or Insolvency, as the case may be, giving details thereof and the action proposed to be taken in relation thereto. Certificate Holders should be aware that due to the nature of such events, the Issuer will not make an immediate determination of its proposed course of action or adjustment upon the announcement or occurrence of a Merger Event, Tender Offer, Nationalisation or Insolvency.

(d) *Definitions*. "**Insolvency**" means that by reason of the voluntary or involuntary liquidation, bankruptcy, insolvency, dissolution or winding-up of or any analogous proceeding affecting a Company (i) all the Underlying Stock of that Company is required to be transferred to a trustee, liquidator or other similar official or (ii) holders of the Underlying Stock of that Company become legally prohibited from transferring them. "**Merger Date**" means the closing date of a Merger Event or, where a closing date cannot be determined under the local law applicable to such Merger Event, such other date as determined by the Issuer. "**Merger Event**" means, in respect of the Underlying Stock, any (i) reclassification or change of such Underlying Stock that results in a transfer of or an irrevocable commitment to transfer all of such Underlying Stock outstanding to another entity or person, (ii) consolidation, amalgamation, merger or binding share exchange of a Company with or into another entity or person (other than a consolidation, amalgamation, merger or binding share exchange in which such Company is the continuing entity and which does not result in reclassification or change of all of such Underlying Stock outstanding), (iii) takeover offer, exchange offer, solicitation, proposal or other event by any entity or person to purchase or otherwise obtain 100 per cent. of the outstanding Underlying Stock of the Company that results in a transfer of or an irrevocable commitment to transfer all such Underlying Stock (other than such Underlying Stock owned or controlled by such other entity or person), or (iv) consolidation, amalgamation, merger or binding share exchange of the Company or its subsidiaries with or into another entity in which the Company is the continuing entity and which does not result in a reclassification or change of all such Underlying Stock outstanding but results in the outstanding Underlying Stock (other than Underlying Stock owned or controlled by such other entity) immediately prior to such event collectively representing less than 50 per cent.

of the outstanding Underlying Stock immediately following such event, in each case if the Merger Date is on or before the Valuation Date. "**Nationalisation**" means that all the Underlying Stock or all or substantially all of the assets of a Company are nationalised, expropriated or are otherwise required to be transferred to any governmental agency, authority, entity or instrumentality thereof. "**Tender Offer**" means a takeover offer, tender offer, exchange offer, solicitation, proposal or other event by any entity or person that results in such entity or person purchasing, or otherwise obtaining or having the right to obtain, by conversion or other means, greater than 10 per cent. and less than 100 per cent. of the outstanding voting shares of the Company, as determined by the Issuer, based upon the making of filings with governmental or self-regulatory agencies or such other information as the Issuer deems relevant.

(e) *Other Adjustments*. Except as provided in this Condition 6 and Conditions 10 and 12, adjustments will not be made in any other circumstances, subject to the right reserved by the Issuer (such right to be exercised in the Issuer's sole discretion and without any obligation whatsoever) to make such adjustments and amendments as it believes appropriate in circumstances where an event or events occur which it believes in its sole discretion (and notwithstanding any prior adjustment made pursuant to the above) should, in the context of the issue of the Certificates and the obligations of the Issuer, give rise to such adjustment or, as the case may be, amendment provided that such adjustment or, as the case may be, amendment is considered by the Issuer not to be materially prejudicial to the Certificate Holders generally (without considering the circumstances of any individual Certificate Holder or the tax or other consequences of such adjustment or amendment in any particular jurisdiction).

(f) *Notice of Adjustments*. All determinations made by the Issuer pursuant hereto will be conclusive and binding on the Certificate Holders. The Issuer will give, or procure that there is given, notice as soon as practicable of any adjustment and of the date from which such adjustment is effective by publication in accordance with Condition 9.

7. Purchases

The Issuer, the Guarantor or any of their respective subsidiaries may at any time purchase Certificates at any price in the open market or by tender or by private treaty. Any Certificates so purchased may be held or resold or surrendered for cancellation.

8. Meetings of Certificate Holders; Modification

(a) *Meetings of Certificate Holders*. The Master Warrant Agent Agreement or Warrant Agent Agreement contains provisions for convening meetings of the Certificate Holders to consider any matter affecting their interests, including the sanctioning by Extraordinary Resolution (as defined in the Master Warrant Agent Agreement or Warrant Agent Agreement) of a modification of the provisions of the Certificates or of the Master Warrant Agent Agreement or Warrant Agent Agreement.

At least 21 days' notice (exclusive of the day on which the notice is given and of the day on which the meeting is held) specifying the date, time and place of the meeting shall be given to the Certificate Holders.

Such a meeting may be convened by the Issuer or by Certificate Holders holding not less than ten per cent. of the Certificates for the time being remaining unexercised. The quorum at any such meeting for passing an Extraordinary Resolution will be two or more persons holding or representing not less than 25 per cent. of the Certificates for the time being remaining unexercised, or at any adjourned meeting, two or more persons being or representing Certificate Holders whatever the number of Certificates so held or represented.

A resolution will be an Extraordinary Resolution when it has been passed at a duly convened meeting by not less than three-quarters of the votes cast by such Certificate Holders who, being entitled to do so, vote in person or by proxy.

An Extraordinary Resolution passed at any meeting of the Certificate Holders shall be binding on all the Certificate Holders whether or not they are present at the meeting. Resolutions can be passed in writing if passed unanimously.

(b) *Modification*. The Issuer may, without the consent of the Certificate Holders, effect (i) any modification of the provisions of the Certificates or the Master Instrument which is not materially prejudicial to the interests of the Certificate Holders or (ii) any modification of the provisions of the Certificates or the Master Instrument which is of a formal, minor or technical nature, which is made to correct an obvious error or which is necessary in order to comply with mandatory provisions of Singapore law. Any such modification shall be binding on the Certificate Holders and shall be notified to them by the Warrant Agent before the date such modification becomes effective or as soon as practicable thereafter in accordance with Condition 9.

9. Notices

(a) *Documents.* All cheques and other documents required or permitted by these Conditions to be sent to a Certificate Holder or to which a Certificate Holder is entitled or which the Issuer shall have agreed to deliver to a Certificate Holder may be delivered by hand or sent by post addressed to the Certificate Holder at his address appearing in the records maintained by CDP or, in the case of joint Certificate Holders, addressed to the joint holder first named at his address appearing in the records maintained by CDP, and airmail post shall be used if that address is not in Singapore. All documents delivered or sent in accordance with this paragraph shall be delivered or sent at the risk of the relevant Certificate Holder.

(b) *Notices.* All notices to Certificate Holders will be validly given if published in English on the web-site of the SGX-ST. Such notices shall be deemed to have been given on the date of the first such publication. If publication on the web-site of the SGX-ST is not practicable, notice will be given in such other manner as the Issuer may determine. The Issuer shall, at least one month prior to the expiry of any Certificate, give notice of the date of expiry of such Certificate in the manner prescribed above.

10. Liquidation

In the event of a liquidation or dissolution of the Company or the appointment of a liquidator (including a provisional liquidator) or receiver or judicial manager or trustee or administrator or analogous person under Singapore or other applicable law in respect of the whole or substantially the whole of its undertaking, property or assets, all unexercised Certificates will lapse and shall cease to be valid for any purpose, in the case of voluntary liquidation, on the effective date of the relevant resolution and, in the case of an involuntary liquidation or dissolution, on the date of the relevant court order or, in the case of the appointment of a liquidator (including a provisional liquidator) or receiver or judicial manager or trustee or administrator or analogous person under Singapore or other applicable law in respect of the whole or substantially the whole of its undertaking, property or assets, on the date when such appointment is effective but subject (in any such case) to any contrary mandatory requirement of law. In the event of the voluntary liquidation of the Company, the Issuer shall make such adjustments or amendments as it reasonably believes are appropriate in the circumstances.

11. Further Issues

The Issuer shall be at liberty from time to time, without the consent of the Certificate Holders, to create and issue further certificates so as to form a single series with the Certificates, subject to the approval of the SGX-ST.

12. Delisting

(a) Delisting. If at any time, the Underlying Stock ceases to be listed on the Relevant Stock Exchange, the Issuer shall give effect to these Conditions in such manner and make such adjustments and amendments to the rights attaching to the Certificates as it shall, in its absolute discretion, consider appropriate to ensure, so far as it is reasonably able to do so, that the interests of the Certificate Holders generally are not materially prejudiced as a consequence of such delisting (without considering the individual circumstances of any Certificate Holder or the tax or other consequences that may result in any particular jurisdiction).

(b) Issuer's Determination. The Issuer shall determine, in its absolute discretion, any adjustment or amendment and its determination shall be conclusive and binding on the Certificate Holders save in the case of manifest error. Notice of any adjustments or amendments shall be given to the Certificate Holders in accordance with Condition 9 as soon as practicable after they are determined.

13. Early Termination

(a) *Early Termination for Illegality and Force Majeure, etc.* If the Issuer determines that a Regulatory Event (as defined below) has occurred and, for reasons beyond its control, the performance of its obligations under the Certificates has become illegal or impractical in whole or in part for any reason, or the Issuer determines that, for reasons beyond its control, it is no longer legal or practical for it to maintain its hedging arrangements with respect to the Certificates for any reason, the Issuer may in its discretion and without obligation terminate the Certificates early in accordance with Condition 13(c).

Should any one or more of the provisions contained in the Conditions be or become invalid, the validity of the remaining provisions shall not in any way be affected thereby.

For the purposes of this Condition:

"**Regulatory Event**" means, following the occurrence of a Change in Law (as defined below) with respect to the Issuer and/or Société Générale as Guarantor or in any other capacity (including without limitation as hedging counterparty of the Issuer, market maker of the Certificates or direct or indirect shareholder or sponsor of the Issuer) or any of its affiliates involved in the issuer of the Certificates (hereafter the "**Relevant Affiliates**" and each of the Issuer, Société Générale and the Relevant Affiliates, a "**Relevant Entity**") that, after the Certificates have been issued, (i) any Relevant Entity would incur a materially increased (as compared with circumstances existing prior to such event) amount of tax, duty, liability, penalty, expense, fee, cost or regulatory capital charge however defined or collateral requirements for performing its obligations under the Certificates or hedging the Issuer's obligations under the Certificates, including, without limitation, due to clearing requirements of, or the absence of, clearing of the transactions entered into in connection with the issue of, or hedging the Issuer's obligation under, the Certificates, (ii) it is or will become for any Relevant Entity impracticable, impossible (in each case, after using commercially reasonable efforts), unlawful, illegal or otherwise prohibited or contrary, in whole or in part, under any law, regulation, rule, judgement, order or directive of any governmental, administrative or judicial authority, or power, applicable to such Relevant Entity (a) to hold, acquire, issue, reissue, substitute, maintain, settle, or as the case may be, guarantee, the Certificates, (b) to acquire, hold, sponsor or dispose of any asset(s) (or any interest thereof) of any other transaction(s) such Relevant Entity may use in connection with the issue of the Certificates or to hedge the Issuer's obligations under the Certificates, (c) to perform obligations in connection with, the Certificates or any contractual arrangement entered into between the Issuer and Société Générale or any Relevant Affiliate (including without limitation to hedge the Issuer's obligations under the Certificates) or (d) to hold, acquire, maintain, increase, substitute or redeem all or a substantial part of its direct or indirect shareholding in the Issuer's capital or the capital of any Relevant Affiliate or to directly or indirectly sponsor the Issuer or any Relevant Affiliate, or (iii) there is or may be a material adverse effect on a Relevant Entity in connection with the issue of the Certificates.

"**Change in law**" means (i) the adoption, enactment, promulgation, execution or ratification of any applicable new law, regulation or rule (including, without limitation, any applicable tax law, regulation or rule) after the Certificates have been issued, (ii) the implementation or application of any applicable law, regulation or rule (including, without limitation, any applicable tax law, regulation or rule) already in force when the Certificates have been issued but in respect of which the manner of its implementation or application was not known or unclear at the time, or (iii) the change of any applicable law, regulation or rule existing when the Certificates are issued, or the change in the interpretation or application or practice relating thereto, existing when the Certificates are issued of any applicable law, regulation or rule, by any competent court, tribunal, regulatory authority or any other entity exercising executive, legislative, judicial, taxing, regulatory or administrative powers or functions of or pertaining to government (including any additional or alternative court, tribunal, authority or entity, to that existing when the Certificates are issued).

(b) *Early Termination for other reasons.* The Issuer reserves the right (such right to be exercised in the Issuer's sole and unfettered discretion and without any obligation whatsoever) to terminate the Certificates in accordance with Condition 13(c) where an event or events occur which it believes in its sole discretion should, in the context of the issue of the Certificates and the obligations of the Issuer, give rise to such termination provided that such termination (i) is considered by the Issuer not to be materially prejudicial to the interests of Certificate Holders generally (without considering the circumstances of any individual Certificate Holder or the tax or other consequences of such termination in any particular jurisdiction); or (ii) is otherwise considered by the Issuer to be appropriate and such termination is approved by the SGX-ST.

(c) *Termination*. If the Issuer terminates the Certificates early, then the Issuer will give notice to the Certificate Holders in accordance with Condition 9. The Issuer will, if and to the extent permitted by applicable law, pay an amount to each Certificate Holder in respect of each Certificate held by such holder equal to the fair market value of a Certificate notwithstanding such illegality or impracticality less the cost to the Issuer of unwinding any underlying related hedging arrangements, all as determined by the

Issuer in its sole and absolute discretion. Payment will be made in such manner as shall be notified to the Certificate Holders in accordance with Condition 9.

14. Governing Law

The Certificates, the Master Instrument and the Master Warrant Agent Agreement or Warrant Agent Agreement will be governed by and construed in accordance with Singapore law. The Issuer and the Guarantor and each Certificate Holder (by its purchase of the Certificates) shall be deemed to have submitted for all purposes in connection with the Certificates, the Master Instrument and the Master Warrant Agent Agreement or Warrant Agent Agreement to the non-exclusive jurisdiction of the courts of Singapore. The Guarantee shall be governed by and construed in accordance with Singapore law.

15. Prescription

Claims against the Issuer for payment of any amount in respect of the Certificates will become void unless made within six years of the Expiry Date and, thereafter, any sums payable in respect of such Certificates shall be forfeited and shall revert to the Issuer.

16. Contracts (Rights of Third Parties) Act, Chapter 53B of Singapore

Unless otherwise provided in the Global Warrant, the Master Instrument and the Master Warrant Agent Agreement or Warrant Agent Agreement, a person who is not a party to any contracts made pursuant to the Global Warrant, the Master Instrument and the Master Warrant Agent Agreement or Warrant Agent Agreement has no rights under the Contracts (Rights of Third Parties) Act, Chapter 53B of Singapore to enforce any terms of such contracts. Except as expressly provided herein, the consent of any third party is not required for any subsequent agreement by the parties hereto to amend or vary (including any release or compromise of any liability) or terminate such contracts.

SUMMARY OF THE ISSUE

The following is a summary of the issue and should be read in conjunction with, and is qualified by reference to, the other information set out in this document, the Base Listing Document and the Addendum. Terms used in this Summary are defined in the Conditions.

Issuer:	SG Issuer
Company:	HSBC Holdings plc
The Certificates:	European Style Cash Settled Long Certificates relating to the Underlying Stock
Number:	1,091,000 Certificates
Form:	The Certificates will be issued subject to, and with the benefit of, a master instrument by way of deed poll dated 21 June 2018 (the "**Master Instrument**") and executed by the Issuer and the Guarantor and a master warrant agent agreement dated 29 May 2017 (the "**Master Warrant Agent Agreement**") and made between the Issuer, the Guarantor and the Warrant Agent.
Cash Settlement Amount:	In respect of each Certificate, is the amount (if positive) equal to: Notional Amount per Certificate x Closing Level
Denominations:	Certificates are represented by a global warrant in respect of all the Certificates.
Exercise:	The Certificates may only be exercised on the Expiry Date or if the Expiry Date is not a Business Day, the immediately preceding Business Day, in a Board Lot or integral multiples thereof. Certificate Holders will not be required to deliver an exercise notice. If the Cash Settlement Amount (less any Exercise Expenses) is positive, all Certificates will be deemed to have been automatically exercised at 10:00 a.m. (Singapore time) on the Expiry Date or if the Expiry Date is not a Business Day, the immediately preceding Business Day. The Cash Settlement Amount less the Exercise Expenses in respect of the Certificates shall be paid in the manner set out in Condition 4(c) of the Conditions. In the event the Cash Settlement Amount (less any Exercise Expenses) is zero, all Certificates shall be deemed to have expired at 10:00 a.m. (Singapore time) on the Expiry Date or if the Expiry Date is not a Business Day, the immediately preceding Business Day, and Certificate Holders shall not be entitled to receive any payment from the Issuer in respect of the Certificates.
Exercise and Trading Currency:	SGD
Board Lot:	100 Certificates

Transfers of Certificates:	Certificates may only be transferred in Board Lots (or integral multiples thereof). All transfers in Certificates, in the open market or otherwise, must be effected through a securities account with CDP. Title will pass upon registration of the transfer in the records of CDP.
Listing:	Application has been made to the SGX-ST for permission to deal in and for quotation of the Certificates and the SGX-ST has agreed in principle to grant permission to deal in and for quotation of the Certificates. Issue of the Certificates is conditional on such listing being granted. It is expected that dealings in the Certificates on the SGX-ST will commence on or about 26 February 2019.
Governing Law:	The laws of Singapore
Warrant Agent:	The Central Depository (Pte) Limited 11 North Buona Vista Drive #06-07 The Metropolis Tower 2 Singapore 138589
Further Issues:	Further issues which will form a single series with the Certificates will be permitted, subject to the approval of the SGX-ST.

The above summary is a qualified in its entirety by reference to the detailed information appearing elsewhere in this document, the Base Listing Document and the Addendum.

INFORMATION RELATING TO THE EUROPEAN STYLE CASH SETTLED LONG CERTIFICATES ON SINGLE EQUITIES

What are European Style Cash Settled Long Certificates on Single Equities?

European style cash settled long certificates on single equities (the "**Certificates**") are structured products relating to the Underlying Stock and the return on a Certificate is linked to the performance of the Leverage Strategy.

A) Cash Settlement Amount Payable upon the Exercise of the Certificates at Expiry

Upon the exercise of the Certificates at expiry, the Certificate Holders would be paid a Cash Settlement Amount in respect of each Certificate.

The Cash Settlement Amount, in respect of each Certificate, shall be an amount payable in the Settlement Currency equal to the Closing Level multiplied by the Notional Amount per Certificate.

The Closing Level, in respect of each Certificate, shall be an amount payable in the Settlement Currency equal to (1) divided by (2) less (3) subject to any adjustments such as (4), where:

(1) is the Final Reference Level multiplied by the Final Exchange Rate;

(2) is the Initial Reference Level multiplied by the Initial Exchange Rate;

(3) is the Strike Level; and

(4) is the Hedging Fee Factor.

If the Cash Settlement Amount (less any Exercise Expenses) is positive, all Certificates shall be deemed to have been automatically exercised and investors will receive a Cash Settlement Amount. If the Cash Settlement Amount (less any Exercise Expenses) is zero, all Certificates shall be deemed to have expired. Please refer to the section headed "Terms and Conditions of the European Style Cash Settled Long/Short Certificates on Single Equities" for further details on the calculation of the Cash Settlement Amount.

The Certificates are only suitable for investors who believe that the price of the Underlying Stock will increase and are seeking short-term leveraged exposure to the Underlying Stock.

B) Trading the Certificates before Expiry

If the Certificate Holders want to cash out their investments in the Certificates before the expiry of the Certificates, they may sell the Certificates in the secondary market during the life of the Certificates, and would be subject to the following fees and charges:

(i) For Certificate Holders who trade the Certificates intraday: shall pay normal transaction and brokerage fees for the trading of the Certificates on the SGX-ST, and may be required to pay stamp taxes or other documentary charges in accordance with the laws and practices of the country where the Certificates are transferred; and

(ii) For Certificate Holders who hold the Certificates overnight: in addition to the normal transaction and brokerage fees and applicable stamp taxes, would also be required to bear the Management Fee and Gap Premium as well as certain costs embedded within the Leverage Strategy including the Funding Cost and Rebalancing Cost.

Illustration of the Calculation of Hedging Fee Factor

Hedging Fee Factor	=	Product of the Daily Fees

Daily Fees	=	**Daily Management Fee Adjustment** 1 – Management Fee x ACT (t-1;t) / 360 x **Daily Gap Premium Adjustment** 1 – Gap Premium (t-1) x ACT (t-1;t) / 360

Illustration of the Calculation of Cash Settlement Amount

Cash Settlement Amount = Final Value of Certificates – Strike Level (zero)

		t[7]=0		t=1		t=2		t=i
Value of Certificates	=	Notional Amount	x	Leverage Strategy daily performance[8] x Daily Fees	x	Leverage Strategy daily performance x Daily Fees	x …	Leverage Strategy Daily performance x Daily Fees

		t=0		**Product of the daily Leverage Strategy Performance**		**Product of the Daily Fees (Hedging Fee Factor)**
Value of Certificates	=	Notional Amount	x	Leverage Strategy daily performance x Leverage Strategy daily performance	x	Daily Fees x Daily Fees

		t=0				
Final Value of Certificates	=	Notional Amount	x	Final Reference Level x Final Exchange Rate ÷ Initial Reference Level x Initial Exchange Rate	x	Hedging Fee Factor

Illustration of the applicable fees and charges for an intraday trading scenario

Hedging Fee is implemented overnight in the price of the Certificate. As a consequence, when trading intraday, investors will not bear any Hedging Fee.

Investors will only support bid/ask costs, which are the difference between the price at which the Designated Market Maker purchases (bid) and sells (ask) the Certificate at any point of time.

[7] "t" refers to "**Observation Date**" which means each Underlying Stock Business Day from (and including) the Underlying Stock Business Day immediately preceding the Expected Listing Date to the Valuation Date.
[8] Leverage Strategy daily performance is computed as the Leverage Strategy Closing Level on Business Day (t) divided by the Leverage Strategy Closing Level on Business Day (t-1).

Example of Calculation of Hedging Fee Factor and Cash Settlement Amount

The example is purely hypothetical. We include the example to illustrate how the Certificates work, and you MUST NOT rely on them as any indication of the actual return or what the payout on the Certificates might actually be. The example also assumes a product which expires 16 days after listing date, to illustrate the daily calculation of price, costs and fees from listing date to expiry date.

Assuming an investor purchases the following Certificates at the Issue Price:

Underlying Stock:	Ordinary shares of par value US$0.50 each of HSBC Holdings plc
Expected Listing Date:	**03/07/2018**
Expiry Date:	**18/07/2018**
Initial Reference Level:	**1,000**
Initial Exchange Rate:	**1**
Final Reference Level:	**1,200**
Final Exchange Rate:	**1**
Issue Price:	**2.20 SGD**
Notional Amount per Certificate:	**2.20 SGD**
Management Fee (p.a.):	**0.40%**
Gap Premium (p.a.):	**6.90%**
Strike Level:	Zero

Hedging Fee Factor

Hedging Fee Factor on the n^{th} Underlying Stock Business Day after issuance of Certificate ("HFF (n)") is calculated as follows:

HFF(0) = 100%

On Next Calendar Day (assuming it is an Underlying Stock Business Day):

$$\mathrm{HFF}\ (1)\ =\ \mathrm{HFF}\ (0)\ \times\left(1-\ \mathrm{Management\ Fee}\ \times\frac{\mathrm{ACT}\ (\mathrm{t}-1;\mathrm{t})}{360}\right)\times\left(1-\ \mathrm{Gap\ Premium}\ \times\frac{\mathrm{ACT}\ (\mathrm{t}-1;\mathrm{t})}{360}\right)$$

$$\mathrm{HFF}\ (1) =\ 100\%\ \times\left(1-\ 0.40\%\ \times\frac{1}{360}\right)\times\left(1-\ 6.90\%\ \times\frac{1}{360}\right)$$

$$\mathrm{HFF}\ (1) =\ 100\%\ \times\ 99.9989\%\ \times\ 99.9808\%\ \approx\ 99.9797\%$$

Assuming 2nd Underlying Stock Business Day falls 3 Calendar Days after 1st Underlying Stock Business Day:

$$\text{HFF}(2) = \text{HFF}(1) \times \left(1 - \text{Management Fee} \times \frac{\text{ACT}(t-1;t)}{360}\right) \times \left(1 - \text{Gap Premium} \times \frac{\text{ACT}(t-1;t)}{360}\right)$$

$$\text{HFF}(2) = 99.9797\% \times \left(1 - 0.40\% \times \frac{3}{360}\right) \times \left(1 - 6.90\% \times \frac{3}{360}\right)$$

$$\text{HFF}(2) = 99.9797\% \times 99.9967\% \times 99.9425\% \approx 99.9189\%$$

The same principle applies to the following Underlying Stock Business Days:

$$\text{HFF}(n) = \text{HFF}(n-1) \times \left(1 - \text{Management Fee} \times \frac{\text{ACT}(t-1;t)}{360}\right) \times \left(1 - \text{Gap Premium} \times \frac{\text{ACT}(t-1;t)}{360}\right)$$

In this example, the Hedging Fee Factor as of the Valuation Date would be equal to 99.6963% as illustrated below:

Date	HFF
3/7/2018	100.0000%
4/7/2018	99.9797%
5/7/2018	99.9594%
6/7/2018	99.9392%
9/7/2018	99.8784%
10/7/2018	99.8581%
11/7/2018	99.8379%
12/7/2018	99.8176%
13/7/2018	99.7974%
16/7/2018	99.7367%
17/7/2018	99.7165%
18/7/2018	99.6963%

Cash Settlement Amount

In this example, the Closing Level and the Cash Settlement Amount would be computed as follows:

Closing Level = [(Final Reference Level x Final Exchange Rate) / (Initial Reference Level x Initial Exchange Rate) – Strike Level] x Hedging Fee Factor

= [(1200 x 1) / (1000 x 1) – 0] x 99.6963%

= 119.64%

Cash Settlement Amount = Closing Level x Notional Amount per Certificate

= 119.64% x 2.20 SGD

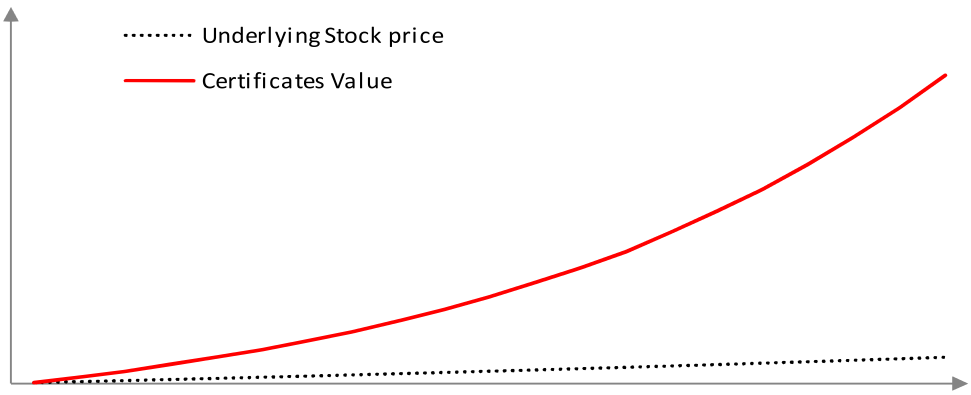
= 2.632 SGD

Illustration on how returns and losses can occur under different scenarios

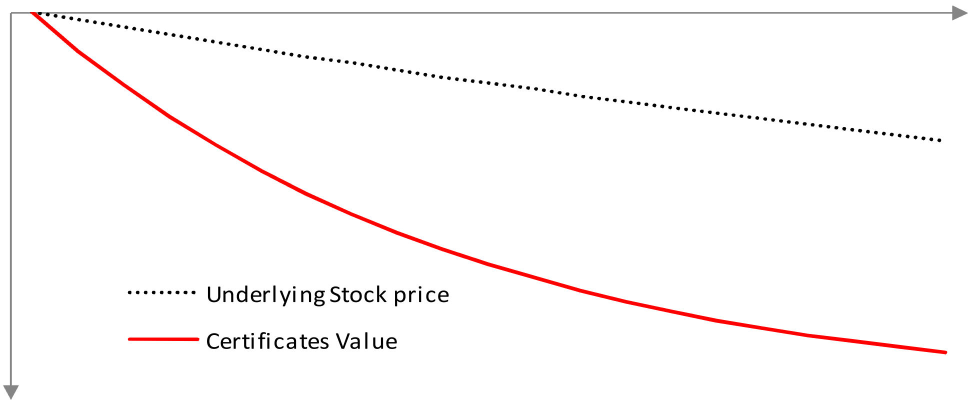
The examples are purely hypothetical and do not take fees and charges payable by investors into consideration. The examples highlight the effect of the Underlying Stock performance on the value of the Certificates and do not take into account the possible influence of fees, exchange rates, dividends, or any other market parameters.

1. <u>Illustrative examples</u>

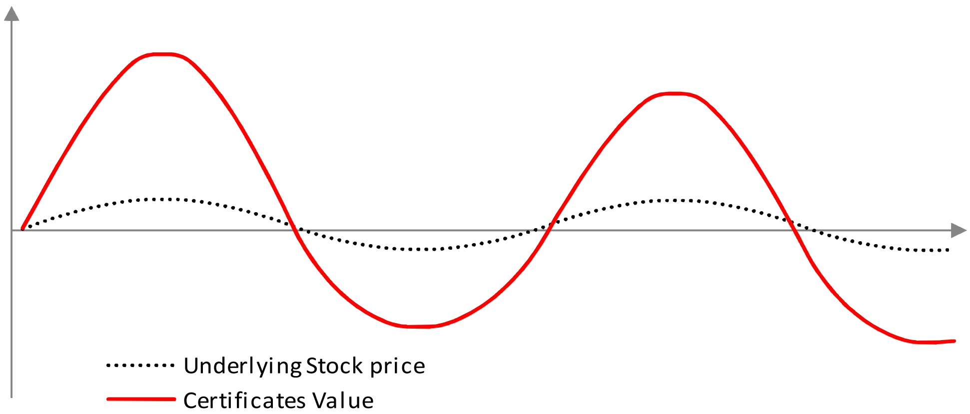
<u>Scenario 1 – Upward Trend</u>



<u>Scenario 2 – Downward Trend</u>



<u>Scenario 3 – Volatile Market</u>



2. Numerical Examples

Scenario 1 – Upward Trend

Underlying Stock						
	Day 0	Day 1	Day 2	Day 3	Day 4	Day 5
Daily return		2.0%	2.0%	2.0%	2.0%	2.0%
Value at end of day	10,000.0	10,200.0	10,404.0	10,612.1	10,824.3	11,040.8
Accumulated Return		2.00%	4.04%	6.12%	8.24%	10.41%

Value of the Certificates						
	Day 0	Day 1	Day 2	Day 3	Day 4	Day 5
Daily return		10.0%	10.0%	10.0%	10.0%	10.0%
Price at end of day	2.20	2.42	2.66	2.93	3.22	3.54
Accumulated Return		10.00%	21.00%	33.10%	46.41%	61.05%

Scenario 2 – Downward Trend

Underlying Stock						
	Day 0	Day 1	Day 2	Day 3	Day 4	Day 5
Daily return		-2.0%	-2.0%	-2.0%	-2.0%	-2.0%
Value at end of day	10,000.0	9,800.0	9,604.0	9,411.9	9,223.7	9,039.2
Accumulated Return		-2.00%	-3.96%	-5.88%	-7.76%	-9.61%

Value of the Certificates						
	Day 0	Day 1	Day 2	Day 3	Day 4	Day 5
Daily return		-10.0%	-10.0%	-10.0%	-10.0%	-10.0%
Price at end of day	2.20	1.98	1.78	1.60	1.44	1.30
Accumulated Return		-10.00%	-19.00%	-27.10%	-34.39%	-40.95%

Scenario 3 – Volatile Market

Underlying Stock						
	Day 0	Day 1	Day 2	Day 3	Day 4	Day 5
Daily return		2.0%	-2.0%	2.0%	-2.0%	2.0%
Value at end of day	10,000.0	10,200.0	9,996.0	10,195.9	9,992.0	10,191.8
Accumulated Return		2.00%	-0.04%	1.96%	-0.08%	1.92%

Value of the Certificates						
	Day 0	Day 1	Day 2	Day 3	Day 4	Day 5
Daily return		10.0%	-10.0%	10.0%	-10.0%	10.0%
Price at end of day	2.20	2.42	2.18	2.40	2.16	2.37
Accumulated Return		10.00%	-1.00%	8.90%	-1.99%	7.81%

Description of Air Bag Mechanism

The Certificates integrate an “Air Bag Mechanism” which is designed to reduce exposure to the Underlying Stock during extreme market conditions.

When the Air Bag triggers, a 30-minute period starts. This period is divided into two sub-periods:

- Observation Period : during 15 minutes after the Air Bag trigger, the price of the Underlying Stock is observed and its minimum price is recorded; and
- Reset Period: after 15 minutes, the Leverage Strategy is reset using the minimum price of the Underlying Stock during the Observation Period as the New Observed Price. The New Observed Price replaces the last closing price of the Underlying Stock in order to compute the performance of the Leverage Strategy, 30 minutes after the Air Bag trigger.

Trading of Certificates is suspended for at least 30 minutes after the Air Bag is triggered. Investors cannot sell or purchase any Certificates during this period.

Air Bag Mechanism timeline

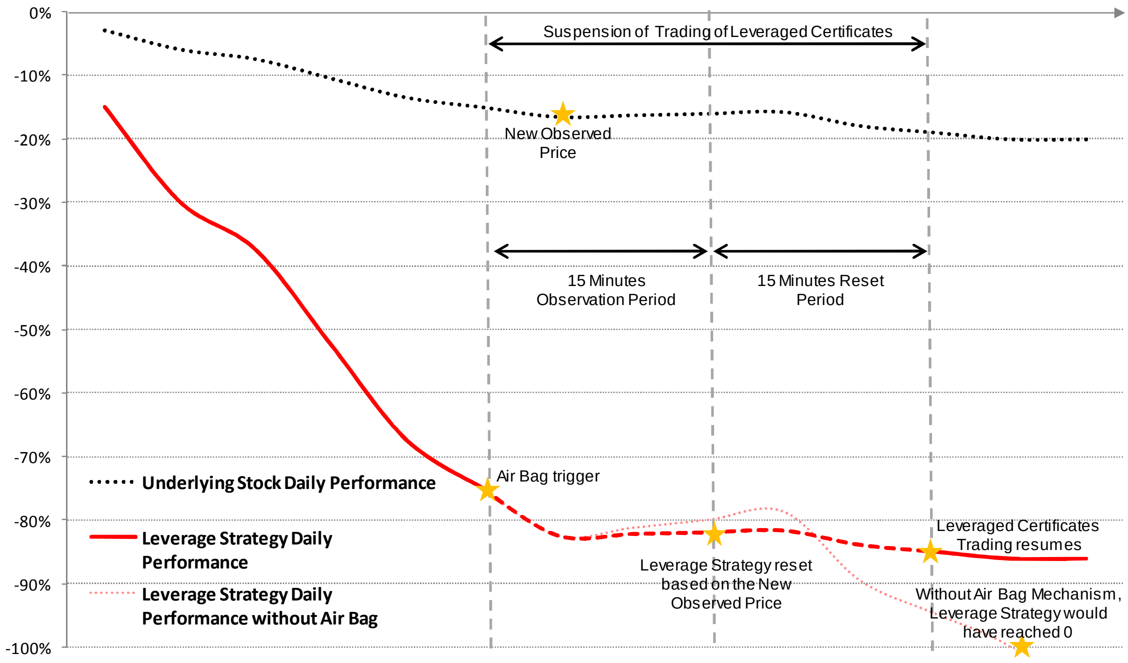
<table>
<tr><th>Air Bag Trigger</th><th>Observation Period</th><th>Resumption of Trading</th></tr>
<tr><td>More than 45 minutes before Market Close</td><td rowspan="5">First 15 minutes after Air Bag Trigger</td><td>Trading resumes the same day between 30 and 45 minutes after Air Bag Trigger</td></tr>
<tr><td>45 minutes before Market Close</td><td rowspan="6">Next trading day at Market Open</td></tr>
<tr><td>30 to 45 minutes before Market Close</td></tr>
<tr><td>30 minutes before Market Close</td></tr>
<tr><td>15 to 30 minutes before Market Close</td></tr>
<tr><td>15 minutes before Market Close</td><td rowspan="2">From Air Bag Trigger to Market Close</td></tr>
<tr><td>Less than 15 minutes before Market Close</td></tr>
</table>

With **Market Close** defined as:

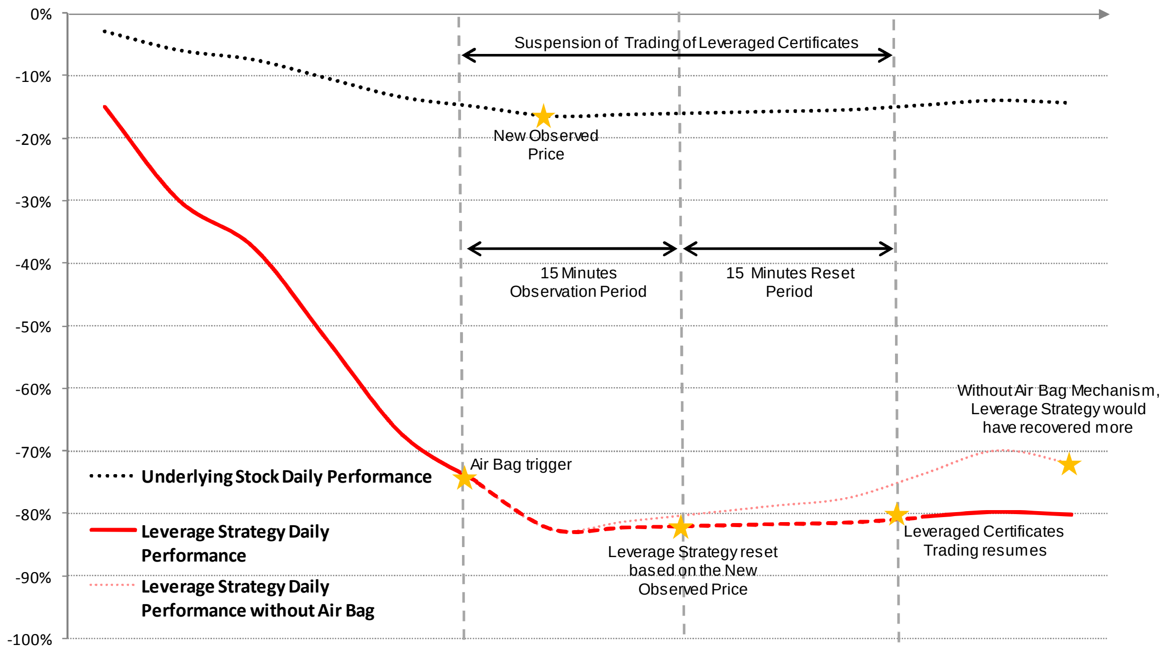
- Underlying Stock closing time with respect to the Observation Period
- The sooner between Underlying Stock closing time and SGX closing time with respect to the Resumption of Trading

Illustrative examples of the Air Bag Mechanism

Scenario 1 – Downward Trend after Air Bag trigger



Scenario 2 – Upward Trend after Air Bag trigger

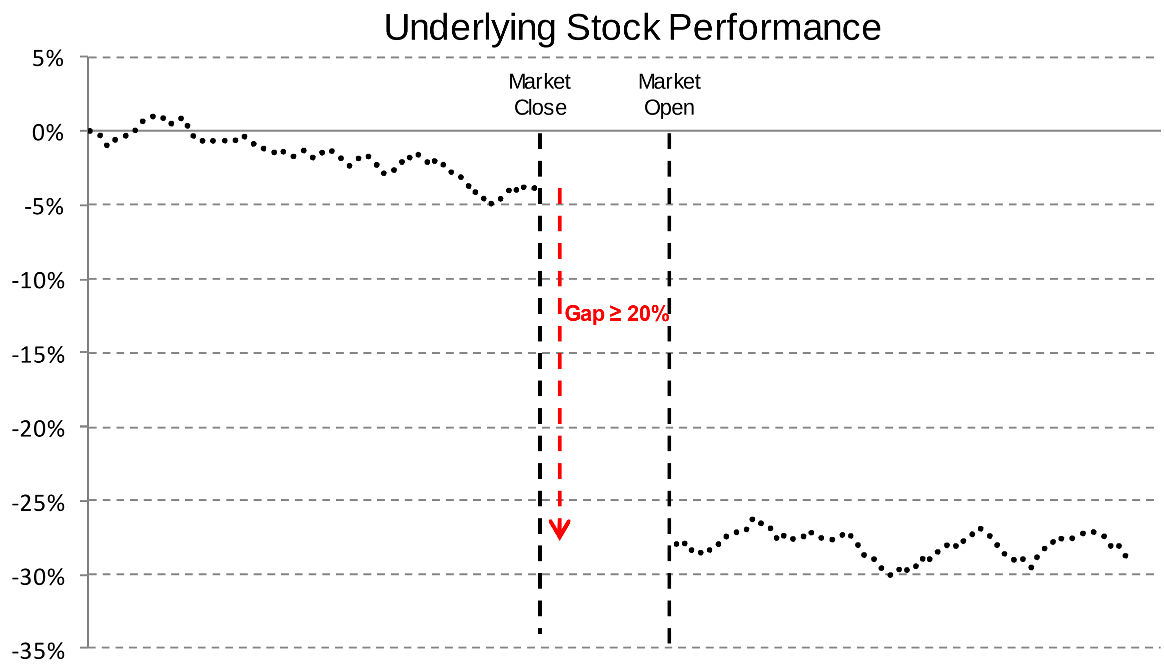


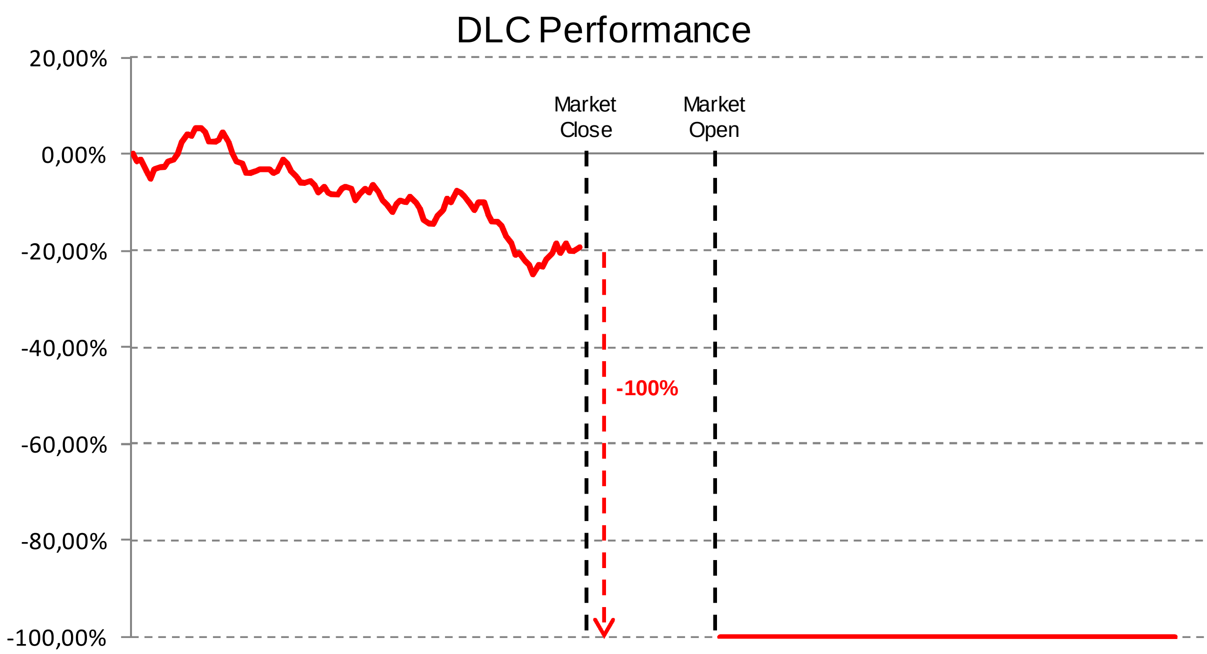
Scenarios where the investor may lose the entire value of the investment

The scenarios below are purely hypothetical and do not take fees and charges payable by investors into consideration. The scenarios highlight cases where the Certificates may lose 100% of their value.

Scenario 1 – Overnight fall of the Underlying Stock

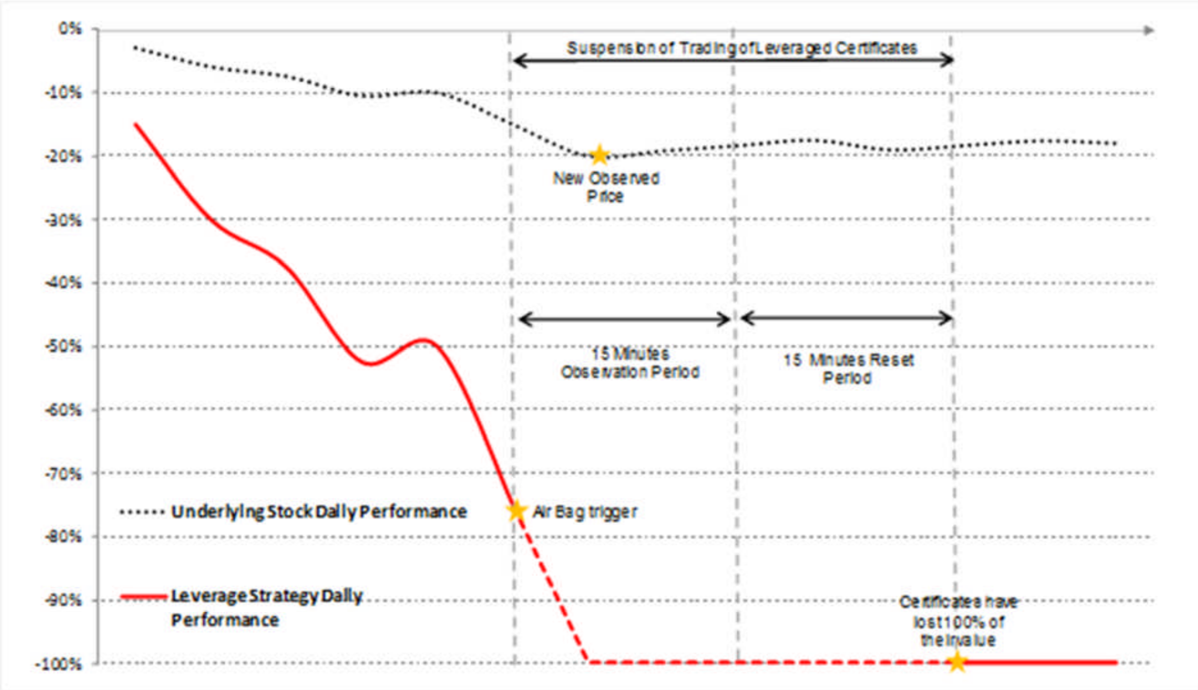
On any business day, the opening price of the Underlying Stock may be higher or lower than the closing price on the previous day. The difference between the previous closing price and the opening price of the Underlying Stock is termed a "gap". If the opening price of the Underlying Stock is 20% or more below the previous day closing price, the Air Bag Mechanism would only be triggered when the market opens the following day, and the Certificates would lose their entire value in such event.





Scenario 2 – Sharp intraday fall of the Underlying Stock

Although the Air Bag Mechanism is designed to reduce the exposure to the Underlying Stock during extreme market conditions, the Certificate can lose 100% of its value in the event the price of the Underlying Stock falls by 20% or more compared to the previous closing price of the Underlying Stock or the previous observed price in case of an air bag previously on the same day within the 15 minute Observation Period. The Certificates would lose their entire value in such event.



Examples and illustrations of adjustments due to certain corporate actions

The examples are purely hypothetical and do not take fees and charges payable by investors into consideration. The examples highlight the effect of corporate actions on the value of the Certificates and do not take into account the possible influence of fees, exchange rates, or any other market parameters.

In the case of any corporate action on the Underlying Stock, the Calculation Agent will, as soon as reasonably practical after it becomes aware of such event, determine whether such corporate action has a dilutive or concentrative effect on the theoretical value of the Underlying Stock, and if so, will (a) calculate the corresponding adjustment, if any, to be made to the elements relating to the Underlying Stock which are used to determine any settlement or payment terms under the Certificates and/or adjust at its discretion any other terms of the Certificates as it determines appropriate to preserve the economic equivalent of the obligations of the Issuer under the Certificates and (b) determine the effective date of such adjustment.

Notwithstanding the foregoing, in the event Observation Date (t) is an ex-date with respect to a corporate action related to the Underlying Stock, the Calculation Agent may, in its sole and absolute discretion, replace the $Rfactor_t$ with respect to such Observation Date (t) by an amount computed according to the following generic formula :

$$Rfactor_t = \left[1 - \frac{Div_t + DivExc_t - M \times R}{\mathrm{S}_{t-1}}\right] \times \frac{1}{1+M}$$

This formula is provided for indicative purposes and the Calculation Agent may determine that this formula is not appropriate for certain corporate actions and may apply a different formula instead.

Such adjustment of $Rfactor_t$ would affect the Leveraged Return, the Rebalancing Cost, and the Underlying Reference Price used to determine the Intraday Restrike Event. The Air Bag mechanism would not be triggered if the stock price falls by 15% exclusively because of the dilutive effect of a corporate action.

Where:

$\mathrm{DivExc_t}$ is the amount received as an Extraordinary Dividend by a holder of existing Shares for each Share held prior to the Extraordinary Dividend, net of any applicable withholding taxes.

M is the number of new Share(s) (whether a whole or a fraction) per existing Share each holder thereof is entitled to subscribe or to receive (positive amount) or the number of existing Shares redeemed or canceled per existing Share (negative amount), as the case may be, resulting from the corporate action.

R is the subscription price per Share (positive amount) or the redemption price per Share (negative amount) including any dividends or other benefits forgone to be subscribe to or to receive (as applicable), or to redeem a Share.

1. Stock split

Assuming the Underlying Stock is subject to a 1 to 2 stock split (i.e. 1 new Share for every 1 existing share):

$\mathrm{S_{t-1}}$ = \$100

$\mathrm{S_t}$ = \$51

$\mathrm{Div_t} = \$0$

$\mathrm{DivExc_t} = \$0$

M = 1 (i.e. 1 new Shares for 1 existing Share)

R = $0 (no subscription price / redemption price)

$$Rfactor_t = \left[1 - \frac{0 + 0 - 2 \times 0)}{100}\right] \times \frac{1}{1+1} = 50\%$$

As a consequence:

$$\mathrm{LR_{t-1,t}} = \mathrm{Leverage} \times \left(\frac{\mathrm{S_t}}{\mathrm{S_{t-1}} \times Rfactor_t} - 1\right) = 5 \times \left(\frac{51}{100 \times 50\%} - 1\right) = 10\%$$

$\mathrm{S_{t-1}}$	$\mathrm{S_{t-1}} \times Rfactor_t$	$\mathrm{S_t}$	Adjusted Underlying Stock Performance
100	50	51	2%

Value of the Certificate (t-1)	Value of the Certificate (t)	Certificates' performance (excluding any cost and fees)
2.20	2.42	10%

In such case an Intraday Restrike Event would occur if the Underlying Stock price falls to $42.5, which is 15% below $50, the Underlying Stock Reference Price.

2. <u>Share Consolidation</u>

Assuming the Underlying Stock is subject to a 2 to 1 share consolidation (i.e. 1 Share canceled for every 2 existing Shares):

$\mathrm{S_{t-1}}$ = $100

$\mathrm{S_t}$ = $202

$\mathrm{Div_t} = \$0$

$\mathrm{DivExc_t} = \$0$

M = -0.5 (i.e. 0.5 Shares canceled for each 1 existing Share)

R = $0 (no subscription price / redemption price)

$$Rfactor_t = \left[1 - \frac{0 + 0 - (-0.5) \times 0)}{100}\right] \times \frac{1}{1 + (-0.5)} = 200\%$$

As a consequence:

$$\mathrm{LR_{t-1,t}} = \mathrm{Leverage} \times \left(\frac{\mathrm{S_t}}{\mathrm{S_{t-1}} \times Rfactor_t} - 1\right) = 5 \times \left(\frac{202}{100 \times 200\%} - 1\right) = 5\%$$

S_{t-1}	$S_{t-1} \times Rfactor_t$	S_t	Adjusted Underlying Stock Performance
100	200	202	1%

Value of the Certificate (t-1)	Value of the Certificate (t)	Certificates' performance (excluding any cost and fees)
2.20	2.31	5%

In such case an Intraday Restrike Event would occur if the Underlying Stock price falls to $170, which is 15% below $200, the Underlying Stock Reference Price.

3. Rights Issues

Assuming there is a rights issue with respect to the Underlying Stock, with a right to receive 1 new Share for every 2 existing Shares, for a subscription price of $40.

S_{t-1} = $100

S_t = $84

$\mathrm{Div}_t = \$0$

$\mathrm{DivExc}_t = \$0$

R = $40 (i.e. subscription price of $40)

M = 0.5 (i.e. 1 new share for every 2 existing shares)

$$Rfactor_t = \left[1 - \frac{0 + 0 - 0.5 \times 40}{100}\right] \times \frac{1}{1 + 0.5} = 80\%$$

As a consequence:

$$\mathrm{LR}_{t-1,t} = \mathrm{Leverage} \times \left(\frac{S_t}{S_{t-1} \times Rfactor_t} - 1\right) = 5 \times \left(\frac{84}{100 \times 80\%} - 1\right) = 25\%$$

S_{t-1}	$S_{t-1} \times Rfactor_t$	S_t	Adjusted Underlying Stock Performance
100	80	84	5%

Value of the Certificate (t-1)	Value of the Certificate (t)	Certificates' performance (excluding any cost and fees)
2.20	2.75	25%

In such case an Intraday Restrike Event would occur if the Underlying Stock price falls to $68, which is 15% below $80, the Underlying Stock Reference Price.

4. Bonus Issues

Assuming there is a bonus issue with respect to the Underlying Stock, where shareholders receive 1 bonus share for 5 existing shares:

S_{t-1} = $100

S_t = $85

$Div_t = \$0$

$DivExc_t = \$0$

R = $0

M = 0.2 (i.e. 1 new share for 5 existing shares)

$$Rfactor_t = \left[1 - \frac{0 + 0 - 0.2 \times 0}{100}\right] \times \frac{1}{1 + 0.2} = 83.33\%$$

As a consequence:

$$LR_{t-1,t} = \text{Leverage} \times \left(\frac{S_t}{S_{t-1} \times Rfactor_t} - 1\right) = 5 \times \left(\frac{85}{100 \times 83.33\%} - 1\right) = 10\%$$

S_{t-1}	$S_{t-1} \times Rfactor_t$	S_t	Adjusted Underlying Stock Performance
100	83.33	85	2%

Value of the Certificate (t-1)	Value of the Certificate (t)	Certificates' performance (excluding any cost and fees)
2.20	2.42	10%

In such case an Intraday Restrike Event would occur if the Underlying Stock price falls to $70.83, which is 15% below $83.33, the Underlying Stock Reference Price.

5. Extraordinary Dividend

Assuming there is an extraordinary dividend of $20 (net of taxes) paid in respect of each stock.

S_{t-1} = $100

S_t = $84

$Div_t = \$0$

$DivExc_t = \$20$

R = $0

M = 0

$$Rfactor_t = \left[1 - \frac{0 + 20 - 0 \times 0}{100}\right] \times \frac{1}{1+0} = 80\%$$

As a consequence:

$$\mathrm{LR_{t-1,t}} = \text{Leverage} \times \left(\frac{\mathrm{S_t}}{\mathrm{S_{t-1}} \times Rfactor_t} - 1\right) = 5 \times \left(\frac{84}{100 \times 80\%} - 1\right) = 25\%$$

$\mathrm{S_{t-1}}$	$\mathrm{S_{t-1}} \times Rfactor_t$	$\mathrm{S_t}$	Adjusted Underlying Stock Performance
100	80	84	5%

Value of the Certificate (t-1)	Value of the Certificate (t)	Certificates' performance (excluding any cost and fees)
2.20	2.75	25%

In such case an Intraday Restrike Event would occur if the Underlying Stock price falls to $68, which is 15% below $80, the Underlying Stock Reference Price.

INFORMATION RELATING TO THE COMPANY

*All information contained in this document regarding the Company, including, without limitation, its financial information, is derived from publicly available information which appears on the web-site of Hong Kong Exchanges and Clearing Limited (the "**HKExCL**") at http://www.hkex.com.hk and/or the Company's web-site at http://www.hsbc.com.The Issuer has not independently verified any of such information.*

HSBC Holdings plc (the "**Company**"), the parent company of HSBC, is headquartered in London. HSBC serves customers worldwide from approximately 3,800 offices in 66 countries and territories in our geographical regions: Europe, Asia, North America, Latin America, and Middle East and North Africa. With assets of $2.6tn at 31 December 2018, HSBC is one of the world's largest banking and financial services organisations.

The information set out in Appendix I of this document relates to the audited consolidated financial statements of the Company and its subsidiaries for the year ended 31 December 2018 and has been extracted and reproduced from an announcement by the Company dated 19 February 2019 in relation to the same. Further information relating to the Company may be located on the web-site of the HKExCL at http://www.hkex.com.hk.

INFORMATION RELATING TO THE DESIGNATED MARKET MAKER

Société Générale has been appointed the designated market maker ("**DMM**") for the Certificates. The DMM will provide competitive buy and sell quotes for the Certificates continuously during the trading hours of the SGX-ST on the following basis:

(a)	Maximum bid and offer spread	:	10 ticks or S$0.20 whichever is greater
(b)	Minimum quantity subject to bid and offer spread	:	10,000 Certificates
(c)	Last Trading Day for Market Making	:	The date falling 5 Exchange Business Days immediately preceding the Expiry Date

In addition, the DMM may not provide a quotation in the following circumstances:

(i) during the pre-market opening and five minutes following the opening of the SGX-ST on any trading day;

(ii) if the Certificates are valueless (where the Issuer's bid price is below the minimum bid size for such securities as prescribed by the SGX-ST), the DMM will not provide the bid price. In such an instance, the DMM will provide the offer price only;

(iii) before the Relevant Stock Exchange for the Underlying Stock has opened and after the Relevant Stock Exchange for the Underlying Stock has closed on any trading day;

(iv) when trading in the Underlying Stock is suspended or limited in a material way for any reason, for the avoidance of doubt, the DMM is not obliged to provide quotations for the Certificates at any time when the Underlying Stock is not negotiated/traded for any reason;

(v) where the Certificates are suspended from trading for any reason;

(vi) market disruption events, including, without limitation, any suspension of or limitation imposed on trading (including but not limited to unforeseen circumstances such as by reason of movements in price exceeding limits permitted by the SGX-ST or any act of God, war, riot, public disorder, explosion, terrorism or otherwise) in the Underlying Stock;

(vii) where the Issuer or the DMM faces technical problems affecting the ability of the DMM to provide bids and offer quotations;

(viii) where the ability of the Issuer to source a hedge or unwind an existing hedge, as determined by the Issuer in good faith, is materially affected by the prevailing market conditions, and the Issuer informs the SGX-ST of its inability to do so as soon as practicable;

(ix) in cases where the Issuer has no Certificates to sell, then the DMM will only provide the bid price;

(x) if the stock market experiences exceptional price movement and volatility;

(xi) when it is a public holiday in Singapore and/or Hong Kong and/or the SGX-ST and/or the HKEX are not open for dealings; and

(xii) during the suspension of trading of Certificates after an Air Bag Mechanism has been triggered.

The last trading day on which the DMM will provide competitive quotations for the Certificates would be the fifth Exchange Business Day immediately preceding the Expiry Date.

SUPPLEMENTAL INFORMATION RELATING TO THE GUARANTOR

The information set out in Appendix II of this document is a reproduction of the press release dated 7 February 2019 containing the Guarantor's consolidated financial results for the fourth quarter ended 31 December 2018.

SUPPLEMENTAL GENERAL INFORMATION

The information set out herein is supplemental to, and should be read in conjunction with, the information set out on page 86 of the Base Listing Document, and the Addendum.

1. Save as disclosed in this document and the Base Listing Document (as amended and supplemented by the Addendum), neither the Issuer nor the Guarantor is involved in any legal or arbitration proceedings (including any proceedings which are pending or threatened of which the Issuer or the Guarantor is aware) which may have or have had in the previous 12 months a significant effect on the financial position of the Issuer or the Guarantor in the context of the issuance of the Certificates.

2. Settlement of trades done on a normal "ready basis" on the SGX-ST generally take place on the third Business Day following the transaction. Dealing in the Certificates will take place in Board Lots in Singapore dollars. For further details on the transfer of Certificates and their exercise, please refer to the section headed "Summary of the Issue" above.

3. It is not the current intention of the Issuer to apply for a listing of the Certificates on any stock exchange other than the SGX-ST.

4. Save as disclosed in the Base Listing Document, the Addendum and herein, there has been no material adverse change in the financial position or prospects of the Issuer since 30 June 2018 or the Guarantor since 31 December 2018, in the context of the issuance of Certificates hereunder.

5. The following contracts, relating to the issue of the Certificates, have been or will be entered into by the Issuer and/or the Guarantor and may be material to the issue of the Certificates:

   (a) the Guarantee;

   (b) the Master Instrument; and

   (c) the Master Warrant Agent Agreement.

   None of the directors of the Issuer and the Guarantor has any direct or indirect interest in any of the above contracts.

6. The Auditors of the Issuer and the Guarantor have given and have not withdrawn their written agreement to the inclusion of the report, included herein, in the form and context in which it is included. Their report was not prepared exclusively for incorporation into this document.

   The Auditors of the Issuer and the Guarantor have no shareholding in the Issuer or the Guarantor or any of its subsidiaries, nor do they have the right (whether legally enforceable or not) to subscribe for or to nominate persons to subscribe for securities of the Issuer or the Guarantor or any of its subsidiaries.

7. The Certificates are not fully covered by the Underlying Stock held by Issuer or a trustee for and on behalf of the Issuer. The Issuer has appropriate risk management capabilities to manage the issue of the Certificates.

8. Société Générale, Singapore Branch, currently of 8 Marina Boulevard, #12-01 Marina Bay Financial Centre Tower 1, Singapore 018981, has been authorised to accept, on behalf of the Issuer and the Guarantor, service of process and any other notices required to be served on the Issuer or the Guarantor. Any notices required to be served on the Issuer or the Guarantor

should be sent to Société Générale at the above address for the attention of Société Générale Legal Department.

9. Copies of the following documents may be inspected during usual business hours on any weekday (Saturdays, Sundays and holidays excepted) at the offices of Société Générale, Singapore Branch at 8 Marina Boulevard, #12-01 Marina Bay Financial Centre Tower 1, Singapore 018981, during the period of 14 days from the date of this document:

   (a) the Memorandum and Articles of Association of the Issuer and the Constitutional Documents of the Guarantor;

   (b) the latest financial reports (including the notes thereto) of the Issuer;

   (c) the latest financial reports (including the notes thereto) of the Guarantor;

   (d) the consent letters from the Auditors to the Issuer and the Guarantor referred to in paragraph 6 above;

   (e) the Base Listing Document;

   (f) the Addendum;

   (g) this document; and

   (h) the Guarantee.

PLACING AND SALE

General

No action has been or will be taken by the Issuer that would permit a public offering of the Certificates or possession or distribution of any offering material in relation to the Certificates in any jurisdiction where action for that purpose is required. No offers, sales or deliveries of any Certificates, or distribution of any offering material relating to the Certificates may be made in or from any jurisdiction except in circumstances which will result in compliance with any applicable laws or regulations and will not impose any obligation on the Issuer. In the event that the Issuer contemplates a placing, placing fees may be payable in connection with the issue and the Issuer may at its discretion allow discounts to placees.

Each Certificate Holder undertakes that it will inform any subsequent purchaser of the terms and conditions of the Certificates and all such subsequent purchasers as may purchase such securities from time to time shall deemed to be a Certificate Holder for the purposes of the Certificates and shall be bound by the terms and conditions of the Certificates.

Singapore

This document has not been registered as a prospectus with the Monetary Authority of Singapore. Accordingly, this document and any other document or material in connection with the offer or sale, or invitation for subscription or purchase, of Certificates may not be circulated or distributed, nor may Certificates be offered or sold, or be made the subject of an invitation for subscription or purchase, whether directly or indirectly, to persons in Singapore other than pursuant to, and in accordance with the conditions of, any applicable provision of the Securities and Futures Act, Chapter 289 of Singapore.

Hong Kong

Each dealer has represented and agreed, and each further dealer appointed in respect of the Certificates and each other purchaser will be required to represent and agree, that it has not issued or had in its possession for the purposes of issue, and will not issue or have in its possession for the purposes of issue, whether in Hong Kong or elsewhere, any advertisement, invitation or document relating to the Certificates, which is directed at, or the contents of which are likely to be accessed or read by, the public of Hong Kong (except if permitted to do so under the securities laws of Hong Kong) other than with respect to Certificates which are or are intended to be disposed of only to persons outside Hong Kong or only to "professional investors" as defined in the Securities and Futures Ordinance (Cap.571) of Hong Kong and any rules made under that Ordinance.

European Economic Area

Each dealer represents and agrees, and each further dealer appointed in respect of the Certificates will be required to represent and agree that, it has not offered, sold or otherwise made available and will not offer, sell, or otherwise make available any Certificates which are the subject of the offering as contemplated by the this document to any retail investor in the European Economic Area. For the purposes of this provision:

(a) the expression "**retail investor**" means a person who is one (or more) of the following:

  (i) a retail client as defined in point (11) of Article 4(1) of Directive 2014/65/EU (as amended, "**MiFID II**"); or

(ii) a customer within the meaning of Directive 2002/92/EC (as amended, the Insurance Mediation Directive), where that customer would not qualify as a professional client as defined in point (10) of Article 4(1) of MiFID II; or

(iii) not a qualified investor as defined in Directive 2003/71/EC (as amended, including by Directive 2010/73/EU, the Prospectus Directive); and

(b) the expression "**offer**" includes the communication in any form and by any means of sufficient information on the terms of the offer and the Certificates to be offered so as to enable an investor to decide to purchase or subscribe the Certificates.

United Kingdom

Each dealer has represented and agreed, and each further dealer appointed in respect of the Certificates will be required to represent and agree, that:

(a) in respect to Certificates having a maturity of less than one year: (i) it is a person whose ordinary activities involve it in acquiring, holding, managing or disposing of investments (as principal or agent) for the purposes of its business; and (ii) it has not offered or sold and will not offer or sell any Certificates other than to persons whose ordinary activities involve them in acquiring, holding, managing or disposing of investments (as principal or agent) for the purposes of their businesses or who it is reasonable to expect will acquire, hold, manage or dispose of investments (as principal or agent) for the purposes of their businesses where the issue of the Certificates would otherwise constitute a contravention of Section 19 of Financial Services and Markets Act, as amended (the "**FSMA**") by the Issuer;

(b) it has only communicated or caused to be communicated and will only communicate or cause to be communicated an invitation or inducement to engage in investment activity (within the meaning of section 21 of the FSMA) received by it in connection with the issue or sale of any Certificates in circumstances in which section 21(1) of the FSMA does not apply to the Issuer or the Guarantor; and

(c) it has complied and will comply with all applicable provisions of the FSMA with respect to anything done by it in relation to any Certificates in, from or otherwise involving the United Kingdom.

United States

The Certificates and the Guarantee have not been and will not be registered under the United States Securities Act of 1933, as amended (the "**Securities Act**") or any state securities law, and trading in the Certificates has not been approved by the United States Commodity Futures Trading Commission (the "**CFTC**") under the United States Commodity Exchange Act of 1936, as amended (the "**Commodity Exchange Act**"). Accordingly, Certificates, or interests thereon, may not at any time be offered, sold, resold, traded, pledged, exercised, redeemed, transferred or delivered, directly or indirectly, in the United States or to, or for the account or benefit of, U.S. persons, nor may any U.S. person at any time trade or maintain a position in the Certificates. In addition, in the absence of relief from the CFTC, offers, sales, re-sales, trades, pledges, exercises, redemptions, transfers or deliveries of Certificates, or interests therein, directly or indirectly, in the United States or to, or for the account or benefit of, U.S. persons, may constitute a violation of United States law governing commodities trading. Consequently, any offer, sale, resale, trade, pledge, exercise, redemption, transfer or delivery made, directly or indirectly, within the United States or to, or for the account or benefit of, a U.S. person will not be recognised.

Each dealer has represented and agreed, and each further dealer will be required to represent and agree, that it has not and will not at any time offer, sell, resell, trade, pledge, exercise, redeem, transfer or deliver, directly or indirectly, Certificates in the United States or to, or for the account or benefit of, any U.S. person or to others for offer, sale, resale, trade, pledge, exercise, redeem, transfer or delivery, directly or indirectly, in the United States or to, or for the account or benefit of, any such U.S. person. Any person purchasing Certificates of any tranches must agree with the relevant dealer or the seller of such Certificates that (i) it will not at any time offer, sell, resell, trade, pledge, exercise, redeem, transfer or deliver, directly or indirectly, any Certificates in the United States or to, or for the account or benefit of, any U.S. person or to others for offer, sale, resale, trade, pledge, exercise, redemption, transfer or delivery, directly or indirectly, in the United States or to, or for the account or benefit of, any U.S. person, (ii) it is not purchasing any Certificates for the account or benefit of any U.S. person and (iii) it will not make offers, sales, re-sales, trades, pledges, redemptions, transfers or deliveries of any Certificates (otherwise acquired), directly or indirectly, in the United States or to, or for the account or benefit of, any U.S. person.

Exercise of Certificates will be conditional upon certification that each person exercising a Certificate is not a U.S. person or in the United States and that the Certificate is not being exercised on behalf of a U.S. person. No payment will be made to accounts of holders of the Certificates located in the United States.

As used in the preceding paragraphs, the term "**United States**" includes the territories, the possessions and all other areas subject to the jurisdiction of the United States of America, and the term "**U.S. person**" means any person who is (i) an individual who is a citizen or resident of the United States; (ii) a corporation, partnership or other entity organised in or under the laws of the United States or any political subdivision thereof or which has its principal place of business in the United States; (iii) any estate or trust which is subject to United States federal income taxation regardless of the source of its income; (iv) any trust if a court within the United States is able to exercise primary supervision over the administration of the trust and if one or more United States trustees have the authority to control all substantial decisions of the trust; (v) a pension plan for the employees, officers or principals of a corporation, partnership or other entity described in (ii) above; (vi) any entity organised principally for passive investment, ten per cent. or more of the beneficial interests in which are held by persons described in (i) to (v) above if such entity was formed principally for the purpose of investment by such persons in a commodity pool the operator of which is exempt from certain requirements of Part 4 of the CFTC's regulations by virtue of its participants being non-U.S. persons; or (vii) any other "U.S. person" as such term may be defined in Regulation S under the Securities Act or the regulations adopted under the Commodity Exchange Act.

APPENDIX I

REPRODUCTION OF THE AUDITED CONSOLIDATED FINANCIAL STATEMENTS FOR THE YEAR ENDED 31 DECEMBER 2018 OF HSBC HOLDINGS PLC AND ITS SUBSIDIARIES

The information set out below is a reproduction of the audited consolidated financial statements of the Company and its subsidiaries for the year ended 31 December 2018 and has been extracted and reproduced from an announcement by the Company dated 19 February 2019 in relation to the same.

Report of the independent auditors to the members of HSBC Holdings plc

Opinion

In our opinion HSBC Holdings plc's ('HSBC') Group financial statements[1] and parent company financial statements:

- give a true and fair view of the state of the Group's and parent company's affairs at 31 December 2018 and of the Group's and parent company's profit and cash flows for the year then ended;
- have been properly prepared in accordance with IFRSs as adopted by the European Union; and
- have been prepared in accordance with the requirements of the Companies Act 2006, and as regards the Group financial statements, Article 4 of the IAS Regulation.

Basis of these opinions

In expressing this opinion, I believe that the audit evidence I have obtained is sufficient and appropriate. My work has been undertaken, and my opinion expressed, in accordance with applicable law and the International Standards on Auditing (UK) as issued by the Financial Reporting Council ('FRC') of the United Kingdom. My responsibilities and those of the directors are explained later in this report.

How the audit approach was structured

This was the fourth year that it has been my responsibility to form this opinion on behalf of PricewaterhouseCoopers LLP ('PwC'), who you first appointed on 31 March 2015 in relation to that year's audit. Over 2,000 partners and staff from member firms of the PwC network have spent more than 500,000 hours supporting this report, which in addition to the opinion provides information on how I approached the audit, how it changed from the previous year and details of the significant discussions that I, and my senior colleagues, had with the Group Audit Committee ('GAC').

The audit approach remained broadly unchanged, and reflects how HSBC is organised. It incorporated four important aspects.

(1) Risk assessment and audit planning at a Group level, having regard to HSBC's global businesses:

Additional partners led our audit work on three of the global businesses. Global Private Banking was not included because of its relative contribution to the financial statements. These partners met regularly with the relevant HSBC management to understand strategy and matters which arose throughout the year that could have impacted financial reporting. The partners are specialists in the nature of the relevant businesses and were best placed to design the appropriate audit approach for that part of HSBC. They oversaw each PwC member firm involved in the audit of that global business and assisted me in my review of their work.

(2) Audit work performed at global shared service centres:

A significant amount of the operational processes which are critical to financial reporting are undertaken in operations centres run by HSBC Operations Services and Technology ('HOST') across 11 individual locations. Financial reporting processes are performed in HSBC's 4 Finance Operations Centres. Working closely with me, a partner coordinated the audit work performed by PwC member firms in the UK, Poland, China, Sri Lanka, Malaysia, India and Philippines. This work established an end-to-end picture of the key processes that supported material balances, classes of transactions and disclosures within the HSBC financial statements. It enabled the team to evaluate the effectiveness of the controls over these processes and to consider the implications for the remainder of our audit work. Approximately 10% of the controls tested in the audit are undertaken in these sites.

(3) Audit work executed on individual legal entities:

I received opinions from PwC member firms which had been appointed as the external auditors of the Hongkong and Shanghai Banking Corporation Limited, HSBC North America Holdings Inc, HSBC Mexico S.A., HSBC Bank Middle East Limited Dubai branch, HSBC Bank Canada, HSBC Bank plc, HSBC Bank UK plc, HSBC Global Services (UK) Limited and HSBC Group Management Services Limited (together the 'Significant Subsidiaries').

I was in active dialogue throughout the year with the partners responsible for these audits; this included consideration of how well they planned and performed their work. My senior colleagues and I visited these Significant Subsidiaries, and attended Audit Committee meetings for most of them. We also visited businesses in a further three countries. These visits increased our understanding of some of the smaller businesses within HSBC. I also attended meetings with management in each of these Significant Subsidiaries at the year-end.

The audits of these Significant Subsidiaries relied upon work performed by PwC member firms in Australia, China, India, France, and Germany. I considered how my Significant Subsidiary audit teams instructed and reviewed the work undertaken in these locations in order to ensure the quality and adequacy of their work. Collectively, the PwC member firms completed procedures covering 85% of assets, 75% of total operating income and 85% of profit before tax.

(4) Audit procedures undertaken at a Group level and on the parent company:

I ensured that appropriate further work was undertaken for the HSBC Group and parent company. This work included auditing, for example, the consolidation of the Group's results, the preparation of the financial statements, certain disclosures within the Directors' remuneration report, litigation provisions and exposures, and management's entity level and oversight controls relevant to financial reporting.

In March 2018, I chaired a three-day meeting in London of the partners and senior staff from PwC member firms who undertake audits of the Significant Subsidiaries. There were no significant changes in this team during 2018. The meeting provided an opportunity for those partners and staff to hear directly from HSBC management, including the new Group CEO who outlined his areas of focus. We considered during this meeting how our view of significant audit risks had changed.

1 *We have audited HSBC Holdings plc's financial statements which comprise the consolidated and parent company balance sheets as at 31 December 2018, the consolidated and parent company income statements and the consolidated and parent company statements of comprehensive income for the year then ended, the consolidated and parent company statements of cash flows for the year then ended, the consolidated and parent company statements of changes in equity for the year then ended, and the notes to the financial statements, which include a summary of significant accounting policies and other explanatory information. We have also audited the consolidated and parent company balance sheets as at 1 January 2018. Certain required disclosures have been presented elsewhere in the* Annual Report and Accounts 2018*, rather than in the notes to the financial statements. These are cross-referenced from the financial statements and are identified as '(Audited)'. The relevant disclosures are included in the Global businesses and geographical regions sections on pages 47 to 49; the Risk sections on pages 79 to 146; the Capital sections on pages 148 to 149; and the Directors' remuneration report disclosures on pages 185 to 197.*

Changes to the audit in 2018

More detailed changes in the approach arose because of:

(1) Changes in the structure and strategy of the HSBC Group

In assessing the Significant Subsidiaries in 2018 I limited work performed on HSBC Bank Middle East Limited to the Dubai branch and removed HSBC Private Bank Suisse S.A. because of its relative size. HSBC Bank UK plc, the ring-fenced retail bank, was included for the first time because it commenced trading as an independent entity in July 2018. There were no other changes in scope.

(2) Impairment of assets required under IFRS 9 "Financial Instruments"

IFRS 9 was applied from 1 January 2018. It has changed the classification and measurement of assets and liabilities on the balance sheet, and the calculation of impairment on assets. With respect to impairment, this has been a substantial exercise for HSBC with changes required to processes and controls to comply with the complexities of the accounting standard. I asked a partner who is a specialist in IFRS 9 to lead the audit of the processes adopted, assumptions made, and control framework established for both the analysis of the transition included in Note 37 and the current year impacts included in the audited credit risk disclosures on pages 79 to 146. The additional work required drove much of the increased audit fee in both 2018 and 2017.

The work undertaken included a review of over 120 models used to calculate the expected losses, but also considered the controls governing the origination, maintenance and necessary adjustments to the data used by these models, much of which had not previously been subject to the application of internal controls suitable for financial reporting.

Time was spent considering how macroeconomic events could impact the calculation of expected loss through the application of forward economic guidance. This guidance cannot consider all possible outcomes that could occur in the future, but is an estimate based on information available at the date of the financial statements. As this is a new and complex accounting standard, market practice will emerge that may lead to refinements in the methodology adopted.

(3) The impact of geopolitical tensions on the macro environment

Geopolitical factors were considered to determine if changes in the approach were required, for example; the impacts of the UK's departure from the EU, China-US trade arrangements, tensions in the Middle East and changing oil prices. I specifically considered how these matters were reflected in IFRS 9, but more broadly on the valuation of assets and liabilities. IFRS requires financial statements to carry certain assets at fair value, as discussed in Note 1. Where this is the case, it is the value on 31 December 2018, and therefore the financial statements cannot reflect changes which will occur in the future as a result of these or other events.

(4) Adding unpredictability to our audit procedures

As required by auditing standards, my team undertook procedures which were deliberately unexpected and could not have reasonably been predicted by HSBC management. As an example, the team in the Middle East undertook unannounced cash counts in branches during the year. The results of these procedures were consistent with our expectations.

(5) Using the work of others

During 2018 I made more use of evidence provided by others. This included testing of controls performed by Group Internal Audit and management themselves in some low risk areas. I also used the work of experts where this is necessary, most notably; the calculation of pension liabilities. An increasing number of controls are operated on behalf of HSBC by third parties, where I rely on audit evidence provided by other audit firms not part of the PwC network. For example, I obtain a report evidencing the testing of external systems and controls supporting HSBC’s payroll and HR processes. In all of these situations, the PwC audit teams reviewed the work undertaken and determined it to be acceptable for the purposes of the audit.

(6) Innovations in the audit

My senior colleagues and I are committed to driving innovation and the use of technology in the audit to improve quality and consistency. A workshop was held in India for the PwC member firms involved in the audit to explore how work could be enhanced and new audit procedures could be undertaken. As a result of this workshop, we identified three areas of focus, Ways of Working, Technology Enabled Audit, and Reliance on Others. As a result, we have implemented our ‘Agile’ working methodology and tools to deliver sections of the audit more efficiently, such as maximising the use of our own offshore service delivery centres for approximately 100 audit procedures that can be performed consistently for all audit teams. To make our audit more technology enabled, we developed five solutions to automate certain standard audit procedures and increased our use of robotics, data analytics and process intelligence.

Responsibilities of the Directors and auditor

The Directors have, on page 206 acknowledged their responsibility to prepare the financial statements to give a true and fair view; to have controls enabling them to be satisfied that the financial statements are free from material misstatement, whether due to fraud or error; and, as described below to assess whether the Group and parent company can continue as a going concern.

It is the sole responsibility of the Directors to ensure that you receive financial statements which are both true and fair. However, an audit has an important role in providing confidence in the financial statements that are provided by companies to their members. That confidence is based upon independence and objectivity. I can confirm that PwC remained independent of the Group in accordance with the ethical requirements that are relevant to the audit of listed public interest entities in the UK, which includes the FRC’s Ethical Standard. PwC has also fulfilled its other ethical responsibilities in accordance with these requirements.

There has been considerable media debate about the impact that other services may have on auditor independence. I reviewed the details of services provided by the PwC network of firms and concluded that they were all permitted by the FRC’s Ethical Standard, as discussed on page 160, the GAC also rigorously reviewed these other services. The fees for all services provided by members of the PwC network is included in Note 7. Of these fees, 94% are for services related to the audit or providing independent assurance, I am working with the GAC to ensure that progressively during 2019 our services relate solely to these categories.

The audit opinion does not provide assurance over any particular number or disclosure, but over the financial statements taken as a whole. The scope of an audit is sometimes not fully understood. I believe that it is important that you understand the scope in order to understand the assurance that my opinion provides. A further description of the scope of an audit is provided on the FRC’s website at www.frc.org.uk/auditorsresponsibilities; I recommend that you read this description carefully.

It is also critical that you understand the inherent limitations of the audit which are disclosed in this description, including the possibility that an approach based upon sampling and other audit techniques may not identify all issues.

As in all PwC statutory audits I did specifically address the risk of management override of internal controls, including testing journals and evaluating whether there was evidence of bias by the directors that represented a risk of material misstatement due to fraud.

While our audit procedures include obtaining representations that the Group is in compliance with all applicable laws and regulations, an audit does not involve testing HSBC's compliance with each of the very large number of laws and regulations with which the Group, as a financial services business, must comply. I and my colleagues apply judgement in selecting the specific laws and regulations as the focus of our audit procedures. For example, we focused on business authorisations issued by the Prudential Regulatory Authority because in our judgement a breach could lead to a material impact on the financial statements or the Group's going concern. Audit procedures were performed to identify if any such breaches had occurred. These procedures included regularly meeting with some of the Group's regulators, reviewing correspondence with both regulators and legal advisors and meeting with the Group General Counsel.

Annually the Prudential Regulatory Authority provide questions covering aspects of our audit where they would like further information to assist them in their regulatory responsibilities. These questions did not highlight any areas that I had not already considered in our audit.

Materiality

In order for me to perform my work, I had regard to the concept of materiality. The table provides you with details of how I have determined materiality for both the Group and the parent company.

	Group	Parent company
Overall Group materiality	$1bn (2017: $900m)	$1bn (2017: $900m)
How I determined it	5% of adjusted profit before tax excluding the debit valuation adjustment and non-qualifying hedges.	0.75% of total assets. This would result in an overall materiality of $1.8bn and is therefore capped at the materiality for the Group.
Why I believe this is appropriate	Given the geographically dispersed nature of HSBC and the diversity of its banking activities, I believe a standard benchmark of 5% of adjusted profit before tax is an appropriate quantitative indicator of materiality, although of course an item could also be material for qualitative reasons. I selected adjusted profit before tax, because as discussed on page 47, management believes it best reflects the performance of HSBC. I excluded the debit valuation adjustment and non-qualifying hedges as they are recurring items that in my view form part of ongoing business performance.	A benchmark of total assets has been used as the parent company's primary purpose is to act as a holding company with investments in the group's subsidiaries, not to generate operating profits and therefore a profit based measure is not relevant. 1% is a commonly used measure when determining materiality based on total assets. Given the parent company has a significant level of external debt, we considered 0.75% to be more appropriate.

When planning the Group audit, I considered if multiple errors might exist which, when aggregated, could exceed $1bn. In order to reduce the risk of multiple errors that could aggregate to this amount, I used a lower level of materiality, known as performance materiality, of $750m to identify the individual balances, classes of transactions and disclosures that were subject to audit. I asked each of the partners reporting to me on the Significant Subsidiaries to work to assigned materiality levels reflecting the size of the operations they audited. The overall materialities ranged from $67m (HSBC Mexico S.A.) to $837m (The Hongkong and Shanghai Banking Corporation Limited).

My objective is to obtain reasonable assurance about whether the financial statements are free from material misstatement, whether due to fraud or error. Reasonable assurance is not a guarantee that an audit will always detect a material misstatement when it exists. It is important to recognise that identifying a material misstatement arising from fraud is more difficult than identifying one arising solely from error because fraud generally involves deliberate concealment, collusion or misrepresentation.

Misstatements are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements. The misstatements identified during the audit were carefully considered to assess if they were individually or in aggregate material. I agreed with the GAC that we would report to them misstatements identified during our audit above $50m (2017: $50m), as well as misstatements below those amounts that, in our view, warranted reporting for qualitative reasons. I reported several items for both the Group and parent company to the GAC, impacting either the absolute level of profit and equity or misclassifications within the financial statements and notes. The Directors concluded that all items which remained unadjusted were not material to the financial statements. I agreed with their conclusion. All other significant adjustments that we identified in our audit were adjusted by the Group prior to the issuance of the financial statements.

Matters discussed with the GAC

Most of our discussions occur with senior management of the Group. However, we escalate those matters which we believe are most important to the GAC for their consideration. I attended each of the 13 GAC meetings held during the year. Part of each meeting involved a discussion without management present. I also met with members of the GAC a further 20 times. During these various conversations we discussed my observations on a variety of accounting matters, observations on controls over financial reporting, culture and the impact of changes in senior management. I can confirm that this report is consistent with the reporting made to the GAC.

During the April meeting, the audit plan was presented. This was supplemented by an update in December on how technology was being used in the audit. Throughout the year, this plan was refreshed and revisions discussed with the GAC. For example, given the focus on 'jaws' as an alternative performance measure in external reporting and sensitivity to changes in income and expense recognition significantly lower than materiality, I changed our risk assessment and audit effort.

I discussed with the GAC all of the matters that presented the most significant risks of material misstatement in the financial statements. They include those that had the greatest effect on the overall audit strategy, and the allocation of resources and effort and are discussed below together with an explanation of how the audit was tailored to address these specific areas. To help you understand their impact on the audit, I have listed them in order of decreasing audit effort. This is not a list of all audit risks and I do not form an opinion on any one area, but on the financial statements overall. The list is similar to last year, with the exception of litigation and regulatory enforcement actions, which was not a key audit matter in 2018 as a result of the settlements made by the Group.

IT Access Management

Discussion with the GAC

The audit approach relies extensively on automated controls and therefore on the effectiveness of controls over IT systems.
In previous years, we identified and reported that controls over access to applications, operating systems and data in the financial reporting process required improvements. Access management controls are critical to ensure that changes to applications and underlying data are made in an appropriate manner. Appropriate access controls contribute to mitigating the risk of potential fraud or errors as a result of changes to applications and data.
Over the past four years, management implemented remediation activities that have contributed to reducing the risk over access management in the financial reporting process. The status of the remediation was discussed at several GAC meetings during the year.
However, issues related to privileged access and business user access remained unresolved on parts of the technology infrastructure, requiring our audit approach to respond to the risks presented.
This matter was discussed in relation to both the Group and the parent company.

Procedures performed to support our discussions and conclusions

Access rights were tested over applications, operating systems and databases relied upon for financial reporting. Specifically, the audit tested that:

- New access requests for joiners were properly reviewed and authorised.
- User access rights were removed on a timely basis when an individual left or moved role.
- Access rights to applications, operating systems and databases were periodically monitored for appropriateness.
- Highly privileged access was restricted to appropriate personnel.

Other areas that were independently assessed included password policies, security configurations, controls over changes to applications and databases and that business users, developers and production support did not have access to change applications, the operating system or databases in the production environment.

As a consequence of the deficiencies identified, a range of other procedures were performed:

- Where inappropriate access was identified, we understood the nature of the access, and, where possible, obtained additional evidence on the appropriateness of the activities performed.
- Additional substantive testing was performed on specific year-end reconciliations (i.e. custodian, bank account and suspense account reconciliations) and confirmations with external counterparties.
- Testing was performed on other compensating controls such as review controls undertaken by management.
- Testing was performed over toxic combination controls.
- A list of users' access permissions was obtained and manually compared to other access lists where segregation of duties was deemed to be of higher risk, for example users having access to both core banking and payments systems.

Relevant references in the *Annual Report and Accounts 2018*

GAC Report, page 160.
Effectiveness of internal controls, page 164.

Application of IFRS 9 in the calculation of impairment of loans and advances

Discussion with the GAC

As this is the first year of adoption of IFRS 9, there is limited experience available to back-test the charge for expected credit losses ('ECL') with actual results. There is also a significant increase in the number of data inputs required for the impairment calculation. The data is sourced from a number of systems that have not been used previously for the preparation of the accounting records. This increases risk around completeness and accuracy of certain data used to create assumptions and operate the models.

The global credit environment has remained benign for an extended period of time, in part due to the globally low interest rates and relative strength of the global economy. However, there are a number of headwinds to the global economy as well as certain regional and country specific risks. As a result, whilst the current levels of delinquencies and defaults remains low, the risk of impairment remains significant.

At each GAC and Group Risk Committee meeting there was a discussion on changes to risk factors and other inputs within the models, geopolitical risks, such as the escalating US-China trade wars and the UK's departure from the EU, as well as discussions on individually significant loan impairments.

The more judgemental interpretations of IFRS 9 made by management continued to be discussed, in particular the application of forward economic guidance, including the severity and magnitude of modelled downside scenarios; and associated considerations of post model adjustments.

As the control environment for the calculation of ECL under IFRS 9 continued to be strengthened following initial adoption, we provided updates on the changes being made and the results of our testing procedures.

Procedures performed to support our discussions and conclusions

- Model performance monitoring controls were tested, including periodic policy and independent model reviews, back testing of performance, and approval of model changes.
- Performed risk based substantive testing of models, including independently re-building certain assumptions.
- Tested the review and challenge of multiple economic scenarios by an expert panel and internal governance committee, and assessed the reasonableness of the multiple economic scenarios and variables using our economic experts.
- Controls over the inputs of critical data, into source system, and the flow and transformation of data between source systems to the impairment calculation engine were tested. Substantive testing was performed over the critical data used in the year end ECL calculation.
- Assessed management's user acceptance testing over the automated calculation of ECL to ensure it is performed in line with business requirements, as well as independently reviewing the underlying script to validate that the calculation operated as per our expectations.
- Observed review and challenge forums to assess the ECL output and approval of post model adjustments.
- Tested the approval of the key inputs, assumptions and discounted cash-flows that support the significant individual impairments, and substantively tested a sample of individually assessed loans.

Relevant references in the *Annual Report and Accounts 2018*

Credit risk disclosures, page 88.
GAC Report, page 160.
Note 1.2 (d): Financial instruments measured at amortised cost, page 228.
Note 37: Effects of reclassification upon adoption of IFRS 9, page 296.

Investment in associate - Bank of Communications Company, Limited ('BoCom')

Discussion with the GAC

For eight consecutive year ends the market value of BoCom has been below the carrying value. At 31 December, the market value based on the share price was $6.8bn lower than the carrying value.

This is considered an indicator of potential impairment. An impairment test was performed by HSBC using a value in use ('VIU') model to estimate the investment's value assuming it continues to be held in perpetuity rather than sold. The VIU was only $300m in excess of the carrying value. On this basis no impairment was recorded and the share of BoCom's profits has been recognised in the consolidated income statement.

The VIU model is dependent on many assumptions, both short-term and long-term in nature. These assumptions are derived from a combination of management estimates, analysts' forecasts and market data, and are highly judgemental. Given the proximity of the carrying value and VIU, small changes in some of these assumptions would lead to an impairment. We discussed the appropriateness of these assumptions with the GAC, particularly those with the greatest sensitivity related to short term cash flows and the minimum level of capital required by BoCom. The focus of this discussion was on whether the impact of China-US trade tensions and perspectives on the China banking market had been fully reflected. We also reviewed with the GAC the long term profit growth rate and loan impairment rate, and considered reasonably possible alternatives. In the discussion we specifically considered whether the assumptions used captured the current levels of uncertainty, both individually and when standing back and considering the output of the model in aggregate.

Procedures performed to support our discussions and conclusions

- The conclusions on the appropriateness of the model were reviewed, including an assessment of management's expert.
- A reasonable range for the discount rate used within the model was independently calculated with the assistance of our valuation experts.
- Inputs used in the determination of assumptions within the model were challenged and corroborating information was obtained with reference to external market information, third-party sources, including analyst reports, and historical publicly available BoCom information.
- The controls in place over the model, and its mathematical accuracy were tested.
- We observed a meeting in November 2018 between management and senior BoCom executive management, held specifically to identify facts or circumstances impacting management assumptions.
- Disclosures made in the *Annual Report and Accounts 2018* in relation to BoCom were reviewed.
- Representations were obtained from HSBC that the assumptions used were consistent with information currently available to them, both as a shareholder and to which HSBC are entitled through their participation on BoCom's Board of Directors.

Relevant references in the *Annual Report and Accounts 2018*

GAC Report, page 160.

Note 1.1(f): Critical accounting estimates and judgements, page 226.

Note 18: Interests in associates and joint ventures, page 265.

Management override of controls - alternative performance measure

Discussion with the GAC

The use of alternative performance measures is common by listed companies to help better explain performance. HSBC use a number, and the GAC has considered them in detail during the year, specifically assessing the appropriateness of 'adjusted profit'.

During the year we discussed with the GAC the potential for the jaws target to be missed. Given the metric is highly sensitive to small changes in revenue and cost, we concluded that this increased the incentive for management to override controls to meet targets. This change in assessment prompted us to perform a number of incremental procedures which might indicate that revenue or costs were intentionally misstated.

We communicated the change in risk assessment during October 2018, and designed a year end testing response as a result. The outcome of our testing was communicated to the GAC in February 2019.

Procedures performed to support our discussions and conclusions

Reassessed significant judgements in light of the enhanced incentives noted in the risk assessment.

- Performed additional tests on journals, specifically considering cut off and unusual combinations that impact costs and revenue.
- Performed work over revenue and expenses booked in January 2019 to assess if they were included in the correct period.
- Tested the clearance and appropriateness of classification of aged reconciliation breaks, considering if there was a trend towards only resolving issues which would improve revenue or reduce costs.
- Considered the accuracy of accruals with a specific focus on the bonus accrual.
- Tested impairment processes at year end, identifying where booking of impairments may have been delayed into FY19 or was close to meeting criteria for impairment at year end.

Relevant references in the *Annual Report and Accounts 2018*

GAC Report, page 160.

There were a number of other matters which were covered in the meetings, including;

- the impact of models on the financial statements and the related control environment. The carrying value of almost 70% of the Group's total assets is calculated or supported by models and included areas such as loans and advances, calculation of the present value of inforce policies sold by the insurance businesses and goodwill. Our audit work considered the controls over, inputs into and reasonableness of the outputs of those models with a material impact;
- internal controls over financial reporting. At the GAC meetings in November 2018 and February 2019, there was an update on the control environment over financial reporting. I provided information on the aggregate number of new and outstanding control deficiencies identified by my team and management. Those deemed to be significant in their potential impact on financial reporting, but not material, were discussed individually;
- a focus on uncertain tax positions ('UTPs'). During the November GAC meeting, I highlighted the increase in UTP exposure, particularly in the UK entities due to increased focus from HMRC on UK VAT matters in financial services Groups. This increase in UTP exposure is consistent with our expectations based on what we've seen across the sector and given the nature of the Group's business; and
- a detailed discussion on the quality of the results of quality inspections performed with respect to the audit work of different PwC member firms on which I rely, and the rotation plans for key audit partners.

Going concern

On page 165, the Directors confirmed their belief it was appropriate to prepare the financial statements on a going concern basis, because they believe that the Group and the parent company will continue in business. That statement also included confirmation that they had not identified any material uncertainties to either the Group's or the parent company's ability to continue as a going concern over a period of at least twelve months from the date of their approval of these financial statements. Because not all future events or conditions can be predicted, this statement is not a guarantee. I reviewed this statement, and considered HSBC's budgets, cash flows, capital plan and stress tests. There is nothing arising from this review that is materially inconsistent with my understanding and information obtained during the audit. Further, there is nothing material that I would add to this statement, or that I wish to draw your attention to.

Other required matters and reporting on other information

The *Annual Report and Accounts 2018* contains a considerable amount of other information that is required by regulators or standard setters and is outside of the audited financial statements and the auditors' report. This information, while being unaudited, may still be important to your consideration of the performance and position of HSBC, for example risk weighted assets. The Directors are responsible for this other information.

In the table below, I have set out certain areas, my related responsibilities and reporting. Except as outlined in the table, I have not provided an audit opinion or any form of assurance. It is important that you understand the limitations in the scope of my responsibility, particularly over areas important to considering the future potential of HSBC such as the Viability Statement and how the Group's key risks are managed.

Area of the *Annual Report and Accounts 2018*	My responsibility	My reporting
Directors' remuneration report on pages 172 to 205		
Those parts of which are marked as audited.	Consider whether the information is properly prepared.	In my opinion, this information has been properly prepared in accordance with the Companies Act 2006.
Other remuneration report disclosures.	Consider whether certain other disclosures specified by the Companies Act have been made.	The other required disclosures have been made.
Other areas		
Strategic Report and the Report of the Directors' on pages 2 to 206.	Consider whether they are consistent with the audited financial statements. Consider whether they are prepared in accordance with applicable legal requirements. Report if I have identified any material misstatements in either report. This is based on my knowledge and understanding of the Group and parent company and the environment they operate in that was obtained during the audit.	In my opinion, based on the work undertaken in the course of the audit, the information in these reports is consistent with the audited financial statements and prepared in accordance with applicable legal requirements. I have no material misstatements to report.
Viability statement on page 165 which considers the longer term sustainability of the Group's business model, as to whether the Directors have a reasonable expectation that the Group will be able to continue in operation and meet its liabilities as they fall due over the period of their assessment, and why the Directors consider that period to be appropriate. This includes confirmation of the Directors' robust assessment of principal risks facing the Group, including those that would threaten its business model, future performance, solvency or liquidity, and disclosures describing those risks and how they are managed or mitigated.	Review the confirmation and description in the light of the knowledge gathered during the audit, including making enquiries and considering the directors' processes used to support the statements made. Consider if the statements are aligned with the relevant provisions of the UK Corporate Governance Code (the 'Code').	I have nothing material to draw attention to or to add to the confirmation or description.
GAC Report on page 159.	Consider whether it deals appropriately with those matters that I reported to the GAC.	No exceptions to report.
Directors' statement on page 206 that they consider the HSBC *Annual Report and Accounts 2018*, taken as a whole, to be fair, balanced and understandable and provides the information necessary for you to assess HSBC's position and performance, business model and strategy.	Consider whether any information found during the course of the audit would cause me to disagree.	No disagreements to report.
Corporate governance report on pages 152 to 171.	Consider whether the Directors' statement relating to the parent company's compliance with the Code properly discloses any departure from a relevant provision of the Code specified, under the Listing Rules, for review by the auditors.	Nothing to report following my review.
All other information in the *Annual Report and Accounts 2018* aside from the audited financial statements and the auditors' report.	Read the other information and consider whether it is materially inconsistent with the financial statements or our knowledge gained in the audit, or otherwise appears to be materially misstated. I am required to perform additional work to validate if apparent inconsistencies or misstatements are real, and report those matters to you.	Nothing to report following my review.

Other Reporting

In addition, I am required to report to you under the Companies Act 2006 if:

- I have not received all of the information and explanations required for my audit;
- adequate accounting records have not been kept by the parent company;
- returns adequate for my audit have not been received from branches not visited by PwC; and
- the parent company financial statements and the audited part of the Directors' remuneration report do not agree with the accounting records and returns.

I have no exceptions to report as a result of any of these responsibilities.

Use of this report

This report, including the opinions, has been prepared for and only for you, the parent company's members as a body in accordance with Chapter 3 of Part 16 of the Companies Act 2006, and for no other purpose. We do not, in giving these opinions, accept or assume responsibility for any other purpose or to any other person to whom this report is shown or into whose hands it may come except where expressly agreed by our prior written consent.

Richard Oldfield (Senior Statutory Auditor)

for and on behalf of **PricewaterhouseCoopers LLP**

Chartered Accountants and Statutory Auditors

London, United Kingdom

19 February 2019

Financial statements

	Page
Consolidated income statement	**214**
Consolidated statement of comprehensive income	**215**
Consolidated balance sheet	**216**
Consolidated statement of cash flows	**217**
Consolidated statement of changes in equity	**218**
HSBC Holdings income statement	**220**
HSBC Holdings statement of comprehensive income	**220**
HSBC Holdings balance sheet	**221**
HSBC Holdings statement of cash flows	**222**
HSBC Holdings statement of changes in equity	**223**

Consolidated income statement

for the year ended 31 December

		2018	2017	2016
	Notes	**$m**	$m	$m
Net interest income		**30,489**	28,176	29,813
– interest income		**49,609**	40,995	42,414
– interest expense		**(19,120)**	(12,819)	(12,601)
Net fee income	*2*	**12,620**	12,811	12,777
– fee income		**16,044**	15,853	15,669
– fee expense		**(3,424)**	(3,042)	(2,892)
Net income from financial instruments held for trading or managed on a fair value basis	*3*	**9,531**	8,426	7,521
Net income/(expense) from assets and liabilities of insurance businesses, including related derivatives, measured at fair value through profit or loss	*3*	**(1,488)**	2,836	1,262
Changes in fair value of long-term debt and related derivatives	*3*	**(97)**	155	(1,997)
Changes in fair value of other financial instruments mandatorily measured at fair value through profit or loss	*3*	**695**	N/A	N/A
Gains less losses from financial investments		**218**	1,150	1,385
Dividend income		**75**	106	95
Net insurance premium income	*4*	**10,659**	9,779	9,951
Other operating income/(expense)		**885**	337	(971)
Total operating income		**63,587**	63,776	59,836
Net insurance claims and benefits paid and movement in liabilities to policyholders	*4*	**(9,807)**	(12,331)	(11,870)
Net operating income before change in expected credit losses and other credit impairment charges/Loan impairment charges and other credit risk provisions		**53,780**	51,445	47,966
Change in expected credit losses and other credit impairment charges		**(1,767)**	N/A	N/A
Loan impairment charges and other credit risk provisions		**N/A**	(1,769)	(3,400)
Net operating income		**52,013**	49,676	44,566
Employee compensation and benefits	*6*	**(17,373)**	(17,315)	(18,089)
General and administrative expenses		**(15,353)**	(15,707)	(16,473)
Depreciation and impairment of property, plant and equipment		**(1,119)**	(1,166)	(1,229)
Amortisation and impairment of intangible assets		**(814)**	(696)	(777)
Goodwill impairment of Global Private Banking – Europe	*21*	**—**	—	(3,240)
Total operating expenses		**(34,659)**	(34,884)	(39,808)
Operating profit	*5*	**17,354**	14,792	4,758
Share of profit in associates and joint ventures	*18*	**2,536**	2,375	2,354
Profit before tax		**19,890**	17,167	7,112
Tax expense	*8*	**(4,865)**	(5,288)	(3,666)
Profit for the year		**15,025**	11,879	3,446
Attributable to:				
– ordinary shareholders of the parent company		**12,608**	9,683	1,299
– preference shareholders of the parent company		**90**	90	90
– other equity holders		**1,029**	1,025	1,090
– non-controlling interests		**1,298**	1,081	967
Profit for the year		**15,025**	11,879	3,446
		$	$	$
Basic earnings per ordinary share	*10*	**0.63**	0.48	0.07
Diluted earnings per ordinary share	*10*	**0.63**	0.48	0.07

Consolidated statement of comprehensive income

for the year ended 31 December

	2018	2017	2016
	$m	$m	$m
Profit for the year	**15,025**	11,879	3,446
Other comprehensive income/(expense)			
Items that will be reclassified subsequently to profit or loss when specific conditions are met:			
Available-for-sale investments	**N/A**	146	(299)
– fair value gains	**N/A**	1,227	475
– fair value gains reclassified to the income statement	**N/A**	(1,033)	(895)
– amounts reclassified to the income statement in respect of impairment losses	**N/A**	93	71
– income taxes	**N/A**	(141)	50
Debt instruments at fair value through other comprehensive income	**(243)**	N/A	N/A
– fair value losses	**(168)**	N/A	N/A
– fair value gain transferred to the income statement on disposal	**(95)**	N/A	N/A
– expected credit losses recognised in the income statement	**(94)**	N/A	N/A
– income taxes	**114**	N/A	N/A
Cash flow hedges	**19**	(192)	(68)
– fair value losses	**(267)**	(1,046)	(297)
– fair value losses reclassified to the income statement	**317**	833	195
– income taxes and other movements	**(31)**	21	34
Share of other comprehensive income/(expense) of associates and joint ventures	**(64)**	(43)	54
– share for the year	**(64)**	(43)	54
Exchange differences	**(7,156)**	9,077	(8,092)
– foreign exchange gains reclassified to income statement on disposal of a foreign operation	**—**	—	1,894
– other exchange differences	**(7,156)**	8,939	(9,791)
– income tax attributable to exchange differences	**—**	138	(195)
Items that will not be reclassified subsequently to profit or loss:			
Remeasurement of defined benefit asset/liability	**(329)**	2,419	7
– before income taxes[7]	**(388)**	3,440	(84)
– income taxes	**59**	(1,021)	91
Changes in fair value of financial liabilities designated at fair value upon initial recognition arising from changes in own credit risk	**2,847**	(2,024)	N/A
– before income taxes	**3,606**	(2,409)	N/A
– income taxes	**(759)**	385	N/A
Equity instruments designated at fair value through other comprehensive income	**(27)**	N/A	N/A
– fair value losses	**(71)**	N/A	N/A
– income taxes	**44**	N/A	N/A
Effects of hyperinflation	**283**	N/A	N/A
Other comprehensive income/(expense) for the year, net of tax	**(4,670)**	9,383	(8,398)
Total comprehensive income/(expense) for the year	**10,355**	21,262	(4,952)
Attributable to:			
– ordinary shareholders of the parent company	**8,083**	18,914	(6,968)
– preference shareholders of the parent company	**90**	90	90
– other equity holders	**1,029**	1,025	1,090
– non-controlling interests	**1,153**	1,233	836
Total comprehensive income/(expense) for the year	**10,355**	21,262	(4,952)

For footnotes, see page 222.

Consolidated balance sheet

		At		
		31 Dec 2018	1 Jan 2018[1]	31 Dec 2017
	Notes	**$m**	$m	$m
Assets				
Cash and balances at central banks		**162,843**	180,621	180,624
Items in the course of collection from other banks		**5,787**	6,628	6,628
Hong Kong Government certificates of indebtedness		**35,859**	34,186	34,186
Trading assets	11	**238,130**	254,410	287,995
Financial assets designated and otherwise mandatorily measured at fair value through profit or loss	14	**41,111**	39,746	N/A
Financial assets designated at fair value	14	**N/A**	N/A	29,464
Derivatives	15	**207,825**	219,818	219,818
Loans and advances to banks		**72,167**	82,559	90,393
Loans and advances to customers		**981,696**	949,737	962,964
Reverse repurchase agreements – non-trading		**242,804**	201,553	201,553
Financial investments	16	**407,433**	383,499	389,076
Prepayments, accrued income and other assets	22	**110,571**	114,777	67,191
Current tax assets		**684**	1,006	1,006
Interests in associates and joint ventures	18	**22,407**	21,802	22,744
Goodwill and intangible assets	21	**24,357**	23,374	23,453
Deferred tax assets	8	**4,450**	4,714	4,676
Total assets		**2,558,124**	2,518,430	2,521,771
Liabilities and equity				
Liabilities				
Hong Kong currency notes in circulation		**35,859**	34,186	34,186
Deposits by banks		**56,331**	64,492	69,922
Customer accounts		**1,362,643**	1,360,227	1,364,462
Repurchase agreements – non-trading		**165,884**	130,002	130,002
Items in the course of transmission to other banks		**5,641**	6,850	6,850
Trading liabilities	23	**84,431**	80,864	184,361
Financial liabilities designated at fair value	24	**148,505**	144,006	94,429
Derivatives	15	**205,835**	216,821	216,821
Debt securities in issue	25	**85,342**	66,536	64,546
Accruals, deferred income and other liabilities	26	**97,380**	99,926	45,907
Current tax liabilities		**718**	928	928
Liabilities under insurance contracts	4	**87,330**	85,598	85,667
Provisions	27	**2,920**	4,295	4,011
Deferred tax liabilities	8	**2,619**	1,614	1,982
Subordinated liabilities	28	**22,437**	25,861	19,826
Total liabilities		**2,363,875**	2,322,206	2,323,900
Equity				
Called up share capital	32	**10,180**	10,160	10,160
Share premium account	32	**13,609**	10,177	10,177
Other equity instruments		**22,367**	22,250	22,250
Other reserves		**1,906**	6,643	7,664
Retained earnings		**138,191**	139,414	139,999
Total shareholders' equity		**186,253**	188,644	190,250
Non-controlling interests	31	**7,996**	7,580	7,621
Total equity		**194,249**	196,224	197,871
Total liabilities and equity		**2,558,124**	2,518,430	2,521,771

1 *Balances at 1 January 2018 have been prepared in accordance with accounting policies referred to on page 224. 31 December 2017 balances have not been re-presented. Information regarding the effects of adoption of IFRS 9 can be found in Note 37.*

The accompanying notes on pages 224 to 309, and the audited sections in: 'Global businesses and regions' on pages 47 to 64; 'Risk' on pages 69 to 147; 'Capital' on pages 148 to 151; and 'Directors' remuneration report' on pages 172 to 206 form an integral part of these financial statements.

These financial statements were approved by the Board of Directors on 19 February 2019 and signed on its behalf by:

Mark E Tucker
Group Chairman

Ewen Stevenson
Group Chief Financial Officer

Consolidated statement of cash flows

for the year ended 31 December

	2018	2017	2016
	$m	$m	$m
Profit before tax	**19,890**	17,167	7,112
Adjustments for non-cash items:			
Depreciation and amortisation	**1,933**	1,862	5,212
Net (gain)/loss from investing activities	**(126)**	(1,152)	(1,215)
Share of profits in associates and joint ventures	**(2,536)**	(2,375)	(2,354)
(Gain)/Loss on disposal of subsidiaries, businesses, associates and joint ventures	**–**	(79)	1,743
Change in expected credit losses gross of recoveries and other credit impairment charges	**2,280**	N/A	N/A
Loan impairment losses gross of recoveries and other credit risk provisions	**N/A**	2,603	4,090
Provisions including pensions	**1,944**	917	2,482
Share-based payment expense	**450**	500	534
Other non-cash items included in profit before tax	**(1,303)**	(381)	(207)
Elimination of exchange differences[1]	**7,299**	(21,289)	15,364
Changes in operating assets and liabilities			
Change in net trading securities and derivatives	**10,716**	(10,901)	4,395
Change in loans and advances to banks and customers	**(44,071)**	(108,984)	52,868
Change in reverse repurchase agreements – non-trading	**(40,499)**	(37,281)	(13,138)
Change in financial assets designated and otherwise mandatorily measured at fair value	**(1,515)**	(5,303)	(1,235)
Change in other assets	**4,047**	(6,570)	(6,591)
Change in deposits by banks and customer accounts	**(5,745)**	102,211	(8,918)
Change in repurchase agreements – non-trading	**35,882**	41,044	8,558
Change in debt securities in issue	**18,806**	(1,369)	(23,034)
Change in financial liabilities designated at fair value	**4,500**	8,508	17,802
Change in other liabilities	**(2,644)**	13,514	8,792
Dividends received from associates	**910**	740	689
Contributions paid to defined benefit plans	**(332)**	(685)	(726)
Tax paid	**(3,417)**	(3,175)	(3,264)
Net cash from operating activities	**6,469**	(10,478)	68,959
Purchase of financial investments	**(383,454)**	(357,264)	(457,084)
Proceeds from the sale and maturity of financial investments	**370,357**	418,352	430,085
Net cash flows from the purchase and sale of property, plant and equipment	**(1,196)**	(1,167)	(1,151)
Net cash flows from disposal of customer and loan portfolios	**(204)**	6,756	9,194
Net investment in intangible assets	**(1,848)**	(1,285)	(906)
Net cash flow on disposal of subsidiaries, businesses, associates and joint ventures[2]	**4**	165	4,802
Net cash from investing activities	**(16,341)**	65,557	(15,060)
Issue of ordinary share capital and other equity instruments	**6,001**	5,196	2,024
Cancellation of shares	**(1,998)**	(3,000)	–
Net sales/(purchases) of own shares for market-making and investment purposes	**133**	(67)	523
Purchase of treasury shares	**–**	–	(2,510)
Redemption of preference shares and other equity instruments	**(6,078)**	–	(1,825)
Subordinated loan capital issued	**–**	–	2,622
Subordinated loan capital repaid[3]	**(4,077)**	(3,574)	(595)
Dividends paid to shareholders of the parent company and non-controlling interests	**(10,762)**	(9,005)	(9,157)
Net cash from financing activities	**(16,781)**	(10,450)	(8,918)
Net increase/(decrease) in cash and cash equivalents	**(26,653)**	44,629	44,981
Cash and cash equivalents at 1 Jan	**337,412**	274,550	243,863
Exchange differences in respect of cash and cash equivalents	**(9,677)**	18,233	(14,294)
Cash and cash equivalents at 31 Dec[4]	**301,082**	337,412	274,550
Cash and cash equivalents comprise:			
– cash and balances at central banks	**162,843**	180,624	128,009
– items in the course of collection from other banks	**5,787**	6,628	5,003
– loans and advances to banks of one month or less	**47,878**	82,771	77,318
– reverse repurchase agreements with banks of one month or less	**59,602**	58,850	55,551
– treasury bills, other bills and certificates of deposit less than three months	**30,613**	15,389	14,646
– less: items in the course of transmission to other banks	**(5,641)**	(6,850)	(5,977)
Cash and cash equivalents at 31 Dec[4]	**301,082**	337,412	274,550

Interest received was $45,291m (2017: $41,676m; 2016: $42,586m), interest paid was $14,172m (2017: $10,962m; 2016: $12,027m) and dividends received were $1,702m (2017: $2,225m; 2016: $475m).

1 *Adjustment to bring changes between opening and closing balance sheet amounts to average rates. This is not done on a line-by-line basis, as details cannot be determined without unreasonable expense.*
2 *In July 2016, we completed the disposal of operations in Brazil resulting in a net cash inflow of $4.8bn.*
3 *Subordinated liabilities changes during the year are attributable to repayments of $(4.1)bn (2017: $(3.6)bn; 2016: $(0.6)bn) of securities. Non-cash changes during the year included foreign exchange (loss)/gain $(0.6)bn (2017: $(0.6)bn; 2016: $2.1bn) and fair value losses of $(1.4)bn (2017: $(1.2)bn; 2016: $(0.3)bn).*
4 *At 31 December 2018, $26,282m (2017: $39,830m; 2016: $35,501m) was not available for use by HSBC, of which $19,755m (2017: $21,424m; 2016: $21,108m) related to mandatory deposits at central banks.*

Consolidated statement of changes in equity

for the year ended 31 December

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

Consolidated statement of changes in equity (Continued)

	Called up share capital and share premium	Other equity instru-ments[2,3]	Retained earnings[4,5]	Other reserves: Financial assets at FVOCI reserve[8]	Other reserves: Cash flow hedging reserve	Other reserves: Foreign exchange reserve	Other reserves: Merger and other reserves[6]	Total share-holders' equity	Non-controlling interests	Total equity
	$m	$m	$m	$m	$m	$m	$m	$m	$m	$m
At 1 Jan 2016	22,263	15,112	143,976	(189)	34	(20,044)	27,308	188,460	9,058	197,518
Profit for the year	—	—	2,479	—	—	—	—	2,479	967	3,446
Other comprehensive income (net of tax)	—	—	59	(271)	(61)	(7,994)	—	(8,267)	(131)	(8,398)
– available-for-sale investments	—	—	—	(271)	—	—	—	(271)	(28)	(299)
– cash flow hedges	—	—	—	—	(61)	—	—	(61)	(7)	(68)
– remeasurement of defined benefit asset/liability	—	—	5	—	—	—	—	5	2	7
– share of other comprehensive income of associates and joint ventures	—	—	54	—	—	—	—	54	—	54
– foreign exchange reclassified to income statement on disposal of a foreign operation	—	—	—	—	—	1,894	—	1,894	—	1,894
– exchange differences	—	—	—	—	—	(9,888)	—	(9,888)	(98)	(9,986)
Total comprehensive income for the year	—	—	2,538	(271)	(61)	(7,994)	—	(5,788)	836	(4,952)
Shares issued under employee remuneration and share plans	452	—	(425)	—	—	—	—	27	—	27
Shares issued in lieu of dividends and amounts arising thereon	—	—	3,040	—	—	—	—	3,040	—	3,040
Net increase in treasury shares[1]	—	—	(2,510)	—	—	—	—	(2,510)	—	(2,510)
Capital securities issued	—	1,998	—	—	—	—	—	1,998	—	1,998
Dividends to shareholders	—	—	(11,279)	—	—	—	—	(11,279)	(919)	(12,198)
Cost of share-based payment arrangements	—	—	534	—	—	—	—	534	—	534
Other movements	—	—	921	(17)	—	—	—	904	(1,783)	(879)
At 31 Dec 2016	22,715	17,110	136,795	(477)	(27)	(28,038)	27,308	175,386	7,192	182,578

1 *For further details, refer to Note 32. In February 2017, HSBC announced a share buy-back of up to $1.0bn, which was completed in April 2017. In July 2017, HSBC announced a share buy-back of up to $2.0bn, which was completed in November 2017. Shares bought back from these two buy-back programmes have been cancelled. In August 2016, HSBC announced a share buy-back of up to $2.5bn, which was completed in December 2016 and resulted in a net increase in shares held in treasury.*

2 *During 2018, HSBC Holdings issued $4,150m, £1,000m and SGD750m of perpetual subordinated contingent convertible capital securities on which there were $60m of external issuance costs, $49m of intra-Group issuance costs and $11m of tax benefits. In 2017, HSBC Holdings issued $3,000m, SGD1,000m and €1,250m of perpetual subordinated contingent convertible capital securities, on which there were $14m of external issuance costs, $37m of intra-Group issuance costs and $10m of tax benefits. In 2016, HSBC Holdings issued $2,000m of perpetual subordinated contingent convertible capital securities, after issuance costs of $6m and tax benefits of $4m. Under IFRSs these issuance costs and tax benefits are classified as equity.*

3 *During 2018, HSBC Holdings redeemed $2,200m 8.125% perpetual subordinated capital securities and its $3,800m 8.000% perpetual subordinated capital securities, Series 2, on which there were $172m of external issuance costs and $23m of intra-Group issuance costs wound down.*

4 *At 31 December 2018, retained earnings included 379,926,645 treasury shares (2017: 360,590,019; 2016: 353,356,251). In addition, treasury shares are also held within HSBC's Insurance business retirement funds for the benefit of policyholders or beneficiaries within employee trusts for the settlement of shares expected to be delivered under employee share schemes or bonus plans, and the market-making activities in Global Markets.*

5 *Cumulative goodwill amounting to $5,138m has been charged against reserves in respect of acquisitions of subsidiaries prior to 1 January 1998, including $3,469m charged against the merger reserve arising on the acquisition of HSBC Bank plc. The balance of $1,669m has been charged against retained earnings.*

6 *Statutory share premium relief under Section 131 of the Companies Act 1985 (the 'Act') was taken in respect of the acquisition of HSBC Bank plc in 1992, HSBC France in 2000 and HSBC Finance Corporation in 2003, and the shares issued were recorded at their nominal value only. In HSBC's consolidated financial statements, the fair value differences of $8,290m in respect of HSBC France and $12,768m in respect of HSBC Finance Corporation were recognised in the merger reserve. The merger reserve created on the acquisition of HSBC Finance Corporation subsequently became attached to HSBC Overseas Holdings (UK) Limited ('HOHU'), following a number of intra-Group reorganisations. During 2009, pursuant to Section 131 of the Companies Act 1985, statutory share premium relief was taken in respect of the rights issue and $15,796m was recognised in the merger reserve. The merger reserve includes a deduction of $614m in respect of costs relating to the rights issue, of which $149m was subsequently transferred to the income statement. Of this $149m, $121m was a loss arising from accounting for the agreement with the underwriters as a contingent forward contract. The merger reserve excludes the loss of $344m on a forward foreign exchange contract associated with hedging the proceeds of the rights issue.*

7 *During 2018, an actuarial gain of $1,180m has arisen as a result of the remeasurement of the defined benefit pension obligation of the HSBC Bank (UK) Pension Scheme. During 2017, an actuarial gain of $1,730m has arisen as a result of the remeasurement of the defined benefit pension obligation of the HSBC Bank (UK) Pension Scheme. Refer to Note 6 for further detail.*

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

9 *Permitted transfers from the merger reserve to retained earnings were made when the investment in HSBC Overseas Holdings (UK) Limited was previously impaired. A part reversal of this impairment results in a transfer from retained earnings back to the merger reserve of $2,200m.*

10 *This includes a re-presentation of the cancellation of shares to retained earnings and capital redemption reserve in respect of the 2017 share buy-back, under which retained earnings have been reduced by $3,000m, called up capital and share premium increased by $2,731m and other reserves increased by $269m.*

11 *For further details refer to Note 32 .In May 2018, HSBC announced a share buy-back of up to $2.0bn, which was completed in August 2018.*

HSBC Holdings income statement

for the year ended 31 December

	Notes	2018 $m	2017 $m	2016 $m
Net interest expense		**(1,112)**	(383)	(424)
– interest income		**2,193**	2,185	1,380
– interest expense		**(3,305)**	(2,568)	(1,804)
Fee (expense)/income		**–**	2	(1)
Net income from financial instruments held for trading or managed on a fair value basis	3	**245**	(181)	119
Changes in fair value of long-term debt and related derivatives	3	**(77)**	103	(49)
Changes in fair value of other financial instruments mandatorily measured at fair value through profit or loss	3	**43**	–	–
Gains less losses from financial investments		**4**	154	–
Dividend income from subsidiaries[1]		**55,304**	10,039	10,436
Other operating income		**960**	769	696
Total operating income		**55,367**	10,503	10,777
Employee compensation and benefits	6	**(37)**	(54)	(570)
General and administrative expenses		**(4,507)**	(4,911)	(4,014)
Reversal of impairment/(impairment) of subsidiaries[2]		**2,064**	(63)	–
Total operating expenses		**(2,480)**	(5,028)	(4,584)
Profit before tax		**52,887**	5,475	6,193
Tax (charge)/credit		**(62)**	64	402
Profit for the year		**52,825**	5,539	6,595

1 2018 includes $44,893m (2017:nil) return on capital from HSBC Finance (Netherlands) resulting from restructuring the Group's Asia operation to meet resolution and recovery requirements. This amount does not form part of distributable reserves.
2 2018 includes a $2,200m (2017:nil) part reversal of the impairment previously recognised against HSBC Holdings investment in HSBC Overseas Holdings (UK) Limited. This amount does not form part of distributable reserves.

HSBC Holdings statement of comprehensive income

for the year ended 31 December

	2018 $m	2017 $m	2016 $m
Profit for the year	**52,825**	5,539	6,595
Other comprehensive income/(expense)			
Items that will be reclassified subsequently to profit or loss when specific conditions are met:			
Financial investments in HSBC undertakings	**–**	(53)	(72)
– fair value gains/(losses)	**–**	(70)	(83)
– income taxes	**–**	17	11
Items that will not be reclassified subsequently to profit or loss:			
Changes in fair value of financial liabilities designated at fair value upon initial recognition arising from changes in own credit risk	**865**	(828)	(896)
– before income taxes	**1,090**	(1,007)	(1,030)
– income taxes	**(225)**	179	134
Other comprehensive income for the year, net of tax	**865**	(881)	(968)
Total comprehensive income for the year	**53,690**	4,658	5,627

HSBC Holdings balance sheet

	Notes	31 Dec 2018 $m	1 Jan 2018[2] $m	31 Dec 2017 $m
Assets				
Cash and balances with HSBC undertakings		**3,509**	1,985	1,985
Loans and advances to HSBC undertakings designated and otherwise mandatorily measured at fair value		**23,513**	16,208	11,944
Derivatives	15	**707**	2,388	2,388
Loans and advances to HSBC undertakings		**56,144**	76,627	76,627
Financial investments in HSBC undertakings		**–**	–	4,264
Prepayments, accrued income and other assets		**126**	369	369
Current tax assets		**594**	379	379
Investments in subsidiaries[1]		**160,231**	92,930	92,930
Intangible assets		**357**	293	293
Deferred tax assets		**–**	380	555
Total assets at 31 Dec		**245,181**	191,559	191,734
Liabilities and equity				
Liabilities				
Amounts owed to HSBC undertakings		**949**	2,571	2,571
Financial liabilities designated at fair value	24	**25,049**	25,488	30,890
Derivatives	15	**2,159**	3,082	3,082
Debt securities in issue	25	**50,800**	34,258	34,258
Accruals, deferred income and other liabilities		**994**	1,344	1,269
Subordinated liabilities	28	**17,715**	20,139	15,877
Deferred tax liabilities		**162**	–	–
Total liabilities		**97,828**	86,882	87,947
Equity				
Called up share capital	32	**10,180**	10,160	10,160
Share premium account		**13,609**	10,177	10,177
Other equity instruments		**22,231**	22,107	22,107
Other reserves		**39,899**	37,381	37,440
Retained earnings		**61,434**	24,852	23,903
Total equity		**147,353**	104,677	103,787
Total liabilities and equity at 31 Dec		**245,181**	191,559	191,734

1 2018 includes a $56,587m (2017:nil) capital injection to HSBC Asia Holdings Overseas Limited.
2 Balances at 1 January 2018 have been prepared in accordance with accounting policies referred to on page 224. 31 December 2017 balances have not been re-presented. Information regarding the effects of adoption of IFRS 9 can be found in Note 37.

The accompanying notes on pages 224 to 309, and the audited sections in: 'Global businesses and regions' on pages 47 to 64, 'Risk' on pages 69 to 147, 'Capital' on pages 148 to 151 and 'Directors' remuneration report' on pages 172 to 206 form an integral part of these financial statements.

These financial statements were approved by the Board of Directors on 19 February 2019 and signed on its behalf by:

Mark E Tucker
Group Chairman

Ewen Stevenson
Group Chief Financial Officer

HSBC Holdings statement of cash flows

for the year ended 31 December

	2018	2017	2016 (Restated)[2]
	$m	$m	$m
Profit before tax	**52,887**	5,475	6,193
Adjustments for non-cash items:	**(46,878)**	(17)	48
– depreciation, amortisation and impairment/expected credit losses	**70**	33	10
– share-based payment expense	**—**	(2)	34
– other non-cash items included in profit before tax[1]	**(46,948)**	(48)	4
Changes in operating assets and liabilities			
Change in loans to HSBC undertakings	**5,745**	(1,122)	(36,437)
Change in loans and advances to HSBC undertakings designated and otherwise mandatorily measured at fair value	**(7,305)**	(11,944)	—
Change in financial investments in HSBC undertakings	**—**	(1,775)	612
Change in net trading securities and net derivatives	**758**	(2,183)	3,066
Change in other assets	**231**	134	(239)
Change in debt securities in issue	**(1,094)**	1,020	(1,633)
Change in financial liabilities designated at fair value	**(740)**	954	(1,229)
Change in other liabilities	**(1,883)**	721	(693)
Tax received	**301**	443	646
Net cash from operating activities	**2,022**	(8,294)	(29,666)
Purchase of financial investments	**—**	—	—
Proceeds from the sale and maturity of financial investments	**—**	1,165	610
Net cash outflow from acquisition of or increase in stake of subsidiaries	**(8,992)**	(89)	(2,073)
Repayment of capital from subsidiaries	**3,627**	4,070	3,920
Net investment in intangible assets	**(121)**	(150)	(109)
Net cash from investing activities	**(5,486)**	4,996	2,348
Issue of ordinary share capital and other equity instruments	**6,652**	5,647	2,381
Redemption of other equity instruments	**(6,093)**	—	—
Purchase of treasury shares	**—**	—	(2,510)
Cancellation of shares	**(1,998)**	(3,000)	—
Subordinated loan capital issued	**—**	—	2,636
Subordinated loan capital repaid	**(1,972)**	(1,184)	(1,781)
Debt securities issued	**19,513**	11,433	32,080
Debt securities repaid	**(1,025)**	—	—
Dividends paid on ordinary shares	**(8,693)**	(6,987)	(7,059)
Dividends paid to holders of other equity instruments	**(1,360)**	(1,359)	(1,180)
Net cash from financing activities	**5,024**	4,550	24,567
Net increase/(decrease) in cash and cash equivalents	**1,560**	1,252	(2,751)
Cash and cash equivalents at 1 January	**4,949**	3,697	6,448
Cash and cash equivalents at 31 Dec	**6,509**	4,949	3,697
Cash and cash equivalents comprise:			
– cash at bank with HSBC undertakings	**3,509**	1,985	247
– loans and advances to banks of one month or less	**3,000**	2,964	3,450

Interest received was $2,116m (2017: $2,103m; 2016: $1,329m) Interest paid was $3,379m (2017: $2,443m; 2016: $1,791m) and dividends received were $10,411m (2017: $10,039m; 2016: $10,412m)

1 *2018 includes $44,893m (2017:nil) return on capital from HSBC Finance (Netherlands) resulting from restructuring the Group's Asia operation to meet resolution and recovery requirements.*

2 *The 2016 comparative figure for cash and cash equivalents was amended in 2017 to include loans and advances to HSBC undertakings of one month or less duration.*

HSBC Holdings statement of changes in equity

for the year ended 31 December

	Called up share capital	Share premium	Other equity instruments	Retained earnings[1,3]	Other reserves: Financial assets at FVOCI reserve	Other reserves: Other paid-in capital[2]	Other reserves: Merger and other reserves[3]	Total share-holders' equity
	$m	$m	$m	$m	$m	$m	$m	$m
At 31 Dec 2017	**10,160**	**10,177**	**22,107**	**23,903**	**59**	**2,254**	**35,127**	**103,787**
Impact on transition to IFRS 9		—	—	949	(59)		—	890
At 1 Jan 2018	10,160	10,177	22,107	24,852	—	2,254	35,127	104,677
Profit for the year	—	—	—	52,825	—	—	—	52,825
Other comprehensive income (net of tax)	—	—	—	865	—	—	—	865
– changes in fair value of financial liabilities designated at fair value upon initial recognition arising from changes in own credit risk	—	—	—	865	—	—	—	865
Total comprehensive income for the year	—	—	—	53,690	—	—	—	53,690
Shares issued under employee share plans	42	679	—	—	—	—	—	721
Shares issued in lieu of dividends and amounts arising thereon	83	(83)	—	1,494	—	—	—	1,494
Cancellation of shares[4]	(105)	2,836	—	(4,998)	—	—	269	(1,998)
Capital securities issued	—	—	5,967	—	—	—	—	5,967
Dividends to shareholders	—	—	—	(11,547)	—	—	—	(11,547)
Redemption of capital securities	—	—	(5,843)	(236)	—	—	—	(6,079)
Transfers[5]	—	—	—	(2,200)	—	—	2,200	—
Other movements	—	—	—	379	—	46	3	428
At 31 Dec 2018	**10,180**	**13,609**	**22,231**	**61,434**	**—**	**2,300**	**37,599**	**147,353**
At 1 Jan 2017	10,096	12,619	17,004	27,656	112	2,244	35,127	104,858
Profit for the year	—	—	—	5,539	—	—	—	5,539
Other comprehensive income (net of tax)	—	—	—	(828)	(53)	—	—	(881)
– available-for-sale investments	—	—	—	—	(53)	—	—	(53)
– changes in fair value of financial liabilities designated at fair value due to movement in own credit risk	—	—	—	(828)	—	—	—	(828)
Total comprehensive income for the year	—	—	0	4,711	(53)	—	—	4,658
Shares issued under employee share plans	38	584	—	(52)	—	—	—	570
Shares issued in lieu of dividends and amounts arising thereon	190	(190)	—	3,205	—	—	—	3,205
Cancellation of shares	(164)	(2,836)	—	—	—	—	—	(3,000)
Capital securities issued	—		5,103	—	—	—	—	5,103
Dividends to shareholders	—	—	—	(11,551)	—	—	—	(11,551)
Cost of share-based payment arrangements	—	—	—	(2)	—	—	—	(2)
Other movements			—	(64)		10		(54)
At 31 Dec 2017	10,160	10,177	22,107	23,903	59	2,254	35,127	103,787
At 1 Jan 2016	9,842	12,421	15,020	32,224	183	2,597	35,127	107,414
Profit for the year	—	—	—	6,595	—	—	—	6,595
Other comprehensive income (net of tax)	—	—	—	(896)	(72)	—	—	(968)
– available-for-sale investments	—	—	—	—	(72)	—	—	(72)
– changes in fair value of financial liabilities designated at fair value due to movement in own credit risk	—	—	—	(896)	—	—	—	(896)
Total comprehensive income for the year	—	—	—	5,699	(72)	—	—	5,627
Shares issued under employee share plans	35	417	—	(51)	—	—	—	401
Shares issued in lieu of dividends and amounts arising thereon	219	(219)	—	3,040	—	—	—	3,040
Net increase in treasury shares	—	—	—	(2,510)	—	—	—	(2,510)
Capital securities issued	—		1,984	—	—	—	—	1,984
Dividends to shareholders	—	—	—	(11,279)	—	—	—	(11,279)
Cost of share-based payment arrangements	—	—	—	34	—	—	—	34
Other movements	—	—	—	499	1	(353)	—	147
At 31 Dec 2016	10,096	12,619	17,004	27,656	112	2,244	35,127	104,858

Dividends per ordinary share at 31 December 2018 were $0.51 (2017: $0.51; 2016: $0.51).

1 *At 31 December 2018, retained earnings includes 326,503,319 ($2,546m) of treasury shares (2017: 326,843,840 ($2,542m); 2016: 325,499,152 ($2,499m)). Treasury shares are held to fund employee share plans.*
2 *Other paid-in capital arises from the exercise and lapse of share options granted to employees of HSBC Holdings subsidiaries.*
3 *HSBC Holdings distributable reserves at 31 December 2018 of $30,705m (2017: $38,031m) represents realised profits included in retained earnings of $14,974m (2017: $22,300m) and in merger reserve of $15,731m (2017: $15,731m). The distributable reserves are lower than retained earnings of $61,434m (2017: $23,903m). In 2018, income of $44,893m (2017:nil) generated from restructuring the Group's Asia operation to meet resolution and recovery requirements does not form part of distributable reserves.*
4 *This includes a re-presentation of the cancellation of shares to retained earnings and capital redemption reserve in respect of the 2017 share buy-back, under which retained earnings has been reduced by $3,000m, share premium increased by $2,836m and other reserves increased by $164m.*
5 *Permitted transfers from the merger reserve to retained earnings were made when the investment in HSBC Overseas Holdings (UK) Limited was previously impaired. A part reversal of this impairment results in a transfer from retained earnings back to the merger reserve of $2,200m.*

Notes on the Financial Statements

		Page
1	Basis of preparation and significant accounting policies	224
2	Net fee income	237
3	Net income/(expense) from financial instruments through profit or loss measured at fair value	238
4	Insurance business	238
5	Operating profit	240
6	Employee compensation and benefits	240
7	Auditors' remuneration	246
8	Tax	246
9	Dividends	249
10	Earnings per share	249
11	Trading assets	250
12	Fair values of financial instruments carried at fair value	250
13	Fair values of financial instruments not carried at fair value	258
14	Financial assets designated and otherwise mandatorily measured at fair value	259
15	Derivatives	260
16	Financial investments	263
17	Assets pledged, collateral received and assets transferred	264
18	Interests in associates and joint ventures	265
19	Investments in subsidiaries	269
20	Structured entities	270
21	Goodwill and intangible assets	272
22	Prepayments, accrued income and other assets	274
23	Trading liabilities	274
24	Financial liabilities designated at fair value	274
25	Debt securities in issue	275
26	Accruals, deferred income and other liabilities	275
27	Provisions	276
28	Subordinated liabilities	277
29	Maturity analysis of assets, liabilities and off-balance sheet commitments	280
30	Offsetting of financial assets and financial liabilities	284
31	Non-controlling interests	285
32	Called up share capital and other equity instruments	286
33	Contingent liabilities, contractual commitments and guarantees	288
34	Lease commitments	288
35	Legal proceedings and regulatory matters	289
36	Related party transactions	294
37	Effects of reclassification upon adoption of IFRS 9	296
38	Events after the balance sheet date	301
39	HSBC Holdings' subsidiaries, joint ventures and associates	301

1 Basis of preparation and significant accounting policies

1.1 Basis of preparation

(a) Compliance with International Financial Reporting Standards

The consolidated financial statements of HSBC and the separate financial statements of HSBC Holdings have been prepared in accordance with International Financial Reporting Standards ('IFRSs') as issued by the International Accounting Standards Board ('IASB'), including interpretations issued by the IFRS Interpretations Committee, and as endorsed by the European Union ('EU'). At 31 December 2018, there were no unendorsed standards effective for the year ended 31 December 2018 affecting these consolidated and separate financial statements, and HSBC's application of IFRSs results in no differences between IFRSs as issued by the IASB and IFRSs as endorsed by the EU.

Standards adopted during the year ended 31 December 2018

HSBC has adopted the requirements of IFRS 9 'Financial Instruments' from 1 January 2018, with the exception of the provisions relating to the presentation of gains and losses on financial liabilities designated at fair value, which were adopted from 1 January 2017. This includes the adoption of 'Prepayment Features with Negative Compensation (Amendments to IFRS 9)', which is effective for annual periods beginning on or after 1 January 2019 with early adoption permitted. The effect of its adoption is not significant. IFRS 9 includes an accounting policy choice to remain with IAS 39 hedge accounting, which HSBC has exercised. The classification and measurement, and impairment requirements, are applied retrospectively by adjusting the opening balance sheet at the date of initial application. As permitted by IFRS 9, HSBC has not restated comparatives. Adoption reduced net assets at 1 January 2018 by $1,647m as set out in Note 37 of the *Annual Report and Accounts 2018*.

In addition, HSBC has adopted the requirements of IFRS 15 'Revenue from contracts with customers' and a number of interpretations and amendments to standards, which have had an insignificant effect on the consolidated financial statements of HSBC and the separate financial statements of HSBC Holdings.

IFRS 9 transitional requirements

The transitional requirements of IFRS 9 necessitated a review of the designation of financial instruments at fair value. IFRS 9 requires that the designation is revoked where there is no longer an accounting mismatch at 1 January 2018 and permits designations to be revoked or additional designations created at 1 January 2018 if there are accounting mismatches at that date. As a result:

- fair value designations for financial liabilities were revoked where the accounting mismatch no longer exists, as required by IFRS 9; and
- fair value designations were revoked for certain long-dated securities where accounting mismatches continue to exist, but where HSBC has revoked the designation as permitted by IFRS 9 since it will better mitigate the accounting mismatch by undertaking fair value hedge accounting.

The results of these changes are included in the reconciliation set out in Note 37.

Changes in accounting policy

While not necessarily required by the adoption of IFRS 9, the following voluntary changes in accounting policy and presentation were made as a result of reviews carried out in conjunction with its adoption. The effect of presentational changes at 1 January 2018 is included in the reconciliation set out in Note 37, and comparatives have not been restated.

- We considered market practices for the presentation of certain financial liabilities, which contain both deposit and derivative components. We concluded that it would be appropriate to change the accounting policy and presentation of 'trading customer accounts and other debt securities in issue', to better align with the presentation of similar financial instruments by peers. This therefore provides more relevant information about the effect of these financial liabilities on our financial position and performance. As a result, rather than being classified as held for trading, we designate these financial liabilities as at fair value through profit or loss since they are managed and their performance evaluated on a fair value basis. A further consequence of this change in presentation is that the effects of changes in the liabilities' credit risk are presented in 'Other comprehensive income', with the remaining effect presented in profit or loss in accordance with Group accounting policy adopted in 2017 (following the adoption of the requirements in IFRS 9 relating to the presentation of gains and losses on financial liabilities designated at fair value).
- Cash collateral, margin and settlement accounts have been reclassified from 'Trading assets' and 'Loans and advances to banks and customers' to 'Prepayments, accrued income and other assets' and from 'Trading liabilities' and 'Deposits by banks' and 'Customer accounts' to 'Accruals, deferred income and other liabilities'. The change in presentation for financial assets is in accordance with IFRS 9 and the change in presentation for financial liabilities is considered to provide more relevant information, given the change in presentation for the financial assets. The change in presentation for financial liabilities has had no effect on the measurement of these items and therefore on retained earnings or profit for any period.
- Certain stock borrowing assets have been reclassified from 'Loans and advances to banks and customers' to 'Trading assets'. The change in measurement is a result of the determination of the global business model for this activity and will align the presentation throughout the Group.
- Prior to 2018, foreign exchange exposure on some financial instruments designated at fair value was presented in the same line in the income statement as the underlying fair value movement on these instruments. In 2018, we have grouped the presentation of the entire effect of foreign exchange exposure in profit or loss and presented it within 'Net income from financial instruments held for trading or managed on a fair value basis'. Comparative data has been re-presented.

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

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

(c) Future accounting developments

Minor amendments to IFRSs

The IASB has published a number of minor amendments to IFRSs that are effective from 1 January 2019, some of which have been endorsed for use in the EU. HSBC expects they will have an insignificant effect, when adopted, on the consolidated financial statements of HSBC and the separate financial statements of HSBC Holdings.

Major new IFRSs

The IASB has published IFRS 16 'Leases' and IFRS 17 'Insurance Contracts'. IFRS 16 has been endorsed for use in the EU and IFRS 17 has not yet been endorsed. In addition, an amendment to IAS 12 'Income Taxes' has not yet been endorsed.

IFRS 16 'Leases'

IFRS 16 'Leases' has an effective date for annual periods beginning on or after 1 January 2019. IFRS 16 results in lessees accounting for most leases within the scope of the standard in a manner similar to the way in which finance leases are currently accounted for under IAS 17 'Leases'. Lessees will recognise a right of use ('ROU') asset and a corresponding financial liability on the balance sheet. The asset will be amortised over the length of the lease, and the financial liability measured at amortised cost. Lessor accounting remains substantially the same as under IAS 17. The Group expects to adopt the standard using a modified retrospective approach where the cumulative effect of initially applying it is recognised as an adjustment to the opening balance of retained earnings and comparatives are not restated. The implementation is expected to increase assets by approximately $5bn and increase financial liabilities by the same amount with no effect on net assets or retained earnings.

IFRS 17 'Insurance Contracts'

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

Amendment to IAS 12 'Income Taxes'

An amendment to IAS 12 was issued in December 2017 as part of the annual improvement cycle. The amendment clarifies that an entity should recognise the tax consequences of dividends where the transactions or events that generated the distributable profits are recognised. This amendment is effective for annual reporting periods beginning on or after 1 January 2019 and is applied to the income tax consequences of distributions recognised on or after the beginning of the earliest comparative period. As a result of its application, the income tax consequences of distributions on certain capital securities classified as equity will be presented in profit or loss rather than directly in equity. If the amendment had been applied in 2018, the impact for the year ended 31 December 2018 would have been a $261m increase in profit after tax (2017: $224m) with no effect on equity.

(d) Foreign currencies

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

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

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

(e) Presentation of information

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

- segmental disclosures are included in the 'Report of the Directors: Financial summary' on pages 34 to 68;
- disclosures concerning the nature and extent of risks relating to insurance contracts and financial instruments are included in the 'Report of the Directors: Risk' on pages 69 to 147;
- capital disclosures are included in the 'Report of the Directors: Capital' on pages 148 to 151; and
- disclosures relating to HSBC's securitisation activities and structured products are included in the 'Report of the Directors: Risk' on pages 69 to 147.

In accordance with the policy to provide disclosures that help investors and other stakeholders understand the Group's performance, financial position and changes to them, the information provided in the 'Notes on the financial statements' and the 'Report of the Directors' goes beyond the minimum levels required by accounting standards, statutory and regulatory requirements and listing rules. In addition, HSBC follows the UK Finance Disclosure Code ('the UKF Disclosure Code'). The UKF Disclosure Code aims to increase the quality and comparability of UK banks' disclosures and sets out five disclosure principles together with supporting guidance agreed in 2010. In line with the principles of the UKF Disclosure Code, HSBC assesses good practice recommendations issued from time to time by relevant regulators and standard setters, and will assess the applicability and relevance of such guidance, enhancing disclosures where appropriate.

(f) Critical accounting estimates and judgements

The preparation of financial information requires the use of estimates and judgements about future conditions. In view of the inherent uncertainties and the high level of subjectivity involved in the recognition or measurement of items, highlighted as the 'critical accounting estimates and judgements' in section 1.2 below, it is possible that the outcomes in the next financial year could differ from those on which management's estimates are based. This could result in materially different estimates and judgements from those reached by management for the purposes of these financial statements. Management's selection of HSBC's accounting policies that contain critical estimates and judgements reflects the materiality of the items to which the policies are applied and the high degree of judgement and estimation uncertainty involved.

(g) Segmental analysis

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

Measurement of segmental assets, liabilities, income and expenses is in accordance with the Group's accounting policies. Segmental income and expenses include transfers between segments, and these transfers are conducted at arm's length. Shared costs are included in segments on the basis of the actual recharges made.

(h) Going concern

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

1.2 Summary of significant accounting policies

(a) Consolidation and related policies

Investments in subsidiaries

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

Business combinations are accounted for using the acquisition method. The amount of non-controlling interest is measured either at fair value or at the non-controlling interest's proportionate share of the acquiree's identifiable net assets. This election is made for each business combination.

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

Goodwill

Goodwill is allocated to cash-generating units ('CGUs') for the purpose of impairment testing, which is undertaken at the lowest level at which goodwill is monitored for internal management purposes. HSBC's CGUs are based on geographical regions subdivided by global business, except for Global Banking and Markets, for which goodwill is monitored on a global basis.

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

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

Critical accounting estimates and judgements

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

- The future cash flows of the CGUs are sensitive to the cash flows projected for the periods for which detailed forecasts are available and to assumptions regarding the long-term pattern of sustainable cash flows thereafter. Forecasts are compared with actual performance and verifiable economic data, but they reflect management's view of future business prospects at the time of the assessment.
- The rates used to discount future expected cash flows can have a significant effect on their valuation, and are based on the costs of capital assigned to individual CGUs. The cost of capital percentage is generally derived from a capital asset pricing model, which incorporates inputs reflecting a number of financial and economic variables, including the risk-free interest rate in the country concerned and a premium for the risk of the business being evaluated. These variables are subject to fluctuations in external market rates and economic conditions beyond management's control. They are therefore subject to uncertainty and require the exercise of significant judgement.

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

HSBC sponsored structured entities

HSBC is considered to sponsor another entity if, in addition to ongoing involvement with the entity, it had a key role in establishing that entity or in bringing together relevant counterparties so the transaction that is the purpose of the entity could occur. HSBC is generally not considered a sponsor if the only involvement with the entity is merely administrative.

Interests in associates and joint arrangements

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

HSBC recognises its share of the assets, liabilities and results in a joint operation. Investments in associates and interests in joint ventures are recognised using the equity method. The attributable share of the results and reserves of joint ventures and associates is included in the consolidated financial statements of HSBC based on either financial statements made up to 31 December or pro-rated amounts adjusted for any material transactions or events occurring between the date the financial statements are available and 31 December.

Investments in associates and joint ventures are assessed at each reporting date and tested for impairment when there is an indication that the investment may be impaired. Goodwill on acquisitions of interests in joint ventures and associates is not tested separately for impairment, but is assessed as part of the carrying amount of the investment.

Critical accounting estimates and judgements

Impairment testing of investments in associates involves significant judgement in determining the value in use, and in particular estimating the present values of cash flows expected to arise from continuing to hold the investment. The most significant judgements relate to the impairment testing of our investment in Bank of Communications Co. Limited ('BoCom'). Key assumptions used in estimating BoCom's value in use, the sensitivity of the value in use calculation to different assumptions and a sensitivity analysis that shows the changes in key assumptions that would reduce the excess of value in use over the carrying amount (the 'headroom') to nil are described in Note 18.

(b) Income and expense

Operating income

Interest income and expense

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

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

Non-interest income and expense

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

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

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

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

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

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

- 'Net income from financial instruments held for trading or managed on a fair value basis': This comprises net trading income, which includes all gains and losses from changes in the fair value of financial assets and financial liabilities held for trading, together with the related interest income, expense and dividends. It also includes all gains and losses from changes in the fair value of derivatives that are managed in conjunction with financial assets and liabilities measured at fair value through profit or loss.
- 'Net income/(expense)from assets and liabilities of insurance businesses, including related derivatives, measured at fair value through profit or loss': This includes interest income, interest expense and dividend income in respect of financial assets and liabilities measured at fair value through profit or loss; and those derivatives managed in conjunction with the above that can be separately identifiable from other trading derivatives.
- 'Changes in fair value of long-term debt and related derivatives': Interest paid on the external long-term debt and interest cash flows on related derivatives is presented in interest expense.
- 'Changes in fair value of other financial instruments mandatorily measured at fair value through profit or loss': This includes interest on instruments that fail the solely payments of principal and interest ('SPPI') test, see (d) below.

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

(c) Valuation of financial instruments

All financial instruments are initially recognised at fair value. Fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. The fair value of a financial instrument on initial recognition is generally its transaction price (that is, the fair value of the consideration given or received). However, if there is a difference between the transaction price and the fair value of financial instruments whose fair value is based on a quoted price in an active market or a valuation technique that uses only data from observable markets, HSBC recognises the difference as a trading gain or loss at inception (a 'day 1 gain or loss'). In all other cases, the entire day 1 gain or loss is deferred and recognised in the income statement over the life of the transaction until the transaction matures, is closed out, the valuation inputs become observable or HSBC enters into an offsetting transaction.

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

Critical accounting estimates and judgements

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

(d) Financial instruments measured at amortised cost

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

HSBC may commit to underwriting loans on fixed contractual terms for specified periods of time. When the loan arising from the lending commitment is expected to be held for trading, the commitment to lend is recorded as a derivative. When HSBC intends to hold the loan, the loan commitment is included in the impairment calculations set out below.

Non-trading reverse repurchase, repurchase and similar agreements

When debt securities are sold subject to a commitment to repurchase them at a predetermined price ('repos'), they remain on the balance sheet and a liability is recorded in respect of the consideration received. Securities purchased under commitments to resell ('reverse repos') are not recognised on the balance sheet and an asset is recorded in respect of the initial consideration paid. Non-trading repos and reverse repos are measured at amortised cost. The difference between the sale and repurchase price or between the purchase and resale price is treated as interest and recognised in net interest income over the life of the agreement.

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

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

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

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

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

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

Financial instruments, other than those held for trading, are classified in this category if they meet one or more of the criteria set out below and are so designated irrevocably at inception:

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

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

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

- Long-term debt issues: The interest and/or foreign exchange exposure on certain fixed-rate debt securities issued has been matched with the interest and/or foreign exchange exposure on certain swaps as part of a documented risk management strategy.
- Financial assets and financial liabilities under unit-linked and non-linked investment contracts: a contract under which HSBC does not accept significant insurance risk from another party is not classified as an insurance contract, other than investment contracts with discretionary participation features ('DPF'), but is accounted for as a financial liability. Customer liabilities under linked and certain non-linked investment contracts issued by insurance subsidiaries are determined based on the fair value of the assets held in the linked funds. If no fair value designation was made for the related assets, at least some of the assets would otherwise be measured at either fair value through other comprehensive income or amortised cost. The related financial assets and liabilities are managed and reported to management on a fair value basis. Designation at fair value of the financial assets and related liabilities allows changes in fair values to be recorded in the income statement and presented in the same line.

(h) Derivatives

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

Where the derivatives are managed with debt securities issued by HSBC that are designated at fair value, the contractual interest is shown in 'Interest expense' together with the interest payable on the issued debt.

Hedge accounting

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

Fair value hedge

Fair value hedge accounting does not change the recording of gains and losses on derivatives and other hedging instruments, but results in recognising changes in the fair value of the hedged assets or liabilities attributable to the hedged risk that would not otherwise be recognised in the income statement. If a hedge relationship no longer meets the criteria for hedge accounting, hedge accounting is discontinued; the cumulative adjustment to the carrying amount of the hedged item is amortised to the income statement on a recalculated effective interest rate, unless the hedged item has been derecognised, in which case it is recognised in the income statement immediately.

Cash flow hedge

The effective portion of gains and losses on hedging instruments is recognised in other comprehensive income; the ineffective portion of the change in fair value of derivative hedging instruments that are part of a cash flow hedge relationship is recognised immediately in the income statement within 'Net income from financial instruments held for trading or managed on a fair value basis'. The accumulated gains and losses recognised in other comprehensive income are reclassified to the income statement in the same periods in which the hedged item affects profit or loss. When a hedge relationship is discontinued, or partially discontinued, any cumulative gain or loss recognised in other comprehensive income remains in equity until the forecast transaction is recognised in the income statement. When a forecast transaction is no longer expected to occur, the cumulative gain or loss previously recognised in other comprehensive income is immediately reclassified to the income statement.

Net investment hedge

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

Derivatives that do not qualify for hedge accounting

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

Critical accounting estimates and judgements

As a result of the request received by the Financial Stability Board from the G20, a fundamental review and reform of the major interest rate benchmarks is under way across the world's largest financial markets. The process of replacing existing benchmark interbank offered rates ('Ibors') with alternative risk-free rates ('RFRs') is at different stages, and is progressing at different speeds, across several major jurisdictions. There is therefore uncertainty as to the timing and the methods of transition for many financial products affected by these changes, and whether some existing benchmarks will continue to be supported in some way.

As a result of these developments, significant accounting judgement is involved in determining whether certain hedge accounting relationships that hedge the variability of cash flows and interest rate risk due to changes in Ibors continue to qualify for hedge accounting as at 31 December 2018. Management's judgement is that those existing hedge accounting relationships continue to be supported at the 2018 year-end. Even though there are plans to replace those rates with economically similar rates based on new RFRs over the next few years, there is widespread continued reliance on Ibors in market pricing structures for long-term products with maturities over the hedged horizons that extend beyond the timescales for replacing Ibors. In addition there is a current absence of term structures on the new RFRs. This judgement will be kept under review in future as markets based on the new RFRs develop, taking into consideration any specific accounting guidance that may be developed to deal with these unusual circumstances. The IASB has commenced the due process for providing clarification on how the guidance for hedge accounting in IAS 39 'Financial Instruments: Recognition and Measurement' and IFRS 9: 'Financial Instruments' should be applied in these circumstances, which were not contemplated when the standards were published.

(i) Impairment of amortised cost and FVOCI financial assets

Expected credit losses ('ECL') are recognised for loans and advances to banks and customers, non-trading reverse repurchase agreements, other financial assets held at amortised cost, debt instruments measured at FVOCI, and certain loan commitments and financial guarantee contracts. At initial recognition, allowance (or provision in the case of some loan commitments and financial guarantees) is required for ECL resulting from default events that are possible within the next 12 months, or less, where the remaining life is less than 12 months ('12-month ECL'). In the event of a significant increase in credit risk, allowance (or provision) is required for ECL resulting from all possible default events over the expected life of the financial instrument ('lifetime ECL'). Financial assets where 12-month ECL is recognised are considered to be 'stage 1'; financial assets that are considered to have experienced a significant increase in credit risk are in 'stage 2'; and financial assets for which there is objective evidence of impairment so are considered to be in default or otherwise credit impaired are in 'stage 3'. Purchased or originated credit-impaired financial assets ('POCI') are treated differently, as set out below.

Credit impaired (stage 3)

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

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

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

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

Write-off

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

Renegotiation

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

A loan that is renegotiated is derecognised if the existing agreement is cancelled and a new agreement is made on substantially different terms, or if the terms of an existing agreement are modified such that the renegotiated loan is a substantially different financial instrument. Any new loans that arise following derecognition events in these circumstances are considered to be POCI and will continue to be disclosed as renegotiated loans.

Other than originated credit-impaired loans, all other modified loans could be transferred out of stage 3 if they no longer exhibit any evidence of being credit impaired and, in the case of renegotiated loans, there is sufficient evidence to demonstrate a significant reduction in the risk of non-payment of future cash flows over the minimum observation period, and there are no other indicators of impairment. These loans could be transferred to stage 1 or 2 based on the mechanism as described below by comparing the risk of a default occurring at the reporting date (based on the modified contractual terms) and the risk of a default occurring at initial recognition (based on the original, unmodified contractual terms). Any amount written off as a result of the modification of contractual terms would not be reversed.

Loan modifications that are not credit impaired

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

Significant increase in credit risk (stage 2)

An assessment of whether credit risk has increased significantly since initial recognition is performed at each reporting period by considering the change in the risk of default occurring over the remaining life of the financial instrument. The assessment explicitly or implicitly compares the risk of default occurring at the reporting date compared with that at initial recognition, taking into account reasonable and supportable information, including information about past events, current conditions and future economic conditions. The assessment is unbiased, probability-weighted, and to the extent relevant, uses forward-looking information consistent with that used in the measurement of ECL. The analysis of credit risk is multifactor. The determination of whether a specific factor is relevant and its weight compared with other factors depends on the type of product, the characteristics of the financial instrument and the borrower, and the geographical region. Therefore, it is not possible to provide a single set of criteria that will determine what is considered to be a significant increase in credit risk, and these criteria will differ for different types of lending, particularly between retail and wholesale. However, unless identified at an earlier stage, all financial assets are deemed to have suffered a significant increase in credit risk when 30 days past due. In addition, wholesale loans that are individually assessed, typically corporate and commercial customers, and included on a watch or worry list, are included in stage 2.

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

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

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

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

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

Further information about the 23-grade scale used for CRR can be found on page 80.

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

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

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

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

Purchased or originated credit impaired

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

Movement between stages

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

Measurement of ECL

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

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

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

The EAD represents the expected balance at default, taking into account the repayment of principal and interest from the balance sheet date to the default event together with any expected drawdowns of committed facilities. The LGD represents expected losses on the EAD given the event of default, taking into account, among other attributes, the mitigating effect of collateral value at the time it is expected to be realised and the time value of money.

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

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

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

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

Period over which ECL is measured

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

Forward-looking economic inputs

HSBC will in general apply three forward-looking global economic scenarios determined with reference to external forecast distributions representative of our view of forecast economic conditions, the consensus economic scenario approach. This approach is considered sufficient to calculate unbiased expected loss in most economic environments. They represent a most likely outcome (the Central scenario) and two, less likely, outer scenarios referred to as the Upside and Downside scenarios. The Central scenario is the basis for the annual operating planning process and, with regulatory modifications, will also be used in enterprise-wide stress tests. The Upside and Downside scenarios are constructed following a standard process supported by a scenario narrative reflecting the Group's current top and emerging risks and by consulting external and internal subject matter experts. The relationship between the outer scenarios and Central scenario will generally be fixed with the Central scenario being assigned a weighting of 80% and the Upside and Downside scenarios 10% each, with the difference between the Central and outer scenarios in terms of economic severity being informed by the spread of external forecast distributions among professional industry forecasts. The outer scenarios are economically plausible, internally consistent states of the world and will not necessarily be as severe as scenarios used in stress testing. The period of forecasts is five years for the Central scenario. Upside and Downside scenarios use distributional forecasts for the first two years, after which they converge to the Central forecasts. The spread between the Central and outer scenarios is grounded on consensus distributions of projected gross domestic product of the following economies: UK, France, Hong Kong, mainland China, US and Canada. The economic factors include, but are not limited to, gross domestic product, unemployment, interest rates, inflation and commercial property prices across all the countries and territories in which HSBC operates.

In general, the consequences of the assessment of credit risk and the resulting ECL outputs will be probability-weighted using the standard probability weights. This probability weighting may be applied directly or the effect of the probability weighting determined on a periodic basis, at least annually, and then applied as an adjustment to the outcomes resulting from the central economic forecast. The central economic forecast is updated quarterly.

HSBC recognises that the consensus economic scenario approach using three scenarios will be insufficient in certain economic environments. Additional analysis may be requested at management's discretion, including the production of extra scenarios. If conditions warrant, this could result in alternative scenarios and probability weightings being applied in arriving at the ECL.

Critical accounting estimates and judgements

In determining ECL, management is required to exercise judgement in defining what is considered to be a significant increase in credit risk and in making assumptions and estimates to incorporate relevant information about past events, current conditions and forecasts of economic conditions. Judgement has been applied in determining the lifetime and point of initial recognition of revolving facilities.

The PD, LGD and EAD models, which support these determinations are reviewed regularly in light of differences between loss estimates and actual loss experience, but given that IFRS 9 requirements have only just been applied, there has been little time available to make these comparisons. Therefore, the underlying models and their calibration, including how they react to forward-looking economic conditions, remain subject to review and refinement. This is particularly relevant for lifetime PDs, which have not been previously used in regulatory modelling, and for the incorporation of 'Upside scenarios', that have not generally been subject to experience gained through stress testing.

The exercise of judgement in making estimations requires the use of assumptions that are highly subjective and very sensitive to the risk factors, in particular to changes in economic and credit conditions across a large number of geographical areas. Many of the factors have a high degree of interdependency and there is no single factor to which loan impairment allowances as a whole are sensitive. The sections marked as audited on pages 94 to 101, 'Measurement uncertainty and sensitivity analysis of ECL estimates,' set out the assumptions underlying the Central scenario and information about how scenarios are developed in relation to the Group's top and emerging risks and its judgements, informed by consensus forecasts of professional industry forecasters. The sensitivity of ECL to different economic scenarios is illustrated by recalculating the ECL for selected portfolios as if 100% weighting had been assigned to each scenario.

(j) Insurance contracts

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

Net insurance premium income

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

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

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

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

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

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

Liabilities under insurance contracts

Liabilities under non-linked life insurance contracts are calculated by each life insurance operation based on local actuarial principles. Liabilities under unit-linked life insurance contracts are at least equivalent to the surrender or transfer value, which is calculated by reference to the value of the relevant underlying funds or indices.

Future profit participation on insurance contracts with DPF

Where contracts provide discretionary profit participation benefits to policyholders, liabilities for these contracts include provisions for the future discretionary benefits to policyholders. These provisions reflect the actual performance of the investment portfolio to date and management's expectation of the future performance of the assets backing the contracts, as well as other experience factors such as mortality, lapses and operational efficiency, where appropriate. The benefits to policyholders may be determined by the contractual terms, regulation, or past distribution policy.

Investment contracts with DPF

While investment contracts with DPF are financial instruments, they continue to be treated as insurance contracts as required by IFRS 4. The Group therefore recognises the premiums for these contracts as revenue and recognises as an expense the resulting increase in the carrying amount of the liability.

In the case of net unrealised investment gains on these contracts, whose discretionary benefits principally reflect the actual performance of the investment portfolio, the corresponding increase in the liabilities is recognised in either the income statement or other comprehensive income, following the treatment of the unrealised gains on the relevant assets. In the case of net unrealised losses, a deferred participating asset is recognised only to the extent that its recoverability is highly probable. Movements in the liabilities arising from realised gains and losses on relevant assets are recognised in the income statement.

Present value of in-force long-term insurance business

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

(k) Employee compensation and benefits

Share-based payments

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

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

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

Post-employment benefit plans

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

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

Defined benefit pension obligations are calculated using the projected unit credit method. The net charge to the income statement mainly comprises the service cost and the net interest on the net defined benefit asset or liability, and is presented in operating expenses.

Remeasurements of the net defined benefit asset or liability, which comprise actuarial gains and losses, return on plan assets excluding interest and the effect of the asset ceiling (if any, excluding interest), are recognised immediately in other comprehensive income. The net defined benefit asset or liability represents the present value of defined benefit obligations reduced by the fair value of plan assets, after applying the asset ceiling test, where the net defined benefit surplus is limited to the present value of available refunds and reductions in future contributions to the plan.

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

(l) Tax

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

Current tax is the tax expected to be payable on the taxable profit for the year and on any adjustment to tax payable in respect of previous years. HSBC provides for potential current tax liabilities that may arise on the basis of the amounts expected to be paid to the tax authorities.

Deferred tax is recognised on temporary differences between the carrying amounts of assets and liabilities in the balance sheet, and the amounts attributed to such assets and liabilities for tax purposes. Deferred tax is calculated using the tax rates expected to apply in the periods in which the assets will be realised or the liabilities settled.

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

Critical accounting estimates and judgements

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

(m) Provisions, contingent liabilities and guarantees

Provisions

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

Critical accounting estimates and judgements

Judgement is involved in determining whether a present obligation exists and in estimating the probability, timing and amount of any outflows. Professional expert advice is taken on the assessment of litigation, property (including onerous contracts) and similar obligations. Provisions for legal proceedings and regulatory matters typically require a higher degree of judgement than other types of provisions. When matters are at an early stage, accounting judgements can be difficult because of the high degree of uncertainty associated with determining whether a present obligation exists, and estimating the probability and amount of any outflows that may arise. As matters progress, management and legal advisers evaluate on an ongoing basis whether provisions should be recognised, revising previous judgements and estimates as appropriate. At more advanced stages, it is typically easier to make judgements and estimates around a better defined set of possible outcomes. However, the amount provisioned can remain very sensitive to the assumptions used. There could be a wide range of possible outcomes for any pending legal proceedings, investigations or inquiries. As a result, it is often not practicable to quantify a range of possible outcomes for individual matters. It is also not practicable to meaningfully quantify ranges of potential outcomes in aggregate for these types of provisions because of the diverse nature and circumstances of such matters and the wide range of uncertainties involved. Provisions for customer remediation also require significant levels of estimation and judgement. The amounts of provisions recognised depend on a number of different assumptions, such as the volume of inbound complaints, the projected period of inbound complaint volumes, the decay rate of complaint volumes, the population identified as systemically mis-sold and the number of policies per customer complaint.

Contingent liabilities, contractual commitments and guarantees

Contingent liabilities

Contingent liabilities, which include certain guarantees and letters of credit pledged as collateral security, and contingent liabilities related to legal proceedings or regulatory matters, are not recognised in the financial statements but are disclosed unless the probability of settlement is remote.

Financial guarantee contracts

Liabilities under financial guarantee contracts that are not classified as insurance contracts are recorded initially at their fair value, which is generally the fee received or present value of the fee receivable.

HSBC Holdings has issued financial guarantees and similar contracts to other Group entities. HSBC elects to account for certain guarantees as insurance contracts in HSBC Holdings' financial statements, in which case they are measured and recognised as insurance liabilities. This election is made on a contract-by-contract basis, and is irrevocable.

(n) Accounting policies applied to financial instruments prior to 1 January 2018

Financial instruments measured at amortised cost

Loans and advances to banks and customers, held-to-maturity investments and most financial liabilities are measured at amortised cost. The carrying value of these financial assets at initial recognition includes any directly attributable transactions costs. If the initial fair value is lower than the cash amount advanced, such as in the case of some leveraged finance and syndicated lending activities, the difference is deferred and recognised over the life of the loan (as described in sub-section (c) above) through the recognition of interest income, unless the loan becomes impaired.

HSBC may commit to underwriting loans on fixed contractual terms for specified periods of time. When the loan arising from the lending commitment is expected to be held for trading, the commitment to lend is recorded as a derivative. When HSBC intends to hold the loan, a provision on the loan commitment is only recorded where it is probable that HSBC will incur a loss.

Impairment of loans and advances

Losses for impaired loans are recognised when there is objective evidence that impairment of a loan or portfolio of loans has occurred. Losses that may arise from future events are not recognised.

Individually assessed loans and advances

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

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

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

Impairment losses are calculated by discounting the expected future cash flows of a loan, which include expected future receipts of contractual interest, at the loan's original effective interest rate or an approximation thereof, and comparing the resultant present value with the loan's current carrying amount.

Collectively assessed loans and advances

Impairment is assessed collectively to cover losses that have been incurred but have not yet been identified on loans subject to individual assessment or for homogeneous groups of loans that are not considered individually significant, which are generally retail lending portfolios.

Incurred but not yet identified impairment

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

Homogeneous groups of loans and advances

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

- When appropriate empirical information is available, HSBC utilises roll-rate methodology, which employs statistical analyses of historical data and experience of delinquency and default to reliably estimate the amount of the loans that will eventually be written off as a result of events occurring before the balance sheet date. Individual loans are grouped using ranges of past due days, and statistical estimates are made of the likelihood that loans in each range will progress through the various stages of delinquency and become irrecoverable. Additionally, individual loans are segmented based on their credit characteristics, such as industry sector, loan grade or product. In applying this methodology, adjustments are made to estimate the periods of time between a loss event occurring, for example because of a missed payment, and its confirmation through write-off (known as the loss identification period). Current economic conditions are also evaluated when calculating the appropriate level of allowance required to cover inherent loss. In certain highly developed markets, models also take into account behavioural and account management trends as revealed in, for example bankruptcy and rescheduling statistics.
- When the portfolio size is small or when information is insufficient or not reliable enough to adopt a roll-rate methodology, HSBC adopts a basic formulaic approach based on historical loss rate experience, or a discounted cash flow model. Where a basic formulaic approach is undertaken, the period between a loss event occurring and its identification is estimated by local management, and is typically between six and 12 months.

Write-off of loans and advances

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

Reversals of impairment

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

Assets acquired in exchange for loans

When non-financial assets acquired in exchange for loans as part of an orderly realisation are held for sale, these assets are recorded as 'Assets held for sale'.

Renegotiated loans

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

A loan that is renegotiated is derecognised if the existing agreement is cancelled and a new agreement made on substantially different terms or if the terms of an existing agreement are modified such that the renegotiated loan is substantially a different financial instrument. Any new loans that arise following derecognition events will continue to be disclosed as renegotiated loans and are assessed for impairment as above.

Non-trading reverse repurchase, repurchase and similar agreements

When debt securities are sold subject to a commitment to repurchase them at a predetermined price ('repos'), they remain on the balance sheet and a liability is recorded in respect of the consideration received. Securities purchased under commitments to resell ('reverse repos') are not recognised on the balance sheet and an asset is recorded in respect of the initial consideration paid. Non-trading repos and reverse repos are measured at amortised cost. The difference between the sale and repurchase price, or between the purchase and resale price is treated as interest and recognised in net interest income over the life of the agreement.

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

Financial instruments measured at fair value

Available-for-sale financial assets

Available-for-sale financial assets are recognised on the trade date when HSBC enters into contractual arrangements to purchase them, and are normally derecognised when they are either sold or redeemed. They are subsequently remeasured at fair value, and changes therein are recognised in other comprehensive income until the assets are either sold or become impaired. Upon disposal, the cumulative gains or losses in other comprehensive income are recognised in the income statement as 'Gains less losses from financial investments'.

Impairment of available-for-sale financial assets

Available-for-sale financial assets are assessed at each balance sheet date for objective evidence of impairment. Impairment losses are recognised in the income statement within 'Loan impairment charges and other credit risk provisions' for debt instruments and within 'Gains less losses from financial investments' for equities.

Available-for-sale debt securities

In assessing objective evidence of impairment at the reporting date, HSBC considers all available evidence, including observable data or information about events specifically relating to the securities which may result in a shortfall in the recovery of future cash flows. A subsequent decline in the fair value of the instrument is recognised in the income statement when there is objective evidence of impairment as a result of decreases in the estimated future cash flows. Where there is no further objective evidence of impairment, the decline in the fair value of the financial asset is recognised in other comprehensive income. If the fair value of a debt security increases in a subsequent period, and the increase can be objectively related to an event occurring after the impairment loss was recognised in the income statement, or the instrument is no longer impaired, the impairment loss is reversed through the income statement.

Available-for-sale equity securities

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

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

Financial instruments designated at fair value

Financial instruments, other than those held for trading, are classified in this category if they meet one or more of the criteria set out below, and are so designated irrevocably at inception:

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

Designated financial assets are recognised when HSBC enters into contracts with counterparties, which is generally on trade date, and are normally derecognised when the rights to the cash flows expire or are transferred. Designated financial liabilities are recognised when HSBC enters into contracts with counterparties, which is generally on settlement date, and are normally derecognised when extinguished. Subsequent changes in fair values are recognised in the income statement in 'Net income/(expense) from financial instruments designated at fair value'. Under this criterion, the main classes of financial instruments designated by HSBC are:

Long-term debt issues

The interest and/or foreign exchange exposure on certain fixed rate debt securities issued has been matched with the interest and/or foreign exchange exposure on certain swaps as part of a documented risk management strategy.

Financial assets and financial liabilities under unit-linked and non-linked investment contracts

A contract under which HSBC does not accept significant insurance risk from another party is not classified as an insurance contract, other than investment contracts with discretionary participation features ('DPF'), but is accounted for as a financial liability. See Note 1.2(j) for investment contracts with DPF and contracts where HSBC accepts significant insurance risk. Customer liabilities under linked and certain non-linked investment contracts issued by insurance subsidiaries and the corresponding financial assets are designated at fair value. Liabilities are at least equivalent to the surrender or transfer value, which is calculated by reference to the value of the relevant underlying funds or indices. Premiums receivable and amounts withdrawn are accounted for as increases or decreases in the liability recorded in respect of investment contracts. The incremental costs directly related to the acquisition of new investment contracts or renewing existing investment contracts are deferred and amortised over the period during which the investment management services are provided.

2 Net fee income

Net fee income by global business

	2018						2017	2016
	Retail Banking and Wealth Management	**Commercial Banking**	**Global Banking and Markets**	**Global Private Banking**	**Corporate Centre**	**Total**	Total	Total
	$m	**$m**	**$m**	**$m**	**$m**	**$m**	$m	$m
Funds under management	**1,383**	**134**	**421**	**284**	**(1)**	**2,221**	2,188	2,076
Account services	**991**	**748**	**332**	**106**	**–**	**2,177**	2,244	2,417
Cards	**1,575**	**370**	**16**	**–**	**(5)**	**1,956**	1,994	1,970
Credit facilities	**71**	**824**	**813**	**16**	**(1)**	**1,723**	1,718	1,795
Broking income	**494**	**44**	**533**	**139**	**–**	**1,210**	1,191	1,060
Unit trusts	**937**	**25**	**3**	**73**	**–**	**1,038**	1,010	863
Remittances	**96**	**357**	**320**	**5**	**–**	**778**	759	766
Global custody	**100**	**18**	**584**	**35**	**(1)**	**736**	692	662
Underwriting	**1**	**10**	**708**	**4**	**–**	**723**	829	705
Imports/exports	**3**	**532**	**176**	**2**	**(4)**	**709**	736	820
Insurance agency commission	**354**	**23**	**1**	**27**	**(1)**	**404**	410	419
Other	**1,110**	**858**	**2,362**	**186**	**(2,147)**	**2,369**	2,082	2,116
Fee income	**7,115**	**3,943**	**6,269**	**877**	**(2,160)**	**16,044**	15,853	15,669
Less: fee expense	**(1,917)**	**(388)**	**(3,040)**	**(135)**	**2,056**	**(3,424)**	(3,042)	(2,892)
Net Fee income	**5,198**	**3,555**	**3,229**	**742**	**(104)**	**12,620**	12,811	12,777

Net Fee income includes $7,522m of fees earned on financial assets that are not at fair value through profit or loss (other than amounts included in determining the effective interest rate) (2017: $7,577m; 2016: $7,732m), $1,682m of fees payable on financial liabilities that are not at fair value through profit of loss (other than amounts included in determining the effective interest rate) (2017: $1,475m; 2016: $1,214m), $3,165m of fees earned on trust and other fiduciary activities (2017: $3,088m; 2016: $2,926m), and $175m of fees payable relating to trust and other fiduciary activities (2017: $134m; 2016: $129m). Comparatives for fees earned on trust and other fiduciary activities have been restated to align with current year treatment.

3 Net income/(expense) from financial instruments measured at fair value through profit or loss

	Footnotes	2018 $m	2017 $m	2016 $m
Net income/(expense) arising on:				
Net trading activities	1	**6,982**	8,236	7,473
Other instruments managed on a fair value basis	1	**2,549**	190	48
Net income from financial instruments held for trading or managed on a fair value basis	2	**9,531**	8,426	7,521
Financial assets held to meet liabilities under insurance and investment contracts		**(1,585)**	3,211	1,480
Liabilities to customers under investment contracts		**97**	(375)	(218)
Net income from assets and liabilities of insurance businesses, including related derivatives, measured at fair value through profit or loss		**(1,488)**	2,836	1,262
Changes in own credit spread on long-term debt	3	**—**	—	(1,793)
Derivatives managed in conjunction with HSBC's issued debt securities		**(626)**	(343)	(1,604)
Other changes in fair value		**529**	498	1,400
Changes in fair value of long-term debt and related derivatives	2	**(97)**	155	(1,997)
Changes in fair value of other financial instruments mandatorily measured at fair value through profit or loss		**695**	N/A	N/A
Year ended 31 Dec		**8,641**	11,417	6,786

1 *At 1 January 2018 we changed our accounting policy for financial liabilities that contain both deposit and derivative components. As a result, net income from these instruments is reported in 'Other instruments managed on a fair value basis' rather than 'Trading activities'. Comparative periods have not been re-presented. Refer to Note 1 'Basis of preparation and accounting policies' for further details.*
2 *Prior to 2018, foreign exchange exposure on some financial instruments designated at fair value was presented in the same line in the income statement as the underlying fair value movement on these instruments. In 2018, we grouped the presentation of the entire effect of foreign exchange exposure in profit or loss and presented it within 'Net trading activities' in 'Net income from financial instruments held for trading or managed on a fair value basis'. Comparative data has been re-presented. There is no net impact on Total operating income and the impact on 'Changes in fair value of long-term debt and related derivatives' is $(517)m in 2017 and $1,978m in 2016.*
3 *From 1 January 2017, HSBC Holdings plc adopted, in its consolidated financial statements, the requirements of IFRS 9 'Financial Instruments' relating to the presentation of gains and losses on financial liabilities designated at fair value. As a result, changes in fair value attributable to changes in own credit risk are presented in other comprehensive income with the remaining effect presented in profit or loss.*

HSBC Holdings

	2018 $m	2017 $m	2016 $m
Net income/(expense) arising on:			
- trading activities	**(176)**	(392)	119
- other instruments managed at on a fair value basis	**421**	211	—
Net income from financial instruments held for trading or managed on a fair value basis	**245**	(181)	119
– derivatives managed in conjunction with HSBC Holdings issued debt securities	**(337)**	292	(642)
– other changes in fair value	**260**	(189)	593
Changes in fair value of long-term debt and related derivatives	**(77)**	103	(49)
Changes in fair value of other financial instruments mandatorily measured at fair value through profit or loss	**43**	—	—
Year ended 31 Dec	**211**	(78)	70

4 Insurance business

Net insurance premium income

	Non-linked insurance $m	Linked life insurance $m	Investment contracts with DPF[1] $m	Total $m
Gross insurance premium income	**8,616**	**422**	**2,300**	**11,338**
Reinsurers' share of gross insurance premium income	**(672)**	**(7)**	**—**	**(679)**
Year ended 31 Dec 2018	**7,944**	**415**	**2,300**	**10,659**
Gross insurance premium income	8,424	351	2,027	10,802
Reinsurers' share of gross insurance premium income	(1,016)	(7)	—	(1,023)
Year ended 31 Dec 2017	7,408	344	2,027	9,779
Gross insurance premium income	8,036	675	1,877	10,588
Reinsurers' share of gross insurance premium income	(629)	(8)	—	(637)
Year ended 31 Dec 2016	7,407	667	1,877	9,951

1 *Discretionary participation features.*

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

	Non-linked insurance	Linked life insurance	Investment contracts with DPF[1]	Total
	$m	$m	$m	$m
Gross claims and benefits paid and movement in liabilities	**8,943**	**(446)**	**1,724**	**10,221**
– claims, benefits and surrenders paid	**3,852**	**1,088**	**1,869**	**6,809**
– movement in liabilities	**5,091**	**(1,534)**	**(145)**	**3,412**
Reinsurers' share of claims and benefits paid and movement in liabilities	**(605)**	**191**	**—**	**(414)**
– claims, benefits and surrenders paid	**(311)**	**(181)**	**—**	**(492)**
– movement in liabilities	**(294)**	**372**	**—**	**78**
Year ended 31 Dec 2018	**8,338**	**(255)**	**1,724**	**9,807**
Gross claims and benefits paid and movement in liabilities	8,894	1,413	2,901	13,208
– claims, benefits and surrenders paid	2,883	1,044	2,002	5,929
– movement in liabilities	6,011	369	899	7,279
Reinsurers' share of claims and benefits paid and movement in liabilities	(942)	65	—	(877)
– claims, benefits and surrenders paid	(297)	(223)	—	(520)
– movement in liabilities	(645)	288	—	(357)
Year ended 31 Dec 2017	7,952	1,478	2,901	12,331
Gross claims and benefits paid and movement in liabilities	8,778	1,321	2,409	12,508
– claims, benefits and surrenders paid	2,828	749	2,017	5,594
– movement in liabilities	5,950	572	392	6,914
Reinsurers' share of claims and benefits paid and movement in liabilities	(560)	(78)	—	(638)
– claims, benefits and surrenders paid	(112)	(14)	—	(126)
– movement in liabilities	(448)	(64)	—	(512)
Year ended 31 Dec 2016	8,218	1,243	2,409	11,870

1 *Discretionary participation features.*

Liabilities under insurance contracts

	Footnotes	Non-linked insurance	Linked life insurance	Investment contracts with DPF[1]	Total
		$m	$m	$m	$m
Gross liabilities under insurance contracts at 1 Jan 2018		**52,112**	**7,548**	**26,007**	**85,667**
Impact on transition to IFRS 9		**(69)**	**—**	**—**	**(69)**
Claims and benefits paid		**(3,852)**	**(1,088)**	**(1,869)**	**(6,809)**
Increase in liabilities to policyholders		**8,943**	**(446)**	**1,724**	**10,221**
Exchange differences and other movements	2	**149**	**(225)**	**(1,604)**	**(1,680)**
Gross liabilities under insurance contracts at 31 Dec 2018		**57,283**	**5,789**	**24,258**	**87,330**
Reinsurers' share of liabilities under insurance contracts		**(2,438)**	**(68)**	**—**	**(2,506)**
Net liabilities under insurance contracts at 31 Dec 2018		**54,845**	**5,721**	**24,258**	**84,824**
Gross liabilities under insurance contracts at 1 Jan 2017		46,043	6,949	22,281	75,273
Claims and benefits paid		(2,883)	(1,044)	(2,002)	(5,929)
Increase in liabilities to policyholders		8,894	1,413	2,901	13,208
Exchange differences and other movements	2	58	230	2,827	3,115
Gross liabilities under insurance contracts at 31 Dec 2017		52,112	7,548	26,007	85,667
Reinsurers' share of liabilities under insurance contracts		(2,203)	(268)	—	(2,471)
Net liabilities under insurance contracts at 31 Dec 2017		49,909	7,280	26,007	83,196

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

The key factors contributing to the movement in liabilities to policyholders included movements in the market value of assets supporting policyholder liabilities, death claims, surrenders, lapses, liabilities to policyholders created at the initial inception of the policies, the declaration of bonuses and other amounts attributable to policyholders.

5 Operating profit

Operating profit is stated after the following items:

	Footnotes	2018 $m	2017 $m	2016 $m
Income				
Interest recognised on impaired financial assets		**263**	261	574
Interest recognised on financial assets measured at amortised cost	1	**42,130**	N/A	N/A
Interest recognised on financial assets measured at fair value through other comprehensive income	1	**7,020**	N/A	N/A
Expense				
Interest on financial instruments, excluding interest on financial liabilities held for trading or designated or otherwise mandatorily measured at fair value		**(16,972)**	(10,912)	(11,858)
Payments under lease and sublease agreements		**(879)**	(936)	(969)
– minimum lease payments		**(862)**	(911)	(945)
– contingent rents and sublease payments		**(17)**	(25)	(24)
UK bank levy		**(964)**	(916)	(922)
Restructuring provisions		**(73)**	(204)	(415)
Gains/(losses)				
Impairment of available-for-sale equity securities		**N/A**	(98)	(36)
Gains/(losses) recognised on assets held for sale		**27**	195	(206)
Loss on net monetary position		**(136)**	—	—
Gain/(loss) on disposal of operations in Brazil		**(15)**	19	(1,743)
Change in expected credit loss charges and other credit impairment charges		**(1,767)**	N/A	N/A
– loans and advances to banks and customers		**(1,896)**	N/A	N/A
– loans commitments and guarantees		**3**	N/A	N/A
– other financial assets		**21**	N/A	N/A
– debt instruments measured at fair value though other comprehensive income		**105**	N/A	N/A
Loan impairment charges and other credit risk provisions		**N/A**	(1,769)	(3,400)
– net impairment charge on loans and advances		**N/A**	(1,992)	(3,350)
– release of impairment on available-for-sale debt securities		**N/A**	190	63
– other credit risk provisions		**N/A**	33	(113)

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

	Footnotes	2018 $m	2017 $m	2016 $m
External net operating income by country/territory	2	**53,780**	51,445	47,966
– UK		**10,340**	11,057	9,495
– Hong Kong		**17,162**	14,992	12,864
– US		**4,379**	4,573	5,094
– France		**1,898**	2,203	2,571
– other countries		**20,001**	18,620	17,942

1 *Interest revenue calculated using the effective interest method comprises interest recognised on financial assets measured at either amortised cost or fair value through other comprehensive income.*
2 *Net operating income before change in expected credit losses and other credit impairment charges/Loan impairment charges and other credit risk provisions, also referred to as revenue.*

6 Employee compensation and benefits

	2018 $m	2017 $m	2016 $m
Wages and salaries	**14,751**	15,227	15,735
Social security costs	**1,490**	1,419	1,312
Post-employment benefits	**1,132**	669	1,042
Year ended 31 Dec	**17,373**	17,315	18,089

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

	Footnotes	2018	2017	2016
Retail Banking and Wealth Management		**135,239**	134,021	137,234
Commercial Banking		**48,757**	46,716	45,912
Global Banking and Markets		**48,990**	49,100	47,623
Global Private Banking		**8,206**	7,817	8,322
Corporate Centre	1	**1,658**	7,134	7,842
Year ended 31 Dec		**242,850**	244,788	246,933

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

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

	2018	2017	2016
Europe	**67,007**	70,301	71,196
Asia	**127,992**	125,004	122,282
Middle East and North Africa	**9,798**	10,408	12,021
North America	**17,350**	18,610	20,353
Latin America	**20,703**	20,465	21,081
Year ended 31 Dec	**242,850**	244,788	246,933

Reconciliation of total incentive awards granted to income statement charge

	2018	2017	2016
	$m	$m	$m
Total incentive awards approved for the current year	**3,473**	3,303	3,035
Less: deferred bonuses awarded, expected to be recognised in future periods	**(351)**	(337)	(323)
Total incentives awarded and recognised in the current year	**3,122**	2,966	2,712
Add: current year charges for deferred bonuses from previous years	**322**	336	371
Other	**(70)**	(78)	(128)
Income statement charge for incentive awards	**3,374**	3,224	2,955

Year in which income statement is expected to reflect deferred bonuses

	Charge recognised			Expected charge	
	2018	2017	2016	2019	2020 and beyond
	$m	$m	$m	$m	$m
Variable compensation from 2018 bonus pool	**150**	—	—	149	202
Variable compensation from 2017 bonus pool	**180**	162	—	60	29
Variable compensation from 2016 bonus pool and earlier	**142**	336	320	111	85
Total	**472**	498	320	320	316
Cash awards	**169**	184	114	102	113
Equity awards	**303**	314	206	218	203

Share-based payments

'Wages and salaries' includes the effect of share-based payments arrangements, of which $450m were equity settled (2017: $500m; 2016: $534m), as follows:

	2018	2017	2016
	$m	$m	$m
Restricted share awards	**499**	520	591
Savings-related and other share award option plans	**23**	26	33
Year ended 31 Dec	**522**	546	624

HSBC share awards

Award	Policy
Deferred share awards (including annual incentive awards, LTI awards delivered in shares) and Group Performance Share Plans ('GPSP')	• An assessment of performance over the relevant period ending on 31 December is used to determine the amount of the award to be granted. • Deferred awards generally require employees to remain in employment over the vesting period and are not subject to performance conditions after the grant date. • Deferred share awards generally vest over a period of three, five or seven years. • Vested shares may be subject to a retention requirement post-vesting. GPSP awards are retained until cessation of employment. • Awards granted from 2010 onwards are subject to a malus provision prior to vesting. • Awards granted to Material Risk Takers from 2015 onwards are subject to clawback post-vesting.
International Employee Share Purchase Plan ('ShareMatch')	• The plan was first introduced in Hong Kong in 2013 and now includes employees based in 27 jurisdictions. • Shares are purchased in the market each quarter up to a maximum value of £750, or the equivalent in local currency. • Matching awards are added at a ratio of one free share for every three purchased. • Matching awards vest subject to continued employment and the retention of the purchased shares for a maximum period of two years and nine months.

Movement on HSBC share awards

	2018 Number (000s)	2017 Number (000s)
Restricted share awards outstanding at 1 Jan	**104,525**	123,166
Additions during the year	**61,569**	62,044
Released in the year	**(67,899)**	(76,051)
Forfeited in the year	**(3,298)**	(4,634)
Restricted share awards outstanding at 31 Dec	**94,897**	104,525
Weighted average fair value of awards granted ($)	**7.66**	7.09

HSBC share option plans

Main plans	Policy
Savings-related share option plans ('Sharesave')	• Two plans: the UK Plan and the International Plan. The last grant of options under the International Plan was in 2012. • From 2014, eligible employees could save up to £500 per month with the option to use the savings to acquire shares. • Exercisable within six months following either the third or fifth anniversary of the commencement of a three-year or five-year contract, respectively. • The exercise price is set at a 20% (2017: 20%) discount to the market value immediately preceding the date of invitation.

Calculation of fair values

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

Movement on HSBC share option plans

	Footnotes	Savings-related share option plans Number (000s)	WAEP[1] £
Outstanding at 1 Jan 2018		**64,670**	**4.49**
Granted during the year	2	**20,501**	**5.45**
Exercised during the year	3	**(23,260)**	**4.14**
Expired during the year		**(3,148)**	**5.20**
Forfeited during the year		**(1,698)**	**4.53**
Outstanding at 31 Dec 2018		**57,065**	**4.92**
Of which exercisable		**3,513**	**4.09**
Weighted average remaining contractual life (years)		**2.59**	
Outstanding at 1 Jan 2017		70,027	4.30
Granted during the year	2	10,447	5.96
Exercised during the year	3	(9,503)	4.83
Expired during the year		(3,902)	4.45
Forfeited during the year		(2,399)	4.27
Outstanding at 31 Dec 2017		64,670	4.49
Of which exercisable		1,129	5.00
Weighted average remaining contractual life (years)		2.42	

1 *Weighted average exercise price.*
2 *The weighted average fair value of options granted during the year was $1.40 (2017: $1.29).*
3 *The weighted average share price at the date the options were exercised was $8.28 (2017: $9.93).*

Post-employment benefit plans

The Group operates pension plans throughout the world for its employees. 'Pension risk management' on page 87 contains details of the policies and practices associated with these pension plans. Some are defined benefit plans, of which the largest is the HSBC Bank (UK) Pension Scheme ('the principal plan').

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

The principal plan

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

The investment strategy of the plan is to hold the majority of assets in bonds, with the remainder in a diverse range of investments. It also includes some interest rate swaps to reduce interest rate risk and inflation swaps to reduce inflation risk.

The latest funding valuation of the plan at 31 December 2016 was carried out by Colin G Singer, of Willis Towers Watson Limited, who is a Fellow of the UK Institute and Faculty of Actuaries, using the projected unit credit method. At that date, the market value of the plan's combined assets was £30.2bn ($37.2bn), and this exceeded the value placed on its liabilities on an ongoing basis by £1.3bn ($1.6bn), giving a funding level of 104%. These figures include all sections of the plan and defined contribution assets amounting to £3.1bn ($3.8bn). The main differences between the assumptions used for assessing the defined benefit liabilities for this funding valuation and those used for IAS 19 are more prudent assumptions for discount rate, inflation rate and life expectancy.

Although the plan was in surplus at the valuation date, HSBC continues to make further contributions to the plan to support a lower-risk investment strategy over the longer term. The remaining contributions are £64m ($82m) in 2019, and £160m ($204m) in each of 2020 and 2021.

To meet the requirements of the Banking Reform Act, the main employer of the plan changed from HSBC Bank plc to HSBC UK Bank plc with effect from 1 July 2018, with additional support from HSBC Holdings plc. At the same time, non-ring-fenced entities including HSBC Bank plc exited the section of the plan for ring-fenced entities and joined a newly created section for the future defined benefit and defined contribution pension benefits of their employees. These changes have not materially affected the overall funding position of the plan.

The actuary also assessed the value of the liabilities if the plan were to be stopped and an insurance company asked to secure all future pension payments. This is generally larger than the amount needed on the ongoing basis described above because an insurance company would use more prudent assumptions and include an explicit allowance for the future administrative expenses of the plan. Under this approach, the amount of assets needed was estimated to be £38bn ($47bn) at 31 December 2016.

Guaranteed minimum pension ('GMP') equalisation

On 26 October 2018, the High Court of Justice of England and Wales issued a judgment in a claim between Lloyds Banking Group Pension Trustees Limited as claimant and Lloyds Bank plc and others as defendants regarding the rights of men and women to equal treatment in relation to their benefits from certain pension schemes.

The judgment concluded that the claimant is under a duty to amend the schemes in order to equalise benefits for men and women in relation to GMP benefits. The judgment also provided comments on the method to be adopted in order to equalise benefits, on the period during which a member can claim in respect of previously underpaid benefits, and on what should be done in relation to benefits that have been transferred into, and out of, the relevant schemes.

The issues determined by the judgment arise in relation to many other occupational pension schemes and consequently will result in an increase in the principal plan's liabilities. We have estimated the financial effect of equalising benefits in respect of GMPs, and any potential conversion of GMPs into non-GMP benefits, to be an approximate 0.8% increase in the plan's liabilities, or £177m ($226m) on the IAS19 basis as at 31 December 2018. This has been recognised as a past service cost in profit and loss. The estimate was performed based on Method C2, which compares the accumulated benefits, with interest, payable to a member on their 'own sex' and an 'opposite sex' basis and each year pays the amount necessary to ensure the higher of the two accumulated amounts has been paid.

Income statement charge

	2018	2017	2016
	$m	$m	$m
Defined benefit pension plans	355	100	218
Defined contribution pension plans	756	603	783
Pension plans	**1,111**	703	1,001
Defined benefit and contribution healthcare plans	21	(34)	41
Year ended 31 Dec	**1,132**	669	1,042

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

	Fair value of plan assets	Present value of defined benefit obligations	Effect of limit on plan surpluses	Total
	$m	$m	$m	$m
Defined benefit pension plans	42,799	(36,583)	(35)	6,181
Defined benefit healthcare plans	110	(524)	—	(414)
At 31 Dec 2018	**42,909**	**(37,107)**	**(35)**	**5,767**
Total employee benefit liabilities (within 'Accruals, deferred income and other liabilities')				(2,167)
Total employee benefit assets (within 'Prepayments, accrued income and other assets')				**7,934**
Defined benefit pension plans	47,265	(40,089)	(37)	7,139
Defined benefit healthcare plans	124	(663)	—	(539)
At 31 Dec 2017	47,389	(40,752)	(37)	6,600
Total employee benefit liabilities (within 'Accruals, deferred income and other liabilities')				(2,152)
Total employee benefit assets (within 'Prepayments, accrued income and other assets')				8,752

HSBC Holdings

Employee compensation and benefit expense in respect of HSBC Holdings' employees in 2018 amounted to $37m (2017: $54m). The average number of persons employed during 2018 was 43 (2017: 55). Employees who are members of defined benefit pension plans are principally members of either the HSBC Bank (UK) Pension Scheme or the HSBC International Staff Retirement Benefits Scheme. HSBC Holdings pays contributions to such plans for its own employees in accordance with the schedules of contributions determined by the trustees of the plans and recognises these contributions as an expense as they fall due.

From 1 July 2016 employment costs of most employees are recognised by the ServCo group and the ServCo group started providing services to HSBC Holdings. HSBC Holdings recognised a management charge of $2,428m (2017: $2,240m) for these services, which is included under 'General and administrative expenses'.

Defined benefit pension plans

Net asset/(liability) under defined benefit pension plans

	Fair value of plan assets		Present value of defined benefit obligations		Effect of the asset ceiling		Net defined benefit asset/(liability)	
	Principal plan	Other plans	Principal plan	Other plans	Principal plan	Other plans	Principal plan	Other plans
	$m	$m	$m	$m	$m	$m	$m	$m
At 1 Jan 2018	**38,265**	**9,000**	**(30,126)**	**(9,963)**	**—**	**(37)**	**8,139**	**(1,000)**
Current service cost	**—**	**—**	**(66)**	**(157)**	**—**	**—**	**(66)**	**(157)**
Past service cost and gains/(losses) from settlements	**—**	**—**	**(280)**	**8**	**—**	**—**	**(280)**	**8**
Service cost	**—**	**—**	**(346)**	**(149)**	**—**	**—**	**(346)**	**(149)**
Net interest income/(cost) on the net defined benefit asset/(liability)	**970**	**220**	**(759)**	**(249)**	**—**	**(1)**	**211**	**(30)**
Remeasurement effects recognised in other comprehensive income	**(1,501)**	**(568)**	**1,180**	**413**	**—**	**—**	**(321)**	**(155)**
– return on plan assets (excluding interest income)	**(1,501)**	**(568)**	**—**	**—**	**—**	**—**	**(1,501)**	**(568)**
– actuarial gains/(losses)	**—**	**—**	**1,051**	**505**	**—**	**—**	**1,051**	**505**
– other changes	**—**	**—**	**129**	**(92)**	**—**	**—**	**129**	**(92)**
Exchange differences	**(2,038)**	**(151)**	**1,601**	**86**	**—**	**3**	**(437)**	**(62)**
Contributions by HSBC	**197**	**128**	**—**	**—**	**—**	**—**	**197**	**128**
– normal	**197**	**128**	**—**	**—**	**—**	**—**	**197**	**128**
– special	**—**	**—**	**—**	**—**	**—**	**—**	**—**	**—**
Contributions by employees	**—**	**26**	**—**	**(26)**	**—**	**—**	**—**	**—**
Benefits paid	**(1,138)**	**(538)**	**1,138**	**544**	**—**	**—**	**—**	**6**
Administrative costs and taxes paid by plan	**(51)**	**(22)**	**51**	**22**	**—**	**—**	**—**	**—**
At 31 Dec 2018	**34,704**	**8,095**	**(27,261)**	**(9,322)**	**—**	**(35)**	**7,443**	**(1,262)**
Present value of defined benefit obligation relating to:								
– actives			**(5,337)**	**(4,443)**				
– deferreds			**(8,200)**	**(1,589)**				
– pensioners			**(13,724)**	**(3,290)**				
At 1 Jan 2017	33,442	8,955	(29,279)	(10,468)	—	(24)	4,163	(1,537)
Current service cost	—	—	(65)	(160)	—	—	(65)	(160)
Past service cost and gains/(losses) from settlements	—	(833)	(231)	1,051	—	—	(231)	218
Service cost	—	(833)	(296)	891	—	—	(296)	58
Net interest income/(cost) on the net defined benefit asset/(liability)	864	272	(750)	(300)	—	(1)	114	(29)
Remeasurement effects recognised in other comprehensive income	1,410	784	1,730	(486)	—	(9)	3,140	289
– return on plan assets (excluding interest income)	1,410	784	—	—	—	—	1,410	784
– actuarial gains/(losses)	—	—	954	(491)	—	(9)	954	(500)
– other changes	—	—	776	5	—	—	776	5
Exchange differences	3,292	239	(2,723)	(306)	—	(3)	569	(70)
Contributions by HSBC	449	236	—	—	—	—	449	236
– normal	58	215	—	—	—	—	58	215
– special	391	21	—	—	—	—	391	21
Contributions by employees	—	27	—	(27)	—	—	—	—
Benefits paid	(1,143)	(663)	1,143	716	—	—	—	53
Administrative costs and taxes paid by plan	(49)	(17)	49	17	—	—	—	—
At 31 Dec 2017	38,265	9,000	(30,126)	(9,963)	—	(37)	8,139	(1,000)
Present value of defined benefit obligation relating to:								
– actives			(5,837)	(5,084)				
– deferreds			(8,745)	(1,663)				
– pensioners			(15,544)	(3,216)				

HSBC expects to make $312m of contributions to defined benefit pension plans during 2019. Benefits expected to be paid from the plans to retirees over each of the next five years, and in aggregate for the five years thereafter, are as follows:

Benefits expected to be paid from plans

		2019	2020	2021	2022	2023	2024 - 2028
	Footnotes	$m	$m	$m	$m	$m	$m
The principal plan	*1*	820	856	911	981	1,004	5,248
Other plans	*1*	442	517	522	514	469	2,286

1 *The duration of the defined benefit obligation is 17.0 years for the principal plan under the disclosure assumptions adopted (2017: 17.4 years) and 13.3 years for all other plans combined (2017: 12.9 years).*

Fair value of plan assets by asset classes

	31 Dec 2018				31 Dec 2017			
	Value	**Quoted market price in active market**	**No quoted market price in active market**	**Thereof HSBC[1]**	Value	Quoted market price in active market	No quoted market price in active market	Thereof HSBC[1]
	$m	**$m**	**$m**	**$m**	$m	$m	$m	$m
The principal plan								
Fair value of plan assets	**34,704**	**31,300**	**3,404**	**1,034**	38,265	33,624	4,641	1,006
– equities	**3,675**	**3,675**	**—**	**—**	6,131	5,503	628	—
– bonds	**26,509**	**26,509**	**—**	**—**	26,591	26,591	—	—
– derivatives	**2,030**	**—**	**2,030**	**1,034**	2,398	—	2,398	1,006
– other	**2,490**	**1,116**	**1,374**	**—**	3,145	1,530	1,615	—
Other plans								
Fair value of plan assets	**8,095**	**6,795**	**1,300**	**182**	9,000	7,737	1,263	114
– equities	**1,663**	**742**	**921**	**2**	2,005	1,340	665	—
– bonds	**5,707**	**5,559**	**148**	**7**	5,871	5,714	157	7
– derivatives	**37**	**—**	**37**	**—**	—	39	(39)	—
– other	**688**	**494**	**194**	**173**	1,124	644	480	107

1 *The fair value of plan assets includes derivatives entered into with HSBC Bank plc as detailed in Note 36.*

Post-employment defined benefit plans' principal actuarial financial assumptions

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

Key actuarial assumptions for the principal plan

	Discount rate	**Inflation rate**	**Rate of increase for pensions**	**Rate of pay increase**
	%	**%**	**%**	**%**
UK				
At 31 Dec 2018	**2.80**	**3.40**	**3.10**	**3.65**
At 31 Dec 2017	2.60	3.40	3.10	3.88
At 31 Dec 2016	2.50	3.50	3.20	4.00

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

	Mortality table	**Life expectancy at age 65 for a male member currently:**		**Life expectancy at age 65 for a female member currently:**	
		Aged 65	**Aged 45**	**Aged 65**	**Aged 45**
UK					
At 31 Dec 2018	**SAPS S2[1]**	**21.6**	**22.9**	**24.1**	**25.6**
At 31 Dec 2017	SAPS S2[2]	22.2	23.6	24.4	25.9

1 *Self-administered pension scheme ('SAPS') S2 table (males: 'All pensioners' version; females: 'Normal pensions' version) with a multiplier of 1.05 for male and 1.01 for female pensioners. Improvements are projected in accordance with the continuous mortality investigation ('CMI') core projection model 2016 with a long-term rate of improvement of 1.25% per annum. Separate tables assuming lighter mortality have been applied to higher-paid pensioners.*

2 *Self-administered pension scheme ('SAPS') S2 table (males: 'All pensioners' version; females: 'Normal pensions' version) with a multiplier of 0.98 for both male and female pensioners. Improvements are projected in accordance with the continuous mortality investigation ('CMI') core projection model 2016 with a long-term rate of improvement of 1.25% per annum. Separate tables assuming lighter mortality have been applied to higher-paid pensioners.*

The effect of changes in key assumptions on the principal plan

	Impact on HSBC Bank (UK) Pension Scheme obligation			
	Financial impact of increase		Financial impact of decrease	
	2018	2017	**2018**	2017
	$m	$m	**$m**	$m
Discount rate – increase/decrease of 0.25%	**(1,097)**	(1,246)	**1,170**	1,333
Inflation rate – increase/decrease of 0.25%	**734**	850	**(724)**	(837)
Pension payments and deferred pensions – increase/decrease of 0.25%	**1,172**	1,077	**(1,105)**	(1,021)
Pay – increase/decrease of 0.25%	**55**	62	**(56)**	(61)
Change in mortality – increase of 1 year	**1,494**	1,332	**N/A**	N/A

Directors' emoluments

Details of Directors' emoluments, pensions and their interests are disclosed in the Directors' remuneration report on page 172.

7 Auditors' remuneration

	Footnotes	2018 $m	2017 $m	2016 $m
Audit fees payable to PwC	1	**86.6**	84.8	65.7
Other audit fees payable		**0.9**	1.2	1.6
Year ended 31 Dec		**87.5**	86.0	67.3

Fees payable by HSBC to PwC[6]

	Footnotes	2018 $m	2017 $m	2016 $m
Fees for HSBC Holdings' statutory audit	2	**16.4**	15.1	14.0
Fees for other services provided to HSBC		**103.1**	114.6	97.1
– audit of HSBC's subsidiaries	3	**70.2**	69.7	51.7
– audit-related assurance services	4	**11.4**	10.8	17.8
– other assurance services	5	**13.5**	25.2	14.9
– taxation compliance services		**1.4**	1.2	1.9
– taxation advisory services		**0.1**	—	0.4
– other non-audit services	5	**6.5**	7.7	10.4
Year ended 31 Dec		**119.5**	129.7	111.1

No fees were payable by HSBC to PwC as principal auditor for the following types of services: internal audit services and services related to litigation, recruitment and remuneration.

Fees payable by HSBC's associated pension schemes to PwC

	2018 $000	2017 $000	2016 $000
Audit of HSBC's associated pension schemes	**172**	260	208
Audit-related assurance services	**—**	4	4
Year ended 31 Dec	**172**	264	212

1 The 2016 audit fees payable amount includes $4.2m related to the prior year audit in respect of overruns.
2 Fees payable to PwC for the statutory audit of the consolidated financial statements of HSBC and the separate financial statements of HSBC Holdings. They include amounts payable for services relating to the consolidation returns of HSBC Holdings' subsidiaries, which are clearly identifiable as being in support of the Group audit opinion.
3 Fees payable for the statutory audit of the financial statements of HSBC's subsidiaries, including the 2017 and 2016 changes in scope and additional procedures performed due to the technology systems and data access controls matter as described on page 207.
4 Including services for assurance and other services that relate to statutory and regulatory filings, including comfort letters and interim reviews and work performed related to the implementation of IFRS 9.
5 Including other permitted services relating to advisory, corporate finance transactions, etc.
6 The 2017 and 2016 comparative data has been re-presented to align to the current year presentation of fees payable. The totals remain unchanged for both 2017 and 2016.

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

In addition to the above, the estimated fees paid to PwC by third parties associated with HSBC amount to $14.0m (2017: $3.5m; 2016: $4.3m). In these cases, HSBC is connected with the contracting party and may therefore be involved in appointing PwC. These fees arise from services such as auditing mutual funds managed by HSBC and reviewing the financial position of corporate concerns that borrow from HSBC.

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

8 Tax

Tax expense

	Footnotes	2018 $m	2017 $m	2016 $m
Current tax	1	**4,195**	4,264	3,669
– for this year		**4,158**	4,115	3,525
– adjustments in respect of prior years		**37**	149	144
Deferred tax		**670**	1,024	(3)
– origination and reversal of temporary differences		**656**	(228)	(111)
– effect of changes in tax rates		**17**	1,337	(4)
– adjustments in respect of prior years		**(3)**	(85)	112
Year ended 31 Dec		**4,865**	5,288	3,666

1 Current tax included Hong Kong profits tax of $1,532m (2017: $1,350m; 2016: $1,118m). The Hong Kong tax rate applying to the profits of subsidiaries assessable in Hong Kong was 16.5% (2017: 16.5%; 2016: 16.5%).

Tax reconciliation

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

	2018		2017		2016	
	$m	**%**	$m	%	$m	%
Profit before tax	**19,890**		17,167		7,112	
Tax expense						
Taxation at UK corporation tax rate of 19.00% (2017: 19.25%; 2016: 20.0%)	**3,779**	**19.00**	3,305	19.25	1,422	20.00
Impact of differently taxed overseas profits in overseas locations	**264**	**1.3**	407	2.3	43	0.6
Items increasing tax charge in 2018:						
– local taxes and overseas withholding taxes	**437**	**2.2**	618	3.6	434	6.1
– UK tax losses not recognised	**435**	**2.2**	70	0.4	305	4.3
– other permanent disallowables	**396**	**2.0**	400	2.3	438	6.2
– UK banking surcharge	**229**	**1.1**	136	0.8	199	2.8
– bank levy	**191**	**1.0**	180	1.0	170	2.4
– non-deductible regulatory settlements	**153**	**0.8**	(132)	(0.8)	20	0.3
– impacts of hyperinflation	**78**	**0.4**	—	—	—	—
– adjustments in respect of prior period liabilities	**34**	**0.2**	64	0.4	256	3.6
– non-UK tax losses not recognised	**32**	**0.2**	33	0.2	147	2.1
– change in tax rates	**17**	**0.1**	49	0.3	(4)	(0.1)
– non-deductible UK customer compensation	**16**	**0.1**	166	1.0	162	2.3
– deferred tax remeasurement due to US federal tax rate reduction	**—**	**—**	1,288	7.5	—	—
– non-deductible goodwill write-down	**—**	**—**	—	—	648	9.1
– non-deductible loss and taxes suffered on Brazil disposal	**—**	**—**	—	—	464	6.5
Items reducing tax charge in 2018:						
– non-taxable income and gains	**(691)**	**(3.5)**	(766)	(4.4)	(577)	(8.1)
– effect of profits in associates and joint ventures	**(492)**	**(2.5)**	(481)	(2.8)	(461)	(6.5)
– other items	**(13)**	**(0.1)**	—	—	—	—
– other deferred tax temporary differences previously not recognised	**—**	**—**	(49)	(0.3)	—	—
Year ended 31 Dec	**4,865**	**24.5**	5,288	30.8	3,666	51.6

The Group's profits are taxed at different rates depending on the country or territory in which the profits arise. The key applicable tax rates for 2018 include Hong Kong (16.5%), the US (21%) and the UK (19%). If the Group's profits were taxed at the statutory rates of the countries in which the profits arose, then the tax rate for the year would have been 20.30% (2017: 21.15%). The effective tax rate for the year was 24.5% (2017: 30.8%). The effective tax rate for 2018 was significantly lower than for 2017 as 2017 included a charge of $1.3bn relating to the remeasurement of US deferred tax balances to reflect the reduction in the US federal tax rate to 21% from 2018.

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

Movement of deferred tax assets and liabilities

	Footnotes	Loan impairment provisions	Unused tax losses and tax credits	Derivatives, FVOD[1] and other investments	Insurance business	Expense provisions	Other	Total
		$m	$m	$m	$m	$m	$m	$m
Assets		**713**	**1,373**	**1,282**	**—**	**643**	**2,313**	**6,324**
Liabilities		**—**	**—**	**(93)**	**(1,182)**	**—**	**(2,355)**	**(3,630)**
At 1 Jan 2018		**713**	**1,373**	**1,189**	**(1,182)**	**643**	**(42)**	**2,694**
IFRS 9 transitional adjustment		**358**	**—**	**(411)**	**—**	**—**	**459**	**406**
Income statement		**(72)**	**(203)**	**51**	**(104)**	**19**	**(361)**	**(670)**
Other comprehensive income		**—**	**—**	**(722)**	**—**	**—**	**190**	**(532)**
Equity		**—**	**—**	**—**	**—**	**—**	**(23)**	**(23)**
Foreign exchange and other adjustments		**(17)**	**(14)**	**9**	**15**	**(33)**	**(4)**	**(44)**
At 31 Dec 2018		**982**	**1,156**	**116**	**(1,271)**	**629**	**219**	**1,831**
Assets	2	**982**	**1,156**	**492**	**—**	**629**	**1,889**	**5,148**
Liabilities	2	**—**	**—**	**(376)**	**(1,271)**	**—**	**(1,670)**	**(3,317)**
Assets		950	2,212	1,441	—	893	1,857	7,353
Liabilities		—	—	(274)	(1,170)	—	(1,369)	(2,813)
At 1 Jan 2017		950	2,212	1,167	(1,170)	893	488	4,540
Income statement		(235)	(873)	(397)	12	(269)	738	(1,024)
Other comprehensive income		3	(6)	368	—	—	(1,255)	(890)
Equity		—	—	—	—	—	29	29
Foreign exchange and other adjustments		(5)	40	51	(24)	19	(42)	39
At 31 Dec 2017		713	1,373	1,189	(1,182)	643	(42)	2,694
Assets	2	713	1,373	1,282	—	643	2,313	6,324
Liabilities	2	—	—	(93)	(1,182)	—	(2,355)	(3,630)

1 *Fair value of own debt.*
2 *After netting off balances within countries, the balances as disclosed in the accounts are as follows: deferred tax assets $4,450m (2017: $4,676m) and deferred tax liabilities $2,619m (2017: $1,982m).*

In applying judgement in recognising deferred tax assets, management has critically assessed all available information, including future business profit projections and the track record of meeting forecasts.

The net deferred tax asset of $1.8bn (2017: $2.7bn) includes $3.0bn (2017: $3.2bn) of deferred tax assets relating to the US, of which $1bn relates to US tax losses that expire in 15–19 years. Management expects the US deferred tax asset to be substantially recovered in six to seven years, with the majority recovered in the first five years. The most recent financial forecasts approved by management covers a five-year period and the forecasts have been extrapolated beyond five years by assuming that performance remains constant after the fifth year.

US tax reform enacted in late 2017 and effective from 2018 included a reduction in the federal rate of tax from 35% to 21% and the introduction of a base erosion anti-abuse tax. The US deferred tax asset at 31 December 2017 was calculated using the rate of 21%. The remeasurement of the deferred tax asset due to the reduction in tax rate resulted in charges of $1.3bn to the income statement and $0.3bn to other comprehensive income during 2017. The impact of the base erosion anti-abuse tax is currently uncertain, and will depend on the finalisation of regulatory guidance and the actions management may take. It is not currently expected that the base erosion anti-abuse tax will have a material impact on the Group's future tax charges.

Unrecognised deferred tax

The amount of gross temporary differences, unused tax losses and tax credits for which no deferred tax asset is recognised in the balance sheet was $8.9bn (2017: $18.1bn). These amounts included unused state losses arising in the Group's US operations of $0.8bn (2017: $12.3bn). Of the total amounts unrecognised, $7.0bn (2017: $4.8bn) had no expiry date, $1.3bn (2017: $0.8bn) was scheduled to expire within 10 years and the remaining balance is expected to expire after 10 years.

Deferred tax is not recognised in respect of the Group's investments in subsidiaries and branches where HSBC is able to control the timing of remittance or other realisation and where remittance or realisation is not probable in the foreseeable future. The aggregate temporary differences relating to unrecognised deferred tax liabilities arising on investments in subsidiaries and branches is $13.2bn (2017: $12.1bn) and the corresponding unrecognised deferred tax liability is $0.9bn (2017: $0.8bn).

9 Dividends

Dividends to shareholders of the parent company

	2018			2017			2016		
	Per share	**Total**	**Settled in scrip**	Per share	Total	Settled in scrip	Per share	Total	Settled in scrip
	$	**$m**	**$m**	$	$m	$m	$	$m	$m
Dividends paid on ordinary shares									
In respect of previous year:									
– fourth interim dividend	**0.21**	**4,197**	**393**	0.21	4,169	1,945	0.21	4,137	408
In respect of current year:									
– first interim dividend	**0.10**	**2,008**	**213**	0.10	2,005	826	0.10	1,981	703
– second interim dividend	**0.10**	**1,990**	**181**	0.10	2,014	193	0.10	1,991	994
– third interim dividend	**0.10**	**1,992**	**707**	0.10	2,005	242	0.10	1,990	935
Total	**0.51**	**10,187**	**1,494**	0.51	10,193	3,206	0.51	10,099	3,040
Total dividends on preference shares classified as equity (paid quarterly)	**62.00**	**90**		62.00	90		62.00	90	
Total coupons on capital securities classified as equity		**1,270**			1,268			1,090	
Dividends to shareholders		**11,547**			11,551			11,279	

Total coupons on capital securities classified as equity

			2018		2017	2016
				Total	Total	Total
	Footnotes	First call date	**Per security**	**$m**	$m	$m
Perpetual subordinated capital securities	*1, 3*					
$2,200m issued at 8.125%		Apr 2013	**$2.032**	**89**	179	179
$3,800m issued at 8.000%		Dec 2015	**$2.000**	**76**	304	304
Perpetual subordinated contingent convertible securities	*2, 3*					
$1,500m issued at 5.625%		Jan 2020	**$56.250**	**84**	84	84
$2,000m issued at 6.875%		Jun 2021	**$68.750**	**138**	138	69
$2,250m issued at 6.375%		Sep 2024	**$63.750**	**143**	143	143
$2,450m issued at 6.375%		Mar 2025	**$63.750**	**156**	156	156
$3,000m issued at 6.000%		May 2027	**$60.000**	**180**	90	—
$2,350m issued at 6.250%		Mar 2023	**$62.500**	**73**	—	—
$1,800m issued at 6.500%		Mar 2028	**$65.000**	**59**	—	—
€1,500m issued at 5.250%		Sep 2022	**€52.500**	**95**	89	88
€1,000m issued at 6.000%		Sep 2023	**€60.000**	**72**	68	67
€1,250m issued at 4.750%		July 2029	**€47.500**	**70**	—	—
SGD1,000m issued at 4.700%		Jun 2022	**SGD47.000**	**35**	17	—
Total				**1,270**	1,268	1,090

1 *Discretionary coupons are paid quarterly on the perpetual subordinated capital securities, in denominations of $25 per security.*
2 *Discretionary coupons are paid semi-annually on the perpetual subordinated contingent convertible securities, in denominations of each security's issuance currency 1,000 per security.*
3 *Further details of these securities can be found in Note 32.*

After the end of the year, the Directors declared a fourth interim dividend in respect of the financial year ended 31 December 2018 of $0.21 per ordinary share, a distribution of approximately $4,205m. The fourth interim dividend will be payable on 8 April 2019 to holders on the Principal Register in the UK, the Hong Kong Overseas Branch Register or the Bermuda Overseas Branch Register on 22 February 2019. No liability was recorded in the financial statements in respect of the fourth interim dividend for 2018.

On 4 January 2019, HSBC paid a coupon on its €1,250m subordinated capital securities, representing a total distribution of €30m ($34m). On 17 January 2019, HSBC paid a coupon on its $1,500m subordinated capital securities issued at 5.625% of $28.125 per security, a distribution of $42m. No liability was recorded in the balance sheet at 31 December 2018 in respect of these coupon payments.

10 Earnings per share

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

Profit attributable to the ordinary shareholders of the parent company

	2018	2017	2016
	$m	$m	$m
Profit attributable to shareholders of the parent company	**13,727**	10,798	2,479
Dividend payable on preference shares classified as equity	**(90)**	(90)	(90)
Coupon payable on capital securities classified as equity	**(1,029)**	(1,025)	(1,090)
Year ended 31 Dec	**12,608**	9,683	1,299

Basic and diluted earnings per share

		2018			2017			2016		
		Profit	Number of shares	Per share	Profit	Number of shares	Per share	Profit	Number of shares	Per share
	Footnotes	$m	(millions)	$	$m	(millions)	$	$m	(millions)	$
Basic	1	**12,608**	**19,896**	**0.63**	9,683	19,972	0.48	1,299	19,753	0.07
Effect of dilutive potential ordinary shares			**87**			100			92	
Diluted	1	**12,608**	**19,983**	**0.63**	9,683	20,072	0.48	1,299	19,845	0.07

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

The number of anti-dilutive employee share options excluded from the weighted average number of dilutive potential ordinary shares is nil (2017: nil; 2016: 10m).

11 Trading assets

		2018	2017
	Footnotes	$m	$m
Treasury and other eligible bills		**22,674**	17,532
Debt securities		**130,539**	107,486
Equity securities		**60,896**	99,260
Trading securities		**214,109**	224,278
Loans and advances to banks	1, 2	**10,425**	26,057
Loans and advances to customers	1, 2	**13,596**	37,660
Year ended 31 Dec	3	**238,130**	287,995

1 *Loans and advances to banks and customers include reverse repos, stock borrowing and other accounts.*
2 *Settlement accounts, cash collateral and margin receivables included within 'Loans and advances to banks' and 'Loans and advances to customers' were reclassified from 'Trading assets' to 'Other assets' on 1 January 2018 and comparative data was not restated. This reclassification was in accordance with IFRS 9.*
3 *Information regarding the effects of adoption of IFRS 9 can be found in Note 37.*

Trading Securities[1]

		2018	2017
	Footnotes	$m	$m
US Treasury and US Government agencies	2	**34,664**	15,995
UK Government		**9,710**	9,540
Hong Kong Government		**10,772**	10,070
Other governments		**66,530**	58,858
Asset-backed securities	3	**3,351**	2,986
Corporate debt and other securities		**28,186**	27,569
Equity securities		**60,896**	99,260
At 31 Dec		**214,109**	224,278

1 *Included within these figures are debt securities issued by banks and other financial institutions of $18,918m (2017: $18,585m), of which $2,367m (2017: $906m) are guaranteed by various governments.*
2 *Includes securities that are supported by an explicit guarantee issued by the US Government.*
3 *Excludes asset-backed securities included under US Treasury and US Government agencies.*

12 Fair values of financial instruments carried at fair value

Control framework

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

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

For fair values determined using valuation models, the control framework includes development or validation by independent support functions of the model logic, inputs, model outputs and adjustments. Valuation models are subject to a process of due diligence before becoming operational and are calibrated against external market data on an ongoing basis.

Changes in fair value are generally subject to a profit and loss analysis process and are disaggregated into high-level categories including portfolio changes, market movements and other fair value adjustments.

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

Financial liabilities measured at fair value

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

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

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

Fair value hierarchy

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

- Level 1 – valuation technique using quoted market price: financial instruments with quoted prices for identical instruments in active markets that HSBC can access at the measurement date.
- Level 2 – valuation technique using observable inputs: financial instruments with quoted prices for similar instruments in active markets or quoted prices for identical or similar instruments in inactive markets and financial instruments valued using models where all significant inputs are observable.
- Level 3 – valuation technique with significant unobservable inputs: financial instruments valued using valuation techniques where one or more significant inputs are unobservable.

Financial instruments carried at fair value and bases of valuation

	2018				2017			
	Level 1	**Level 2**	**Level 3**	**Total**	Level 1	Level 2	Level 3	Total
	$m	**$m**	**$m**	**$m**	$m	$m	$m	$m
Recurring fair value measurements at 31 Dec								
Assets								
Trading assets	**178,100**	**53,271**	**6,759**	**238,130**	181,168	101,775	5,052	287,995
Financial assets designated and otherwise mandatorily measured at fair value through profit or loss	**23,125**	**12,494**	**5,492**	**41,111**	N/A	N/A	N/A	N/A
Derivatives	**1,868**	**203,534**	**2,423**	**207,825**	1,017	216,357	2,444	219,818
Financial assets designated at fair value	**N/A**	**N/A**	**N/A**	**N/A**	24,622	3,382	1,460	29,464
Financial investments	**263,885**	**78,882**	**2,000**	**344,767**	227,943	104,692	3,432	336,067
Liabilities								
Trading liabilities	**66,300**	**18,073**	**58**	**84,431**	62,710	117,451	4,200	184,361
Financial liabilities designated at fair value	**6,815**	**136,362**	**5,328**	**148,505**	4,164	90,265	—	94,429
Derivatives	**2,845**	**201,234**	**1,756**	**205,835**	1,635	213,242	1,944	216,821

The increase in Level 3 assets in 2018 was primarily due to new private equity investments and new derivative transactions with unobservable inputs.

Transfers between Level 1 and Level 2 fair values

	Assets				Liabilities		
	Financial investments	Trading assets	Designated and otherwise mandatorily measured at fair value	Derivatives	Trading liabilities	Designated at fair value	Derivatives
	$m	$m	$m	$m	$m	$m	$m
At 31 Dec 2018							
Transfers from Level 1 to Level 2	**367**	**435**	**2**	**1**	**79**	**–**	**–**
Transfers from Level 2 to Level 1	**17,861**	**4,959**	**85**	**128**	**1,821**	**–**	**138**
At 31 Dec 2017							
Transfers from Level 1 to Level 2	2,231	1,507	–	–	35	–	–
Transfers from Level 2 to Level 1	11,173	1,384	–	–	683	–	–

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

Fair value adjustments

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

Global Banking & Markets ('GB&M') and Corporate Centre fair value adjustments

	2018		2017	
	GB&M	Corporate Centre	GB&M	Corporate Centre
	$m	$m	$m	$m
Type of adjustment				
Risk-related	**1,042**	**138**	1,078	79
– bid-offer	**430**	**76**	413	5
– uncertainty	**99**	**6**	91	8
– credit valuation adjustment ('CVA')	**442**	**52**	420	59
– debit valuation adjustment ('DVA')	**(198)**	**–**	(82)	–
– funding fair value adjustment ('FFVA')	**256**	**4**	233	7
– other	**13**	**–**	3	–
Model-related	**79**	**3**	92	13
– model limitation	**79**	**3**	92	6
– other	**–**	**–**	–	7
Inception profit (Day 1 P&L reserves) (Note 15)	**85**	**–**	106	–
At 31 Dec	**1,206**	**141**	1,276	92

Bid-offer

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

Uncertainty

Certain model inputs may be less readily determinable from market data, and/or the choice of model itself may be more subjective. In these circumstances, an adjustment may be necessary to reflect the likelihood that market participants would adopt more conservative values for uncertain parameters and/or model assumptions than those used in HSBC's valuation model.

Credit and debit valuation adjustments

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

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

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

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

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

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

Funding fair value adjustment

The FFVA is calculated by applying future market funding spreads to the expected future funding exposure of any uncollateralised component of the OTC derivative portfolio. The expected future funding exposure is calculated by a simulation methodology, where available, and is adjusted for events that may terminate the exposure, such as the default of HSBC or the counterparty. The FFVA and DVA are calculated independently.

Model limitation

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

Inception profit (Day 1 P&L reserves)

Inception profit adjustments are adopted when the fair value estimated by a valuation model is based on one or more significant unobservable inputs. The accounting for inception profit adjustments is discussed in Note 1.

Fair value valuation bases

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

	Assets					Liabilities			
	Financial investments	Held for trading	Designated and otherwise mandatorily measured at fair value through profit or loss	Derivatives	Total	Held for trading	Designated at fair value	Derivatives	Total
	$m	$m	$m	$m	$m	$m	$m	$m	$m
Private equity including strategic investments	**427**	**20**	**5,106**	**–**	**5,553**	**12**	**–**	**–**	**12**
Asset-backed securities	**1,030**	**1,140**	**32**	**–**	**2,202**	**–**	**–**	**–**	**–**
Loans held for securitisation	**–**	**–**	**49**	**–**	**49**	**–**	**–**	**–**	**–**
Structured notes	**–**	**3**	**–**	**–**	**3**	**46**	**5,328**	**–**	**5,374**
Derivatives with monolines	**–**	**–**	**–**	**65**	**65**	**–**	**–**	**–**	**–**
Other derivatives	**–**	**–**	**–**	**2,358**	**2,358**	**–**	**–**	**1,755**	**1,755**
Other portfolios	**543**	**5,596**	**305**	**–**	**6,444**	**–**	**–**	**1**	**1**
At 31 Dec 2018	**2,000**	**6,759**	**5,492**	**2,423**	**16,674**	**58**	**5,328**	**1,756**	**7,142**

	Assets					Liabilities			
	Available for sale	Held for trading	Designated at fair value	Derivatives	Total	Held for trading	Designated at fair value	Derivatives	Total
	$m	$m	$m	$m	$m	$m	$m	$m	$m
Private equity including strategic investments	2,012	38	1,458	–	3,508	20	–	–	20
Asset-backed securities	1,300	1,277	–	–	2,577	–	–	–	–
Loans held for securitisation	–	24	–	–	24	–	–	–	–
Structured notes	–	3	–	–	3	4,180	–	–	4,180
Derivatives with monolines	–	–	–	113	113	–	–	–	–
Other derivatives	–	–	–	2,331	2,331	–	–	1,944	1,944
Other portfolios	120	3,710	2	–	3,832	–	–	–	–
At 31 Dec 2017	3,432	5,052	1,460	2,444	12,388	4,200	–	1,944	6,144

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

Private equity including strategic investments

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

Asset-backed securities

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

Structured notes

The fair value of Level 3 structured notes is derived from the fair value of the underlying debt security, and the fair value of the embedded derivative is determined as described in the paragraph below on derivatives. These structured notes comprise principally equity-linked notes issued by HSBC, which provide the counterparty with a return linked to the performance of equity securities and other portfolios.

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

Derivatives

OTC derivative valuation models calculate the present value of expected future cash flows, based upon 'no arbitrage' principles. For many vanilla derivative products, the modelling approaches used are standard across the industry. For more complex derivative products, there may be some differences in market practice. Inputs to valuation models are determined from observable market data wherever possible, including prices available from exchanges, dealers, brokers or providers of consensus pricing. Certain inputs may not be observable in the market directly, but can be determined from observable prices via model calibration procedures or estimated from historical data or other sources.

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

Movement in Level 3 financial instruments

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

Movement in Level 3 financial instruments (continued)

	Footnotes	Assets: Available for sale $m	Assets: Held for trading $m	Assets: Designated at fair value through profit or loss $m	Assets: Derivatives $m	Liabilities: Held for trading $m	Liabilities: Designated at fair value through profit or loss $m	Liabilities: Derivatives $m
At 1 Jan 2017		3,476	6,489	730	2,752	3,582	37	2,300
Total gains/(losses) recognised in profit or loss		351	(188)	(107)	152	154	(5)	400
– trading income/(expense) excluding net interest income		–	(188)	–	152	154	–	400
– net income from other financial instruments designated at fair value		–	–	(107)	–	–	(5)	–
– gains less losses from financial investments		313	–	–	–	–	–	–
– loan impairment charges and other credit risk provisions ('LICs')		38	–	–	–	–	–	–
Total gains/(losses) recognised in other comprehensive income ('OCI')	1	71	106	7	188	169	1	120
– available-for-sale investments: fair value gains/(losses)		(30)	–	–	–	–	–	–
– cash flow hedges: fair value gains/(losses)		–	(1)	3	(23)	–	–	(35)
– exchange differences		101	107	4	211	169	1	155
Purchases		200	1,503	1,127	2	5	–	23
New issuances		–	–	–	1	1,915	–	–
Sales		(939)	(3,221)	(130)	(8)	(12)	–	(12)
Settlements		(69)	(331)	(166)	(60)	(998)	–	(123)
Transfers out		(565)	(149)	(3)	(885)	(678)	(33)	(1,030)
Transfers in		907	843	2	302	63	–	266
At 31 Dec 2017		3,432	5,052	1,460	2,444	4,200	–	1,944
Unrealised gains/(losses) recognised in profit or loss relating to assets and liabilities held at 31 Dec 2017		16	(110)	(146)	218	(117)	–	(397)
– trading income/(expense) excluding net interest income		–	(110)	–	218	(117)	–	(397)
– net income from other financial instruments designated at fair value		–	–	(146)	–	–	–	–
– loan impairment charges and other credit risk provisions		16	–	–	–	–	–	–

1 *Included in 'Available-for-sale investments: fair value gains/(losses)' in prior years or 'Debt Instruments at fair value through other comprehensive income' in 2018 and 'Exchange differences' in the consolidated statement of comprehensive income.*

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

Effect of changes in significant unobservable assumptions to reasonably possible alternatives

Sensitivity of Level 3 fair values to reasonably possible alternative assumptions

	Footnotes	2018 Reflected in profit or loss: Favourable changes $m	2018 Reflected in profit or loss: Unfavourable changes $m	2018 Reflected in OCI: Favourable changes $m	2018 Reflected in OCI: Unfavourable changes $m	2017 Reflected in profit or loss: Favourable changes $m	2017 Reflected in profit or loss: Unfavourable changes $m	2017 Reflected in OCI: Favourable changes $m	2017 Reflected in OCI: Unfavourable changes $m
Derivatives, trading assets and trading liabilities	1	**269**	**(257)**	**–**	**–**	372	(253)	–	–
Designated and otherwise mandatorily measured at fair value through profit or loss		**394**	**(310)**	**–**	**–**	89	(74)	–	–
Financial investments		**34**	**(36)**	**23**	**(22)**	53	(30)	128	(149)
At 31 Dec		**697**	**(603)**	**23**	**(22)**	514	(357)	128	(149)

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

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

	2018 Reflected in profit or loss: Favourable changes $m	2018 Reflected in profit or loss: Unfavourable changes $m	2018 Reflected in OCI: Favourable changes $m	2018 Reflected in OCI: Unfavourable changes $m	2017 Reflected in profit or loss: Favourable changes $m	2017 Reflected in profit or loss: Unfavourable changes $m	2017 Reflected in OCI: Favourable changes $m	2017 Reflected in OCI: Unfavourable changes $m
Private equity including strategic investments	**400**	**(317)**	**–**	**–**	142	(105)	117	(102)
Asset-backed securities	**62**	**(34)**	**23**	**(22)**	66	(39)	3	(39)
Loans held for securitisation	**1**	**(1)**	**–**	**–**	1	(1)	–	–
Structured notes	**13**	**(13)**	**–**	**–**	12	(9)	–	–
Derivatives with monolines	**–**	**–**	**–**	**–**	–	–	–	–
Other derivatives	**157**	**(153)**	**–**	**–**	249	(150)	–	–
Other portfolios	**64**	**(85)**	**–**	**–**	44	(53)	8	(8)
At 31 Dec	**697**	**(603)**	**23**	**(22)**	514	(357)	128	(149)

The sensitivity analysis aims to measure a range of fair values consistent with the application of a 95% confidence interval. Methodologies take account of the nature of the valuation technique employed, as well as the availability and reliability of observable proxy and historical data.

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

Key unobservable inputs to Level 3 financial instruments

The following table lists key unobservable inputs to Level 3 financial instruments, and provides the range of those inputs at 31 December 2018. The core range of inputs is the estimated range within which 90% of the inputs fall.

Quantitative information about significant unobservable inputs in Level 3 valuations

		Fair value				2018				2017			
		Assets	Liabilities	Valuation techniques	Key unobservable inputs	Full range of inputs		Core range of inputs[1]		Full range of inputs		Core range of inputs[1]	
	Footnotes	$m	$m			Lower	Higher	Lower	Higher	Lower	Higher	Lower	Higher
Private equity including strategic investments		5,554	12	See below	See below	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Asset-backed securities	2	2,202	–										
– CLO/CDO		394	–	Market proxy	Prepayment rate	0%	10%	0%	10%	2%	7%	2%	7%
				Market proxy	Bid quotes	0	100	50	100	0	101	6	53
– other ABSs		1,808	–	Market proxy	Bid quotes	0	271	71	99	0	103	34	98
Loans held for securitisation		49	–										
Structured notes		3	5,374										
– equity-linked notes		–	3,882	Model – Option model	Equity volatility	8%	79%	13%	53%	7%	47%	14%	30%
				Model – Option model	Equity correlation	17%	93%	40%	77%	33%	95%	45%	72%
– fund-linked notes		–	83	Model – Option model	Fund volatility	21%	21%	21%	21%	6%	15%	6%	15%
– FX-linked notes		–	1,382	Model – Option model	FX volatility	1%	27%	3%	25%	3%	20%	4%	13%
– other		3	27										
Derivatives with monolines		65	–	Model – Discounted cash flow	Credit spread	0.2%	1%	0.2%	1%	0.4%	3%	1%	3%
Other derivatives		2,358	1,755										
– Interest rate derivatives:													
securitisation swaps		233	700	Model – Discounted cash flow	Prepayment rate	6%	7%	6%	7%	20%	90%	20%	90%
long-dated swaptions		1,019	27	Model – Option model	IR volatility	13%	39%	14%	36%	8%	41%	15%	31%
other		250	148										
– FX derivatives:													
FX options		186	244	Model – Option model	FX volatility	1%	27%	7%	12%	0.7%	50%	5%	11%
other		113	77										
– Equity derivatives:													
long-dated single stock options		215	267	Model – Option model	Equity volatility	5%	83%	5%	81%	7%	84%	15%	44%
other		310	216										
– Credit derivatives:													
other		32	76										
Other portfolios		6,443	1										
– structured certificates		3,013	–	Model – Discounted cash flow	Credit volatility	2%	4%	2%	4%	2%	4%	2%	4%
– other	3	3,430	1										
At 31 Dec 2018		**16,674**	**7,142**										

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

Private equity including strategic investments

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

Prepayment rates

Prepayment rates are a measure of the anticipated future speed at which a loan portfolio will be repaid in advance of the due date. They vary according to the nature of the loan portfolio and expectations of future market conditions, and may be estimated using a variety of evidence, such as prepayment rates implied from proxy observable security prices, current or historical prepayment rates and macroeconomic modelling.

Market proxy

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

Volatility

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

Certain volatilities, typically those of a longer-dated nature, are unobservable and are estimated from observable data. The range of unobservable volatilities reflects the wide variation in volatility inputs by reference market price. The core range is significantly narrower than the full range because these examples with extreme volatilities occur relatively rarely within the HSBC portfolio.

Correlation

Correlation is a measure of the inter-relationship between two market prices and is expressed as a number between minus one and one. It is used to value more complex instruments where the payout is dependent upon more than one market price. There is a wide range of instruments for which correlation is an input, and consequently a wide range of both same-asset correlations and cross-asset correlations is used. In general, the range of same-asset correlations will be narrower than the range of cross-asset correlations.

Unobservable correlations may be estimated based upon a range of evidence, including consensus pricing services, HSBC trade prices, proxy correlations and examination of historical price relationships. The range of unobservable correlations quoted in the table reflects the wide variation in correlation inputs by market price pair.

Credit spread

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

Inter-relationships between key unobservable inputs

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

HSBC Holdings

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

	2018 $m	2017 $m
Valuation technique using observable inputs: Level 2		
Assets at 31 Dec		
– derivatives	**707**	2,388
– financial investments	**—**	4,264
– designated and otherwise mandatorily measured at fair value through profit or loss	**23,513**	11,944
Liabilities at 31 Dec		
– designated at fair value	**25,049**	30,890
– derivatives	**2,159**	3,082

13 Fair values of financial instruments not carried at fair value

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

	Carrying amount	Fair value			
		Quoted market price Level 1	Observable inputs Level 2	Significant unobservable inputs Level 3	Total
	$m	$m	$m	$m	$m
At 31 Dec 2018					
Assets					
Loans and advances to banks	**72,167**	**–**	**68,378**	**3,791**	**72,169**
Loans and advances to customers	**981,696**	**–**	**10,518**	**974,559**	**985,077**
Reverse repurchase agreements – non-trading	**242,804**	**81**	**241,407**	**1,369**	**242,857**
Financial investments – at amortised cost	**62,666**	**1,790**	**60,073**	**216**	**62,079**
Liabilities					
Deposits by banks	**56,331**	**–**	**56,308**	**–**	**56,308**
Customer accounts	**1,362,643**	**–**	**1,362,794**	**151**	**1,362,945**
Repurchase agreements – non-trading	**165,884**	**–**	**165,884**	**–**	**165,884**
Debt securities in issue	**85,342**	**–**	**85,430**	**–**	**85,430**
Subordinated liabilities	**22,437**	**–**	**24,968**	**373**	**25,341**
At 31 Dec 2017					
Assets					
Loans and advances to banks	90,393	–	87,384	3,007	90,391
Loans and advances to customers	962,964	–	20,029	944,176	964,205
Reverse repurchase agreements – non-trading	201,553	–	200,012	1,526	201,538
Financial investments – at amortised cost	52,919	1,363	52,707	17	54,087
Liabilities					
Deposits by banks	69,922	–	69,862	30	69,892
Customer accounts	1,364,462	–	1,353,017	11,608	1,364,625
Repurchase agreements – non-trading	130,002	1	129,995	–	129,996
Debt securities in issue	64,546	–	65,138	–	65,138
Subordinated liabilities	19,826	–	23,740	355	24,095

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

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

	Carrying amount			Fair value		
	Not Impaired	Impaired	Total	Not Impaired	Impaired	Total
	$m	$m	$m	$m	$m	$m
Loans and advances to customers						
Personal	**387,957**	**3,433**	**391,390**	**388,761**	**3,249**	**392,010**
Corporate and commercial	**524,531**	**4,494**	**529,025**	**527,022**	**4,600**	**531,622**
Non-bank financial institutions	**61,102**	**179**	**61,281**	**61,265**	**180**	**61,445**
At 31 Dec 2018	**973,590**	**8,106**	**981,696**	**977,048**	**8,029**	**985,077**
Loans and advances to customers						
Personal	370,842	3,920	374,762	371,131	3,257	374,388
Corporate and commercial	510,784	5,970	516,754	512,597	5,769	518,366
Non-bank financial institutions	71,377	71	71,448	71,351	100	71,451
At 31 Dec 2017	953,003	9,961	962,964	955,079	9,126	964,205

Loans and advances to customers are classified as not credit impaired or credit impaired in accordance with the criteria described on page 103.

Valuation

Fair value is an estimate of the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. It does not reflect the economic benefits and costs that HSBC expects to flow from an instrument's cash flow over its expected future life. Our valuation methodologies and assumptions in determining fair values for which no observable market prices are available may differ from those of other companies.

Loans and advances to banks and customers

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

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

Financial investments

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

Deposits by banks and customer accounts

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

Debt securities in issue and subordinated liabilities

Fair values in debt securities is issue and subordinated liabilities are determined using quoted market prices at the balance sheet date where available, or by reference to quoted market prices for similar instruments.

Repurchase and reverse repurchase agreements – non-trading

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

HSBC Holdings

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

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

	2018		2017	
	Carrying amount	Fair value[1]	Carrying amount	Fair value[1]
	$m	$m	$m	$m
Assets at 31 Dec				
Loans and advances to HSBC undertakings	56,144	56,801	76,627	78,534
Liabilities at 31 Dec				
Amounts owed to HSBC undertakings	949	949	2,571	2,571
Debt securities in issue	50,800	51,552	34,258	36,611
Subordinated liabilities	17,715	20,224	15,877	19,596

1 *Fair values were determined using valuation techniques with observable inputs (Level 2).*

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

		2018			2017
		Designated at fair value	Mandatorily measured at fair value	Total	Designated at fair value
	Footnotes	$m	$m	$m	$m
Securities		2,349	30,217	32,566	29,456
– treasury and other eligible bills		641	29	670	606
– debt securities		1,708	4,839	6,547	4,090
– equity securities		–	25,349	25,349	24,760
Loans and advances to banks and customers		–	7,717	7,717	8
Other		–	828	828	–
At 31 Dec	1	2,349	38,762	41,111	29,464

1 *Information regarding the effects of adoption of IFRS 9 can be found in Note 37.*

Securities[1]

		2018			2017
		Designated at fair value	Mandatorily measured at fair value	Total	Designated at fair value
	Footnotes	$m	$m	$m	$m
UK Government		–	–	–	17
Hong Kong Government		4	–	4	64
Other governments		673	713	1,386	1,247
Asset-backed securities	2	–	399	399	2
Corporate debt and other securities		1,672	3,756	5,428	3,366
Equities		–	25,349	25,349	24,760
At 31 Dec		2,349	30,217	32,566	29,456

1 *Included within these figures are debt securities issued by banks and other financial institutions of $2,537m (2017: $1,621m), of which nil (2017: $0.4m) are guaranteed by various governments.*
2 *Excludes asset-backed securities included under US Treasury and US Government agencies.*

15 Derivatives

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

	Notional contract amount		Fair value – Assets			Fair value – Liabilities		
	Trading	Hedging	Trading	Hedging	Total	Trading	Hedging	Total
	$m	$m	$m	$m	$m	$m	$m	$m
Foreign exchange	**7,552,462**	**29,969**	**85,959**	**458**	**86,417**	**82,494**	**653**	**83,147**
Interest rate	**24,589,916**	**163,271**	**155,293**	**1,080**	**156,373**	**154,257**	**2,261**	**156,518**
Equities	**1,256,550**	**—**	**10,198**	**—**	**10,198**	**10,750**	**—**	**10,750**
Credit	**346,596**	**—**	**3,414**	**—**	**3,414**	**3,776**	**—**	**3,776**
Commodity and other	**74,159**	**—**	**1,134**	**—**	**1,134**	**1,355**	**—**	**1,355**
Gross total fair values	**33,819,683**	**193,240**	**255,998**	**1,538**	**257,536**	**252,632**	**2,914**	**255,546**
Offset (Note 30)					**(49,711)**			**(49,711)**
At 31 Dec 2018	**33,819,683**	**193,240**	**255,998**	**1,538**	**207,825**	**252,632**	**2,914**	**205,835**
Foreign exchange	6,215,518	28,768	78,089	428	78,517	74,915	853	75,768
Interest rate	19,751,577	178,289	235,430	1,365	236,795	229,989	3,042	233,031
Equities	590,156	—	9,353	—	9,353	11,845	—	11,845
Credit	391,798	—	4,692	—	4,692	5,369	—	5,369
Commodity and other	59,716	—	886	—	886	1,233	—	1,233
Gross total fair values	27,008,765	207,057	328,450	1,793	330,243	323,351	3,895	327,246
Offset (Note 30)					(110,425)			(110,425)
At 31 Dec 2017	27,008,765	207,057	328,450	1,793	219,818	323,351	3,895	216,821

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

Derivative assets and liabilities decreased during 2018, driven by the adoption of Settled to Market accounting for cleared derivatives, yield curve movements and changes in foreign exchange rates.

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

	Notional contract amount		Assets			Liabilities		
	Trading	Hedging	Trading	Hedging	Total	Trading	Hedging	Total
	$m	$m	$m	$m	$m	$m	$m	$m
Foreign exchange	**16,623**	**1,120**	**207**	**—**	**207**	**628**	**155**	**783**
Interest rate	**44,059**	**38,148**	**283**	**217**	**500**	**538**	**838**	**1,376**
At 31 Dec 2018	**60,682**	**39,268**	**490**	**217**	**707**	**1,166**	**993**	**2,159**
Foreign exchange	20,484	1,120	588	—	588	1,330	110	1,440
Interest rate	41,061	25,294	1,364	436	1,800	678	964	1,642
At 31 Dec 2017	61,545	26,414	1,952	436	2,388	2,008	1,074	3,082

Use of derivatives

For details regarding use of derivatives, see page 138 under 'Market Risk'.

Trading derivatives

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

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

Derivatives valued using models with unobservable inputs

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

Unamortised balance of derivatives valued using models with significant unobservable inputs

	Footnotes	2018 $m	2017 $m
Unamortised balance at 1 Jan		**106**	99
Deferral on new transactions		**161**	191
Recognised in the income statement during the year:		**(158)**	(187)
– amortisation		**(96)**	(85)
– subsequent to unobservable inputs becoming observable		**(2)**	(2)
– maturity, termination or offsetting derivative		**(60)**	(100)
Exchange differences		**(4)**	10
Other		**(19)**	(7)
Unamortised balance at 31 Dec	1	**86**	106

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

Hedge accounting derivatives

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

Fair value hedges

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

HSBC hedging instrument by hedged risk

	Hedging instrument				
		Carrying amount			
Hedged risk	Notional amount[1] $m	Assets $m	Liabilities $m	Balance sheet presentation	Change in fair value[2] $m
Interest rate[3]	**123,551**	**915**	**2,123**	**Derivatives**	**283**
At 31 Dec 2018	**123,551**	**915**	**2,123**		**283**

1 *The notional contract amounts of derivatives designated in qualifying hedge accounting relationships indicate the nominal value of transactions outstanding at the balance sheet date; they do not represent amounts at risk.*
2 *Used in effectiveness testing; comprising the full fair value change of the hedging instrument not excluding any component.*
3 *The hedged risk 'interest rate' includes inflation risk.*

HSBC hedged item by hedged risk

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

1 *Used in effectiveness assessment; comprising amount attributable to the designated hedged risk that can be a risk component.*
2 *The accumulated amount of fair value adjustments remaining in the statement of financial position for hedged items that have ceased to be adjusted for hedging gains and losses were assets of $93m for FVOCI and assets of $19m for debt issued.*
3 *The hedged risk 'interest rate' includes inflation risk.*

HSBC Holdings hedging instrument by hedged risk

	Hedging instrument				
		Carrying amount			
Hedged risk	Notional amount[1,4] $m	Assets $m	Liabilities $m	Balance sheet presentation	Change in fair value[2] $m
Interest rate[3]	**39,538**	**217**	**993**	**Derivatives**	**(231)**
At 31 Dec 2018	**39,538**	**217**	**993**		**(231)**

1 *The notional contract amounts of derivatives designated in qualifying hedge accounting relationships indicate the nominal value of transactions outstanding at the balance sheet date; they do not represent amounts at risk.*
2 *Used in effectiveness testing; comprising the full fair value change of the hedging instrument not excluding any component.*
3 *The hedged risk 'interest rate' includes foreign exchange risk.*
4 *The notional amount of non-dynamic fair value hedges is equal to $39,538m, of which the weighted-average maturity date is December 2026 and the weighted-average swap rate is 1.34%. The majority of these hedges are internal to HSBC Group.*

HSBC Holdings hedged item by hedged risk

	Hedged item						Ineffectiveness	
	Carrying amount		Accumulated fair value hedge adjustments included in carrying amount[2]					
	Assets	Liabilities	Assets	Liabilities	Balance sheet presentation	Change in fair value[1]	Recognised in profit and loss	
Hedged risk	$m	$m	$m	$m		$m	$m	Profit and loss presentation
Interest rate[3]	4,620		29		Loans and advances to banks	38		Net income from financial instruments held for trading or managed on a fair value basis
		33,874		(763)	Debt securities in issue	191	(2)	
At 31 Dec 2018	**4,620**	**33,874**	**29**	**(763)**		**229**	**(2)**	

1 Used in effectiveness assessment; comprising amount attributable to the designated hedged risk that can be a risk component.
2 The accumulated amount of fair value adjustments remaining in the statement of financial position for hedged items that have ceased to be adjusted for hedging gains and losses were liabilities of $80m for debt issued.
3 The hedged risk 'interest rate' includes foreign exchange risk.

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

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

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

Cash flow hedges

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

HSBC applies macro cash flow hedging for interest rate risk exposures on portfolios of replenishing current and forecasted issuances of non-trading assets and liabilities that bear interest at variable rates, including rolling such instruments. The amounts and timing of future cash flows, representing both principal and interest flows, are projected for each portfolio of financial assets and liabilities on the basis of their contractual terms and other relevant factors, including estimates of prepayments and defaults. The aggregate cash flows representing both principal balances and interest cash flows across all portfolios are used to determine the effectiveness and ineffectiveness. Macro cash flow hedges are considered to be dynamic hedges.

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

Hedging instrument by hedged risk

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

1 The notional contract amounts of derivatives designated in qualifying hedge accounting relationships indicate the nominal value of transactions outstanding at the balance sheet date; they do not represent amounts at risk.
2 Used in effectiveness testing; comprising the full fair value change of the hedging instrument not excluding any component.
3 Used in effectiveness assessment; comprising amount attributable to the designated hedged risk that can be a risk component.

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

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

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

Hedges of net investments in foreign operations

The Group applies hedge accounting in respect of certain consolidated net investments. Hedging is undertaken using forward foreign exchange contracts or by financing with foreign currency borrowings. At 31 December 2018, the fair values of outstanding financial instruments designated as hedges of net investments in foreign operations were assets of $163m (2017: $4m), liabilities of nil (2017: $71m) and notional contract values of $5,000m (2017: $5,000m). Ineffectiveness recognised in 'Net income from financial instruments held for trading or managed on a fair value basis' in the year ended 31 December 2018 was nil (2017: nil).

16 Financial investments

Carrying amount of financial investments

	Footnotes	2018 $m	2017 $m
Financial investments measured at fair value through other comprehensive income		**344,767**	N/A
– treasury and other eligible bills		**96,642**	N/A
– debt securities		**246,371**	N/A
– equity securities		**1,657**	N/A
– other instruments	1	**97**	N/A
Debt instruments measured at amortised cost	2	**62,666**	N/A
– treasury and other eligible bills		**679**	N/A
– debt securities		**61,987**	N/A
Available-for-sale securities at fair value		**N/A**	336,157
– treasury and other eligible bills		**N/A**	78,851
– debt securities		**N/A**	253,389
– equity securities		**N/A**	3,917
Held to maturity securities at amortised cost		**N/A**	52,919
– debt securities	2	**N/A**	52,919
At 31 Dec	3, 4	**407,433**	389,076

1 *'Other instruments' comprises of loans and advances.*
2 *Fair value $62.1bn (2017: $54.1bn).*
3 *Categories of financial instruments are disclosed under IFRS 9 at 31 December 2018. These are not directly comparable with 31 December 2017, where the instruments were categorised in accordance with IAS 39.*
4 *Information regarding the effects of adoption of IFRS 9 can be found in Note 37.*

Equity instruments measured at fair value through other comprehensive income

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

Financial investments at amortised cost and fair value

		2018		2017	
	Footnotes	Amortised cost $m	Fair value[1] $m	Amortised cost $m	Fair value[1] $m
US Treasury		**54,941**	**54,763**	41,427	41,274
US Government agencies	2	**21,058**	**20,580**	18,691	18,494
US Government-sponsored entities	2	**12,867**	**12,701**	10,998	11,033
UK Government		**20,576**	**21,083**	17,817	18,538
Hong Kong Government		**49,956**	**49,955**	52,269	52,252
Other governments		**142,495**	**144,099**	134,766	136,414
Asset-backed securities	3	**3,579**	**3,390**	6,187	5,781
Corporate debt and other securities		**97,286**	**98,419**	99,136	102,540
Equities		**1,353**	**1,657**	2,989	3,917
At 31 Dec		**404,111**	**406,647**	384,280	390,243

1 *Included within 'fair value' figures are debt securities issued by banks and other financial institutions of $56bn (2017: $67bn), of which $8bn (2017: $15bn) are guaranteed by various governments.*
2 *Includes securities that are supported by an explicit guarantee issued by the US Government.*
3 *Excludes asset-backed securities included under US Government agencies and sponsored entities.*

Maturities of investments in debt securities at their carrying amount

	Up to 1 year	1 to 5 years	5 to 10 years	Over 10 years	Total
	$m	$m	$m	$m	$m
Debt securities measured at fair value through other comprehensive income	**61,598**	**124,075**	**36,194**	**24,504**	**246,371**
Debt securities measured at amortised cost	**2,519**	**10,086**	**16,065**	**33,317**	**61,987**
At 31 Dec 2018	**64,117**	**134,161**	**52,259**	**57,821**	**308,358**
Available-for-sale	63,896	122,113	37,292	30,088	253,389
Held to maturity	3,731	9,406	13,482	26,300	52,919
At 31 Dec 2017	67,627	131,519	50,774	56,388	306,308

Contractual maturities and weighted average yields of investment debt securities

	Up to 1 year		1 to 5 years		5 to 10 years		Over 10 years	
	Amount	Yield	Amount	Yield	Amount	Yield	Amount	Yield
	$m	%	$m	%	$m	%	$m	%
Debt securities measured at fair value through other comprehensive income								
US Treasury	**947**	**1.6**	**33,220**	**2.1**	**14,396**	**2.3**	**2,376**	**3.1**
US Government agencies	**—**	**—**	**74**	**2.1**	**10**	**3.8**	**9,707**	**2.9**
US Government-sponsored agencies	**1,361**	**3.2**	**1,268**	**2.6**	**2,240**	**2.8**	**4,309**	**3.2**
UK Government	**856**	**0.9**	**5,988**	**1.1**	**5,472**	**0.6**	**859**	**4.4**
Hong Kong Government	**456**	**1.3**	**551**	**1.3**	**63**	**3.0**	**—**	**—**
Other governments	**45,390**	**1.5**	**48,549**	**2.8**	**8,701**	**2.3**	**1,489**	**2.6**
Asset-backed securities	**16**	**5.9**	**25**	**—**	**381**	**2.7**	**3,156**	**2.1**
Corporate debt and other securities	**12,312**	**1.8**	**32,893**	**2.0**	**4,563**	**2.3**	**2,574**	**3.1**
Total amortised cost at 31 Dec 2018	**61,338**		**122,568**		**35,826**		**24,470**	
Total carrying value	**61,598**		**124,075**		**36,194**		**24,504**	
Debt instruments measured at amortised cost								
US Treasury	**34**	**4.2**	**53**	**4.8**	**1**	**1.0**	**152**	**4.0**
US Government agencies	**—**	**—**	**18**	**3.9**	**26**	**3.6**	**11,025**	**2.6**
US Government-sponsored agencies	**50**	**2.2**	**389**	**2.7**	**163**	**2.6**	**3,087**	**3.0**
Hong Kong Government	**8**	**4.9**	**24**	**1.6**	**9**	**1.3**	**7**	**1.5**
Other governments	**329**	**1.8**	**470**	**2.6**	**451**	**2.9**	**744**	**4.1**
Asset-backed securities	**—**	**—**	**—**	**—**	**—**	**—**	**2**	**7.4**
Corporate debt and other securities	**2,098**	**3.2**	**9,132**	**3.4**	**15,415**	**3.4**	**18,300**	**3.6**
Total amortised cost at 31 Dec 2018	**2,519**		**10,086**		**16,065**		**33,317**	
Total carrying value	**2,519**		**10,086**		**16,065**		**33,317**	

The maturity distributions of ABSs are presented in the above table on the basis of contractual maturity dates. The weighted average yield for each range of maturities is calculated by dividing the annualised interest income for the year ended 31 December 2018 by the book amount of debt securities at that date. The yields do not include the effect of related derivatives.

17 Assets pledged, collateral received and assets transferred

Assets pledged

Financial assets pledged as collateral

		2018	2017
	Footnotes	$m	$m
Treasury bills and other eligible securities		**11,470**	10,183
Loans and advances to banks	1	**151**	14,518
Loans and advances to customers	1	**51,659**	68,336
Debt securities		**95,210**	96,245
Equity securities		**22,510**	33,209
Other	1	**34,028**	2,743
Assets pledged at 31 Dec	2	**215,028**	225,234

1 *Settlement accounts, cash collateral and margin receivables included within 'Loans and advances to banks' and 'Loans and advances to customers' were reclassified from 'Trading assets' to 'Other assets' on 1 January 2018. Comparative data has not been restated.*

2 *Information regarding the effects of adoption of IFRS 9 can be found in Note 37.*

Assets pledged as collateral include all assets categorised as encumbered in the disclosure on page 72 of the Pillar 3 Disclosures at 31 December 2018.

The amount of assets pledged to secure liabilities may be greater than the book value of assets utilised as collateral. For example, in the case of securitisations and covered bonds, the amount of liabilities issued plus mandatory over-collateralisation is less than the book value of the pool of assets available for use as collateral. This is also the case where assets are placed with a custodian or a settlement agent that has a floating charge over all the assets placed to secure any liabilities under settlement accounts.

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

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

	2018	2017
	$m	$m
Trading assets	76,121	70,117
Financial investments	15,741	13,581
At 31 Dec	**91,862**	83,698

Collateral received

The fair value of assets accepted as collateral, relating primarily to standard securities lending, reverse repurchase agreements, swaps of securities and derivative margining, that HSBC is permitted to sell or repledge in the absence of default was $482,818m (2017: $387,678m). The fair value of any such collateral sold or repledged was $350,848m (2017: $243,531m).

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

Assets transferred

The assets pledged include transfers to third parties that do not qualify for derecognition, notably secured borrowings such as debt securities held by counterparties as collateral under repurchase agreements and equity securities lent under securities lending agreements, as well as swaps of equity and debt securities. For secured borrowings, the transferred asset collateral continues to be recognised in full and a related liability, reflecting the Group's obligation to repurchase the assets for a fixed price at a future date, is also recognised on the balance sheet. Where securities are swapped, the transferred asset continues to be recognised in full. There is no associated liability as the non-cash collateral received is not recognised on the balance sheet. The Group is unable to use, sell or pledge the transferred assets for the duration of the transaction, and remains exposed to interest rate risk and credit risk on these pledged assets. With the exception of 'Other sales' in the table below, the counterparty's recourse is not limited to the transferred assets.

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

	Carrying amount of:		Fair value of:		
	Transferred assets	Associated liabilities	Transferred assets	Associated liabilities	Net position
	$m	$m	$m	$m	$m
At 31 Dec 2018					
Repurchase agreements	62,216	60,361			
Securities lending agreements	32,486	2,426			
Other sales (recourse to transferred assets only)	2,647	2,647	2,625	2,630	(5)
At 31 Dec 2017					
Repurchase agreements	55,510	52,093			
Securities lending agreements	33,878	3,324			
Other sales (recourse to transferred assets only)	2,387	2,388	2,377	2,378	(1)

18 Interests in associates and joint ventures

Associates

At 31 December 2018, the carrying amount of HSBC's interests in associates was $22,244m (2017: $22,577m).

Principal associates of HSBC

	2018		2017	
	Carrying amount	Fair value[1]	Carrying amount	Fair value[1]
	$m	$m	$m	$m
Bank of Communications Co., Limited	17,754	10,991	18,057	10,491
The Saudi British Bank	3,557	5,222	3,618	4,320

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

		At 31 Dec 2018		
	Footnotes	Country of incorporation and principal place of business	Principal activity	HSBC's interest %
Bank of Communications Co., Limited		People's Republic of China	Banking services	19.03
The Saudi British Bank	1	Saudi Arabia	Banking services	40.00

1 *In 2018, The Saudi British Bank announced a merger agreement with Alawwal Bank in Saudi Arabia. The merger, subject to shareholder and regulatory approval, is expected to be completed in 2019 and would dilute HSBC's shareholding in the merged bank from 40% to 29.2%.*

A list of all associates and joint ventures is set out on page 302.

Bank of Communications Co., Limited ('BoCom')

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

Impairment testing

At 31 December 2018, the fair value of HSBC's investment in BoCom had been below the carrying amount for approximately 80 months. As a result, the Group performed an impairment test on the carrying amount of the investment in BoCom, which confirmed there was no impairment at 31 December 2018 as the recoverable amount as determined by a value-in-use ('VIU') calculation was higher than the carrying value.

	At 31 Dec 2018			At 31 Dec 2017		
	VIU	Carrying value	Fair value	VIU	Carrying value	Fair value
	$bn	$bn	$bn	$bn	$bn	$bn
Bank of Communications Co., Limited	**18.0**	**17.8**	**11.0**	18.3	18.1	10.5

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

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

Basis of recoverable amount

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

Key assumptions in value-in-use calculation

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

- Long-term profit growth rate: 3% (2017: 3%) for periods after 2022, which does not exceed forecast GDP growth in mainland China and is consistent with forecasts by external analysts.
- Long-term asset growth rate: 3% (2017: 3%) for periods after 2022, which is the rate that assets are expected to grow to achieve long-term profit growth of 3%.
- Discount rate: 11.82% (2017: 11.85%), which is based on a capital asset pricing model ('CAPM') calculation for BoCom, using market data. Management also compares rates derived from the CAPM with discount rates from external sources. The discount rate used was within the range of 10.4% to 15.0% (2017: 10.2% to 13.4%) indicated by external sources.
- Loan impairment charge as a percentage of customer advances: an increased range from 0.73% to 0.79% (2017: 0.66% to 0.82%) in the short to medium term reflect US-China trade tensions. For periods after 2022, the ratio is 0.70% (2017: 0.70%), which is slightly higher than the historical average.
- Risk-weighted assets as a percentage of total assets: 62% (2017: 62%) for all forecast periods. This is slightly higher than BoCom's actual results and slightly lower than the forecasts disclosed by external analysts.
- Cost-income ratio: ranges from 38.7% to 39.0% (2017: 37.1% to 38.0%) in the short to medium term. This is consistent with the forecasts disclosed by external analysts.
- Effective tax rate: ranges from 13.8% to 22.3% (2017: 18.2% to 22.5%) in the short to medium term, reflecting an expected increase towards the long-term assumption. For periods after 2022, the rate is 22.5% (2017: 22.5%), which is slightly higher than the historical average.
- Regulatory capital requirements: capital adequacy ratio of 11.5% (2017:11.5%) and tier 1 capital adequacy ratio of 9.5% (2017: 9.5%), based on the minimum regulatory requirements.

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

Key assumption	Changes to key assumption to reduce headroom to nil
• Long-term profit growth rate	• decreases by 13 basis points
• Long-term asset growth rate	• increases by 12 basis points
• Discount rate	• increases by 16 basis points
• Loan impairment charge as a percentage of customer advances	• increases by 2 basis points
• Risk-weighted assets as a percentage of total assets	• increases by 77 basis points
• Cost-income ratio	• increases by 50 basis points
• Long-term effective tax rate	• increases by 123 basis points
• Regulatory capital requirements – capital adequacy ratio	• increases by 14 basis points
• Regulatory capital requirements – tier 1 capital adequacy ratio	• increases by 75 basis points

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

Sensitivity of VIU to reasonably possible changes in key assumptions

	Favourable change			Unfavourable change		
		Increase in VIU	VIU		Decrease in VIU	VIU
	bps	$bn	$bn	bps	$bn	$bn
At 31 Dec 2018						
Long-term profit growth rate	**100**	**2.6**	**20.6**	**(10)**	**(0.2)**	**17.8**
Long-term asset growth rate	**(10)**	**0.3**	**18.3**	**100**	**(2.8)**	**15.3**
Discount rate	**(142)**	**3.2**	**21.3**	**28**	**(0.5)**	**17.5**
Loan impairment charge as a percentage of customer advances	**2018-22: 0.70% 2023 onwards: 0.65%**	**0.9**	**18.9**	**2018-22: 0.83% 2023 onwards: 0.77%**	**(1.0)**	**17.0**
Risk-weighted assets as a percentage of total assets	**(140)**	**0.5**	**18.6**	**80**	**(0.3)**	**17.8**
Cost-income ratio	**(160)**	**1.1**	**19.2**	**200**	**(1.4)**	**16.7**
Long term effective tax rate	**(280)**	**0.7**	**18.7**	**250**	**(0.6)**	**17.5**
Earnings in short to medium term – compound annual growth rate[1]	**204**	**1.6**	**19.6**	**(366)**	**(2.5)**	**15.5**
Regulatory capital requirements – capital adequacy ratio	**—**	**—**	**18.0**	**258**	**(5.0)**	**13.0**
Regulatory capital requirements - tier 1 capital adequacy ratio	**—**	**—**	**18.0**	**243**	**(3.2)**	**14.8**
At 31 Dec 2017						
Long-term profit growth rate	200	6.6	24.9	—	—	18.3
Long-term asset growth rate	(20)	0.5	18.9	200	(7.1)	11.2
Discount rate	(35)	0.7	19.1	65	(1.2)	17.1
Loan impairment charge as a percentage of customer advances	2017-20: 0.71% 2021 onwards: 0.70%	0.1	18.5	2017-20: 0.90% 2021 onwards: 0.77%	(1.3)	17.0
Risk-weighted assets as a percentage of total assets	(60)	0.2	18.6	30	(0.1)	18.2
Cost-income ratio	(173)	1.5	19.8	—	—	18.3
Long-term effective tax rate	(120)	0.3	18.6	250	(0.67)	17.7
Earnings in short to medium term – compound annual growth rate[1]	288	2.8	21.1	(311)	(3.6)	14.7
Regulatory capital requirements – capital adequacy ratio	—	—	18.3	248	(5.6)	12.7
Regulatory capital requirements – tier 1 capital adequacy ratio	—	—	18.3	234	(3.5)	14.8

1 *Based on management's explicit forecasts over the short to medium term.*

Considering the interrelationship of the changes set out in the table above, management estimates that the reasonably possible range of VIU is $15.5bn to $19.6bn (2017: $14.7bn to $21.1bn). In 2018, the range is based on the favourable/unfavourable change in the earnings in the short to medium-term and long-term LICs set out in the table above. All other long-term assumptions, the discount rate and the basis of the CMC have been kept unchanged when determining the reasonably possible range of the VIU.

Selected financial information of BoCom

The statutory accounting reference date of BoCom is 31 December. For the year ended 31 December 2018, HSBC included the associate's results on the basis of the financial statements for the 12 months ended 30 September 2018, taking into account changes in the subsequent period from 1 October 2018 to 31 December 2018 that would have materially affected the results.

Selected balance sheet information of BoCom

	Footnotes	At 30 Sep 2018 $m	2017 $m
Cash and balances at central banks		**125,414**	146,029
Loans and advances to banks and other financial institutions		**102,980**	120,403
Loans and advances to customers		**686,951**	662,706
Other financial assets		**408,136**	386,067
Other assets		**42,106**	58,202
Total assets		**1,365,587**	1,373,407
Deposits by banks and other financial institutions		**304,395**	366,993
Customer accounts		**829,539**	747,882
Other financial liabilities		**94,900**	123,751
Other liabilities		**36,332**	32,568
Total liabilities		**1,265,166**	1,271,194
Total equity	1	**100,421**	102,213

1 *Due to the adoption of IFRS9, the opening equity of BoCom at 1 January 2018 was reduced by $4,053m.*

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

	At 30 Sep 2018 $m	2017 $m
HSBC's share of total shareholders' equity	**17,275**	17,551
Goodwill and other intangible assets	**479**	506
Carrying amount	**17,754**	18,057

Selected income statement information of BoCom

	For the 12 months ended 30 Sep 2018 $m	2017 $m
Net interest income	**19,295**	19,080
Net fee and commission income	**6,245**	5,698
Change in expected credit losses/loan impairment charges	**(5,602)**	(4,286)
Depreciation and amortisation	**(767)**	(1,342)
Tax expense	**(1,554)**	(2,234)
Profit for the year	**11,116**	10,288
Other comprehensive income	**190**	(624)
Total comprehensive income	**11,306**	9,664
Dividends received from BoCom	**611**	565

Summarised aggregate financial information for all associates excluding BoCom

	2018 $m	2017 $m
Carrying amount	**4,482**	4,520
HSBC's share of:		
– total assets	**20,470**	20,625
– total liabilities	**15,675**	16,119
– revenues	**959**	1,051
– profit or loss from continuing operations	**487**	487

Joint ventures

At 31 December 2018, the carrying amount of HSBC's interests in joint ventures was $163m (2017: $167m).

Associates and joint ventures

For the year ended 31 December 2018, HSBC's share of associates' and joint ventures' tax on profit was $306m (2017: $440m). This is included within 'Share of profit in associates and joint ventures' in the 'Consolidated income statement'.

Movements in interests in associates and joint ventures

	Footnotes	2018 $m	2017 $m
As at 31 Dec 2017		**22,744**	20,029
Impact on transition to IFRS 9		**(942)**	N/A
At 1 Jan		**21,802**	20,029
Additions		**81**	60
Disposals		**(85)**	(67)
Share of results		**2,536**	2,375
Dividends		**(910)**	(740)
Exchange differences		**(1,018)**	1,144
Share of other comprehensive income of associates and joint ventures		**(64)**	(43)
Other movements		**65**	(14)
At 31 Dec	1	**22,407**	22,744

1 *Includes goodwill of $511m (2017: $521m).*

19 Investments in subsidiaries

Main subsidiaries of HSBC Holdings

	At 31 Dec 2018		
	Place of incorporation or registration	**HSBC's interest %**	**Share class**
Europe			
HSBC Bank plc	**England and Wales**	**100**	**£1 Ordinary, $0.01 Non-cumulative third Dollar Preference**
HSBC UK Bank plc	**England and Wales**	**100**	**£1 Ordinary**
HSBC France	**France**	**99.99**	**€5 Actions**
HSBC Trinkaus & Burkhardt AG	**Germany**	**80.67**	**Stückaktien no par value**
Asia			
Hang Seng Bank Limited	**Hong Kong**	**62.14**	**HK$5 Ordinary**
HSBC Bank (China) Company Limited	**People's Republic of China**	**100**	**CNY1 Ordinary**
HSBC Bank Malaysia Berhad	**Malaysia**	**100**	**RM0.50 Ordinary**
HSBC Life (International) Limited	**Bermuda**	**100**	**HK$1 Ordinary**
The Hongkong and Shanghai Banking Corporation Limited	**Hong Kong**	**100**	**Ordinary no par value**
Middle East and North Africa			
HSBC Bank Middle East Limited	**United Arab Emirates**	**100**	**$1 Ordinary and $1 Cumulative Redeemable Preference shares (CRP)**
North America			
HSBC Bank Canada	**Canada**	**100**	**Common no par value and Preference no par value**
HSBC Bank USA, N.A.	**US**	**100**	**$100 Common and $0.01 Preference**
Latin America			
HSBC Mexico, S.A., Institución de Banca Múltiple, Grupo Financiero HSBC	**Mexico**	**99.99**	**MXN2 Ordinary**

Details of the debt, subordinated debt and preference shares issued by the main subsidiaries to parties external to the Group are included in Notes 25 'Debt securities in issue', 28 'Subordinated liabilities' and 31 'Non-controlling interests', respectively.

A list of all related undertakings is set out on pages 301 to 302. The principal countries of operation are the same as the countries and territories of incorporation except for HSBC Life (International) Limited, which operates mainly in Hong Kong.

HSBC is structured as a network of regional banks and locally incorporated regulated banking entities. Each bank is separately capitalised in accordance with applicable prudential requirements and maintains a capital buffer consistent with the Group's risk appetite for the relevant country or region. HSBC's capital management process is incorporated in the annual operating plan, which is approved by the Board.

HSBC Holdings is the primary provider of equity capital to its subsidiaries and also provides them with non-equity capital where necessary. These investments are substantially funded by HSBC Holdings' issuance of equity and non-equity capital, and by profit retention. The increase in HSBC Holding investments in subsidiaries of $67,300m during the year (2017: reduction of $2,920m) was driven by $82,570m of restructuring and new capital injections (2017: $1,744m), $2,200m part reversal of the impairment previously recognised in relation to HSBC Overseas Holdings (UK) Limited (2017: nil), $197m other movements (2017: reduction of $289m), partially offset by $17,348m net return of capital from subsidiaries (2017: $4,070m), $136m movement in impairment (2017: $63m) and $183m intra-Group disposals (2017: $242m). The part reversal of impairment in relation to HSBC Overseas Holdings (UK) Limited is due to an increase in the future expected cash flows from this entity.

As part of its capital management process, HSBC Holdings seeks to maintain a balance between the composition of its capital and its investment in subsidiaries. Subject to this, there is no current or foreseen impediment to HSBC Holdings' ability to provide funding for such investments. During 2018, consistent with the Group's capital plan, the Group's subsidiaries did not experience any significant restrictions on paying dividends or repaying loans and advances. Also, there are no foreseen restrictions envisaged with regard to planned dividends or payments. However, the ability of subsidiaries to pay dividends or advance monies to HSBC Holdings depends on, among other things, their respective local regulatory capital and banking requirements, exchange controls, statutory reserves, and financial and operating performance.

The amount of guarantees by HSBC Holdings in favour of other Group entities is set out in Note 33.

Information on structured entities consolidated by HSBC where HSBC owns less than 50% of the voting rights is included in Note 20 'Structured entities'. In each of these cases, HSBC controls and consolidates an entity when it is exposed, or has rights, to variable returns from its involvement with the entity and has the ability to affect those returns through its power over the entity.

Subsidiaries with significant non-controlling interests

	2018	2017
Hang Seng Bank Limited		
Proportion of ownership interests and voting rights held by non-controlling interests	**37.86%**	37.86%
Place of business	**Hong Kong**	Hong Kong
	$m	$m
Profit attributable to non-controlling interests	**1,194**	997
Accumulated non-controlling interests of the subsidiary	**6,637**	6,233
Dividends paid to non-controlling interests	**647**	594
Summarised financial information:		
– total assets	**197,867**	186,638
– total liabilities	**179,450**	169,275
– net operating income before changes in expected credit losses and other credit impairment charges	**5,294**	4,556
– profit for the year	**3,159**	2,632
– total comprehensive income for the year	**2,950**	2,895

20 Structured entities

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

Consolidated structured entities

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

	Conduits	Securitisations	HSBC managed funds	Other	Total
	$bn	$bn	$bn	$bn	$bn
At 31 Dec 2018	**9.2**	**5.7**	**6.5**	**4.4**	**25.8**
At 31 Dec 2017	12.9	4.8	7.0	3.2	27.9

Conduits

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

Securities investment conduits

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

- At 31 December 2018, Solitaire, HSBC's principal SIC, held $2.3bn of ABSs (2017: $3.2bn). These are included within the disclosures of ABSs on page 122. It is currently funded entirely by commercial paper ('CP') issued to HSBC. Although HSBC continues to provide a liquidity facility, Solitaire has no need to draw on it as long as HSBC purchases its issued CP, which HSBC intends to do for the foreseeable future. At 31 December 2018, HSBC held $3.4bn of CP (2017: $4.6bn).
- Mazarin is funded by medium-term notes, and is no longer funded by repurchase agreements. HSBC's primary exposure to Mazarin is represented by the amortised cost of the debt required to support the non-cash assets of the vehicles. At 31 December 2018, this amounted to $0.5bn (2017: $0.9bn). The first loss protection is provided through the capital notes issued by the vehicle, which are held substantially by third parties.
- Barion and Malachite's clean-up redemption conditions were triggered in March 2018 and August 2018 respectively, resulting in the full redemption of these vehicles.

Multi-seller conduit

HSBC's multi-seller conduit was established to provide access to flexible market-based sources of finance for its clients. Currently, HSBC bears risk equal to the transaction-specific facility offered to the multi-seller conduit, amounting to $16.1bn at 31 December 2018 (2017: $15.7bn). First loss protection is provided by the originator of the assets, and not by HSBC, through transaction-specific credit enhancements. A layer of secondary loss protection is provided by HSBC in the form of programme-wide enhancement facilities.

Securitisations

HSBC uses structured entities to securitise customer loans and advances it originates in order to diversify its sources of funding for asset origination and capital efficiency purposes. The loans and advances are transferred by HSBC to the structured entities for cash or synthetically through credit default swaps, and the structured entities issue debt securities to investors.

HSBC managed funds

HSBC has established a number of money market and non-money market funds. Where it is deemed to be acting as principal rather than agent in its role as investment manager, HSBC controls these funds.

Other

HSBC has entered into a number of transactions in the normal course of business, which include asset and structured finance transactions where it has control of the structured entity. In addition, HSBC is deemed to control a number of third-party managed funds through its involvement as a principal in the funds.

Unconsolidated structured entities

The term 'unconsolidated structured entities' refers to all structured entities not controlled by HSBC. The Group enters into transactions with unconsolidated structured entities in the normal course of business to facilitate customer transactions and for specific investment opportunities.

Nature and risks associated with HSBC interests in unconsolidated structured entities

	Securitisations	HSBC managed funds	Non-HSBC managed funds	Other	Total
Total asset values of the entities ($m)					
0–500	**76**	**243**	**906**	**79**	**1,304**
500–2,000	**10**	**56**	**570**	**5**	**641**
2,000–5,000	**1**	**17**	**230**	**—**	**248**
5,000–25,000	**—**	**5**	**90**	**1**	**96**
25,000+	**—**	**2**	**10**	**—**	**12**
Number of entities at 31 Dec 2018	**87**	**323**	**1,806**	**85**	**2,301**
	$bn	**$bn**	**$bn**	**$bn**	**$bn**
Total assets in relation to HSBC's interests in the unconsolidated structured entities	**3.8**	**8.3**	**8.9**	**4.7**	**25.7**
– trading assets	**—**	**0.1**	**0.3**	**1.3**	**1.7**
– financial assets designated and otherwise mandatorily measured at fair value	**—**	**7.3**	**7.9**	**—**	**15.2**
– loans and advances to customers	**3.8**	**—**	**0.3**	**2.7**	**6.8**
– financial investments	**—**	**0.9**	**0.4**	**0.3**	**1.6**
– other assets	**—**	**—**	**—**	**0.4**	**0.4**
Total liabilities in relation to HSBC's interests in the unconsolidated structured entities	**—**	**—**	**—**	**0.2**	**0.2**
– other liabilities	**—**	**—**	**—**	**0.2**	**0.2**
Other off-balance sheet commitments	**0.8**	**0.1**	**3.3**	**1.0**	**5.2**
HSBC's maximum exposure at 31 Dec 2018	**4.6**	**8.4**	**12.2**	**5.5**	**30.7**
Total asset values of the entities ($m)					
0–500	78	321	930	210	1,539
500–2,000	6	56	578	3	643
2,000–5,000	—	17	235	—	252
5,000–25,000	2	10	104	1	117
25,000+	—	2	11	—	13
Number of entities at 31 Dec 2017	86	406	1,858	214	2,564
	$bn	$bn	$bn	$bn	$bn
Total assets in relation to HSBC's interests in the unconsolidated structured entities	4.0	9.1	9.3	4.1	26.5
– trading assets	—	0.2	0.2	2.4	2.8
– financial assets designated at fair value	—	8.0	8.3	—	16.3
– loans and advances to banks	—	—	—	0.1	0.1
– loans and advances to customers	4.0	—	—	1.1	5.1
– financial investments	—	0.9	0.8	0.1	1.8
– other assets	—	—	—	0.4	0.4
Total liabilities in relation to HSBC's interests in the unconsolidated structured entities	—	—	—	0.3	0.3
– other liabilities	—	—	—	0.3	0.3
Other off-balance sheet commitments	—	0.1	2.2	0.3	2.6
HSBC's maximum exposure at 31 Dec 2017	4.0	9.2	11.5	4.4	29.1

The maximum exposure to loss from HSBC's interests in unconsolidated structured entities represents the maximum loss it could incur as a result of its involvement with these entities regardless of the probability of the loss being incurred.

- For commitments, guarantees and written credit default swaps, the maximum exposure to loss is the notional amount of potential future losses.
- For retained and purchased investments in and loans to unconsolidated structured entities, the maximum exposure to loss is the carrying value of these interests at the balance sheet reporting date.

The maximum exposure to loss is stated gross of the effects of hedging and collateral arrangements that HSBC has entered into in order to mitigate the Group's exposure to loss.

Securitisations

HSBC has interests in unconsolidated securitisation vehicles through holding notes issued by these entities. In addition, HSBC has investments in ABSs issued by third-party structured entities, as set out on page 121.

HSBC managed funds

HSBC establishes and manages money market funds and non-money market investment funds to provide customers with investment opportunities. Further information on funds under management is provided on page 65.

HSBC, as fund manager, may be entitled to receive management and performance fees based on the assets under management. HSBC may also retain units in these funds.

Non-HSBC managed funds

HSBC purchases and holds units of third-party managed funds in order to facilitate business and meet customer needs.

Other

HSBC has established structured entities in the normal course of business, such as structured credit transactions for customers, to provide finance to public and private sector infrastructure projects, and for asset and structured finance transactions.

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

HSBC sponsored structured entities

The amount of assets transferred to and income received from such sponsored structured entities during 2018 and 2017 were not significant.

21 Goodwill and intangible assets

		2018	2017
	Footnotes	**$m**	$m
Goodwill		**12,986**	13,588
Present value of in-force long-term insurance business		**7,149**	6,610
Other intangible assets	1	**4,222**	3,255
At 31 Dec	2	**24,357**	23,453

1 *Included within other intangible assets is internally generated software with a net carrying value of $3,632m (2017: $2,641m). During the year, capitalisation of internally generated software was $1,781m (2017: $1,157m) and amortisation was $687m (2017: $570m).*
2 *Information regarding the effects of adoption of IFRS 9 can be found in Note 37.*

Movement analysis of goodwill

	2018	2017
	$m	$m
Gross amount		
At 1 Jan	**22,902**	21,445
Exchange differences	**(617)**	1,490
Other	**(105)**	(33)
At 31 Dec	**22,180**	22,902
Accumulated impairment losses		
At 1 Jan	**(9,314)**	(9,115)
Exchange differences	**120**	(327)
Other	**—**	128
At 31 Dec	**(9,194)**	(9,314)
Net carrying amount at 31 Dec	**12,986**	13,588

Impairment testing

The Group's impairment test in respect of goodwill allocated to each cash-generating unit ('CGU') is performed as at 1 July each year. A review for indicators of impairment is undertaken at each subsequent quarter-end and as at 31 December 2018. No indicators of impairment were identified as part of these reviews.

Basis of the recoverable amount

The recoverable amount of all CGUs to which goodwill has been allocated was equal to its value in use ('VIU') at each respective testing date for 2017 and 2018. For each CGU, the VIU is calculated by discounting management's cash flow projections for the CGU. The key assumptions used in the VIU calculation for each significant CGU are discussed below.

Key assumptions in VIU calculation

	Goodwill at 1 Jul 2018	Discount rate	Nominal growth rate beyond initial cash flow projections	Goodwill at 1 Jul 2017	Discount rate	Nominal growth rate beyond initial cash flow projections
	$m	**%**	**%**	$m	%	%
Cash-generating unit						
Europe						
RBWM	**3,565**	**8.1**	**3.8**	3,508	8.9	3.7
CMB	**2,626**	**9.4**	**3.7**	2,570	9.9	3.6
Global						
GB&M	**4,045**	**9.8**	**5.6**	4,000	10.6	5.8

At 1 July 2018, aggregate goodwill of $3,061m (1 July 2017: $3,059m) had been allocated to CGUs that were not considered individually significant. The Group's CGUs do not carry on their balance sheets any significant intangible assets with indefinite useful lives, other than goodwill.

Management's judgement in estimating the cash flows of a CGU

The cash flow projections for each CGU are based on plans approved by the GMB. For the goodwill impairment test conducted at 1 July 2018, management's cash flow projections until the end of 2022 were used.

Discount rate

The rate used to discount the cash flows is based on the cost of capital assigned to each CGU, which is derived using a capital asset pricing model ('CAPM'). CAPM depends on a number of inputs reflecting financial and economic variables, including the risk-free rate and a premium to reflect the inherent risk of the business being evaluated. These variables are based on the market's assessment of the economic variables and management's judgement. The discount rates for each CGU are refined to reflect the rates of inflation for the countries within which the CGU operate. In addition, for the purposes of testing goodwill for impairment, management supplements this process by comparing the discount rates derived using the internally generated CAPM, with the cost of capital rates produced by external sources for businesses operating in similar markets.

Nominal long-term growth rate

The long-term growth rate is used to extrapolate the cash flows in perpetuity because of the long-term perspective within the Group of business units making up the CGUs. These growth rates reflect GDP and inflation for the countries within which the CGU operates or from which it derives revenue.

Sensitivities of key assumptions in calculating VIU

At 1 July 2018, none of the CGUs were sensitive to reasonably possible adverse changes in key assumptions supporting the recoverable amount. In making an estimate of reasonably possible changes to assumptions, management considers the available evidence in respect of each input to the model, such as the external range of discount rates observable, historical performance against forecast and risks attaching to the key assumptions underlying cash flow projections.

Present value of in-force long-term insurance business

When calculating the present value of in-force long-term ('PVIF') insurance business, expected cash flows are projected after adjusting for a variety of assumptions made by each insurance operation to reflect local market conditions and management's judgement of future trends, and uncertainty in the underlying assumptions is reflected by applying margins (as opposed to a cost of capital methodology). Variations in actual experience and changes to assumptions can contribute to volatility in the results of the insurance business.

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

Movements in PVIF

		2018	2017
	Footnotes	$m	$m
As at 31 Dec 2017		**6,610**	6,502
Impact on transition to IFRS 9		**(78)**	N/A
At 1 Jan		**6,532**	6,502
Change in PVIF of long-term insurance business		**673**	24
– value of new business written during the year		**1,117**	919
– expected return	1	**(719)**	(599)
– assumption changes and experience variances (see below)		**292**	(280)
– other adjustments		**(17)**	(16)
Exchange differences and other movements		**(56)**	84
At 31 Dec		**7,149**	6,610

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

Assumption changes and experience variances

Included within this line item are:

- $(56)m (2017: $(98)m), directly offsetting regulatory-driven changes to the valuation of liabilities under insurance contracts.
- $455m (2017: $(141)m), reflecting the future expected sharing of returns with policyholders on contracts with discretionary participation features ('DPF'), to the extent this sharing is not already included in liabilities under insurance contracts.
- $(107)m (2017: $(41)m), driven by other assumptions changes and experience variances.

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

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

	2018		2017	
	Hong Kong	France[1]	Hong Kong	France[1]
	%	%	%	%
Weighted average risk-free rate	**2.29**	**1.52**	2.02	1.50
Weighted average risk discount rate	**5.90**	**2.35**	6.20	2.20
Expense inflation	**3.00**	**1.70**	3.00	1.48

1 *For 2018, the calculation of France's PVIF assumes a risk discount rate of 2.35% (2017: 2.20%) plus a risk margin of $109m (2017: $80m).*

Sensitivity to changes in economic assumptions

The Group sets the risk discount rate applied to the PVIF calculation by starting from a risk-free rate curve and adding explicit allowances for risks not reflected in the best-estimate cash flow modelling. Where the insurance operations provide options and guarantees to policyholders the cost of these options and guarantees is an explicit reduction to PVIF, unless it is already allowed for as an explicit addition to the technical provisions required by regulators. See page 145 for further details of these guarantees and the impact of changes in economic assumptions on our insurance manufacturing subsidiaries.

Sensitivity to changes in non-economic assumptions

Policyholder liabilities and PVIF are determined by reference to non-economic assumptions, including mortality and/or morbidity, lapse rates and expense rates. See page 146 for further details on the impact of changes in non-economic assumptions on our insurance manufacturing operations.

22 Prepayments, accrued income and other assets

	Footnotes	2018 $m	2017 $m
Prepayments and accrued income		**8,715**	7,929
Settlement accounts	1, 2	**13,957**	N/A
Cash collateral and margin receivables	1, 2	**33,202**	N/A
Assets held for sale		**735**	781
Bullion		**13,753**	13,128
Endorsements and acceptances		**9,623**	9,750
Reinsurers' share of liabilities under insurance contracts (Note 4)		**2,506**	2,471
Employee benefit assets (Note 6)		**7,934**	8,752
Property, plant and equipment		**10,060**	10,027
Other accounts		**10,086**	14,353
At 31 Dec		**110,571**	67,191

1 *Settlement accounts, cash collateral and margin receivables were reclassified from 'Trading assets' to 'Other assets' on 1 January 2018 and comparative data was not restated. This reclassification was in accordance with IFRS 9. See Note 37 for further details.*
2 *Settlement accounts, cash collateral and margin receivables were reclassified from 'Loans and advances to banks and customers' to 'Other assets' on 1 January 2018. This reclassification is to better reflect the nature of these balances and ensure consistency of presentation. Comparative data was not restated as the reclassification is not significant in the context of other changes to the balance sheet resulting from the adoption of IFRS 9. See Note 37 for further details.*

Prepayments, accrued income and other assets include $74,151m (2017: $30,431m) of financial assets, the majority of which are measured at amortised cost.

23 Trading liabilities

	Footnotes	2018 $m	2017 $m
Deposits by banks	1, 2	**4,871**	23,297
Customer accounts	1, 2, 3	**8,614**	52,595
Other debt securities in issue (Note 25)	4	**1,400**	40,734
Other liabilities – net short positions in securities		**69,546**	67,735
At 31 Dec		**84,431**	184,361

1 *'Deposits by banks' and 'Customer accounts' include repos, stock lending and other amounts.*
2 *Settlement accounts, cash collateral and margin payables included within 'Deposits by banks' and 'Customer accounts' were reclassified from 'Trading liabilities' to 'Other liabilities' on 1 January 2018. This reclassification is to better reflect the nature of these balances and ensure consistency of presentation. Structured liabilities have moved from 'Trading liabilities' to 'Financial liabilities designated at fair value'. Comparative data was not restated as the reclassification is not significant in the context of other changes to the balance sheet resulting from the adoption of IFRS 9. See Note 37 for further details.*
3 *Structured deposits placed at HSBC Bank USA and HSBC Trust Company (Delaware) National Association are insured by the Federal Deposit Insurance Corporation, a US government agency, up to $250,000 per depositor.*
4 *'Other debt securities in issue' comprises structured notes issued by HSBC for which market risks are actively managed as part of trading portfolios.*

24 Financial liabilities designated at fair value

HSBC

	Footnotes	2018 $m	2017 $m
Deposits by banks and customer accounts	1	**19,003**	145
Liabilities to customers under investment contracts		**5,458**	5,635
Debt securities in issue (Note 25)	1	**109,351**	64,359
Subordinated liabilities (Note 28)		**14,282**	23,831
Preferred securities (Note 28)		**411**	459
At 31 Dec		**148,505**	94,429

1 *Structured liabilities have moved from 'Trading liabilities' to 'Financial liabilities designated at fair value'. Comparatives have not been restated. See Note 37 for further detail.*

The carrying amount of financial liabilities designated at fair value was $11,496m less than the contractual amount at maturity (2017: $5,343m more). The cumulative amount of change in fair value attributable to changes in credit risk was $209m (2017: loss of $4,107m).

HSBC Holdings

	2018 $m	2017 $m
Debt securities in issue (Note 25)	**17,767**	17,496
Subordinated liabilities (Note 28)	**7,282**	13,394
At 31 Dec	**25,049**	30,890

The carrying amount of financial liabilities designated at fair value was $920m more than the contractual amount at maturity (2017: $3,370m more). The cumulative amount of change in fair value attributable to changes in credit risk was a loss of $812m (2017: loss of $2,209m).

25 Debt securities in issue

HSBC

	Footnotes	2018 $m	2017 $m
Bonds and medium-term notes		**162,277**	146,539
Other debt securities in issue		**33,816**	23,100
Total debt securities in issue		**196,093**	169,639
Included within:			
– trading liabilities (Note 23)	1	**(1,400)**	(40,734)
– financial liabilities designated at fair value (Note 24)	1	**(109,351)**	(64,359)
At 31 Dec		**85,342**	64,546

1 *Structured liabilities (including debt securities in issue) have moved from 'Trading liabilities' to 'Financial liabilities designated at fair value'. Comparatives have not been restated. See Note 37 for further detail.*

HSBC Holdings

	2018 $m	2017 $m
Debt securities	**68,567**	51,754
Included within:		
– financial liabilities designated at fair value (Note 24)	**(17,767)**	(17,496)
At 31 Dec	**50,800**	34,258

26 Accruals, deferred income and other liabilities

	Footnotes	2018 $m	2017 $m
Accruals and deferred income		**11,296**	11,521
Settlement accounts	1	**13,022**	N/A
Cash collateral and margin payables	1	**41,044**	N/A
Endorsements and acceptances		**9,633**	9,746
Employee benefit liabilities (Note 6)		**2,167**	2,152
Liabilities of disposal groups held for sale		**313**	1,286
Other liabilities		**19,905**	21,202
At 31 Dec		**97,380**	45,907

1 *Settlement accounts, cash collateral and margin payables were reclassified from 'Trading liabilities', 'Deposits by banks' and 'Customer accounts' to 'Other liabilities' on 1 January 2018. This reclassification is to better reflect the nature of these balances and ensure consistency of presentation. Comparative data was not restated as the reclassification is not significant in the context of other changes to the balance sheet resulting from the adoption of IFRS 9. See Note 37 for further details.*

Accruals, deferred income and other liabilities include $87,390m (2017: $34,048m) of financial liabilities, the majority of which are measured at amortised cost.

27 Provisions

	Restructuring costs	Legal proceedings and regulatory matters	Customer remediation	Other provisions	Total
	$m	$m	$m	$m	$m
Provisions (excluding contractual commitments)					
At 31 Dec 2017	**334**	**1,501**	**1,454**	**469**	**3,758**
Additions	**73**	**1,132**	**288**	**232**	**1,725**
Amounts utilised	**(158)**	**(1,255)**	**(838)**	**(143)**	**(2,394)**
Unused amounts reversed	**(107)**	**(279)**	**(90)**	**(131)**	**(607)**
Exchange and other movements	**(12)**	**29**	**(26)**	**(70)**	**(79)**
At 31 Dec 2018	**130**	**1,128**	**788**	**357**	**2,403**
Contractual commitments[1]					
At 31 Dec 2017					**253**
Impact on transition to IFRS 9					**284**
Net change in expected credit loss provision and other movements					**(20)**
At 31 Dec 2018					**517**
Total Provisions					
At 31 Dec 2017					**4,011**
At 31 Dec 2018					**2,920**

	Restructuring costs	Contractual commitments[1]	Legal proceedings and regulatory matters	Customer remediation	Other provisions	Total
	$m	$m	$m	$m	$m	$m
At 1 Jan 2017	551	298	2,436	1,124	364	4,773
Additions	204	87	829	820	280	2,220
Amounts utilised	(353)	(3)	(850)	(543)	(133)	(1,882)
Unused amounts reversed	(103)	(135)	(980)	(52)	(107)	(1,377)
Exchange and other movements	35	6	66	105	65	277
At 31 Dec 2017	334	253	1,501	1,454	469	4,011

1 *The contractual commitments provision at 31 December 2017 represented IAS 37 provisions on off-balance sheet loan commitments and guarantees, for which expected credit losses are provided following transition to IFRS 9 on 1 January 2018. It further includes provisions in respect of insurance contracts.*

Further details of 'Legal proceedings and regulatory matters' are set out in Note 35. Legal proceedings include civil court, arbitration or tribunal proceedings brought against HSBC companies (whether by way of claim or counterclaim), or civil disputes that may, if not settled, result in court, arbitration or tribunal proceedings. Regulatory matters refer to investigations, reviews and other actions carried out by, or in response to the actions of, regulators or law enforcement agencies in connection with alleged wrongdoing by HSBC.

Customer remediation refers to HSBC's activities to compensate customers for losses or damages associated with a failure to comply with regulations or to treat customers fairly. Customer remediation is often initiated by HSBC in response to customer complaints and/or industry developments in sales practices, and is not necessarily initiated by regulatory action. Further details of customer remediation are set out in this note.

Refer to Note 37 for further information on the impact of IFRS 9 on undrawn loan commitments and financial guarantees, presented in 'Contractual commitments'. This provision results from the adoption of IFRS 9 and has no comparatives. Further analysis of the movement in the expected credit loss provision is disclosed within the 'Reconciliation of allowances for loans and advances to banks and customers including loan commitments and financial guarantees' table on page 100.

Payment protection insurance

At 31 December 2018, $555m (2017: $1,174m) of the customer remediation provision relates to the estimated liability for redress in respect of the possible mis-selling of payment protection insurance ('PPI') policies in previous years.

An increase in provisions of $79m was recognised during the second half of 2018, primarily reflecting an adjustment to expected future complaint volumes as a result of increased levels of observed complaints and of information requests during the year.

The estimated liability for redress is calculated on the basis of the total premiums paid by the customer plus simple interest of 8% per annum (or the rate inherent in the related loan product where higher). The basis for calculating the redress liability is the same for single premium and regular premium policies. Future estimated redress levels are based on the historically observed redress per policy.

A total of 5.4 million PPI policies have been sold since 2000, generating estimated revenue of $3.3bn at 2018. The gross written premiums on these policies were approximately $4.4bn.

At 31 December 2018, the estimated total complaints expected to be received were 2.3 million, representing 42% of total policies sold. It is estimated that contact will be made with regard to 2.6 million policies, representing 49% of total policies sold. This estimate includes inbound complaints as well as the Group's proactive contact exercise on certain policies ('outbound contact').

The following table details the cumulative number of complaints received at 31 December 2018 and the number of claims expected in the future:

Cumulative PPI complaints received to 31 December 2018 and future claims expected

	Footnotes	Cumulative actual to 31 Dec 2018	Future expected
Inbound complaints (000s of policies)	1	**1,777**	**183**
Outbound contact (000s of policies)		**685**	**–**
Response rate to outbound contact		**44%**	**n/a**
Average uphold rate per claim	2	**77%**	**83%**
Average redress per claim ($)		**2,729**	**3,130**
Complaints to Financial Ombudsman Service (000s of policies)		**166**	**9**
Average uphold rate per Financial Ombudsman Service claim		**38%**	**32%**

1 *Excludes invalid claims for which no PPI policy exists.*
2 *Claims include inbound and responses to outbound contact.*

A 100,000 increase/decrease in the total inbound complaints would increase/decrease the redress provision by approximately $260m at 2018 average exchange rates.

28 Subordinated liabilities

HSBC's subordinated liabilities

	2018 $m	2017 $m
At amortised cost	**22,437**	19,826
– subordinated liabilities	**20,651**	17,988
– preferred securities	**1,786**	1,838
Designated at fair value (Note 24)	**14,693**	24,290
– subordinated liabilities	**14,282**	23,831
– preferred securities	**411**	459
At 31 Dec	**37,130**	44,116
Issued by HSBC subsidiaries	**13,168**	15,470
Issued by HSBC Holdings	**23,962**	28,646

Subordinated liabilities rank behind senior obligations and generally count towards the capital base of HSBC. Capital securities may be called and redeemed by HSBC subject to prior notification to the PRA and, where relevant, the consent of the local banking regulator. If not redeemed at the first call date, coupons payable may step up or become floating rate based on interbank rates. On capital securities other than floating rate notes, interest is payable at fixed rates of up to 10.176%.

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

HSBC's subordinated liabilities in issue

		Footnotes	First call date	Maturity date	2018 $m	2017 $m
Additional tier 1 capital securities guaranteed by HSBC Holdings plc		1				
$900m	10.176% non-cumulative step-up perpetual preferred securities, series 2		Jun 2030		**892**	892
					892	892
Additional tier 1 capital securities guaranteed by HSBC Bank plc		1				
£300m	5.862% non-cumulative step-up perpetual preferred securities		Apr 2020		**411**	459
£700m	5.844% non-cumulative step-up perpetual preferred securities		Nov 2031		**894**	946
					1,305	1,405
Tier 2 securities issued by HSBC Bank plc						
$750m	Undated floating rate primary capital notes		Jun 1990		**750**	750
$500m	Undated floating rate primary capital notes		Sep 1990		**500**	500
$300m	Undated floating rate primary capital notes, series 3		Jun 1992		**300**	300
$300m	7.65% subordinated notes		—	May 2025	**300**	375
					1,850	1,925
£350m	5.00% callable subordinated notes	2	Mar 2018	Mar 2023	**–**	496
£300m	6.50% subordinated notes		—	Jul 2023	**382**	405
£350m	5.375% callable subordinated step-up notes	3	Nov 2025	Nov 2030	**513**	584
£500m	5.375% subordinated notes		—	Aug 2033	**757**	912
£225m	6.25% subordinated notes		—	Jan 2041	**286**	303
£600m	4.75% subordinated notes		—	Mar 2046	**758**	802
					4,546	5,427
Tier 2 securities issued by The Hongkong and Shanghai Banking Corporation Ltd						
$400m	Primary capital undated floating rate notes (third series)		Jul 1991		**400**	400
					400	400
Tier 2 securities issued by HSBC Bank Malaysia Berhad						
MYR500m	5.05% subordinated bonds		Nov 2022	Nov 2027	**121**	123
					121	123
Tier 2 securities issued by HSBC USA Inc.						
$750m	5.00% subordinated notes		—	Sep 2020	**747**	748
$250m	7.20% subordinated debentures		—	Jul 2097	**221**	221
	Other subordinated liabilities each less than $150m	4			**269**	277
					1,237	1,246
Tier 2 securities issued by HSBC Bank USA, N.A.						
$1,250m	4.875% subordinated notes		—	Aug 2020	**1,226**	1,236
$1,000m	5.875% subordinated notes		—	Nov 2034	**1,106**	1,272
$750m	5.625% subordinated notes		—	Aug 2035	**829**	955
$700m	7.00% subordinated notes		—	Jan 2039	**697**	700
					3,858	4,163
Tier 2 securities issued by HSBC Finance Corporation						
$2,939m	6.676% senior subordinated notes	5	—	Jan 2021	**507**	1,092
Tier 2 securities issued by HSBC Bank Canada						
	Other subordinated liabilities each less than $150m		Oct 1996	Nov 2083	**29**	31
					29	31
Securities issued by HSBC Mexico, S.A.						
$300m	Non-convertible subordinated obligations	6, 7	Jun 2014	Jun 2019	**–**	240
	Other subordinated liability less than $150m	2, 6			**–**	115
					–	355
Securities issued by other HSBC subsidiaries						
Other subordinated liabilities each less than $200m		4			**273**	336
Subordinated liabilities issued by HSBC subsidiaries at 31 Dec		8			**13,168**	15,470

1 See paragraph below, 'Guaranteed by HSBC Holdings or HSBC Bank plc'.
2 These securities were redeemed in the first quarter of 2018.
3 The interest rate payable after November 2025 is the sum of the three-month sterling Libor plus 1.50% percentage points.
4 Some securities included here are ineligible for inclusion in the capital base of HSBC.
5 HSBC tendered for these securities in 2017. In January 2018, a further tender was conducted. The principal balance is now $507m. The original notional of these securities is $2,939m.
6 These securities are ineligible for inclusion in the capital base of HSBC.
7 Approximately $60m of these securities were held by HSBC Holdings.
8 Information regarding the effects of adoption of IFRS 9 can be found in Note 37.

HSBC Holdings' subordinated liabilities

	2018 $m	2017 $m
At amortised cost	**17,715**	15,877
Designated at fair value (Note 24)	**7,282**	13,394
At 31 Dec	**24,997**	29,271

HSBC Holdings' subordinated liabilities in issue

		Footnotes	First call date	Maturity date	2018 $m	2017 $m
Tier 2 securities issued by HSBC Holdings plc						
Amounts owed to third parties						
$2,000m	4.25% subordinated notes	2,3	—	Mar 2024	**2,001**	2,038
$1,500m	4.25% subordinated notes	2	—	Aug 2025	**1,494**	1,586
$1,500m	4.375% subordinated notes	2	—	Nov 2026	**1,470**	1,580
$488m	7.625% subordinated notes	1	—	May 2032	**549**	553
$222m	7.35% subordinated notes	1	—	Nov 2032	**246**	248
$2,000m	6.5% subordinated notes	1	—	May 2036	**2,040**	2,042
$2,500m	6.5% subordinated notes	1	—	Sep 2037	**2,419**	3,365
$1,500m	6.8% subordinated notes	1	—	Jun 2038	**1,489**	1,489
$1,500m	5.25% subordinated notes	2,3	—	Mar 2044	**1,661**	1,755
£650m	5.75% subordinated notes	2	—	Dec 2027	**960**	1,114
£650m	6.75% subordinated notes	2	—	Sep 2028	**826**	873
£750m	7.0% subordinated notes	2	—	Apr 2038	**992**	1,043
£900m	6.0% subordinated notes	2	—	Mar 2040	**1,156**	1,199
€1,600m	6.25% subordinated notes	2	—	Mar 2018	**—**	1,918
€1,750m	6.0% subordinated notes	2	—	Jun 2019	**2,125**	2,349
€1,500m	3.375% subordinated notes	2,3	Jan 2019	Jan 2024	**1,719**	1,827
€1,500m	3.0% subordinated notes	2	—	Jun 2025	**1,725**	2,037
€1,000m	3.125% subordinated notes	2	—	Jun 2028	**1,233**	1,363
					24,105	28,379
Amounts owed to HSBC undertakings						
$900m	10.176% subordinated step-up cumulative notes		Jun 2030	Jun 2040	**892**	892
					892	892
At 31 Dec					**24,997**	29,271

1 Amounts owed to third parties represent securities included in the capital base of HSBC as tier 2 securities in accordance with the grandfathering provisions under CRD IV rules.
2 These securities are included in the capital base of HSBC as fully CRD IV-compliant tier 2 securities on an end point basis.
3 These subordinated notes are measured at amortised cost in HSBC Holdings, where the interest rate risk is hedged using a fair value hedge, while they are measured at fair value in the Group.

Additional tier 1 capital securities

Additional tier 1 capital securities are perpetual subordinated securities on which coupon payments may be deferred or cancelled at the discretion of HSBC. The securities presented in this Note are accounted for as liabilities because HSBC has an obligation to pay dividends in perpetuity. See Note 32 for additional tier 1 capital securities accounted for as equity.

The additional tier 1 securities presented in this section do not meet the identifying criteria in full for recognition as tier 1 capital under CRD IV, but are eligible as regulatory capital subject to grandfathering limits and progressive phase-out.

Guaranteed by HSBC Holdings or HSBC Bank plc

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

These preferred securities, together with the guarantee, are intended to provide investors with economic rights equivalent to the rights that they would have had if they had purchased non-cumulative perpetual preference shares of the relevant issuer. There are limitations on the payment of distributions if such payments are prohibited under UK banking regulations or other requirements, if a payment would cause a breach of HSBC's capital adequacy requirements, or if HSBC Holdings or HSBC Bank plc has insufficient distributable reserves (as defined).

HSBC Holdings and HSBC Bank plc have individually covenanted that, if prevented under certain circumstances from paying distributions on the preferred securities in full, they will not pay dividends or other distributions in respect of their ordinary shares, or repurchase or redeem their ordinary shares, until the distribution on the preferred securities has been paid in full.

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

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

Tier 2 capital securities

Tier 2 capital securities are either perpetual or dated subordinated securities on which there is an obligation to pay coupons. These capital securities are included within HSBC's regulatory capital base as tier 2 capital under CRD IV by virtue of the application of grandfathering provisions (with the exception of identified securities that are compliant with CRD IV end point rules). In accordance with CRD IV, the capital contribution of all tier 2 securities is amortised for regulatory purposes in their final five years before maturity.

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

The table on page 281 provides an analysis of consolidated total assets, liabilities and off-balance sheet commitments by residual contractual maturity at the balance sheet date. These balances are included in the maturity analysis as follows:

- Trading assets and liabilities (including trading derivatives but excluding reverse repos, repos and debt securities in issue) are included in the 'Due not more than 1 month' time bucket, because trading balances are typically held for short periods of time.
- Financial assets and liabilities with no contractual maturity (such as equity securities) are included in the 'Due over 5 years' time bucket. Undated or perpetual instruments are classified based on the contractual notice period, which the counterparty of the instrument is entitled to give. Where there is no contractual notice period, undated or perpetual contracts are included in the 'Due over 5 years' time bucket.
- Non-financial assets and liabilities with no contractual maturity are included in the 'Due over 5 years' time bucket.
- Financial instruments included within assets and liabilities of disposal groups held for sale are classified on the basis of the contractual maturity of the underlying instruments and not on the basis of the disposal transaction.
- Liabilities under insurance contracts are included in the 'Due over 5 years' time bucket. Liabilities under investment contracts are classified in accordance with their contractual maturity. Undated investment contracts are included in the 'Due over 5 years' time bucket, however, such contracts are subject to surrender and transfer options by the policyholders.
- Loan and other credit-related commitments are classified on the basis of the earliest date they can be drawn down.

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

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

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

	Due not more than 1 month	Due over 1 month but not more than 3 months	Due over 3 months but not more than 6 months	Due over 6 months but not more than 9 months	Due over 9 months but not more than 1 year	Due over 1 year but not more than 2 years	Due over 2 years but not more than 5 years	Due over 5 years	Total
	$m	$m	$m	$m	$m	$m	$m	$m	$m
Financial assets									
Cash and balances at central banks	180,624	–	–	–	–	–	–	–	180,624
Items in the course of collection from other banks	6,628	–	–	–	–	–	–	–	6,628
Hong Kong Government certificates of indebtedness	34,186	–	–	–	–	–	–	–	34,186
Trading assets	284,781	1,432	642	–	1,140	–	–	–	287,995
Financial assets designated at fair value	612	93	230	162	197	556	2,068	25,546	29,464
Derivatives	218,103	162	97	124	42	234	592	464	219,818
Loans and advances to banks	61,968	10,665	4,212	2,344	1,502	5,799	2,491	1,412	90,393
Loans and advances to customers	195,577	65,469	49,860	34,107	37,176	93,065	218,784	268,926	962,964
– personal	42,593	9,126	8,483	7,441	7,492	23,552	61,238	214,837	374,762
– corporate and commercial	124,669	50,532	36,046	22,932	26,577	61,785	144,451	49,762	516,754
– financial	28,315	5,811	5,331	3,734	3,107	7,728	13,095	4,327	71,448
Reverse repurchase agreements – non-trading	144,244	30,289	7,951	2,194	3,960	1,072	4,598	7,245	201,553
Financial investments	31,981	51,487	31,634	13,446	17,647	40,582	90,366	111,933	389,076
Accrued income and other financial assets	19,259	5,795	2,050	358	411	652	513	2,046	31,084
Financial assets at 31 Dec 2017	1,177,963	165,392	96,676	52,735	62,075	141,960	319,412	417,572	2,433,785
Non-financial assets	–	–	–	–	–	–	–	87,986	87,986
Total assets at 31 Dec 2017	1,177,963	165,392	96,676	52,735	62,075	141,960	319,412	505,558	2,521,771
Off-balance sheet commitments received									
Loan and other credit-related commitments[3]	36,200	–	–	–	–	–	–	–	36,200
Financial liabilities									
Hong Kong currency notes in circulation	34,186	–	–	–	–	–	–	–	34,186
Deposits by banks	56,829	1,961	1,097	616	157	361	7,393	1,508	69,922
Customer accounts[1]	1,269,003	44,129	21,596	11,570	10,757	4,527	2,257	623	1,364,462
– personal	648,040	22,938	13,489	6,810	5,727	2,753	1,557	119	701,433
– corporate and commercial	458,937	16,496	6,983	3,712	3,970	1,705	641	451	492,895
– financial	162,026	4,695	1,124	1,048	1,060	69	59	53	170,134
Repurchase agreements – non-trading	113,208	14,042	1,592	160	–	–	1,000	–	130,002
Items in the course of transmission to other banks	6,850	–	–	–	–	–	–	–	6,850
Trading liabilities	145,028	2,026	2,177	2,130	3,077	5,038	12,814	12,071	184,361
Financial liabilities designated at fair value	80	281	2,094	271	2,798	4,215	22,468	62,222	94,429
– debt securities in issue: covered bonds	–	–	–	209	–	212	2,494	1,654	4,569
– debt securities in issue: unsecured	55	95	2,087	62	2,797	1,654	19,505	33,535	59,790
– subordinated liabilities and preferred securities	–	–	–	–	–	2,349	459	21,482	24,290
– other	25	186	7	–	1	–	10	5,551	5,780
Derivatives	213,011	79	141	140	202	504	1,107	1,637	216,821
Debt securities in issue	6,081	6,295	5,228	5,795	9,240	6,725	22,767	2,415	64,546
– covered bonds	–	–	–	–	1	3	10	34	48
– otherwise secured	3,479	4	–	–	1,000	1,100	914	1,193	7,690
– unsecured	2,602	6,291	5,228	5,795	8,239	5,622	21,843	1,188	56,808
Accruals and other financial liabilities	18,009	9,547	2,798	749	717	1,007	1,569	938	35,334
Subordinated liabilities	–	1,918	73	36	132	273	3,595	13,799	19,826
Total financial liabilities at 31 Dec 2017	1,862,285	80,278	36,796	21,467	27,080	22,650	74,970	95,213	2,220,739
Non-financial liabilities	–	–	–	–	–	–	–	103,161	103,161
Total liabilities at 31 Dec 2017	1,862,285	80,278	36,796	21,467	27,080	22,650	74,970	198,374	2,323,900
Off-balance sheet commitments given									
Loan and other credit-related commitments[3]	669,485	39,192	3,812	2,103	4,686	3,436	4,423	2,349	729,486
– personal	187,545	2,001	340	343	1,583	1,033	952	513	194,310
– corporate and commercial	388,778	32,011	2,782	1,322	2,309	2,403	2,804	1,716	434,125
– financial	93,162	5,180	690	438	794	–	667	120	101,051

1 *'Customer accounts' includes $364,729m (2017: $386,417m) insured by guarantee schemes.*
2 *Structured liabilities have moved from 'Trading liabilities' to 'Financial liabilities designated at fair value'. Comparatives have not been restated. See Note 37 for further detail.*
3 *31 December 2017 balances have been restated to include $44bn of loan commitments given (unsettled reverse repurchase agreements) and $30bn of loan commitments received (unsettled repurchase agreements) not previously identified for disclosure. The $30bn of loan commitments received are reported within 'Due not more than 1 month'.*

HSBC Holdings

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

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

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

	Due not more than 1 month	Due over 1 month but not more than 3 months	Due over 3 months but not more than 6 months	Due over 6 months but not more than 9 months	Due over 9 months but not more than 1 year	Due over 1 year but not more than 2 years	Due over 2 years but not more than 5 years	Due over 5 years	Total
	$m	$m	$m	$m	$m	$m	$m	$m	$m
Financial assets									
Cash at bank and in hand:									
– balances with HSBC undertakings	1,985	—	—	—	—	—	—	—	1,985
Derivatives	1,952	—	—	—	—	80	—	356	2,388
Loans and advances to HSBC undertakings	4,861	13,039	3,145	5	2	1,134	29,560	24,881	76,627
Loans and advances to HSBC undertakings designated at fair value	—	—	—	—	—	—	2,411	9,533	11,944
Financial investments in HSBC undertakings	17	3	—	—	—	—	1,798	2,446	4,264
Accrued income and other financial assets	—	4	—	—	—	—	—	123	127
Total financial assets at 31 Dec 2017	8,815	13,046	3,145	5	2	1,214	33,769	37,339	97,335
Non-financial assets	—	—	—	—	—	—	—	94,399	94,399
Total assets at 31 Dec 2017	8,815	13,046	3,145	5	2	1,214	33,769	131,738	191,734
Financial liabilities									
Amounts owed to HSBC undertakings	120	2,405	46	—	—	—	—	—	2,571
Financial liabilities designated at fair value	—	—	—	—	—	2,349	11,491	17,050	30,890
– debt securities in issue	—	—	—	—	—	—	11,491	6,005	17,496
– subordinated liabilities and preferred securities	—	—	—	—	—	2,349	—	11,045	13,394
Derivatives	2,008	—	—	—	—	110	183	781	3,082
Debt securities in issue	—	—	—	—	1,081	—	10,354	22,823	34,258
Accruals and other financial liabilities	439	395	157	39	7	3	1	11	1,052
Subordinated liabilities	—	1,918	—	—	—	—	—	13,959	15,877
Total financial liabilities at 31 Dec 2017	2,567	4,718	203	39	1,088	2,462	22,029	54,624	87,730
Non-financial liabilities	—	—	—	—	—	—	—	217	217
Total liabilities at 31 Dec 2017	2,567	4,718	203	39	1,088	2,462	22,029	54,841	87,947
Off-balance sheet commitments given									
Undrawn formal standby facilities, credit lines and other commitments to lend	—	—	—	—	—	—	—	—	—

30 Offsetting of financial assets and financial liabilities

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

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

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

Offsetting of financial assets and financial liabilities

		Amounts subject to enforceable netting arrangements								
					Amounts not set off in the balance sheet					
	Footnotes	Gross amounts	Amounts offset	Net amounts in the balance sheet	Financial instruments	Non-cash collateral	Cash collateral	Net amount	Amounts not subject to enforceable netting arrangements[5]	Total
		$m	$m	$m	$m	$m	$m	$m	$m	$m
Financial assets										
Derivatives (Note 15)	1	**250,275**	**(49,711)**	**200,564**	**(145,785)**	**(9,986)**	**(38,031)**	**6,762**	**7,261**	**207,825**
Reverse repos, stock borrowing and similar agreements classified as:	2									
– trading assets		**18,217**	**(790)**	**17,427**	**(1,244)**	**(16,179)**	**—**	**4**	**853**	**18,280**
– non-trading assets		**372,358**	**(167,313)**	**205,045**	**(21,788)**	**(182,995)**	**(100)**	**162**	**37,759**	**242,804**
Loans and advances to customers	3	**40,534**	**(12,468)**	**28,066**	**(21,245)**	**—**	**—**	**6,821**	**536**	**28,602**
At 31 Dec 2018		**681,384**	**(230,282)**	**451,102**	**(190,062)**	**(209,160)**	**(38,131)**	**13,749**	**46,409**	**497,511**
Derivatives (Note 15)	1	322,422	(110,425)	211,997	(156,088)	(11,092)	(37,302)	7,515	7,821	219,818
Reverse repos, stock borrowing and similar agreements classified as:	2									
– trading assets		15,893	—	15,893	(430)	(15,462)	—	1	1,227	17,120
– non-trading assets		265,666	(105,776)	159,890	(3,714)	(155,973)	(49)	154	41,663	201,553
Loans and advances to customers	3	42,091	(10,424)	31,667	(26,390)	—	(181)	5,096	619	32,286
At 31 Dec 2017		646,072	(226,625)	419,447	(186,622)	(182,527)	(37,532)	12,766	51,330	470,777
Financial liabilities										
Derivatives (Note 15)	1	**248,123**	**(49,711)**	**198,412**	**(145,785)**	**(14,895)**	**(29,998)**	**7,734**	**7,423**	**205,835**
Repos, stock lending and similar agreements classified as:	2									
– trading liabilities		**13,169**	**(790)**	**12,379**	**(1,244)**	**(11,133)**	**—**	**2**	**114**	**12,493**
– non-trading liabilities		**274,367**	**(167,313)**	**107,054**	**(21,788)**	**(85,087)**	**(164)**	**15**	**58,830**	**165,884**
Customer accounts	4	**40,286**	**(12,468)**	**27,818**	**(21,245)**	**—**	**—**	**6,573**	**11**	**27,829**
At 31 Dec 2018		**575,945**	**(230,282)**	**345,663**	**(190,062)**	**(111,115)**	**(30,162)**	**14,324**	**66,378**	**412,041**
Derivatives (Note 15)	1	321,932	(110,425)	211,507	(156,072)	(14,342)	(28,666)	12,427	5,314	216,821
Repos, stock lending and similar agreements classified as:	2									
– trading liabilities		10,555	—	10,555	(430)	(9,615)	—	510	63	10,618
– non-trading liabilities		187,268	(105,776)	81,492	(7,165)	(74,048)	(240)	39	48,510	130,002
Customer accounts	4	42,533	(10,424)	32,109	(26,390)	—	(188)	5,531	158	32,267
At 31 Dec 2017		562,288	(226,625)	335,663	(190,057)	(98,005)	(29,094)	18,507	54,045	389,708

1 *At 31 December 2018, the amount of cash margin received that had been offset against the gross derivatives assets was $3,935m (2017: $6,324m). The amount of cash margin paid that had been offset against the gross derivatives liabilities was $5,888m (2017: $5,196m).*
2 *For the amount of repos, reverse repos, stock lending, stock borrowing and similar agreements recognised on the balance sheet within 'Trading assets' $18,280m (2017: $17,120m) and 'Trading liabilities' $12,493m (2017: $10,618m), see the 'Funding sources and uses' table on page 134.*
3 *At 31 December 2018, the total amount of 'Loans and advances to customers' was $981,696m (2017: $962,964m), of which $28,066m (2017: $31,667m) was subject to offsetting.*
4 *At 31 December 2018, the total amount of 'Customer accounts' was $1,362,643m (2017: $1,364,462m), of which $27,818m (2017: $32,109m) was subject to offsetting.*
5 *These exposures continue to be secured by financial collateral, but we may not have sought or been able to obtain a legal opinion evidencing enforceability of the right of offset.*

31 Non-controlling interests

	2018	2017
	$m	$m
Non-controlling interests attributable to holders of ordinary shares in subsidiaries	**7,996**	7,621
At 31 Dec	**7,996**	7,621

Hang Seng Bank Limited is the only subsidiary in the Group that gives rise to significant non-controlling interest. For summarised financial information of Hang Seng Bank Limited, see Note 19.

32 Called up share capital and other equity instruments

Called up share capital and share premium

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

	Footnotes	2018 Number	2018 $m	2017 Number	2017 $m
At 1 Jan		**20,320,716,258**	**10,160**	20,191,586,214	10,096
Shares issued under HSBC employee share plans		**83,740,460**	**42**	76,701,249	38
Shares issued in lieu of dividends		**166,850,869**	**83**	380,652,196	190
Less: Shares repurchased and cancelled		**(210,466,091)**	**(105)**	(328,223,401)	(164)
At 31 Dec	1	**20,360,841,496**	**10,180**	20,320,716,258	10,160

HSBC Holdings 6.20% non-cumulative US Dollar Preference Shares, Series A

	Footnotes	2018 Number	2018 $m	2017 Number	2017 $m
At 1 Jan and 31 Dec	2	**1,450,000**	**—**	1,450,000	—

HSBC Holdings share premium

	2018 $m	2017 $m
At 31 Dec	**13,609**	10,177

Total called up share capital and share premium

	2018 $m	2017 $m
At 31 Dec	**23,789**	20,337

1 *All HSBC Holdings ordinary shares in issue, excluding 325,273,407 shares held in treasury, confer identical rights, including in respect of capital, dividends and voting.*
2 *Included in the capital base of HSBC as additional tier 1 capital in accordance with the CRD IV rules, by virtue of the application of grandfathering provisions.*

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

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

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

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

HSBC Holdings non-cumulative preference share of £0.01

The one non-cumulative sterling preference share of £0.01 ('sterling preference share') has been in issue since 29 December 2010 and is held by a subsidiary of HSBC Holdings. Dividends are paid quarterly at the sole and absolute discretion of the Board. The sterling preference share carries no rights of conversion into ordinary shares of HSBC Holdings and no right to attend or vote at shareholder meetings of HSBC Holdings. These securities can be redeemed by HSBC at any time, subject to prior approval by the PRA.

Other equity instruments

HSBC Holdings includes three types of additional tier 1 capital securities in its tier 1 capital. Two are presented in this Note and are accounted for as equity because HSBC does not have an obligation to transfer cash or a variable number of its own ordinary shares to holders under any circumstances outside its control. See Note 28 for additional tier 1 securities accounted for as liabilities.

Additional tier 1 capital securities

Additional tier 1 capital securities are perpetual subordinated securities on which coupon payments may be deferred at HSBC Holdings' discretion. While any coupon payments are unpaid or deferred, HSBC Holdings will not declare or pay dividends or make distributions or similar periodic payments in respect of any securities of lower or equal rank, or repurchase or redeem them. Such securities do not generally carry voting rights, but rank higher than ordinary shares for coupon payments, and in the event of a winding-up. They do not meet the identifying criteria in full for recognition as tier 1 capital under CRD IV, but are eligible as regulatory capital subject to grandfathering limits and progressive phase-out.

At HSBC Holdings' discretion, and subject to certain conditions being satisfied, the capital securities may be exchanged on any coupon payment date for non-cumulative preference shares to be issued by HSBC Holdings and ranking *pari passu* with the dollar and sterling preference shares in issue. The preference shares were issued at a nominal value of $0.01 per share and a premium of $24.99 per share, with both amounts being subscribed and fully paid. These securities were redeemed by HSBC in June 2018.

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

		First call date	2018 $m	2017 $m
$2,200m	8.125% perpetual subordinated capital securities	Apr 2013	–	2,133
$3,800m	8.000% perpetual subordinated capital securities, Series 2	Dec 2015	–	3,718
At 31 Dec			–	5,851

Additional tier 1 capital – contingent convertible securities

During 2018, HSBC continued to issue contingent convertible securities that are included in its capital base as fully CRD IV-compliant additional tier 1 capital securities on an end point basis. The net proceeds of the issuances are used for general corporate purposes and to further strengthen its capital base to meet requirements under CRD IV. These securities bear a fixed rate of interest until their initial call dates. After the initial call dates, if they are not redeemed, the securities will bear interest at rates fixed periodically in advance for 5-year periods based on prevailing market rates. Interest on the contingent convertible securities will be due and payable only at the sole discretion of HSBC, and HSBC has sole and absolute discretion at all times to cancel for any reason (in whole or in part) any interest payment that would otherwise be payable on any payment date. Distributions will not be paid if they are prohibited under UK banking regulations, or if the company has insufficient reserves or fails to meet the solvency conditions defined in the securities' terms.

The contingent convertible securities are undated and are repayable, at the option of HSBC, in whole at the initial call date, or on any fifth anniversary after this date. In addition, the securities are repayable at the option of HSBC in whole for certain regulatory or tax reasons. Any repayments require the prior consent of the PRA. These securities rank *pari passu* with HSBC's dollar and sterling preference shares and are therefore ahead of ordinary shares. The contingent convertible securities will be converted into fully paid ordinary shares of HSBC at a predetermined price, should HSBC's consolidated end point CET1 ratio fall below 7.0%. Therefore, in accordance with the terms of the securities, if the end point CET1 ratio breaches the 7.0% trigger, the securities will convert into ordinary shares at fixed contractual conversion prices in the issuance currencies of the relevant securities, equivalent to £2.70 at the prevailing rate of exchange on the issuance date, subject to certain anti-dilution adjustments.

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

		First call date	2018 $m	2017 $m
$1,500m	5.625% perpetual subordinated contingent convertible securities	Jan 2020	1,494	1,494
$2,000m	6.875% perpetual subordinated contingent convertible securities	Jun 2021	1,998	1,998
$2,250m	6.375% perpetual subordinated contingent convertible securities	Sep 2024	2,244	2,244
$2,450m	6.375% perpetual subordinated contingent convertible securities	Mar 2025	2,460	2,460
$3,000m	6.000% perpetual subordinated contingent convertible securities	May 2027	2,997	2,997
$2,350m	6.250% perpetual subordinated contingent convertible securities	Mar 2023	2,347	–
$1,800m	6.500% perpetual subordinated contingent convertible securities	Mar 2028	1,798	–
€1,500m	5.250% perpetual subordinated contingent convertible securities	Sep 2022	1,943	1,943
€1,000m	6.000% perpetual subordinated contingent convertible securities	Sep 2023	1,120	1,120
€1,250m	4.750% perpetual subordinated contingent convertible securities	Jul 2029	1,420	1,420
£1,000m	5.875% perpetual subordinated contingent convertible securities	Sep 2026	1,299	–
SGD1,000m	4.700% perpetual subordinated contingent convertible securities	Jun 2022	723	723
SGD750m	5.000% perpetual subordinated contingent convertible securities	Sep 2023	549	–
At 31 Dec			22,392	16,399

Shares under option

For details of the options outstanding to subscribe for HSBC Holdings ordinary shares under the HSBC Holdings savings-related share option plans, see Note 6.

Aggregate options outstanding under these plans

31 Dec 2018			31 Dec 2017		
Number of HSBC Holdings ordinary shares	Period of exercise	Exercise price	Number of HSBC Holdings ordinary shares	Period of exercise	Exercise price
57,065,513	2018 to 2024	£4.0472 – 5.9640	64,604,932	2017 to 2023	£4.0472 – 5.9640
–	N/A	N/A	36,309	2017 to 2018	HK$55.4701
–	N/A	N/A	10,539	2017 to 2018	€5.3532
–	N/A	N/A	17,873	2017 to 2018	$7.1456

Maximum obligation to deliver HSBC Holdings ordinary shares

At 31 December 2018, the maximum obligation to deliver HSBC Holdings ordinary shares under all of the above option arrangements and the HSBC International Employee Share Purchase Plan, together with GPSP awards, long-term incentive awards and deferred share awards granted under the HSBC Share Plan 2011, was 152,667,912 (2017: 169,615,437). The total number of shares at 31 December 2018 held by employee benefit trusts that may be used to satisfy such obligations to deliver HSBC Holdings ordinary shares was 5,928,890 (2017: 5,883,444).

33 Contingent liabilities, contractual commitments and guarantees

		HSBC		HSBC Holdings[1]	
		2018	2017	**2018**	2017
	Footnotes	**$m**	$m	**$m**	$m
Guarantees and other contingent liabilities:					
– financial guarantees	2	**23,518**	25,849	**8,627**	7,778
– performance and other guarantees	3	**71,484**	67,007	**–**	–
– other contingent liabilities		**1,408**	616	**215**	–
At 31 Dec		**96,410**	93,472	**8,842**	7,778
Commitments:	4				
– documentary credits and short-term trade-related transactions		**7,083**	8,776	**–**	–
– forward asset purchases and forward deposits placed	3	**67,265**	48,192	**–**	–
– standby facilities, credit lines and other commitments to lend		**705,918**	672,518	**–**	–
At 31 Dec		**780,266**	729,486	**–**	–

1 *Guarantees by HSBC Holdings are all in favour of other Group entities.*
2 *'Financial guarantees' to which the impairment requirements in IFRS 9 are applied have been presented separately from other guarantees to align with credit risk disclosures. Comparatives have been re-presented accordingly.*
3 *The 31 December 2017 balances have been restated to include $44bn of loan commitments (unsettled reverse repurchase agreements) and $3bn of performance and other guarantees not previously identified for disclosure.*
4 *Includes $592,008m of commitments at 31 December 2018, to which the impairment requirements in IFRS 9 are applied where HSBC has become party to an irrevocable commitment.*

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

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

Contingent liabilities arising from legal proceedings, regulatory and other matters against Group companies are disclosed in Notes 27 and 35.

Financial Services Compensation Scheme

The Financial Services Compensation Scheme ('FSCS') has provided compensation to consumers following the collapse of a number of deposit takers. The compensation paid out to consumers was funded through loans from HM Treasury, which have now been repaid (2017: $6.3bn (£4.7bn)). The Group could be liable to pay a proportion of any future amounts that the FSCS borrows from HM Treasury. The ultimate FSCS levy to the industry as a result of a collapse cannot currently be estimated reliably, as it is dependent on various uncertain factors, including the potential recoveries of assets by the FSCS and changes in the level of protected deposits and the population of FSCS members at the time.

Associates

HSBC's share of associates' contingent liabilities, contractual commitments and guarantees amounted to $48.5bn at 31 December 2018 (2017: $46.3bn). No matters arose where HSBC was severally liable.

34 Lease commitments

Operating lease commitments

At 31 December 2018, future minimum lease payments under non-cancellable operating leases for land, buildings and equipment were $3,435m (2017: $3,950m).

Finance lease receivables

HSBC leases a variety of assets to third parties under finance leases, including transport assets (such as aircraft), property and general plant and machinery. At the end of lease terms, assets may be sold to third parties or leased for further terms. Rentals are calculated to recover the cost of assets less their residual value, and earn finance income.

	2018			2017		
	Total future minimum payments	**Unearned finance income**	**Present value**	Total future minimum payments	Unearned finance income	Present value
	$m	**$m**	**$m**	$m	$m	$m
Lease receivables:						
No later than one year	**2,229**	**(196)**	**2,033**	3,523	(326)	3,197
Later than one year and no later than five years	**7,420**	**(628)**	**6,792**	7,033	(696)	6,337
Later than five years	**5,032**	**(619)**	**4,413**	4,784	(669)	4,115
At 31 Dec	**14,681**	**(1,443)**	**13,238**	15,340	(1,691)	13,649

35 Legal proceedings and regulatory matters

HSBC is party to legal proceedings and regulatory matters in a number of jurisdictions arising out of its normal business operations. Apart from the matters described below, HSBC considers that none of these matters are material. The recognition of provisions is determined in accordance with the accounting policies set out in Note 1. While the outcome of legal proceedings and regulatory matters is inherently uncertain, management believes that, based on the information available to it, appropriate provisions have been made in respect of these matters as at 31 December 2018 (see Note 27). Where an individual provision is material, the fact that a provision has been made is stated and quantified, except to the extent that doing so would be seriously prejudicial. Any provision recognised does not constitute an admission of wrongdoing or legal liability. It is not practicable to provide an aggregate estimate of potential liability for our legal proceedings and regulatory matters as a class of contingent liabilities.

Bernard L. Madoff Investment Securities LLC

Bernard L. Madoff ('Madoff') was arrested in December 2008 and later pleaded guilty to running a Ponzi scheme. His firm, Bernard L. Madoff Investment Securities LLC ('Madoff Securities'), is being liquidated in the US by a trustee (the 'Trustee').

Various non-US HSBC companies provided custodial, administration and similar services to a number of funds incorporated outside the US whose assets were invested with Madoff Securities. Based on information provided by Madoff Securities as at 30 November 2008, the purported aggregate value of these funds was $8.4bn, including fictitious profits reported by Madoff.

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

US litigation: The Trustee has brought lawsuits against various HSBC companies and others in the US Bankruptcy Court, seeking recovery of transfers from Madoff Securities to HSBC in an amount not yet pleaded or determined. HSBC and other parties to the actions have moved to dismiss the Trustee's claims. The US Bankruptcy Court granted HSBC's motion to dismiss with respect to certain of the Trustee's claims in November 2016. In September 2017, the Trustee appealed the US Bankruptcy Court's decision,and the case remains pending before the US Court of Appeals for the Second Circuit (the 'Second Circuit Court of Appeals').

Fairfield Sentry Limited, Fairfield Sigma Limited and Fairfield Lambda Limited (together, 'Fairfield') (in liquidation since July 2009) have brought a lawsuit in the US against fund shareholders, including HSBC companies that acted as nominees for clients, seeking restitution of redemption payments. In December 2018, the US Bankruptcy Court issued an opinion, which ruled in favour of the defendants' motion to dismiss in respect of certain claims by the liquidators for Fairfield and granted a motion by the liquidators for Fairfield to file amended complaints.

In December 2014, SPV Optimal SUS Ltd ('SPV OSUS'), the purported assignee of the Madoff-invested company, Optimal Strategic US Equity Ltd, filed a lawsuit in New York state court against various HSBC companies and others, seeking damages on various alleged grounds, including breach of fiduciary duty and breach of trust. In April 2018, HSBC transferred the case to the US District Court for the Southern District of New York (the 'New York District Court'). In February 2019, SPV OSUS withdrewits action with prejudice against HSBC.

UK litigation: The Trustee has filed a claim against various HSBC companies in the High Court of England and Wales, seeking recovery of transfers from Madoff Securities to HSBC in an amount not yet pleaded or determined. The deadline for service of the claim has been extended to September 2019 for UK-based defendants and November 2019 for all other defendants.

Bermuda litigation: In January 2009, Kingate Global Fund Limited and Kingate Euro Fund Limited (together, 'Kingate') brought an action against HSBC Bank Bermuda Limited ('HBBM') for recovery of funds held in Kingate's accounts, fees and dividends. This action is pending, but is not expected to move forward until the resolution of the Trustee's US actions against Kingate and HBBM.

Cayman Islands litigation: In February 2013, Primeo Fund Limited ('Primeo') (in liquidation since April 2009) brought an action against HSBC Securities Services Luxembourg ('HSSL') and Bank of Bermuda (Cayman) Limited, alleging breach of contract and breach of fiduciary duty and claiming damages and equitable compensation. The trial concluded in February 2017 and, in August 2017, the court dismissed all claims against the defendants. In September 2017, Primeo appealed to the Court of Appeal of the Cayman Islands and the defendants cross-appealed in respect of certain of the trial court's findings. The appeals are pending before the court for a decision.

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

In October 2009, Alpha Prime Fund Limited ('Alpha Prime') brought an action against HSSL before the Luxembourg District Court, seeking the restitution of securities, or the cash equivalent, or money damages. This action has been temporarily suspended at the plaintiffs' request. In December 2018, Alpha Prime brought additional claims before the Luxembourg District Court seeking damages against various HSBC companies.

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

HSSL has also been named as a defendant in various actions by shareholders in Primeo Select Fund, Herald, Herald (Lux) SICAV and Hermes International Fund Limited. Most of these actions have been dismissed, suspended or postponed.

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

In December 2014, SPV OSUS filed an action against HTIE and HSBC Securities Services (Ireland) Limited alleging breach of contract and claiming damages and indemnification for fund losses, which was dismissed on the basis of a preliminary issue by the Irish High Court in October 2015. In July 2018, following further appeals by SPV OSUS, the Irish Supreme Court affirmed the dismissal on a final basis.

There are many factors that may affect the range of possible outcomes, and the resulting financial impact, of the various Madoff-related proceedings described above, including but not limited to the multiple jurisdictions in which the proceedings have been brought. Based upon the information currently available, management's estimate of the possible aggregate damages that might arise as a result of all claims in the various Madoff-related proceedings is up to or exceeding $500m, excluding costs and interest. Due to uncertainties and limitations of this estimate, the ultimate damages could differ significantly from this amount.

US mortgage securitisation activity and litigation

HSBC Bank USA N.A. ('HSBC Bank USA') was a sponsor or seller of loans used to facilitate whole loan securitisations underwritten by HSBC Securities (USA) Inc. ('HSI'). From 2005 to 2007, HSBC Bank USA purchased and sold approximately $24bn of such loans to HSI, which were subsequently securitised and sold by HSI to third parties. The outstanding principal balance was approximately $3.8bn as at 31 December 2018. In addition, HSI served as an underwriter on securitisations issued by HSBC Finance Corporation ('HSBC Finance') or third parties, and HSBC Bank USA served as a trustee on behalf of various mortgage securitisation trusts.

Mortgage trustee matters: Beginning in June 2014, a number of lawsuits were filed in state and federal courts in New York and Virginia against HSBC Bank USA as a trustee of more than 280 mortgage securitisation trusts. These lawsuits are brought on behalf of the trusts by a putative class of investors including, among others, BlackRock and PIMCO funds. The complaints allege that the trusts have sustained losses in collateral value of approximately $38bn. The lawsuits seek unspecified damages resulting from alleged breaches of the US Trust Indenture Act, breach of fiduciary duty, negligence, breach of contract and breach of the common law duty of trust. HSBC's motions to dismiss in several of these lawsuits were, for the most part, denied. In February 2018, one of these matters was dismissed on procedural grounds. The plaintiff in that action has appealed the decision and has also filed another proceeding in New York state court, which is currently stayed pending appeal. The motion for class certification filed by certain plaintiffs has been denied, as has their request for a review of that decision by the Second Circuit Court of Appeals.

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

Loan repurchase matters: Since 2013, HSBC Bank USA, HSBC Finance and Decision One Mortgage Company LLC ('Decision One'), an indirect subsidiary of HSBC Finance, have been named as defendants in various mortgage loan repurchase actions brought by trustees of mortgage securitisation trusts. One of the two remaining actions against HSBC Bank USA was dismissed on appeal in December 2017; however, the New York Court of Appeals granted the plaintiffs' request for further review in September 2018. The second remaining action is currently pending before the New York state court.

Based on the facts currently known, it is not practicable at this time for HSBC to predict the resolution of these matters, including the timing or any possible impact on HSBC, which could be significant.

RMBS investigations: Since 2010, various HSBC entities have received subpoenas and requests for information from the US Department of Justice (the 'DoJ') and the Massachusetts Attorney General, seeking the production of documents and information regarding HSBC's involvement in certain residential mortgage-backed securities ('RMBS') transactions as an issuer, sponsor, underwriter, depositor, trustee, custodian or servicer.

In August and October 2018, HSBC resolved the Massachusetts Attorney General's civil investigation, and the DoJ's civil claims, relating to HSBC's legacy RMBS origination and securitisation activities from 2005 to 2007, which entailed a payment to the DoJ of a civil money penalty of $765m.

Anti-money laundering and sanctions-related matters

In 2010, HSBC Bank USA entered into a consent cease-and-desist order with the Office of the Comptroller of the Currency ('OCC'), and HSBC North America Holdings Inc. ('HNAH') entered into a consent cease-and-desist order with the Federal Reserve Board ('FRB'). In 2012, HSBC Bank USA further entered into an enterprise-wide compliance consent order with the OCC (each an 'Order' and together, the 'Orders'). These Orders required improvements to establish an effective compliance risk management programme across HSBC's US businesses, including risk management related to the Bank Secrecy Act ('BSA') and anti-money laundering ('AML') compliance. In 2012, an additional consent order was entered into with the OCC that required HSBC Bank USA to correct the circumstances noted in the OCC's report and imposed restrictions on HSBC Bank USA acquiring control of, or holding an interest in, any new financial subsidiary, or commencing a new activity in its existing financial subsidiary, without the OCC's approval. Between June and September 2018, following implementation of the required remediation actions by HNAH and HSBC Bank USA, the FRB and OCC terminated each of these orders.

In December 2012, among other agreements, HSBC Holdings plc ('HSBC Holdings') agreed to an undertaking with the UK Financial Conduct Authority ('FCA') and consented to a cease-and-desist order with the FRB, both of which contained certain forward-looking AML and sanctions-related obligations. HSBC also agreed to retain an independent compliance monitor (who is, for FCA purposes, a 'Skilled Person' under section 166 of the Financial Services and Markets Act and, for FRB purposes, an 'Independent Consultant') to produce periodic assessments of the Group's AML and sanctions compliance programme (the 'Skilled Person/Independent Consultant'). In December 2012, HSBC Holdings also entered into an agreement with the Office of Foreign Assets Control ('OFAC') regarding historical transactions involving parties subject to OFAC sanctions. The Skilled Person/Independent Consultant will continue to conduct country reviews and provide periodic reports for a period of time at the FCA's and FRB's discretion. The role of the Skilled Person/Independent Consultant is discussed on page 85.

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

In May 2014, a shareholder derivative action was filed by a shareholder of HSBC Holdings purportedly on behalf of HSBC Holdings, HSBC Bank USA, HNAH and HSBC USA Inc. (the 'Nominal Corporate Defendants') in New York state court against certain current and former directors and officers of those HSBC companies (the 'Individual Defendants'). The complaint alleges that the Individual

Defendants breached their fiduciary duties to the Nominal Corporate Defendants and caused a waste of corporate assets by allegedly permitting and/or causing the conduct underlying the five-year deferred prosecution agreement with the DoJ, entered into in December 2012. In November 2015, the New York state court granted the Nominal Corporate Defendants' motion to dismiss. In November 2018, the appellate court reversed the New York state court's decision and reinstated the action. In December 2018, the Nominal Corporate Defendants filed a motion for reargument or, in the alternative, for leave to appeal to the New York Court of Appeals. In February 2019, the Nominal Corporate Defendants and most of the Individual Defendants filed a motion to dismiss in the New York state court, where the matter is pending.

In July 2014, a claim was filed in the Ontario Superior Court of Justice against HSBC Holdings and a former employee purportedly on behalf of a class of persons who purchased HSBC common shares and American Depositary Shares between July 2006 and July 2012. The complaint, which seeks monetary damages of up to CA$20bn, alleges that the defendants made statutory and common law misrepresentations in documents released by HSBC Holdings and its wholly owned indirect subsidiary, HSBC Bank Canada, relating to HSBC's compliance with BSA, AML, sanctions and other laws. In September 2017, the Ontario Superior Court of Justice dismissed the statutory claims against HSBC Holdings and the former employee for lack of jurisdiction, and stayed the common law misrepresentation claim against HSBC Holdings on the basis of *forum non conveniens*. In October 2017, the plaintiff appealed to the Court of Appeal for Ontario and, in July 2018, that appeal was dismissed. In October 2018, the plaintiff applied for leave to appeal to the Supreme Court of Canada, where this matter is currently pending.

Since November 2014, a number of lawsuits have been filed in federal courts in the US against various HSBC companies and others on behalf of plaintiffs who are, or are related to, victims of terrorist attacks in the Middle East or of cartel violence in Mexico. In each case, it is alleged that the defendants aided and abetted the unlawful conduct of various sanctioned parties in violation of the US Anti-Terrorism Act. Nine actions are currently pending in federal court in New York, with one on appeal. In July 2018, in one case, the New York District Court granted HSBC's motion to dismiss, while in a different case, the magistrate judge issued a recommendation that the New York District Court should deny the defendants' motion to dismiss. The plaintiffs appealed the decision in the case granting dismissal and that appeal is pending. Motions to dismiss remain pending in two other cases. In December 2018, three new cases and two cases relating to existing actions were filed in the New York District Court. These new actions are at a very early stage.

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

Based on the facts currently known, it is not practicable at this time for HSBC to predict the resolution of these matters, including the timing or any possible impact on HSBC, which could be significant.

Tax-related investigations

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

HSBC continues to cooperate in ongoing investigations by the DoJ and the US Internal Revenue Service regarding whether certain HSBC companies and employees, including those associated with HSBC Swiss Private Bank and an HSBC company in India, acted appropriately in relation to certain customers who may have had US tax reporting obligations. In connection with these investigations, HSBC Swiss Private Bank, with due regard for Swiss law, has produced records and other documents to the DoJ. In August 2013, the DoJ informed HSBC Swiss Private Bank that it was not eligible for the 'Program for Non-Prosecution Agreements or Non-Target Letters for Swiss Banks' since a formal investigation had previously been authorised. These investigations remain pending.

In November 2014, HSBC Swiss Private Bank was placed under formal criminal examination in Belgium for alleged tax-related offences. In June 2017, Belgian authorities also placed HSBC Holdings and HSBC Private Bank Holdings (Suisse) SA, a Swiss holding company, under formal criminal examination. HSBC is cooperating with this ongoing investigation.

In November 2014, the Argentine tax authority initiated a criminal action against various individuals, including current and former HSBC employees. The criminal action includes allegations of tax evasion, conspiracy to launder undeclared funds and an unlawful association among HSBC Swiss Private Bank, HSBC Bank Argentina, HSBC Bank USA and certain HSBC employees, which allegedly enabled numerous HSBC customers to evade their Argentine tax obligations. HSBC is cooperating with this ongoing investigation.

In February 2015, the Indian tax authority issued a summons and request for information to an HSBC company in India. In August 2015 and November 2015, HSBC companies received notices issued by two offices of the Indian tax authority, alleging that the Indian tax authority had sufficient evidence to initiate prosecution against HSBC Swiss Private Bank and an HSBC company in Dubai for allegedly abetting tax evasion of four different Indian individuals and/or families and requesting that the HSBC companies show cause as to why such prosecution should not be initiated. HSBC Swiss Private Bank and the HSBC company in Dubai have responded to the show cause notices. HSBC is cooperating with this ongoing investigation.

As at 31 December 2018, HSBC has recognised a provision for these various matters in the amount of $626m. There are many factors that may affect the range of outcomes, and the resulting financial impact, of these investigations and reviews. Based on the information currently available, management's estimate of the possible aggregate penalties that might arise as a result of the matters in respect of which it is practicable to form estimates is up to or exceeding $800m, including amounts for which a provision has been recognised. Due to uncertainties and limitations of these estimates, the ultimate penalties could differ significantly from this amount.

In light of the media attention regarding these matters, it is possible that other tax administration, regulatory or law enforcement authorities will also initiate or enlarge similar investigations or regulatory proceedings.

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

In December 2016, the European Commission (the 'EC') issued a decision finding that HSBC, among other banks, engaged in anti-competitive practices in connection with the pricing of euro interest rate derivatives in early 2007. The EC imposed a fine on HSBC based on a one-month infringement. HSBC has appealed the decision.

US dollar Libor: Beginning in 2011, HSBC and other panel banks have been named as defendants in a number of private lawsuits filed in the US with respect to the setting of US dollar Libor. The complaints assert claims under various US laws, including US antitrust and racketeering laws, the US Commodity Exchange Act ('US CEA') and state law. The lawsuits include individual and putative class actions, most of which have been transferred and/or consolidated for pre-trial purposes before the New York District Court.

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

Intercontinental Exchange ('ICE') Libor: In January 2019, HSBC and other panel banks were named as defendants in a putative class action filed in the New York District Court on behalf of persons who purchased over-the-counter instruments paying interest indexed to ICE Libor from a panel bank. The complaint alleges, among other things, misconduct related to the suppression of this benchmark rate in violation of US antitrust and state law. This matter is at a very early stage.

Singapore interbank offered rate ('Sibor'), Singapore swap offer rate ('SOR') and Australia bank bill swap rate ('BBSW'): In July 2016 and August 2016, HSBC and other panel banks were named as defendants in two putative class actions filed in the New York District Court on behalf of persons who transacted in products related to the Sibor, SOR and BBSW benchmark rates. The complaints allege, among other things, misconduct related to these benchmark rates in violation of US antitrust, commodities and racketeering laws, and state law. Following a decision in October 2018 on the defendants' motion to dismiss in the Sibor/SOR litigation, the claims against a number of HSBC entities were dismissed, and the Hongkong and Shanghai Banking Corporation Limited remains the only HSBC defendant in this action. In October 2018, the Hongkong and Shanghai Banking Corporation Limited filed a motion for reconsideration of the decision based on the issue of personal jurisdiction. The plaintiff filed a third amended complaint in October 2018 naming only the Sibor panel members. In November 2018, the defendants moved to dismiss the third amended complaint, and this motion remains pending.

In November 2018, the court granted in part and denied in part the defendants' motion to dismiss the BBSW case and dismissed all foreign defendants, including all the HSBC entities, on personal jurisdiction grounds. The plaintiff sought leave to file a second amended complaint in January 2019.

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

Foreign exchange-related investigations and litigation

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

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

In December 2016, Brazil's Administrative Council of Economic Defense ('CADE') publicly announced that it is initiating an investigation into the onshore foreign exchange market and has identified a number of banks, including HSBC, as subjects of its investigation.

In February 2017, the Competition Commission of South Africa referred a complaint for proceedings before the South African Competition Tribunal against 18 financial institutions, including HSBC Bank plc, for alleged misconduct related to the foreign exchange market in violation of South African antitrust laws. In April 2017, HSBC Bank plc filed an exception to the complaint based on a lack of jurisdiction and statute of limitations. In January 2018, the South African Competition Tribunal approved the provisional referral of additional financial institutions, including HSBC Bank USA, to the proceedings. HSBC Bank USA has objected to the provisional referral. These proceedings are at an early stage.

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

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

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

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

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

Precious metals fix-related investigations and litigation

In November 2014, the Antitrust Division and Criminal Fraud Section of the DoJ issued a document request to HSBC Holdings, seeking the voluntary production of certain documents in connection with a criminal investigation that the DoJ is conducting of alleged anti-competitive and manipulative conduct in precious metals trading. In January 2019, the DoJ closed its investigation without taking any action against HSBC.

Gold: Beginning in March 2014, numerous putative class actions were filed in the New York District Court and the US District Courts for the District of New Jersey and the Northern District of California, naming HSBC and other members of The London Gold Market Fixing Limited as defendants. The complaints allege that, from January 2004 to June 2013, the defendants conspired to manipulate the price of gold and gold derivatives for their collective benefit in violation of US antitrust laws, the US CEA and New York state law. The actions were consolidated in the New York District Court. The defendants' motion to dismiss the consolidated action was granted in part and denied in part in October 2016. In June 2017, the court granted the plaintiffs leave to file a third amended complaint, naming a new defendant. The court has denied the pre-existing defendants' request for leave to file a joint motion to dismiss, and discovery is proceeding.

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

Silver: Beginning in July 2014, numerous putative class actions were filed in the US District Courts for the Southern and Eastern Districts of New York, naming HSBC and other members of The London Silver Market Fixing Ltd as defendants. The complaints allege that, from January 2007 to December 2013, the defendants conspired to manipulate the price of silver and silver derivatives for their collective benefit in violation of US antitrust laws, the US CEA and New York state law. The actions were consolidated in the New York District Court. The defendants' motion to dismiss the consolidated action was granted in part and denied in part in October 2016. In June 2017, the court granted the plaintiffs leave to file a third amended complaint, which names several new defendants. The court has denied the pre-existing defendants' request for leave to file a joint motion to dismiss, and discovery is proceeding.

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

Platinum and palladium: Between late 2014 and early 2015, numerous putative class actions were filed in the New York District Court, naming HSBC and other members of The London Platinum and Palladium Fixing Company Limited as defendants. The complaints allege that, from January 2008 to November 2014, the defendants conspired to manipulate the price of platinum group metals ('PGM') and PGM-based financial products for their collective benefit in violation of US antitrust laws and the US CEA. In March 2017, the defendants' motion to dismiss the second amended consolidated complaint was granted in part and denied in part. In June 2017, the plaintiffs filed a third amended complaint. The defendants filed a joint motion to dismiss, which remains pending.

Based on the facts currently known, it is not practicable at this time for HSBC to predict the resolution of these matters, including the timing or any possible impact on HSBC, which could be significant.

Film finance litigation

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

In December 2018, a further action was brought against PBGB in the High Court of England and Wales by multiple claimants seeking damages for alleged unlawful means conspiracy and dishonest assistance in connection with lending provided by PBGB to third parties in respect of certain Ingenious film finance schemes in which the claimants participated. In February 2019, PBGB received a letter before claim by investors in Eclipse film finance schemes asserting various claims against PBGB and others in connection with their roles in facilitating the design, promotion and operation of such schemes. These matters are at very early stages.

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

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

Other regulatory investigations, reviews and litigation

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

- requests for information from various tax administration or regulatory authorities relating to Mossack Fonseca & Co., or Fédération Internationale de Football Association ('FIFA');
- an investigation by the DoJ regarding US Treasury securities trading practices;
- an investigation by the US Commodity Futures Trading Commission regarding trading screens used to price certain derivative products;
- an investigation by the Swiss Competition Commission in connection with the setting of Euribor and Japanese yen Libor;
- an information request from the UK Competition and Markets Authority concerning the financial services sector;
- an investigation by the US Securities and Exchange Commission of multiple institutions, including HSBC, in relation to hiring practices of candidates referred by or related to government officials or employees of state-owned enterprises in Asia-Pacific;
- putative individual and class actions brought in the New York District Court relating to the Canadian dealer offered rate, the credit default swap market and the Mexican government bond market, and putative class actions brought in the New York District Court and

in the Superior and Federal Courts in Canada relating to the market for US dollar-denominated supranational sovereign and agency bonds; and

- putative class actions brought in the US District Court for the Northern District of Texas and a claim issued in the High Court of England and Wales in connection with HSBC Bank plc's role as a correspondent bank to Stanford International Bank Ltd from 2003 to 2009.

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

36 Related party transactions

Related parties of the Group and HSBC Holdings include subsidiaries, associates, joint ventures, post-employment benefit plans for HSBC employees, Key Management Personnel ('KMP') as defined by IAS 24, close family members of KMP and entities that are controlled or jointly controlled by KMP or their close family members. KMP are defined as those persons having authority and responsibility for planning, directing and controlling the activities of HSBC Holdings. These individuals also constitute 'senior management' for the purposes of the Hong Kong Listing Rules. Following a review of the application of IAS 24, it was determined that the roles of Chief Legal Officer, Group Head of Internal Audit, Group Chief Human Resources Officer, Group Chief Compliance Officer, Chief Communications Officer and Group Chief of Staff did not meet the criteria for KMP as provided for in the standard.

Particulars of transactions with related parties are tabulated below. The disclosure of the year-end balance and the highest amounts outstanding during the year is considered to be the most meaningful information to represent the amount of the transactions and outstanding balances during the year.

Key Management Personnel

Details of Directors' remuneration and interest in shares are disclosed in the Directors' remuneration report on pages 172 to 206. IAS 24 'Related party disclosures' requires the following additional information for key management compensation.

Compensation of Key Management Personnel

	2018	2017	2016
	$m	$m	$m
Short-term employee benefits	**52**	43	41
Other long-term employee benefits	**6**	5	5
Share-based payments	**34**	35	37
Year ended 31 Dec	**92**	83	83

Shareholdings, options and other securities of Key Management Personnel

	2018	2017
	(000s)	(000s)
Number of options held over HSBC Holdings ordinary shares under employee share plans	**24**	15
Number of HSBC Holdings ordinary shares held beneficially and non-beneficially	**17,940**	22,609
At 31 Dec	**17.964**	22,624

Transactions and balances during the year with Key Management Personnel

		2018		2017	
		Balance at 31 Dec	**Highest amounts outstanding during year**	Balance at 31 Dec	Highest amounts outstanding during year
	Footnotes	**$m**	**$m**	$m	$m
Key Management Personnel	*1*				
Advances and credits	*2*	**169**	**288**	329	334
Guarantees		**0.6**	**0.6**	6	52
Deposits		**352**	**924**	300	893

1 Includes Key Management Personnel, close family members of Key Management Personnel and entities that are controlled or jointly controlled by Key Management Personnel or their close family members.
2 Advances and credits entered into by subsidiaries of HSBC Holdings during 2018 with Directors, disclosed pursuant to Section 413 of the Companies Act 2006, totalled $1m (2017: $2m).

Some of the transactions were connected transactions as defined by the Rules Governing The Listing of Securities on The Stock Exchange of Hong Kong Limited, but were exempt from any disclosure requirements under the provisions of those rules. The above transactions were made in the ordinary course of business and on substantially the same terms, including interest rates and security, as for comparable transactions with persons of a similar standing or, where applicable, with other employees. The transactions did not involve more than the normal risk of repayment or present other unfavourable features.

Associates and joint ventures

The Group provides certain banking and financial services to associates and joint ventures including loans, overdrafts, interest and non-interest bearing deposits and current accounts. Details of the interests in associates and joint ventures are given in Note 18.

Transactions and balances during the year with associates and joint ventures

	2018		2017	
	Highest balance during the year	**Balance at 31 Dec**	Highest balance during the year	Balance at 31 Dec
	$m	**$m**	$m	$m
Unsubordinated amounts due from joint ventures	**130**	**115**	138	119
Unsubordinated amounts due from associates	**3,887**	**3,000**	3,104	2,537
Subordinated amounts due from associates	**—**	**—**	411	411
Amounts due to associates	**2,020**	**273**	2,617	1,232
Amounts due to joint ventures	**22**	**22**	—	—
Guarantees and commitments	**790**	**523**	654	665

The above outstanding balances arose in the ordinary course of business and on substantially the same terms, including interest rates and security, as for comparable transactions with third-party counterparties.

Post-employment benefit plans

At 31 December 2018, $4.4bn (2017: $5.3bn) of HSBC post-employment benefit plan assets were under management by HSBC companies, earning management fees of $8m in 2018 (2017: $8m). At 31 December 2018, HSBC's post-employment benefit plans had placed deposits of $297m (2017: $875m) with its banking subsidiaries, earning interest payable to the schemes of nil (2017: nil). The above outstanding balances arose from the ordinary course of business and on substantially the same terms, including interest rates and security, as for comparable transactions with third-party counterparties.

The HSBC Bank (UK) Pension Scheme enters into swap transactions with HSBC to manage inflation and interest rate sensitivity of its liabilities and selected assets. At 31 December 2018, the gross notional value of the swaps was $10.5bn (2017: $11.3bn); these swaps had a positive fair value to the scheme of $1.0bn (2017: $1.0bn); and HSBC had delivered collateral of $1.0bn (2017: $1.0bn) to the scheme in respect of these arrangements. All swaps were executed at prevailing market rates and within standard market bid/offer spreads.

HSBC Holdings

Details of HSBC Holdings' subsidiaries are shown in Note 39.

Transactions and balances during the year with subsidiaries

	2018		2017	
	Highest balance during the year	**Balance at 31 Dec**	Highest balance during the year	Balance at 31 Dec
	$m	**$m**	$m	$m
Assets				
Cash and balances with HSBC undertakings	**16,473**	**3,509**	1,985	1,985
Loans and advances to HSBC undertakings designated at fair value	**23,513**	**23,513**	11,944	11,944
Derivatives	**1,235**	**707**	2,796	2,388
Loans and advances to HSBC undertakings	**77,311**	**56,144**	89,810	76,627
Financial investments in HSBC undertakings	**—**	**—**	4,264	4,264
Investments in subsidiaries	**160,231**	**160,231**	95,850	92,930
Total related party assets at 31 Dec	**278,763**	**244,104**	206,649	190,138
Liabilities				
Amounts owed to HSBC undertakings	**2,040**	**949**	2,906	2,571
Derivatives	**3,639**	**2,159**	4,904	3,082
Subordinated liabilities	**892**	**892**	892	892
Total related party liabilities at 31 Dec	**6,571**	**4,000**	8,702	6,545
Guarantees and commitments	**11,629**	**8,627**	9,692	7,778

The above outstanding balances arose in the ordinary course of business and on substantially the same terms, including interest rates and security, as for comparable transactions with third-party counterparties.

Some employees of HSBC Holdings are members of the HSBC Bank (UK) Pension Scheme, which is sponsored by a separate Group company. HSBC Holdings incurs a charge for these employees equal to the contributions paid into the scheme on their behalf. Disclosure in relation to the scheme is made in Note 6.

37 Effects of reclassification upon adoption of IFRS 9

Reconciliation of consolidated balance sheet at 31 December 2017 and 1 January 2018

						IFRS 9 reclassification to					
	Footnotes	IAS 39 measurement category	IFRS 9 measurement category	IAS 39 carrying amount at 31 Dec 2017	Other changes in classifi-cation	Fair value through profit and loss	Fair value through other compre-hensive income	Amorti-sed cost	Carrying amount post reclassifi-cation	IFRS 9 remeasure ment including expected credit losses[4]	IFRS 9 carrying amount at 1 Jan 2018
				$m	$m	$m	$m	$m	$m	$m	$m
Assets											
Cash and balances at central banks		**Amortised cost**	**Amortised cost**	**180,624**	**–**	**–**	**–**	**–**	**180,624**	**(3)**	**180,621**
Items in the course of collection from other banks		**Amortised cost**	**Amortised cost**	**6,628**	**–**	**–**	**–**	**–**	**6,628**	**–**	**6,628**
Hong Kong Government certificates of indebtedness		**Amortised cost**	**Amortised cost**	**34,186**	**–**	**–**	**–**	**–**	**34,186**	**–**	**34,186**
Trading assets	*1, 3*	**FVPL**	**FVPL**	**287,995**	**4,329**	**9**	**–**	**(37,924)**	**254,409**	**1**	**254,410**
Financial assets designated and otherwise mandatorily measured at fair value through profit or loss	*2,5,6,7*	**FVPL**	**FVPL**	**29,464**	**313**	**10,055**	**(3)**	**(115)**	**39,714**	**32**	**39,746**
Derivatives		**FVPL**	**FVPL**	**219,818**	**–**	**–**	**–**	**–**	**219,818**	**–**	**219,818**
Loans and advances to banks	*1, 2, 3*	**Amortised cost**	**Amortised cost**	**90,393**	**(7,099)**	**(712)**	**–**	**–**	**82,582**	**(23)**	**82,559**
Loans and advances to customers	*1, 2, 3*	**Amortised cost**	**Amortised cost**	**962,964**	**(7,458)**	**(3,903)**	**–**	**24**	**951,627**	**(1,890)**	**949,737**
Reverse repurchase agreements – non-trading		**Amortised cost**	**Amortised cost**	**201,553**	**–**	**–**	**–**	**–**	**201,553**	**–**	**201,553**
	5, 13	**FVOCI (Available-for-sale – debt instruments)**	**FVOCI**	**332,240**	**–**	**(3,131)**	**83**	**(7,026)**	**322,166**	**(3)**	**322,163**
Financial investments	*6, 13*	**FVOCI (Available-for-sale – equity instruments)**	**FVOCI**	**3,917**	**–**	**(2,104)**	**–**	**–**	**1,813**	**–**	**1,813**
	5	**Amortised cost**	**Amortised cost**	**52,919**	**–**	**–**	**(80)**	**7,141**	**59,980**	**(457)**	**59,523**
Prepayments, accrued income and other assets	*1, 7*	**Amortised cost**	**Amortised cost**	**67,191**	**9,915**	**(214)**	**–**	**37,900**	**114,792**	**(15)**	**114,777**
Current tax assets		**N/A**	**N/A**	**1,006**	**–**	**–**	**–**	**–**	**1,006**	**–**	**1,006**
Interests in associates and joint ventures	*8*	**N/A**	**N/A**	**22,744**	**–**	**–**	**–**	**–**	**22,744**	**(942)**	**21,802**
Goodwill and intangible assets	*9*	**N/A**	**N/A**	**23,453**	**–**	**–**	**–**	**–**	**23,453**	**(79)**	**23,374**
Deferred tax assets		**N/A**	**N/A**	**4,676**	**–**	**–**	**–**	**–**	**4,676**	**38**	**4,714**
Total assets				**2,521,771**	**–**	**–**	**–**	**–**	**2,521,771**	**(3,341)**	**2,518,430**

For footnotes, see page 299.

Reconciliation for consolidated balance sheet at 31 December 2017 and 1 January 2018 (continued)

	Footnotes	Measurement category[13]	IAS 39 carrying amount at 31 Dec 2017	IFRS 9 reclassification to: Other changes in classification	Fair value through profit and loss	Fair value through other comprehensive income	Amortised cost	Carrying amount post-reclassification	IFRS 9 remeasurement including expected credit losses[4]	IFRS 9 carrying amount at 1 Jan 2018
			$m	$m	$m	$m	$m	$m	$m	$m
Liabilities										
Hong Kong currency notes in circulation		Amortised cost	34,186	–	–	–	–	34,186	–	34,186
Deposits by banks	1	Amortised cost	69,922	(5,430)	–	–	–	64,492	–	64,492
Customer accounts	1	Amortised cost	1,364,462	(4,235)	–	–	–	1,360,227	–	1,360,227
Repurchase agreements – non-trading		Amortised cost	130,002	–	–	–	–	130,002	–	130,002
Items in the course of transmission to other banks		Amortised cost	6,850	–	–	–	–	6,850	–	6,850
Trading liabilities	1, 11	FVPL	184,361	(103,497)	–	–	–	80,864	–	80,864
Financial liabilities designated at fair value	9, 10, 11	FVPL	94,429	59,267	–	–	(9,699)	143,997	9	144,006
Derivatives		FVPL	216,821	–	–	–	–	216,821	–	216,821
Debt securities in issue	10	Amortised cost	64,546	–	–	–	2,095	66,641	(105)	66,536
Accruals, deferred income and other liabilities	1, 10	Amortised cost	45,907	53,895	–	–	124	99,926	–	99,926
Current tax liabilities		N/A	928	–	–	–	–	928	–	928
Liabilities under insurance contracts	9	N/A	85,667	–	–	–	–	85,667	(69)	85,598
Provisions		N/A	4,011	–	–	–	–	4,011	284	4,295
Deferred tax liabilities	14	N/A	1,982	–	–	–	–	1,982	(368)	1,614
Subordinated liabilities	10	Amortised cost	19,826	–	–	–	7,480	27,306	(1,445)	25,861
Total liabilities			2,323,900	–	–	–	–	2,323,900	(1,694)	2,322,206

For footnotes, see page 299.

	Footnotes	IAS 39 carrying amount at 31 Dec 2017	IFRS 9 reclassification	Carrying amount post reclassification	IFRS 9 remeasurement including expected credit losses	Carrying amount at 1 January 2018
		$m	$m	$m	$m	$m
Equity						
Called up share capital		10,160	–	10,160	–	10,160
Share premium account		10,177	–	10,177	–	10,177
Other equity instruments		22,250	–	22,250	–	22,250
Other reserves	12	7,664	(960)	6,704	(61)	6,643
Retained earnings	14	139,999	960	140,959	(1,545)	139,414
Total shareholders equity		190,250	–	190,250	(1,606)	188,644
Non-controlling interests		7,621	–	7,621	(41)	7,580
Total equity		197,871	–	197,871	(1,647)	196,224

For footnotes, see page 299.

Reconciliation of impairment allowance under IAS 39 and provision under IAS 37 to expected credit losses under IFRS 9

	IAS 39 measurement category	Reclassification to: Fair value through profit and loss	Reclassification to: Fair value through other comprehensive income	Reclassification to: Amortised cost	Remeasurement: Stage 3	Remeasurement: Stage 1 & Stage 2	Total
		$m	$m	$m	$m	$m	$m
Financial assets at amortised cost							
IAS 39 impairment allowance at 31 Dec 2017							7,532
Cash and balances at central banks	Amortised cost (Loans and receivables)	–	–	–	–	3	3
Items in the course of collection from other banks	Amortised cost (Loans and receivables)	–	–	–	–	–	–
Hong Kong Government certificates of indebtedness	Amortised cost (Loans and receivables)	–	–	–	–	–	–
Loans and advances to banks	Amortised cost (Loans and receivables)	–	–	–	1	22	23
Loans and advances to customers	Amortised cost (Loans and receivables)	(31)	–	–	629	1,261	1,859
Reverse repurchase agreements – non-trading	Amortised cost (Loans and receivables)	–	–	–	–	–	–
Financial investments	Amortised cost (Held to maturity)	–	–	3	–	13	16
Prepayments, accrued income and other assets	Amortised cost (Loans and receivables)	–	–	–	–	47	47
Expected credit loss allowance at 1 Jan 2018							9,480
Loan commitments and financial guarantee contracts							
IAS 37 provisions at 31 Dec 2017							253
Provisions (loan commitments and financial guarantees)	N/A	N/A	N/A	N/A	74	210	284
Expected credit loss provision at 1 Jan 2018							537

The pre-tax net asset impact of additional impairment allowances on adoption of IFRS 9 is $2,232m; $1,948m in respect of financial assets at amortised cost and $284m related to loan commitments and financial guarantee contracts. Total expected credit loss allowance at 1 January 2018 is $9,480m in respect of financial assets at amortised cost, and $537m related to loan commitments and financial guarantee contracts.

Effects of reclassification upon adoption of IFRS 9

	Footnotes	Carrying amount at 31 Dec 2018	Fair value at 31 Dec 2018	Assuming no reclassification: Fair value gains/(losses) recognised in profit or loss	Assuming no reclassification: Fair value gains/ (losses) recognised in other comprehensive income	Interest revenue/ (expense)
		$m	$m	$m	$m	$m
Reclassified from available-for-sale to amortised cost						
Other financial assets held at amortised cost		5,781	5,876	N/A	(438)	N/A
Reclassified from fair value through profit and loss to amortised cost or fair value though other comprehensive income						
Debt securities in issue	15	1,939	1,823	60	237	(80)
Subordinated liabilities	16	5,872	6,635	246	644	(323)

For footnotes, see page 299.

Footnotes to 'Effect of reclassification upon adoption of IFRS 9'

1 Settlement accounts, cash collateral and margin receivables of $37,900m have been reclassified from 'Trading assets' to 'Prepayments, accrued income and other assets' as a result of the assessment of the business model in accordance with IFRS 9.
Settlement accounts, cash collateral and margin receivables previously presented as 'Loans and advances to banks' of $5,939m and 'Loans and advances to customers' of $3,976m have been re-presented in 'Prepayments, accrued income and other assets' to ensure consistent presentation of all such balances. Settlement accounts, cash collateral and margin payables previously presented as 'Trading liabilities' of $44,230m, 'Deposits by banks' of $5,430m and 'Customer accounts' of $4,235m have been re-presented in 'Accruals, deferred income and other liabilities'. This change in presentation for financial liabilities is considered to provide more relevant information, given the change in presentation for the financial assets. These changes in presentation for financial assets and liabilities have had no effect on measurement of these items and therefore on 'Retained earnings'.

2 'Loans and advances to customers' of $3,903m and 'Loans and advances to banks' of $712m did not meet the 'solely payments of principal and interest' ('SPPI') requirement for amortised cost classification under IFRS 9. As a result, these financial assets were reclassified to 'Financial assets designated and otherwise mandatorily measured at fair value through profit or loss'.

3 Stock borrowing assets of $4,642m have been reclassified from 'Loans and advances to banks and customers' to 'Trading assets'. The change in measurement is a result of the determination of the global business model for this activity and will align the presentation throughout the Group.

4 IFRS 9 ECL decreased net assets by $2,232m, principally comprising of $1,890m reduction in the carrying value of assets classified as 'Loans and advances to customers' and $284m increase in 'Provisions' relating to expected credit losses on loan commitments and financial guarantee contracts.

5 Debt instruments of $3,131m previously classified as available-for-sale under IAS 39 did not meet the SPPI requirement for FVOCI classification. As a result, these financial assets were classified as 'Financial assets designated and otherwise mandatorily measured at fair value through profit or loss' upon adoption of IFRS 9. Debt instruments of $7,026m previously classified as available-for-sale under IAS 39, have been reclassified to amortised cost as a result of 'hold to collect' business model classification under IFRS 9. This resulted in a $441m downward remeasurement of the financial assets now measured at amortised cost excluding expected credit losses.

6 $2,104m of available-for-sale non-traded equity instruments have been reclassified as 'Financial assets designated and otherwise mandatorily measured at fair value through profit or loss' in accordance with IFRS 9. The Group has elected to apply the FVOCI option under IFRS 9 for the remaining $1,813m.

7 $214m of other financial assets measured at amortised cost under IAS 39 did not meet the SPPI requirement for amortised cost classification under IFRS 9. As a result, these financial assets were classified as 'Financial assets designated and otherwise mandatorily measured at fair value through profit or loss'.

8 'Interests in associates and joint ventures' includes the consequential downward remeasurement of our interests in associates and joint ventures as a result of these entities applying IFRS 9 of $942m. The effect of IFRS 9 on the carrying value of investments in associates has been updated from the estimate disclosed in our Annual Report and Accounts 2017 as a result of those entities publicly reporting their expected transition impacts.

9 Changes in the classification and measurement of financial assets held in our insurance business and the recognition of ECL under IFRS 9 has resulted in secondary impacts on the present value of in-force long-term insurance business ('PVIF') and liabilities to holders of insurance and investment contracts. The gross carrying value of PVIF reported in 'Goodwill and intangible assets' and liabilities reported in 'Liabilities under insurance contracts' has decreased by $79m and $69m respectively. Liabilities reported under 'Financial liabilities designated at fair value' have increased by $9m.

10 As permitted by IFRS 9, fair value designations have been revoked for certain long-dated liabilities where the accounting mismatch will be better mitigated by undertaking fair value hedge accounting, resulting in reclassifications of $7,110m from 'Financial liabilities designated at fair value' to 'Subordinated liabilities' measured at amortised cost and $2,095m from 'Financial liabilities designated at fair value' to 'Debt securities in issue' measured at amortised cost. A further $124m of associated accrued interest has been reclassified to 'Accruals, deferred income and other liabilities'. In addition, as required by IFRS 9, fair value designations have been revoked where accounting mismatches no longer exist, resulting in a further $370m of 'Subordinated liabilities' being measured at amortised cost. Together, these changes result in the financial liabilities now being measured at amortised cost, decreasing 'Debt securities in issue' by $105m and 'Subordinated Liabilities' by $1,445m.

11 We have considered market practices for the presentation of $59,267m of financial liabilities containing both deposit and derivative components. We have concluded that a change in accounting policy and presentation from 'Trading liabilities' would be appropriate, since it would better align with the presentation of similar financial instruments by peers and therefore provide more relevant information about the effect of these financial liabilities on our financial position and performance. As a result, rather than being classified as held for trading, we will designate these financial liabilities as at fair value through profit or loss since they are managed and their performance evaluated on a fair value basis. Consequently, changes in fair value of these instruments attributable to changes in own credit risk are recognised in other comprehensive income rather than profit or loss. For 2017, a restatement would have increased 'Net income from financial instruments held for trading or managed on a fair value basis' by $545m and increased tax expense by $168m, with an equivalent net decrease in other comprehensive income.

12 While IFRS 9 ECL has no effect on the carrying value of FVOCI financial assets, which remain measured at fair value, the adoption of IFRS 9 results in a transfer from the FVOCI reserve (formerly AFS reserve) to retained earnings to reflect the cumulative impairment recognised in profit or loss in accordance with IFRS 9 (net of impairment losses previously recognised in profit or loss under IAS 39). The amount transferred from 'Other reserves' to 'Retained earnings' was $61m. The resulting cumulative expected credit losses recognised in 'Retained earnings' on financial assets measured at FVOCI on adoption of IFRS 9 is $184m. In addition, the cumulative AFS reserve relating to financial investments reclassified to 'Financial assets designated and otherwise mandatorily measured at fair value through profit or loss' in accordance with IFRS 9 has been transferred to retained earnings.

13 Measurement refers to that under IAS 39 and IFRS 9. Financial investments measured under fair value through other comprehensive income were measured as available-for-sale instruments under IAS 39.

14 The effect of IFRS 9 remeasurement has been updated from the estimate disclosed in our Annual Report and Accounts 2017 as a result of our associates publicly reporting their transition impacts.

15 The effective interest rate on the issued debt security reclassified at 1 January 2018 was 4.05%.

16 Effective interest rate on subordinated liabilities reclassified at 1 January 2018 were 3.16%, 5.34%, 6.57% and 7.69%.

Reconciliation of HSBC Holdings balance sheet at 31 December 2017 and 1 January 2018

	Footnotes	IAS 39 measurement category	IFRS 9 measurement category	IAS 39 carrying amount at 31 Dec 2017	Other changes in classification	IFRS 9 reclassification to: Fair value through profit and loss	IFRS 9 reclassification to: Fair value through other comprehensive income	IFRS 9 reclassification to: Amortised cost	Carrying amount post-reclassification	IFRS 9 remeasurement including expected credit losses	IFRS 9 carrying amount at 1 Jan 2018
				$m	$m	$m	$m	$m	$m	$m	$m
Assets											
Cash and balances with HSBC undertakings		Amortised cost	Amortised cost	1,985	–	–	–	–	1,985	–	1,985
Financial assets designated and otherwise mandatorily measured at fair value through profit or loss	1	FVPL	FVPL	11,944	–	4,264	–	–	16,208	–	16,208
Derivatives		FVPL	FVPL	2,388	–	–	–	–	2,388	–	2,388
Loans and advances to HSBC undertakings		Amortised cost	Amortised cost	76,627	–	–	–	–	76,627	–	76,627
Financial investments	1	FVOCI (Available for sale – debt instruments)	FVPL	4,264	–	(4,264)	–	–	–	–	–
Financial investments		FVOCI (Available for sale – equity instruments)	FVOCI	–	–	–	–	–	–	–	–
Financial investments		Amortised cost (Debt instruments held to maturity)	Amortised cost	–	–	–	–	–	–	–	–
Prepayments, accrued income and intangible assets		Amortised cost	Amortised cost	662	–	–	–	–	662	–	662
Current tax assets		N/A	N/A	379	–	–	–	–	379	–	379
Investment in subsidiaries		N/A	N/A	92,930	–	–	–	–	92,930	–	92,930
Deferred tax assets		N/A	N/A	555	–	–	–	–	555	(175)	380
Total assets				191,734	–	–	–	–	191,734	(175)	191,559

	Footnotes	IAS 39 measurement category	IAS 39 carrying amount at 31 Dec 2017	Other changes in classification	IFRS 9 reclassification to: Fair value through profit and loss	IFRS 9 reclassification to: Fair value through other comprehensive income	IFRS 9 reclassification to: Amortised cost	Carrying amount post-reclassification	IFRS 9 remeasurement including expected credit losses	IFRS 9 carrying amount at 1 Jan 2018
			$m	$m	$m	$m	$m	$m	$m	$m
Liabilities										
Amount owed to HSBC undertakings		Amortised cost	2,571	–	–	–	–	2,571	–	2,571
Financial liabilities designated at fair value	2	FVPL	30,890	–	–	–	(5,402)	25,488	–	25,488
Derivatives		Amortised cost	3,082	–	–	–	–	3,082	–	3,082
Debt securities in issue		Amortised cost	34,258	–	–	–	–	34,258	–	34,258
Accruals, deferred income and other liabilities	2	Amortised cost	1,269	–	–	–	75	1,344	–	1,344
Subordinated liabilities	2	Amortised cost	15,877	–	–	–	5,327	21,204	(1,065)	20,139
Total liabilities			87,947	–	–	–	–	87,947	(1,065)	86,882

Reconciliation for HSBC Holdings balance sheet at 31 December 2017 and 1 January 2018 (continued)

	Footnotes	IAS 39 carrying amount at 31 Dec 2017 $m	IFRS 9 reclassification $m	Carrying amount post-reclassification $m	IFRS 9 remeasurement including expected credit losses $m	Carrying amount at 1 January 2018 $m
Equity						
Called up share capital		**10,160**	**–**	**10,160**	**–**	**10,160**
Share premium account		**10,177**	**–**	**10,177**	**–**	**10,177**
Other equity instruments		**22,107**	**–**	**22,107**	**–**	**22,107**
Other reserves		**37,440**	**(59)**	**37,381**	**–**	**37,381**
Retained earnings		**23,903**	**59**	**23,962**	**890**	**24,852**
Total equity		**103,787**	**–**	**103,787**	**890**	**104,677**

1 $4,264 of available-for-sale assets have been reclassified as 'Financial assets designated and otherwise mandatorily measured at fair value through profit or loss' in accordance with IFRS 9.

2 As permitted by IFRS 9, fair value designations have been revoked for certain long-dated liabilities where the accounting mismatch will be better mitigated by undertaking fair value hedge accounting, resulting in reclassifications of $5,402m from 'Financial liabilities designated at fair value' to 'Subordinated liabilities' measured at amortised cost.

38 Events after the balance sheet date

In its assessment of events after the balance sheet date, HSBC considered, among others, the events related to the process of the UK's withdrawal from the European Union that occurred between 31 December 2018 and the date when the financial statements were authorised for issue, and concluded that no adjustments to the financial statements were required.

A fourth interim dividend for 2018 of $0.21 per ordinary share (a distribution of approximately $4,205m) was declared by the Directors after 31 December 2018. These accounts were approved by the Board of Directors on 19 February 2019 and authorised for issue.

39 HSBC Holdings' subsidiaries, joint ventures and associates

In accordance with section 409 of the Companies Act 2006 a list of HSBC Holdings plc subsidiaries, joint ventures and associates, the registered office address and the effective percentage of equity owned at 31 December 2018 are disclosed below.

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

Subsidiaries

Subsidiaries	% of share class held by immediate parent company (or by the Group where this varies)		Footnotes
ACN 087 652 113 Pty Limited (in liquidation)	100.00		16
Almacenadora Banpacifico S.A. (in liquidation)	99.99		18
Assetfinance December (F) Limited	100.00		19
Assetfinance December (H) Limited	100.00		19
Assetfinance December (M) Limited	100.00		19
Assetfinance December (P) Limited	100.00		19
Assetfinance December (R) Limited	100.00		19
Assetfinance June (A) Limited	100.00		19
Assetfinance June (D) Limited	100.00		19
Assetfinance Limited	100.00		19
Assetfinance March (B) Limited	100.00		20
Assetfinance March (D) Limited	100.00		19
Assetfinance March (F) Limited	100.00		19
Assetfinance September (F) Limited	100.00		19
Assetfinance September (G) Limited	100.00		19
B&Q Financial Services Limited	100.00		21
Banco Nominees (Guernsey) Limited	100.00		22
Banco Nominees 2 (Guernsey) Limited	100.00		22
Banco Nominees Limited	100.00		23
Bank of Bermuda (Cayman) Limited	100.00		24
Beau Soleil Limited Partnership	n/a		7, 25
Beijing Miyun HSBC Rural Bank Company Limited	100.00		12, 26
Billingsgate Nominees Limited	100.00		19
Canada Crescent Nominees (UK) Limited	100.00		19
Canada Square Nominees (UK) Limited	100.00		19
Canada Water Nominees (UK) Limited (in liquidation)	100.00		19
Capco/Cove, Inc.	100.00		27
Card-Flo #1, Inc.	100.00		28
Card-Flo #3, Inc.	100.00		29
CC&H Holdings LLC	n/a		7, 30
CCF & Partners Asset Management Limited	99.99		19
CCF Charterhouse GmbH & Co Asset Leasing KG (in liquidation)	n/a		7, 31
CCF Charterhouse GmbH (in liquidation)	100.00	(99.99)	4, 31
CCF Holding (LIBAN) S.A.L. (in liquidation)	74.99		1, 32
Charterhouse Administrators (D.T.) Limited	100.00	(99.99)	19
Charterhouse Development Limited (in liquidation)	100.00		36
Charterhouse Management Services Limited	100.00	(99.99)	19
Charterhouse Pensions Limited	100.00		19
Chongqing Dazu HSBC Rural Bank Company Limited	100.00		12, 33
Chongqing Fengdu HSBC Rural Bank Company Limited	100.00		12, 34
Chongqing Rongchang HSBC Rural Bank Company Limited	100.00		12, 35
CL Residential Limited (in liquidation)	100.00		36
COIF Nominees Limited	n/a		7, 19
Cordico Management AG	100.00		37
Corhold Limited	100.00		38
Corsair IV Financial Services Capital Partners	n/a		7, 49
Dalian Pulandian HSBC Rural Bank Company Limited	100.00		12, 39
Decision One Mortgage Company, LLC	n/a		7, 40
Dem 5	100.00	(99.99)	4, 41
Dem 9	100.00	(99.99)	4, 41
Dempar 1	100.00	(99.99)	4, 42
Dempar 4	100.00	(99.99)	4, 42
Desarrollo Turistico, S.A. de C.V. (in liquidation)	99.99		18
Elysees GmbH (in liquidation)	100.00	(99.99)	11, 31
Elysées Immo Invest	100.00	(99.99)	4, 43
Equator Holdings Limited (in liquidation)	100.00		19
Eton Corporate Services Limited	100.00		22
Far East Leasing SA (in liquidation)	100.00		44
Fdm 5 SAS	100.00	(99.99)	4, 41
FEPC Leasing Ltd. (in liquidation)	100.00		3, 45
Finanpar 2	100.00	(99.99)	4, 43
Finanpar 7	100.00	(99.99)	4, 43
Flandres Contentieux S.A.	100.00	(99.99)	1, 4, 46
Foncière Elysées	100.00	(99.99)	4, 42
Forward Trust Rail Services Limited (in liquidation)	100.00		19
Fujian Yongan HSBC Rural Bank Company Limited	100.00		12, 47
Fulcher Enterprises Company Limited	100.00	(62.14)	48
Fundacion HSBC, A.C.	99.99		1, 11, 18
Giller Ltd.	100.00		27
Global Payments Technology Mexico S.A. De C.V.	100.00	(99.99)	18
GPIF Co-Investment, LLC	n/a		7, 29
Griffin International Limited	100.00		19
Grundstuecksgesellschaft Trinkausstrasse Kommanditgesellschaft	n/a		7, 50
Grupo Financiero HSBC, S. A. de C. V.	99.99		18
Guangdong Enping HSBC Rural Bank Company Limited	100.00		12, 51
Hang Seng (Nominee) Limited	100.00	(62.14)	48
Hang Seng Bank (China) Limited	100.00	(62.14)	12, 54
Hang Seng Bank (Trustee) Limited	100.00	(62.14)	48
Hang Seng Bank Limited	62.14		48
Hang Seng Bullion Company Limited	100.00	(62.14)	48
Hang Seng Credit Limited	100.00	(62.14)	48
Hang Seng Data Services Limited	100.00	(62.14)	48
Hang Seng Finance Limited	100.00	(62.14)	48
Hang Seng Financial Information Limited	100.00	(62.14)	48
Hang Seng Futures Limited (in liquidation)	100.00	(62.14)	48
Hang Seng Indexes Company Limited	100.00	(62.14)	48
Hang Seng Insurance Company Limited	100.00	(62.14)	48
Hang Seng Investment Management Limited	100.00	(62.14)	48
Hang Seng Investment Services Limited	100.00	(62.14)	48
Hang Seng Life Limited	100.00	(62.14)	48
Hang Seng Real Estate Management Limited	100.00	(62.14)	48
Hang Seng Securities Limited	100.00	(62.14)	48
Hang Seng Security Management Limited	100.00	(62.14)	48
Hang Seng Qianhai Fund Management Company Limited	70.00	(43.49)	12, 189
Haseba Investment Company Limited	100.00	(62.14)	48
HFC Bank Limited (in liquidation)	100.00		36
Hg Janus A Co-Invest L.P.	n/a		7, 210
High Time Investments Limited	100.00	(62.14)	48
HITG Administration GmbH	100.00		55
Honey Green Enterprises Ltd.	100.00		56
Hongkong International Trade Finance (Holdings) Limited (in liquidation)	100.00		19
Household Capital Markets LLC	n/a		7, 29
Household Finance Corporation III	100.00		29
Household International Europe Limited (in liquidation)	100.00		3, 36
Household Pooling Corporation	100.00		58
HRMG Nominees Limited	100.00		22
HSBC (BGF) Investments Limited	100.00		19
HSBC (General Partner) Limited	100.00		2, 60
HSBC (Guernsey) GP PCC Limited	100.00		22
HSBC (Kuala Lumpur) Nominees Sdn Bhd	100.00		61
HSBC (Malaysia) Trustee Berhad	100.00		62
HSBC (Singapore) Nominees Pte Ltd	100.00		63

Subsidiaries	% of share class held by immediate parent company (or by the Group where this varies)		Footnotes
HSBC Administradora de Inversiones S.A.	100.00	(99.65)	64
HSBC Agency (India) Private Limited	100.00		65
HSBC Alpha Funding (UK) Holdings LP (in liquidation)	n/a		7, 66
HSBC Alternative Investments Limited	100.00		19
HSBC Amanah Malaysia Berhad	100.00		61
HSBC Amanah Takaful (Malaysia) Berhad	49.00		9, 61
HSBC Americas Corporation (Delaware)	100.00		29
HSBC Argentina Holdings S.A.	100.00		67
HSBC Asia Holdings (UK) Limited	100.00		19
HSBC Asia Holdings B.V.	100.00		3, 19
HSBC Asia Holdings Limited	100.00		2, 68
HSBC Asia Pacific Holdings (UK) Limited	100.00		5, 19
HSBC Asset Finance (UK) Limited	100.00		19
HSBC Asset Finance Holdings Limited (in liquidation)	100.00		19
HSBC Asset Finance M.O.G. Holdings (UK) Limited	100.00		19
HSBC Asset Management (India) Private Limited	100.00	(99.99)	3, 69
HSBC Assurances Vie (France)	100.00	(99.99)	4, 46
HSBC Australia Holdings Pty Limited	100.00		3, 5, 16
HSBC Bank (Chile)	100.00		70
HSBC Bank (China) Company Limited	100.00		12, 71
HSBC Bank (General Partner) Limited	100.00		60
HSBC Bank (Mauritius) Limited	100.00		72
HSBC Bank (RR) (Limited Liability Company)	100.00		13, 73
HSBC Bank (Singapore) Limited	100.00		63
HSBC Bank (Taiwan) Limited	100.00		74
HSBC Bank (Uruguay) S.A.	100.00		75
HSBC Bank (Vietnam) Ltd.	100.00		76
HSBC Bank A.S.	100.00		77
HSBC Bank Argentina S.A.	100.00	(99.99)	67
HSBC Bank Armenia cjsc	70.00		78
HSBC Bank Australia Limited	100.00		16
HSBC Bank Bermuda Limited	100.00		23
HSBC Bank Canada	100.00		3, 79
HSBC Bank Capital Funding (Sterling 1) LP	n/a		7, 60
HSBC Bank Capital Funding (Sterling 2) LP	n/a		7, 60
HSBC Bank Egypt S.A.E	94.54		80
HSBC Bank Malaysia Berhad	100.00		61
HSBC Bank Malta p.l.c.	70.03		81
HSBC Bank Middle East Limited	100.00		5, 82
HSBC Bank Middle East Limited, Representative Office Morocco SARL	100.00		83
HSBC Bank Nominee (Jersey) Limited	100.00		85
HSBC Bank Oman S.A.O.G.	51.00		86
HSBC Bank Pension Trust (UK) Limited	100.00		19
HSBC Bank plc	100.00		3, 19
HSBC Bank Polska S.A.	100.00		3, 87
HSBC Bank USA, National Association	100.00		3, 88
HSBC Branch Nominee (UK) Limited	100.00		19
HSBC Brasil Holding S.A.	100.00		89
HSBC Brasil S.A. Banco De Investimento	100.00		89
HSBC Broking Forex (Asia) Limited	100.00		68
HSBC Broking Futures (Asia) Limited	100.00		68
HSBC Broking Futures (Hong Kong) Limited	100.00		68
HSBC Broking Securities (Asia) Limited	100.00		68
HSBC Broking Securities (Hong Kong) Limited	100.00		68
HSBC Broking Services (Asia) Limited	100.00		68
HSBC Canadian Covered Bond (Legislative) GP Inc	100.00		90
HSBC Canadian Covered Bond (Legislative) Guarantor Limited Partnership	n/a		7, 90
HSBC Capital (USA), Inc.	100.00		29
HSBC Capital Funding (Dollar 1) L.P.	n/a		7, 60
HSBC Capital Limited	100.00		68
HSBC Card Services Inc.	100.00		29
HSBC Casa de Bolsa, S.A. de C.V., Grupo Financiero HSBC	99.99		18
HSBC Cayman Services Limited	100.00		92
HSBC City Funding Holdings	100.00		19
HSBC Client Holdings Nominee (UK) Limited	100.00		19
HSBC Client Share Offer Nominee (UK) Limited	100.00		19
HSBC Columbia Funding, LLC	n/a		7, 29
HSBC Corporate Advisory (Malaysia) Sdn Bhd	100.00		61
HSBC Corporate Finance (Hong Kong) Limited	100.00		68
HSBC Corporate Trustee Company (UK) Limited	100.00		19
HSBC Custody Nominees (Australia) Limited	100.00		16
HSBC Custody Services (Guernsey) Limited	100.00		22
HSBC Daisy Investments (Mauritius) Limited	100.00		94
HSBC Diversified Loan Fund General Partner Sarl	n/a		7, 95
HSBC Electronic Data Processing (Guangdong) Limited	100.00		12, 96
HSBC Electronic Data Processing (Malaysia) Sdn Bhd	100.00		97
HSBC Electronic Data Processing (Philippines), Inc.	99.99		98
HSBC Electronic Data Processing India Private Limited	100.00		99
HSBC Electronic Data Processing Lanka (Private) Limited	100.00		100
HSBC Electronic Data Service Delivery (Egypt) S.A.E.	100.00		101
HSBC Enterprise Investment Company (UK) Limited	100.00		19
HSBC Epargne Entreprise (France)	100.00	(99.99)	4, 46
HSBC Equator (UK) Limited (in liquidation)	100.00		19
HSBC Equipment Finance (UK) Limited	100.00		19
HSBC Equity (UK) Limited	100.00		19
HSBC Europe B.V.	100.00		19
HSBC Executor & Trustee Company (UK) Limited	100.00		19
HSBC Factoring (France)	100.00	(99.99)	4, 42
HSBC Finance (Brunei) Berhad	100.00		102
HSBC Finance (Netherlands)	100.00		2, 19
HSBC Finance Corporation	100.00		29
HSBC Finance Limited	100.00		19
HSBC Finance Mortgages Inc.	100.00		103
HSBC Finance Transformation (UK) Limited	100.00		2, 19
HSBC Financial Services (Lebanon) s.a.l.	99.60		104
HSBC Financial Services (Middle East) Limited (in liquidation)	100.00		105
HSBC Financial Services (Uruguay) S.A. (in liquidation)	100.00		106
HSBC France	99.99		4, 42
HSBC Fund Services (Korea) Limited	92.95		108
HSBC Funding (UK) Holdings (active proposal to strike off)	100.00		19
HSBC Germany Holdings GmbH	100.00		50
HSBC Global Asset Management (Bermuda) Limited	100.00		3, 23
HSBC Global Asset Management (Canada) Limited	100.00		79
HSBC Global Asset Management (Deutschland) GmbH	100.00	(80.67)	50
HSBC Global Asset Management (France)	100.00	(99.99)	4, 110
HSBC Global Asset Management (Hong Kong) Limited	100.00		25
HSBC Global Asset Management (International) Limited (in liquidation)	100.00		111
HSBC Global Asset Management (Japan) K. K.	100.00		112
HSBC Global Asset Management (Malta) Limited	100.00	(70.03)	113

Strategic Report

Financial Review

Corporate Governance

Financial Statements

Shareholder Information

Subsidiaries	% of share class held by immediate parent company (or by the Group where this varies)		Footnotes
HSBC Global Asset Management (México), S.A. de C.V., Sociedad Operadora de Fondos de Inversión, Grupo Financiero HSBC	99.99		18
HSBC Global Asset Management (Oesterreich) GmbH	100.00	(80.67)	6, 114
HSBC Global Asset Management (Singapore) Limited	100.00		63
HSBC Global Asset Management (Switzerland) AG	100.00	(90.33)	4, 115
HSBC Global Asset Management (Taiwan) Limited	100.00		116
HSBC Global Asset Management (UK) Limited	100.00		19
HSBC Global Asset Management (USA) Inc.	100.00		117
HSBC Global Asset Management Holdings (Bahamas) Limited	100.00		118
HSBC Global Asset Management Limited	100.00		2, 19
HSBC Global Custody Nominee (UK) Limited	100.00		19
HSBC Global Custody Proprietary Nominee (UK) Limited	100.00		19
HSBC Global Services (Canada) Limited	100.00		3, 119
HSBC Global Services (China) Holdings Limited	100.00		19
HSBC Global Services (Hong Kong) Limited	100.00		68
HSBC Global Services (UK) Limited	100.00		19
HSBC Global Services Limited	100.00		2, 19
HSBC Global Shared Services (India) Private Limited (in liquidation)	100.00	(99.99)	65
HSBC Group Management Services Limited	100.00		19
HSBC Group Nominees UK Limited	100.00		1, 2, 19
HSBC Holdings B.V.	100.00		3, 19
HSBC IM Pension Trust Limited	100.00		1, 19
HSBC Infrastructure Limited	100.00		19
HSBC INKA Investment-AG TGV	100.00	(80.67)	14, 120
HSBC Inmobiliaria (Mexico), S.A. de C.V.	100.00		18
HSBC Institutional Trust Services (Asia) Limited	100.00		68
HSBC Institutional Trust Services (Bermuda) Limited	100.00		23
HSBC Institutional Trust Services (Ireland) DAC	100.00	(99.99)	121
HSBC Institutional Trust Services (Mauritius) Limited	100.00		122
HSBC Institutional Trust Services (Singapore) Limited	100.00		63
HSBC Insurance (Asia) Limited	100.00		124
HSBC Insurance (Asia-Pacific) Holdings Limited	100.00		5, 125
HSBC Insurance (Bermuda) Limited	100.00		23
HSBC Insurance (Singapore) Pte. Limited	100.00		63
HSBC Insurance Agency (USA) Inc.	100.00		117
HSBC Insurance Brokers (Philippines) Inc	100.00	(99.99)	127
HSBC Insurance Holdings Limited	100.00		2, 19
HSBC Insurance Management Services Limited (in liquidation)	100.00		128
HSBC Insurance Services (Lebanon) S.A.L. (in liquidation)	97.70		129
HSBC Insurance Services Holdings Limited	100.00		19
HSBC International Finance Corporation (Delaware)	100.00		130
HSBC International Holdings (Jersey) Limited (in liquidation)	100.00		85
HSBC International Limited (in liquidation)	100.00		85
HSBC International Nominees Limited (in liquidation)	100.00		1, 131
HSBC International Trustee (BVI) Limited	100.00		10, 132
HSBC International Trustee (Holdings) Pte. Limited	100.00		63
HSBC International Trustee Limited	100.00		131
HSBC Inversiones S.A.	99.99		70
HSBC Inversiones y Servicios Financieros Limitada (in liquidation)	100.00	(99.99)	70
HSBC InvestDirect (India) Limited	99.99	(99.54)	133

Subsidiaries	% of share class held by immediate parent company (or by the Group where this varies)		Footnotes
HSBC InvestDirect Financial Services (India) Limited	100.00	(99.54)	133
HSBC InvestDirect Sales & Marketing (India) Limited	99.99	(98.54)	65
HSBC InvestDirect Securities (India) Private Limited	99.99	(99.61)	3, 133
HSBC Investment Bank Holdings B.V.	100.00		19
HSBC Investment Bank Holdings Limited	100.00		19
HSBC Investment Company (Egypt) S.A.E (in liquidation)	100.00	(94.54)	1, 134
HSBC Investment Funds (Canada) Inc.	100.00		5, 135
HSBC Investment Funds (Hong Kong) Limited	100.00		25
HSBC Investment Funds (Luxembourg) SA	100.00		136
HSBC Invoice Finance (UK) Limited	100.00		138
HSBC Iris Investments (Mauritius) Ltd (in liquidation)	100.00		139
HSBC Issuer Services Common Depositary Nominee (UK) Limited	100.00		19
HSBC Issuer Services Depositary Nominee (UK) Limited	100.00		19
HSBC Latin America B.V.	100.00		19
HSBC Latin America Holdings (UK) Limited	100.00		2, 19
HSBC Leasing (Asia) Limited	100.00		68
HSBC Leasing (France)	100.00	(99.99)	4, 41
HSBC Life (International) Limited	100.00		23
HSBC Life (Property) Limited	100.00		124
HSBC Life (UK) Limited	100.00		19
HSBC Life Assurance (Malta) Limited	100.00	(70.03)	113
HSBC Life Insurance Company Limited	50.00		140
HSBC Lodge Funding (UK) Holdings (active proposal to strike off)	100.00		19
HSBC LU Nominees Limited	100.00		19
HSBC Management (Guernsey) Limited	100.00		22
HSBC Markets (USA) Inc.	100.00		29
HSBC Marking Name Nominee (UK) Limited	100.00		19
HSBC Mexico, S.A., Institucion de Banca Multiple, Grupo Financiero HSBC	100.00	(99.99)	18
HSBC Middle East Finance Company Limited	80.00		141
HSBC Middle East Holdings B.V.	100.00		2, 3, 82
HSBC Middle East Leasing Partnership	n/a		7, 142
HSBC Middle East Securities L.L.C	49.00		9, 143
HSBC Mortgage Corporation (Canada)	100.00		144
HSBC Mortgage Corporation (USA)	100.00		29
HSBC Nominees (Asing) Sdn Bhd	100.00		61
HSBC Nominees (Hong Kong) Limited	100.00		68
HSBC Nominees (New Zealand) Limited	100.00		145
HSBC Nominees (Tempatan) Sdn Bhd	100.00		61
HSBC North America Holdings Inc.	100.00		3, 29
HSBC Odeme Sistemleri Bilgisayar Teknolojileri Basin Yayin Ve Musteri Hizmetleri	99.99		146
HSBC Operational Services GmbH	n/a		7, 147
HSBC Overseas Holdings (UK) Limited	100.00		2, 19
HSBC Overseas Investments Corporation (New York)	100.00		149
HSBC Overseas Nominee (UK) Limited	100.00		19
HSBC Participaciones (Argentina) S.A.	100.00	(99.99)	67
HSBC PB Corporate Services 1 Limited	100.00		150
HSBC PB Services (Suisse) SA	100.00		151
HSBC Pension Trust (Ireland) DAC	100.00		121
HSBC Pensiones, S.A.	99.99		152
HSBC PI Holdings (Mauritius) Limited	100.00		122
HSBC Portfoy Yonetimi A.S.	100.00	(99.98)	153
HSBC Preferential LP (UK)	100.00		19
HSBC Private Bank (C.I.) Limited	100.00		22
HSBC Private Bank (Luxembourg) S.A.	100.00		136
HSBC Private Bank (Monaco) SA	99.99		4, 155
HSBC Private Bank (Suisse) SA	100.00		151
HSBC Private Bank (UK) Limited	100.00		19

Subsidiaries	% of share class held by immediate parent company (or by the Group where this varies)		Footnotes
HSBC Private Bank International	100.00		156
HSBC Private Banking Holdings (Suisse) SA	100.00		151
HSBC Private Banking Nominee 3 (Jersey) Limited	100.00		150
HSBC Private Equity Advisors LLC	n/a		7, 29
HSBC Private Equity Investments (UK) Limited	100.00		19
HSBC Private Trustee (Hong Kong) Limited	100.00		68
HSBC Private Wealth Services (Canada) Inc.	100.00		3, 157
HSBC Professional Services (India) Private Limited	98.61		65
HSBC Property (UK) Limited	100.00		19
HSBC Property Funds (Holding) Limited	100.00		19
HSBC Provident Fund Trustee (Hong Kong) Limited	100.00		68
HSBC Qianhai Securities Limited	100.00	(51.00)	12, 158
HSBC Rail (UK) Limited (in liquidation)	100.00		19
HSBC Real Estate Leasing (France)	99.00		4, 46
HSBC Realty Credit Corporation (USA)	100.00		3, 29
HSBC REIM (France)	100.00	(99.99)	4, 46
HSBC Representative Office (Nigeria) Limited	100.00		159
HSBC Retirement Benefits Trustee (UK) Limited	100.00		1, 2, 19
HSBC Retirement Services Limited	100.00		1, 19
HSBC Savings Bank (Philippines) Inc.	99.99		161
HSBC Securities (Asia) Limited	100.00		68
HSBC Securities (Canada) Inc.	100.00		119
HSBC Securities (Egypt) S.A.E.	100.00	(94.54)	80
HSBC Securities (Japan) Limited	100.00		19
HSBC Securities (Philippines) Inc.	99.99		1, 162
HSBC Securities (Singapore) Pte Limited	100.00		63
HSBC Securities (South Africa) (Pty) Limited	100.00		163
HSBC Securities (Taiwan) Corporation Limited	100.00		164
HSBC Securities (USA) Inc.	100.00		29
HSBC Securities and Capital Markets (India) Private Limited	99.99		5, 65
HSBC Securities Asia International Nominees Limited	100.00		165
HSBC Securities Asia Nominees Limited	100.00		68
HSBC Securities Brokers (Asia) Limited	100.00		68
HSBC Securities Investments (Asia) Limited	100.00		68
HSBC Securities Services (Bermuda) Limited	100.00		23
HSBC Securities Services (Guernsey) Limited	100.00		22
HSBC Securities Services (Ireland) DAC	100.00		121
HSBC Securities Services (Luxembourg) S.A.	100.00		136
HSBC Securities Services Holding Limited	100.00		131
HSBC Securities Services Holdings (Ireland) DAC	100.00		121
HSBC Seguros de Retiro (Argentina) S.A.	100.00	(99.99)	67
HSBC Seguros de Vida (Argentina) S.A.	100.00	(99.99)	67
HSBC Seguros, S.A de C.V., Grupo Financiero HSBC	99.99		3, 152
HSBC Service Delivery (Polska) Sp. z o.o.	100.00		167
HSBC Services (France)	99.99		4, 42
HSBC Services Japan Limited	100.00		168
HSBC Services USA Inc.	100.00		169
HSBC Servicios Financieros, S.A. de C.V	99.99		18
HSBC Servicios, S.A. DE C.V., Grupo Financiero HSBC	99.99		18
HSBC SFH (France)	99.99		4, 46
HSBC Software Development (Canada) Inc	100.00		170
HSBC Software Development (Guangdong) Limited	100.00		12, 171
HSBC Software Development (India) Private Limited	100.00		172
HSBC Software Development (Malaysia) Sdn Bhd	100.00		97
HSBC Specialist Investments Limited	100.00		5, 19
HSBC Stockbrokers Nominee (UK) Limited	100.00		19
HSBC Technology & Services (China) Limited	100.00		12, 173
HSBC Technology & Services (USA) Inc.	100.00		29
HSBC Transaction Services GmbH	100.00	(80.67)	6, 174
HSBC Trinkaus & Burkhardt (International) S.A.	100.00	(80.67)	136
HSBC Trinkaus & Burkhardt AG	80.67		14, 50
HSBC Trinkaus & Burkhardt Gesellschaft fur Bankbeteiligungen mbH	100.00	(80.67)	50
HSBC Trinkaus Europa Immobilien-Fonds Nr. 5 GmbH	100.00	(80.67)	50
HSBC Trinkaus Family Office GmbH	100.00	(80.67)	6, 50
HSBC Trinkaus Immobilien Beteiligungs KG	100.00	(80.67)	50
HSBC Trinkaus Real Estate GmbH	100.00	(80.67)	6, 50
HSBC Trust Company (Canada)	100.00		144
HSBC Trust Company (Delaware), National Association	100.00		175
HSBC Trust Company (UK) Limited	100.00		19
HSBC Trust Company AG	100.00		37
HSBC Trustee (C.I.) Limited	100.00		150
HSBC Trustee (Cayman) Limited	100.00		176
HSBC Trustee (Guernsey) Limited	100.00		22
HSBC Trustee (Hong Kong) Limited	100.00		68
HSBC Trustee (Mauritius) Limited (in liquidation)	100.00		177
HSBC Trustee (Singapore) Limited	100.00		63
HSBC UK Bank plc	100.00		178
HSBC UK Client Nominee Limited	100.00		19
HSBC UK Holdings Limited	100.00		2, 19
HSBC USA Inc.	100.00		3, 149
HSBC Violet Investments (Mauritius) Limited	100.00		94
HSBC Wealth Client Nominee Limited	100.00		19
HSBC Yatirim Menkul Degerler A.S.	99.98		153
HSI Asset Securitization Corporation	100.00		29
HSI International Limited	100.00	(62.14)	48
HSIL Investments Limited	100.00		19
Hubei Macheng HSBC Rural Bank Company Limited	100.00		12, 182
Hubei Suizhou Cengdu HSBC Rural Bank Company Limited	100.00		12, 183
Hubei Tianmen HSBC Rural Bank Company Limited	100.00		12, 184
Hunan Pingjiang HSBC Rural Bank Company Limited	100.00		12, 185
Imenson Limited	100.00	(62.14)	48
InfraRed NF China Real Estate Investments LP	n/a		7, 53
INKA Internationale Kapitalanlagegesellschaft mbH	100.00	(80.67)	174
Inmobiliaria Banci, S.A. de C.V.	100.00	(98.91)	18
Inmobiliaria Bisa, S.A. de C.V.	100.00	(99.99)	18
Inmobiliaria Grufin, S.A. de C.V.	100.00	(99.99)	18
Inmobiliaria Guatusi, S.A. de C.V.	100.00	(99.99)	18
IRERE Property Investments (French Offices) Sarl (in liquidation)	100.00		186
James Capel & Co. Limited	100.00		19
James Capel (Channel Islands) Nominees Limited (in liquidation)	100.00		111
James Capel (Nominees) Limited	100.00		19
James Capel (Second Nominees) Limited (in liquidation)	100.00		36
James Capel (Taiwan) Nominees Limited	100.00		19
Jasmine22 Limited	100.00		187
John Lewis Financial Services Limited	100.00		19
Keyser Ullmann Limited	100.00	(99.99)	19
Kings Meadow Nominees Limited (in liquidation)	100.00		188
Legend Estates Limited (in liquidation)	100.00		19
Lion Corporate Services Limited	100.00		68
Lion International Corporate Services Limited	100.00		131
Lion International Management Limited	100.00		131
Lion Management (Hong Kong) Limited	100.00		68

Subsidiaries	% of share class held by immediate parent company (or by the Group where this varies)		Footnotes
Lyndholme Limited	100.00		68
Marks and Spencer Financial Services plc	100.00		188
Marks and Spencer Retail Financial Services Holdings Limited (in liquidation)	100.00		188
Marks and Spencer Savings and Investments Limited	100.00		188
Marks and Spencer Unit Trust Management Limited	100.00		188
Maxima S.A. AFJP (in liquidation)	100.00	(99.98)	67
Mercantile Company Limited	100.00		19
Mexicana de Fomento, S.A. de C.V.	99.90		18
Midcorp Limited	100.00		19
Midland Bank (Branch Nominees) Limited	100.00		19
Midland Nominees Limited	100.00		19
MIL (Cayman) Limited	100.00		193
MIL (Jersey) Limited	100.00		150
MW Gestion SA	100.00		67
Promocion en Bienes Raices, S.A. de C.V.	99.99	(0.99)	3, 18
Prudential Client HSBC GIS Nominee (UK) Limited	100.00		19
PT Bank HSBC Indonesia	100.00	(98.93)	195
PT HSBC Sekuritas Indonesia	100.00	(85.00)	196
R/CLIP Corp.	100.00		29
Real Estate Collateral Management Company	100.00		29
Republic Nominees Limited	100.00		22
Republic Overseas Capital Corporation	100.00		117
RLUKREF Nominees (UK) One Limited	100.00		19
RLUKREF Nominees (UK) Two Limited	100.00		19
S.A.P.C. - Ufipro Recouvrement	99.97		11, 41
Saf Baiyun	100.00	(99.99)	4, 43
Saf Chang Jiang	100.00	(99.99)	4, 43
Saf Guangzhou	100.00	(99.99)	4, 43
Saf Zhu Jiang	100.00	(99.99)	4, 43
Saf Zhu Jiang Jiu	100.00	(99.99)	4, 43
Saf Zhu Jiang Shi Ba	100.00	(99.99)	4, 43
Saf Zhu Jiang Shi Er	100.00	(99.99)	4, 43
Saf Zhu Jiang Shi Jiu	100.00	(99.99)	4, 43
Saf Zhu Jiang Shi Liu	100.00	(99.99)	4, 43
Saf Zhu Jiang Shi Qi	100.00	(99.99)	4, 43
Saf Zhu Jiang Shi Wu	100.00	(99.99)	4, 43
SAS Bosquet -Audrain	100.00	(94.90)	4, 199
SAS Cyatheas Pasteur	100.00	(94.93)	4, 41
SAS Orona	100.00	(94.92)	1, 4, 200
SCI HSBC Assurances Immo	100.00	(99.99)	11, 46
SFM	99.99		4, 42
SFSS Nominees (Pty) Limited	100.00		163
Shandong Rongcheng HSBC Rural Bank Company Limited	100.00		12, 201
Sico Limited	100.00		202
SNC Dorique	100.00	(99.99)	1, 11, 203
SNC Kerouan	100.00	(99.99)	11, 43
SNC Les Mercuriales	100.00	(99.99)	1, 11, 43
SNC Les Oliviers D'Antibes	60.00		11, 46
SNC Makala	100.00	(99.99)	1, 11, 43
SNC Nuku-Hiva Bail	100.00	(99.99)	1, 11, 43
SNCB/M6 - 2008 A	100.00	(99.99)	1, 4, 43
SNCB/M6-2007 A	100.00	(99.99)	1, 4, 43
SNCB/M6-2007 B	100.00	(99.99)	1, 4, 43
Societe CCF Finance Moyen-Orient S.A.L. (in liquidation)	99.64	(99.08)	1, 32
Société Française et Suisse	100.00	(99.99)	4, 43
Societe Immobiliere Atlas S.A. (in liquidation)	100.00		151
Somers Dublin DAC	100.00	(99.99)	121
Somers Nominees (Far East) Limited	100.00		23
Sopingest	100.00	(99.99)	4, 43
South Yorkshire Light Rail Limited	100.00		19
St Cross Trustees Limited	100.00		19

Subsidiaries	% of share class held by immediate parent company (or by the Group where this varies)		Footnotes
Sun Hung Kai Development (Lujiazui III) Limited	100.00		12, 206
Swan National Leasing (Commercials) Limited	100.00		19
Swan National Limited	100.00		19
Thasosfin	100.00	(99.99)	4, 46
The Hongkong and Shanghai Banking Corporation Limited	100.00		68
The Venture Catalysts Limited	100.00		19
Timberlink Settlement Services (USA) Inc.	100.00		29
Tooley Street View Limited	100.00		1, 2, 19
Tower Investment Management	100.00		207
Trinkaus Australien Immobilien Fonds Nr. 1 Brisbane GmbH & Co. KG	100.00	(80.67)	50
Trinkaus Australien Immobilien-Fonds Nr. 1 Treuhand-GmbH	100.00	(80.67)	6, 50
Trinkaus Europa Immobilien-Fonds Nr.3 Objekt Utrecht Verwaltungs-GmbH	100.00	(80.67)	50
Trinkaus Immobilien-Fonds Geschaeftsfuehrungs-GmbH	100.00	(80.67)	6, 50
Trinkaus Immobilien-Fonds Verwaltungs-GmbH	100.00	(80.67)	6, 50
Trinkaus Private Equity Management GmbH	100.00	(80.67)	50
Trinkaus Private Equity Verwaltungs GmbH	100.00	(80.67)	6, 50
Tropical Nominees Limited	100.00		193
Turnsonic (Nominees) Limited	100.00		19
Vadep Holding AG (in liquidation)	100.00		209
Valeurs Mobilières Elysées	100.00	(99.99)	4, 52
Wardley Limited	100.00		68
Wayfoong Credit Limited (in liquidation)	100.00		68
Wayfoong Finance Limited (in liquidation)	100.00		68
Wayfoong Nominees Limited	100.00		68
Wayhong (Bahamas) Limited	100.00		118
Westminster House, LLC	n/a		7, 29
Woodex Limited	100.00		23
Yan Nin Development Company Limited	100.00	(62.14)	48

Joint ventures

The undertakings below are joint ventures and equity accounted.

Joint ventures	% of share class held by immediate parent company (or by the Group where this varies)		Footnotes
HCM Holdings Limited	50.99		36
House Network Sdn Bhd	25.00		15
HSBC Jintrust Fund Management Company Limited	49.00		12, 93
HSBC Saudi Arabia	49.00	(69.40)	191
ProServe Bermuda Limited	50.00		107
Sino AG	24.94	(20.11)	208
The London Silver Market Fixing Limited	n/a		1, 7, 180
Vaultex UK Limited	50.00		109

Associates

The undertakings below are associates and equity accounted.

Associates	% of share class held by immediate parent company (or by the Group where this varies)		Footnotes
Bank of Communications Co., Ltd.	19.03		9, 126
Barrowgate Limited	24.64		137
BGF Group PLC	24.48		140
Bud Financial Limited	8.02		3, 9, 17
Canara HSBC Oriental Bank of Commerce Life Insurance Company Limited	26.00		148
CFAC Payment Scheme Limited	33.33		1, 3, 154
Chemi & Cotex (Rwanda) Limited	99.98	(33.99)	1, 160
Chemi & Cotex Kenya Limited	99.99	(33.99)	1, 166
Chemi and Cotex Industries Limited	100.00	(33.99)	1 , 179
EPS Company (Hong Kong) Limited	40.58		68
GZHS Research Co Ltd	33.00	(20.50)	1, 12, 181
HSBC Mortgage Limited Liability Partnership (in liquidation)	n/a		7, 190
Icon Brickell LLC (in liquidation)	n/a		7,192
Jeppe Star Limited	100.00	(33.99)	123
MENA Infrastructure Fund (GP) Ltd	33.33		142
Northstar Trade Finance Inc.	20.08		197
Novo Star Limited	33.99		198
PEF 2005 (A) Limited Partnership	n/a		7, 57
PEF 2005 (D) Limited Partnership	n/a		7, 57
PEF 2010 (A) Limited Partnership	n/a		7, 57
Peregrine Capital (India) Private Limited	33.46		91
Prisma Medios de Pago S.A.	7.06		1, 205
Quantexa Limited	10.51		9, 204
Services Epargne Entreprise	14.35		4, 9, 59
The London Gold Market Fixing Limited	n/a		1, 7, 180
The Saudi British Bank	40.00		194
Vizolution Limited	17.95		9, 123
We Trade Innovation Designated Activity Company	8.52		9, 84

Footnotes for Note 39

1	*Management has determined that these undertakings are excluded from consolidation in the Group accounts as these entities do not meet the definition of subsidiaries in accordance with IFRS. HSBC's consolidation policy is described in Note 1.2(a).*
2	*Directly held by HSBC Holdings plc*

Description of shares

3	*Preference Shares*
4	*Actions*
5	*Redeemable Preference Shares*
6	*GmbH Anteil*
7	*This undertaking is a partnership and does not have share capital*
8	*Liquidating Share Class*
9	*HSBC Holdings plc exercises control or significant influence over this undertaking notwithstanding its equity interest*
10	*Non-Participating Voting Shares*
11	*Parts*
12	*Registered Capital Shares*
13	*Russian Limited Liability Company Shares*
14	*Stückaktien*

Registered offices

15	*Lot 6.05, Level 6, KPMG Tower 8 First Avenue, Bandar Utama Petaling Jaya Selangor, Darul Ehsan, Malaysia 47800*
16	*Level 36 Tower 1 International Towers Sydney, 100 Barangaroo Avenue, Sydney, New South Wales, Australia, 2000*
17	*First Floor The Bower, 207 Old Street, London, England, EC1V 9NR*
18	*Paseo de la Reforma 347, Col. Cuauhtemoc, Mexico, 06500*
19	*8 Canada Square, London, United Kingdom, E14 5HQ*
20	*5 Donegal Square South, Belfast, Northern Ireland, BT1 5JP*

Registered offices

21	*Camden House West, The Parade, Birmingham, United Kingdom, B1 3PY*
22	*Arnold House St Julians Avenue, St Peter Port, Guernsey, GY1 3NF*
23	*37 Front Street, Hamilton, Bermuda, HM 11*
24	*PO Box 513, Strathvale House, Ground Floor, 90 North Church Street, George Town, Grand Cayman, Cayman Islands, KY1-1106*
25	*HSBC Main Building, 1 Queen's Road Central, Hong Kong*
26	*First Floor, Xinhua Bookstore Xindong Road (SE of roundabout), Miyun District, Beijing, China*
27	*95 Washington Street, Buffalo, New York, United States Of America, 14203*
28	*1209 Orange Street, Wilmington, Delaware, United States Of America, 19801*
29	*c/o The Corporation Trust Company, 1209 Orange Street, Wilmington, Delaware, United States Of America, 19801*
30	*Corporation Service Company, 251 Little Falls Drive, Wilmington, Delaware, United States Of America, 19808*
31	*Unsoeldstrasse 2, Munich, Germany, 80538*
32	*Solidere - Rue Saad Zaghloul Immeuble - 170 Marfaa, PO Box 17 5476 Mar Michael 11042040, Beyrouth, Lebanon*
33	*No 1, Bei Huan East Road Dazu County, Chongqing, China*
34	*No 107, Ping Du Avenue (E), Sanhe Town, Fengdu County, Chongqing, China*
35	*No. 3, 5, 7, Haitang Erzhi Road, Changyuan, Rongchang, Chongqing, China, 402460*
36	*Hill House, 1 Little New Street, London, United Kingdom, EC4A 3TR*
37	*Bederstrasse 49, Zurich, Switzerland, CH-8002*
38	*Rawlinson and Hunter Limited, Woodbourne Hall, PO Box 3162, Road Town, Tortola, British Virgin Islands, VG1110*
39	*First & Second Floor, No.3 Nanshan Road, Pulandian, Dalian, Liaoning, China*
40	*CT Corporation System, 225 Hillsborough Street, Raleigh, North Carolina, United States Of America, 27603*
41	*39, rue de Bassano, Paris, France, 75008*
42	*103, avenue des Champs-Elysées, Paris, France, 75008*
43	*64, rue Galilée, Paris, France, 75008*
44	*MMG Tower, 23 floor, Ave. Paseo del Mar, Urbanizacion Costa del Este, Panama*
45	*Walkers Corporate Services Limited, Walker House, 87 Mary Street, George Town, Grand Cayman KY1-9005, Cayman Islands*
46	*15, rue Vernet, Paris, France, 75008*
47	*No. 1 1211 Yanjiang Zhong Road, Yongan, Fujian, China*
48	*83 Des Voeux Road Central, Hong Kong*
49	*c/o Maples Corporate Services Limited, Ugland House, PO Box 309, Grand Cayman, KY1-1104, Cayman Islands*
50	*Königsallee 21/23, Düsseldorf, Germany, 40212*
51	*No. 44, Xin Ping Road Central, Encheng, Enping, Guangdong, China, 529400*
52	*109 avenue des Champs-Elysees, Paris, France, 75008*
53	*Regency Court, Glategny Esplanade, St. Peter Port, Guernsey GY1 1WW*
54	*34/F and 36/F, Hang Seng Bank Tower, 1000 Lujiazui Ring Road,, China (Shanghai) Pilot Free Trade Zone,, Shanghai, China, 200120*
55	*11-17 Ludwig-Erhard-Str., Hamburg, Germany, 20459*
56	*Commerce House, Wickhams Cay 1, P.O. Box 3140, Road Town, Tortola, Tortola, British Virgin Islands*
57	*Suite 1020, 885 West Georgia Street, Vancouver, BC, V6C 3E8*
58	*The Corporation Trust Company of Nevada 311 S. Division Street, Carson City, Nevada, United States Of America, 89703*
59	*32 Rue du Champ de Tir, 44300 Nantes*
60	*HSBC House Esplanade, St. Helier, Jersey, JE4 8UB*
61	*10th Floor, North Tower 2 Leboh Ampang, Kuala Lumpur, Malaysia, 50100*
62	*13th Floor, South Tower 2 Leboh Ampang, Kuala Lumpur, Malaysia, 50100*
63	*21 Collyer Quay, #13-02 HSBC Building, Singapore, 049320*
64	*Bouchard 557, Piso 18°, Cdad. Autónoma de Buenos Aires, Argentina, 1106*
65	*52/60 M G Road, Fort, Mumbai, India, 400 001*
66	*PO Box 513 HSBC House, 68 West Bay Road, George Town, Grand Cayman, Cayman Islands, KY1-1102*
67	*557 Bouchard, Level 22, Ciudad de Buenos Aires, Capital federal, Argentina, C1106ABG*
68	*1 Queen's Road Central, Hong Kong*
69	*3rd Floor, Merchantile Bank Chamber 16, Veer Nariman Road, Fort, Mumbai, India, 400001*

Registered offices

70	Isidora Goyenechea 2800, 23rd floor, Las Condes, Santiago, Chile, 7550647
71	HSBC Building Shanghai ifc, 8 Century Avenue, Pudong, Shanghai, China, 200120
72	6th floor, HSBC Centre, 18, Cybercity, Ebene, Mauritius
73	2 Paveletskaya square, building 2, Moscow, Russian Federation, 115054
74	13F-14F, 333 Keelung Road, Sec.1, Taipei, 110
75	25 de Mayo 471, Montevideo, Uruguay, 11000
76	The Metropolitan 235 Dong Khoi Street, District 1, Ho Chi Minh City, Viet Nam
77	Esentepe mah. Büyükdere Caddesi, No.128 Istanbul 34394, Turkey
78	66 Teryan Street, Yerevan, Armenia, 0009
79	885 West Georgia Street, 3rd Floor, Vancouver, British Columbia, Canada, V6C 3E9
80	306 Corniche El Nil, Maadi, Egypt, 11728
81	116 Archbishop Street, Valletta, Malta
82	Level 1, Building No. 8, Gate Village Dubai International Financial Centre, PO Box 502601, United Arab Emirates
83	Tour Crystal 1 10EME Etage BD Al Mohades 20000, Morocco
84	10 Earlsfort Terrace, Dublin, Ireland D02 T380
85	HSBC House Esplanade, St. Helier, Jersey, JE1 1HS
86	Al Khuwair Office, PO Box 1727 PC111 CPO Seeb, Muscat, Oman
87	Rondo ONZ 1, Warsaw, Poland, 00-124
88	1800 Tysons Corner, Boulevard Suite 50, Tysons Corner, Virginia, United States Of America, 22102
89	Rua Funchal, n° 160, SP Corporate Towers, Torre Norte, 19° andar, cj 191A - Parte, São Paulo, Brazil, 04551-060
90	66 Wellington Street West, Suite 5300, Toronto, Ontario, Canada, M5K 1E6
91	Rahejas, 4th Floor, Corner of Main Avenue & V.P. Road, Santacruz (West), Mumbai - 400054
92	90 North Church Street, Strathvale House - Ground Floor, PO Box 1109, George Town, Grand Cayman, Grand Cayman, Cayman Islands, KY1-1102
93	17F, HSBC Building, Shanghai ifc 8 Century Avenue, Pudong, Shanghai, China
94	c/o Rogers Capital, St. Louis Business Centre, Cnr Desroches & St Louis Streets, Port Louis, Mauritius
95	49 avenue J.F. Kennedy, Luxembourg, Luxembourg, 1855
96	4-17/F, Office Tower 2 TaiKoo Hui, No. 381 Tian He Road, Tian He District, Guangzhou, Guangdong, China
97	Suite 1005, 10th Floor, Wisma Hamzah Kwong Hing No. 1, Leboh Ampang, Kuala Lumpur, Malaysia, 50100
98	HSBC, Filinvest One Bldg, Northgate Cyberzone, Filinvest Corporate City, Alabang, Muntinlupa City, Philippines
99	HSBC House, Plot No.8, Survey No.64 (Part), Hightec City Layout Madhapur, Hyderabad, India, 500081
100	439, Sri Jayawardenapura Mawatha Welikada, Rajagiriya, Colombo, Sri Lanka
101	Smart Village 28th Km Cairo- Alexandria Desert Road Building, Cairo, Egypt
102	HSBC Chambers, Corner of Jalan Sultan / Jalan Pemancha , Bandar Seri Begawan, Brunei Darussalam, BS8811
103	Suite 300, 3381 Steeles Avenue East, Toronto, Ontario, Canada, M2H 3S7
104	Centre Ville 1341 Building - 4th Floor Patriarche Howayek Street (facing Beirut Souks), PO Box Riad El Solh, Lebanon, 9597
105	First Floor, Building No. 5, Emaar Square, P.O. Box 502601, Dubai, Dubai, United Arab Emirates, 00000
106	World Trade Center Montevideo Avenida Luis Alberto de Herrera 1248, Torre 1, Piso 15, Oficina 1502, Montevideo, Uruguay, CP 11300
107	c/o MUFG Fund Services (Bermuda) Limited, The Belvedere Building, 69 Pitts Bay Road, Pembroke, Bermuda, HM08
108	Level 12, HSBC Building 37, Chilpae-ro, Jung-gu, Seoul, Korea, Republic Of (South)
109	All Saints Triangle, Caledonian Road, London, United Kingdom, N19UT
110	Immeuble Coeur Défense 110, Esplanade du Général de Gaulle- La défense 4, Courbevoie, France, 92400
111	HSBC House Esplanade, St. Helier, Jersey, JE4 8WP
112	HSBC Building 11-1, Nihonbashi 3-chome, Chuo-ku, Tokyo, Japan, 103-0027
113	80 Mill Street, Qormi, Malta, QRM 3101
114	Herrengasse 1-3, Wien, Austria, 1010
115	Gartenstrasse 26, Zurich, Switzerland

Registered offices

116	24th Fl., 97-99, Sec.2, Tunhwa S. Rd., Taipei, Taiwan, R.O.C., Taiwan
117	452 Fifth Avenue, New York NY10018, United States Of America
118	Mareva House, 4 George Street, Nassau, Bahamas
119	70 York Street, Toronto, Ontario, Canada, M5H 1S9
120	Breite Str. 29/31, Düsseldorf, Germany, 40213
121	1 Grand Canal Square, Grand Canal Harbour, Dublin 2, D02 P820, Ireland
122	HSBC Centre Eighteen, Cybercity, Ebene, Mauritius
123	Office Block A, Bay Studios Business Park, Fabian Way, Swansea, United Kingdom, SA1 8QB
124	18th Floor, Tower 1, HSBC Centre, 1 Sham Mong Road, Kowloon, Hong Kong
125	Level 32, HSBC Main Building, 1 Queen's Road Central, Hong Kong SAR, Hong Kong
126	No.188, Yin Cheng Zhong Road China (Shanghai) Pilot Free Trade Zone, Shanghai, China
127	7/F HSBC Centre 3058 Fifth Ave West, Bonifacio Global City, Taguig City, Philippines
128	1 More London Place, London, United Kingdom, SE1 2AF
129	HSBC Building Minet El Hosn, Riad el Solh, Beirut 1107-2080, PO Box 11-1380, Lebanon
130	300 Delaware Avenue Suite 1400, Wilmington, Delaware, United States Of America, 19801
131	Craigmuir Chambers, PO Box 71, Road Town, Tortola, British Virgin Islands
132	Woodbourne Hall, Road Town PO Box 916, Tortola, British Virgin Islands
133	9-11 Floors, NESCO IT Park Building No. 3 Western Express Highway, Goregaon (East), Mumbai, India, 400063
134	3, Aboul Feda Street, Zamalek, Cairo, Egypt
135	300 - 885 West Georgia Street, Vancouver, British Columbia, Canada, V6C 3E9
136	16 Boulevard d'Avranches, Luxembourg, L-1160
137	49/F, The Lee Gardens, 33 Hysan Avenue, Hong Kong
138	21 Farncombe Rd, Worthing, Sussex, BN11 2BW
139	c/o Kross Border Trust Services Limited St. Louis Business Centre, Cnr Desroches & St Louis Streets, Port Louis, Mauritius
140	13 - 15 York Buildings, London, United Kingdom, WC2N 6JU
141	Plot No.312-878 Mezzanine Floor, Bldg. of Sheikh Hamdan Bin Rashid, Dubai Creek, Dubai, United Arab Emirates
142	Precinct Building 4, Level 3 Dubai International Financial Centre, Dubai, United Arab Emirates, PO BOX 506553
143	HSBC Bank Middle East Building - Level 5, building 5, Emaar, Dubai, United Arab Emirates, 502601
144	885 West Georgia Street Suite 300, Vancouver, British Columbia, Canada, V6C 3E9
145	HSBC House, Level 9, One Queen Street, Auckland, New Zealand, 1010
146	Büyükdere Cad. No.122 D Blok Esentepe Sisli Istanbul, Turkey
147	21-23 Yorckstraße, Düsseldorf, Nordrhein-Westfalen, Germany, 40476
148	Unit No. 208, 2nd Floor, Kanchenjunga Building 18 Barakhamba Road, New Delhi - 110001, India
149	The Corporation Trust Incorporated, 2405 York Road, Suite 201, Lutherville Timonium, Maryland, United States Of America, 21093
150	HSBC House Esplanade, St. Helier, Jersey, JE1 1GT
151	Quai des Bergues 9-17, Geneva, Switzerland, 1201
152	Paseo de la Reforma 359, 6th Floor, Mexico, 06500
153	Büyükdere Cad. No.128 D Blok Esentepe Sisli Istanbul, Turkey
154	6th Floor, 65 Gresham Street, London, United Kingdom, EC2V 7NQ
155	17, avenue d'Ostende, Monaco, 98000
156	1441 Brickell Avenue, Miami, Florida, United States Of America, 33131
157	2910 Virtual Way, Vancouver, British Columbia, Canada, V5M 0B2
158	Block 27 A&B, Qianhai Enterprise Dream Park No. 63 Qianwan Yi Road, Shenzhen-Hong Kong Cooperation Zone, Shenzhen, China, 518052
159	St Nicholas House, 10th Floor Catholic Mission St Lagos, Nigeria
160	Kacyiru BP 3094, Kigali, Rwanda
161	Unit 1 GF The Commercial Complex, Madrigal Avenue, Ayala Alabang Village, Muntinlupa City, Philippines, 1770
162	7/F The Enterprise Centre - Tower I, 6766 Ayala Avenue corner Paseo De Roxas, Makati City, Philippines
163	2 Exchange Square, 85 Maude Street, Sandown, Sandton, South Africa, 2196
164	13F 333 Keelung Road, Sec.1, Taipei, Taiwan, 110
165	Palm Grove House PO Box 438, Road Town, Tortola, British Virgin Islands

Registered offices

166	R No. 1758/13 Grevella Grove Road, Kalamu House PO Box 47323-00100, Nairobi, Kenya
167	Kapelanka 42A, Krakow, Poland, 30-347
168	MB&H Corporate Services Ltd, Mareva House, 4 George Street, Nassau, Bahamas
169	The Corporation Trust Company, 820 Bear Tavern Road, West Trenton, New Jersey, United States Of America, 08628
170	Suite 2400, 745 Thurlow Street, Vancouver, Canada, BC V6E 0C5
171	L22, Office Tower 2, Taikoo Hui, 381 Tianhe Road, Tianhe District, Guangzhou, Guangdong, Guangdong, China
172	HSBC Centre River Side, West Avenue, 25B Raheja woods, Kalyaninagar, Pune, India, 411006
173	Level 19, HSBC Building, Shanghai ifc 8 Century Avenue Pudong, Shanghai, China
174	Yorckstraße 21 - 23 40476, Duesseldorf, Germany
175	300 Delaware Avenue, Suite 1401, Wilmington, Delaware, United States Of America, 19801
176	PO Box 484, Strathvale House, Ground Floor, 90 North Church Street, George Town, Grand Cayman, Cayman Islands, KY1-1106
177	c/o HSBC Bank (Mauritius) Limited, 6th Floor, HSBC Centre, 18 Cyber City, Ebene, Mauritius
178	1 Centenary Square, Birmingham, United Kingdom, B1 1HQ
179	Plot No. 89-90 Mbezi Industrial Area Box 347, Dar es Salaam City
180	c/o Hackwood Secretaries Limited, One Silk Street, London, United Kingdom, EC2Y 8HQ
181	Room 1303, 106 Feng Ze Dong Road, Nansha District, Guangzhou, Guangdong, China
182	No. 56, Yu Rong Street, Macheng, China, 438300
183	No. 205, Lie Shan Road Suizhou, Hubei, China
184	Building 3, Yin Zuo Di Jing Wan Tianmen New City, Tianmen, Hubei Province, China
185	RM101, 102 & 106 Sunshine Fairview, Sunshine Garden, Pedestrian Walkway, Pingjiang, China
186	6, rue Adolphe, Luxembourg, L-1116
187	1 Queen's Road Central, Hong Kong
188	Kings Meadow Chester Business Park, Chester, United Kingdom, CH99 9FB
189	2-3/F, Unit 21A, Qianhai Enterprise Dream Park, No. 63 Qian Wan Yi Road,, Qianhai Shenzhen-Hongkong Cooperation Zone, Shenzhen, China
190	40a Station Road, Upminster, United Kingdom, RM14 2TR
191	HSBC Building 7267 Olaya - Al Murrooj, Riyadh, Saudi Arabia, 12283 - 2255
192	C T Corporation System, 1200 South Pine Island Road, Plantation, Florida, United States Of America, 33324
193	PO Box 1109, Strathvale House, 90 North Church Street, George Town, Grand Cayman, Cayman Islands
194	Al Amir Abdulaziz Ibn Mossaad Ibn Jalawi Street, Riyadh, Saudi Arabia
195	World Trade Center 1, Floor 8-9 Jalan Jenderal Sudirman Kavling 29 - 31, Jakarta, Indonesia, 12920
196	5th Floor, World Trade Center, J1, Jend. Sudirman Kav. 29-31, Jakarta, Indonesia, 12920
197	833 Three Bentall Centre, 595 Burrard Street, Vancouver, British Columbia, Canada, V7X 1C4
198	Jayla Place Wickhams Cay I, PO Box 3190, Road Town, British Virgin Islands
199	15 rue Guynemer BP 412, Noumea, 98845
200	10, rue Jean Jaurès BP Q5, Noumea, New Caledonia, 98845
201	No.198-2, Chengshan Avenue (E), Rongcheng, China, 264300
202	Woodbourne Hall, Road Town PO Box 3162, Tortola, British Virgin Islands
203	43 rue de Paris, Saint Denis, 97400
204	75 Park Lane, Croydon, Surrey, United Kingdom, CR9 1XS
205	Avda. Corrientes 1437, 2° y 3° piso Ciudad Autonoma de Buenos Aires Argentina C1042AAA
206	RM 2112, HSBC Building, Shanghai ifc No. 8 Century Road, Pudong, Shanghai, China, 200120
207	11 Dr. Roy's Drive PO Box 694GT, Grand Cayman, Cayman Islands, KY1-1107
208	Ernst-Schneider-Platz 1, Duesseldorf, Germany, 40212
209	Philippe Kaiser Baarerstrasse 8, Zug, Switzerland, 6300
210	1 Royal Plaza, Royal Avenue, St Peter Port, Guernsey, Channel Islands, GY1 2HL

APPENDIX II

REPRODUCTION OF THE PRESS RELEASE DATED 7 FEBRUARY 2019 CONTAINING THE GUARANTOR'S CONSOLIDATED FINANCIAL RESULTS FOR THE FOURTH QUARTER ENDED 31 DECEMBER 2018

The information set out below is a reproduction of the press release dated 7 February 2019 containing the Guarantor's consolidated financial results for the fourth quarter ended 31 December 2018.

SOCIETE GENERALE

PRESS RELEASE

FOURTH QUARTER AND FY 2018 RESULTS

Paris, February 7th 2019

2018 ROTE[1] OF 9.7% AND INCREASE IN GROUP NET INCOME. ADAPTATION OF THE EXECUTION AND FINANCIAL TARGETS OF THE 2020 STRATEGIC PLAN

KEY FINANCIAL DATA

- **Revenues[1] up +0.6% in 2018 at EUR 25,205 million** (EUR 5,927 million or **-4.8% in Q4 18**) due to the good performance of International Retail Banking & Financial Services, resilient French Retail Banking activities and the strong momentum in Financing & Advisory.
- 2018 **operating expenses**[1]: EUR 17,595 million (+2% vs. 2017); Q4 18: EUR 4,627million (+0.9% vs. Q4 17.
- **Still low cost of risk at 21 basis points in 2018**, reflecting the quality of the loan portfolio.
- **2018 Group book net income**: **EUR 3,864 million (+37.7% vs. 2017)**; Q4 18: EUR 624 million (EUR 69 million in Q4 17). **Group ROTE[1] of 9.7% in 2018** (5.9% in Q4 18).
- Continued **refocusing** of the business model on core regions and businesses (announced disposals representing an equivalent impact of +37 basis points on the CET1 ratio).
- Group commitment to **positive transformation** initiatives recognised through further awards in 2018.
- On the **three main litigation issues**, agreement reached with the US and French authorities.
- Fully-loaded **CET1 ratio**: 10.9% (11.2%[2] with the effect of the option of a dividend payment in shares subject to approval by the Combined General Meeting on May 22nd, 2019).
- **2018 Earnings Per Share**: EUR 4.24 – **Proposed dividend stable at EUR 2.20**, with option of payment in shares.

ADAPTATION OF THE EXECUTION AND FINANCIAL TARGETS OF THE "TRANSFORM TO GROW" PLAN

- **Confirmation of the long-term strategic focus**: a **diversified**, more **compact** Group resolutely **focused on its customers**, delivering **profitable and responsible growth.**
- Inclusion of the new interest rate scenario in the eurozone, with an **impact of around EUR -500 million** on Group revenues in 2020.

*The footnote * in this document corresponds to data adjusted for changes in Group structure and at constant exchange rates.*

(1) Underlying data. See methodology note 5 for the transition from accounting data to underlying data.

(2) Taking into account the assumption of a 50% subscription rate for the dividend in shares.

- **Adaptation of the operational set-up in Global Markets** resulting in a reduction in risk-weighted assets of around EUR 8 billion between now and 2020.
- **Additional plan to reduce costs by around EUR 500 million in 2020** in Global Banking & Investor Solutions.
- **Acceleration in the refocusing of the regional and business portfolio** taking the disposal programme target to a positive effect of **+80-90 basis points** on the CET1 ratio by 2020 (the Group's initial target being 50-60 basis points).

The Group's **financial targets** for 2020 are as follows:

- Group ROTE(1) of between **9%-10%**
- RONE(1) for **French Retail Banking** revised to **11.5%-12.5%**
- RONE(1) for **International Retail Banking & Financial Services** increased to **17.0%-18.0%**
- RONE(1) for **Global Banking & Investor Solutions** ranging from **11.5% to 12.5%**
- CET1 ratio of **12%**
- **50%** payout ratio, with a dividend per share of at least **EUR 2.20**

Fréderic Oudéa, the Group's Chief Executive Officer, commented:

"After this first year in the execution of our 3-year plan, we have confirmed our long-term strategic ambition: delivering profitable and responsible growth thanks to a robust, diversified, more compact banking Group resolutely focused on its customers, in order to assist them in their positive transformation projects.
We successfully achieved several major milestones in our transformation during 2018. The digital transformation process continued with success and there was considerable progress in the growth initiatives in French and International Retail Banking, as well as Financing & Advisory. However, market activities experienced a more mixed performance, below our expectations.
In an economic, financial and regulatory environment that looks set to be less favourable and even more complex over the next few years than anticipated a year ago, we have decided to adapt the execution of our plan and our financial trajectory.
Our first priority is, and will remain, to increase value for shareholders while consolidating our capital trajectory. We will be even more selective in our capital allocation, prioritising the Group's areas of excellence. Moreover, in a more uncertain economic environment, we will continue to work on our operating efficiency with an additional plan to reduce costs in Global Banking & Investor Solutions and we are further prioritising cost control. All these measures and the Group's transformation will enable us to improve our operational profile and pursue the improvement in the structural profitability of our businesses."

(1) Underlying data. See methodology note 5 for the transition from accounting data to underlying data.

1. GROUP CONSOLIDATED RESULTS

In EUR m	Q4 18	Q4 17	Change		2018	2017	Change	
Net banking income	**5,927**	**6,323**	***-6.3%***	***-5.8%****	**25,205**	**23,954**	***+5.2%***	***+6.4%****
Underlying net banking income(1)	*5,927*	*6,228*	*-4.8%*	*-4.4%**	*25,205*	*25,062*	*+0.6%*	*+1.7%**
Operating expenses	**(4,458)**	**(5,024)**	***-11.3%***	***-11.1%****	**(17,931)**	**(17,838)**	***+0.5%***	***+1.6%****
Underlying operating expenses(1)	*(4,627)*	*(4,586)*	*+0.9%*	*+1.2%**	*(17,595)*	*(17,243)*	*+2.0%*	*+3.1%**
Gross operating income	**1,469**	**1,299**	***+13.1%***	***+15.0%****	**7,274**	**6,116**	***+18.9%***	***+20.8%****
Underlying gross operating income(1)	*1,300*	*1,642*	*-20.8%*	*-20.1%**	*7,610*	*7,819*	*-2.7%*	*-1.6%**
Net cost of risk	**(363)**	**(469)**	***-22.6%***	***-22.3%****	**(1,005)**	**(1,349)**	***-25.5%***	***-23.4%****
Underlying net cost of risk (1)	*(363)*	*(269)*	*+34.9%*	*+35.8%**	*(1,005)*	*(949)*	*+5.9%*	*+10.1%**
Operating income	**1,106**	**830**	***+33.3%***	***+36.9%****	**6,269**	**4,767**	***+31.5%***	***+33.2%****
Underlying operating income(1)	*937*	*1,373*	*-31.8%*	*-31.2%**	*6,605*	*6,870*	*-3.9%*	*-3.2%**
Net profits or losses from other assets	**(169)**	**(39)**	***n/s***	***n/s***	**(208)**	**278**	***n/s***	***n/s***
Income tax	(136)	(558)	-75.7%	-76.0%*	(1,561)	(1,708)	-8.6%	-8.0%*
Reported Group net income	**624**	**69**	***x 9,0***	***x 15,5***	**3,864**	**2,806**	***+37.7%***	***+42.7%****
Underlying Group net income(1)	*744*	*877*	*-15.2%*	*-13.8%**	*4,468*	*4,491*	*-0.5%*	*+1.8%**
ROE	4.1%	-0.4%			7.1%	4.9%		
ROTE	6.5%	-0.5%			8.8%	5.7%		
Underlying ROTE (1)	***5.9%***	***7.4%***			***9.7%***	***9.6%***		

(1) Adjusted for non-economic items, exceptional items and linearisation of IFRIC 21

Societe Generale's Board of Directors, which met on February 6th, 2019 under the chairmanship of Lorenzo Bini Smaghi, examined the Societe Generale Group's results for Q4 and approved the results for full-year 2018.
The various restatements enabling the transition from underlying data to published data are presented in the methodology notes (section 10.5).

Net banking income: EUR 5,927m (-6.3% vs. Q4 17), EUR 25,205m (+5.2% vs. 2017)

Book net banking income totalled EUR 25,205 million in 2018, up 5.2% compared to 2017 (EUR 23,954 million).
In 2017, net banking income included several exceptional items, i.e. the impact of the settlement agreement with the LIA (EUR -963 million) and the adjustment of hedging costs in French Retail Banking (EUR -88 million). When restated for these items and non-economic items, underlying net banking income came to EUR 25,062 million in 2017.
Underlying net banking income grew by 0.6% in 2018.

In 2018,

- French Retail Banking's net banking income, excluding PEL/CEL provision, declined -1.8% vs. 2017, in line with the Group's expectations. French Retail Banking continued with its transformation and developed its growth drivers in an environment still characterised by low interest rates.

- International Retail Banking & Financial Services' revenues were significantly higher (+5.1%, +6.6%*), impacted by the robust commercial dynamism across all businesses and geographical regions. Accordingly, International Retail Banking revenues increased by +6.3% (+9.1%*), Insurance revenues by +6.6% (+4.9%*) and Financial Services to Corporates' revenues by +1% (+0.2%*).

- Global Banking & Investor Solutions' net banking income fell -3.6%. Financing & Advisory revenues were 7.1% (8.6%*) higher due to the healthy commercial momentum. In contrast, the revenues of Global Markets and Investor Services were 8.3% (6.6%*) lower than in 2017 in a challenging market environment.

In Q4 18, Group book net banking income declined by -6.3% to EUR 5,927 million (vs. EUR 6,323 million in Q4 17) and underlying net banking income by -4.8% (EUR 6,228 million in Q4 17). French Retail Banking revenues fell -6.8% (-5.5% vs. Q4 17 excluding changes in the PEL/CEL provision). International Retail Banking & Financial Services' net banking income was significantly higher (+5.1%, +7.3%*). Global Banking & Investor Solutions' revenues were 6.9% lower.

In accordance with IFRS 9, the variation in the revaluation of the Group's own financial liabilities is no longer recognised in profit or loss for the period. Consequently, in 2018, the Group no longer restates its earnings for non-economic items.

Operating expenses: EUR -4,458m (-11.3% vs. Q4 17), EUR -17,931m (+0.5% vs. 2017)

Underlying operating expenses amounted to EUR -17,595 million in 2018, representing a contained increase of 2% compared to 2017 (EUR -17,243 million). In Q2 18 and Q3 18, the provision for disputes was the subject of a total additional allocation of EUR -336 million. Note that 2017 underlying operating expenses included a EUR 60 million restructuring provision write-back. In Q4 17, three exceptional expenses were recognised in operating expenses: an exceptional expense related to the acceleration in the adaptation of French Retail Banking networks amounting to EUR -390 million, an expense related to the receipt of a tax rectification proposal following a tax control by the French authorities regarding various operating taxes amounting to EUR -145 million and a charge related to the consequences of the judgment of the Paris Court of Appeal of December 21st, 2017 confirming the fine regarding the dematerialisation of cheque processing amounting to EUR -60 million.

Operating expenses totalled EUR -4,458 million in Q4 18, down -11.3% vs. Q4 17. When restated for the above-mentioned exceptional items and the effect of the linearisation of IFRIC 21, there was a slight increase in underlying operating expenses to EUR -4,627 million in Q4 18 vs. EUR -4,586 million in Q4 17 (+0.9%).

The increase in operating expenses is in line with the full-year target in French Retail Banking and reflects cost control in Global Banking & Investor Solutions. Efforts to support growth in International Retail Banking & Financial Services resulted in a positive jaws effect between revenue growth and the increase in costs.

In 2018, the Group reached agreements on the litigation issues with the US authorities relating to the LIBOR and to economic sanctions and anti-money laundering, and with the US and French authorities on Libya. These agreements provided for commitments by the Group with respect to these authorities and the payment of fines, which correspond to the provisions booked for this purpose.

The balance of the provision for disputes was EUR 0.3 billion at December 31st, 2018.

Gross operating income: EUR 1,469m (+13.1% vs. Q4 17), EUR 7,274m (+18.9% vs. 2017)

Book gross operating income totalled EUR 7,274 million in 2018 (vs. EUR 6,116 million in 2017) and underlying gross operating income EUR 7,610 million (vs. EUR 7,819 million in 2017).

Book gross operating income totalled EUR 1,469 million in Q4 18 (EUR 1,299 million in Q4 17) and underlying gross operating income EUR 1,300 million (EUR 1,642 million in Q4 17).

Cost of risk[1]: EUR -363m in Q4 18, EUR -1,005m in 2018

The net cost of risk amounted to EUR -1,005 million in 2018, 25.5% lower than in 2017 (EUR -1,349 million). The underlying net cost of risk was 5.9% higher.

The Group's underlying net cost of risk amounted to EUR -363 million in Q4 18, up +34.9% vs. Q4 17, i.e. EUR -269 million.

The Group's commercial cost of risk (expressed as a fraction of outstanding loans) amounted to 21 basis points in 2018, very slightly higher than in 2017 (19 basis points), at the bottom end of the expected range (between 20 and 25 basis points).

- In French Retail Banking, the commercial cost of risk amounted to 26 basis points (30 basis points in 2017) due to a selective origination policy.
- International Retail Banking & Financial Services' cost of risk stood at a still low level of 30 basis points (vs. 29 basis points in 2017) due to further provision write-backs in the Czech Republic and Romania.
- Global Banking & Investor Solutions' cost of risk amounted to 6 basis points, an increase compared to the historically low level of -1 basis point in 2017.

The commercial cost of risk was higher in Q4 18 at 29 basis points (vs. 22 basis points in Q4 17).

The Group expects a cost of risk of between 25 and 30 basis points in 2019.

The gross doubtful outstandings ratio stood at 3.6% at end-December 2018 (vs. 4.4% at end-December 2017). The Group's gross coverage ratio for doubtful outstandings stood at 54%[2] at end-December 2018 (stable vs. September 30th, 2018).

Operating income: EUR 1,106m (+33.3% vs. Q4 17), EUR 6,269m (+31.5% vs. 2017)

Book operating income totalled EUR 6,269 million in 2018, 31.5% higher than in 2017. Underlying operating income came to EUR 6,605 million (vs. EUR 6,870 million in 2017).

Book operating income amounted to EUR 1,106 million in Q4 18, up +33.3% vs. Q4 17. Underlying operating income was EUR 937 million (vs. EUR 1,373 million in Q4 17).

Net profits or losses from other assets: EUR -169m in Q4 18, EUR -208m in 2018

Net profits or losses from other assets include primarily the capital loss recognised under IFRS 5 in respect of disposals currently being finalised by the Group amounting to EUR -268 million in 2018 (EUR -241 million in Q4 18), with EUR -202 million corresponding to the disposals already announced (Societe Generale Albania, Societe Generale Serbia, Mobiasbanca Societe Generale in Moldavia) and Societe Generale's stake in La Banque Postale Financement.

(1) 2018 figures established according to IFRS 9, 2017 figures established according to IAS 39, figures restated for the transfer of Global Transaction and Payment Services from French Retail Banking to Global Banking & Investor Solutions.
(2) Ratio between the amount of provisions on doubtful outstandings and the amount of these same outstandings.

Net income

In EURm	Q4 18	Q4 17	2018	2017
Reported Group net income	624	69	3,864	2,806
Underlying Group net income[1]	744	877	4,468	4,491

In %	Q4 18	Q4 17	2018	2017
ROTE (reported)	6.5%	-0.5%	8.8%	5.7%
Underlying ROTE[1]	5.9%	7.4%	9.7%	9.6%

Earnings per share amounts to EUR 4.24 in 2018 (EUR 2.98 in 2017)[2].

On this basis, the Board of Directors has decided to propose the payment of a dividend of EUR 2.20 per share to the Combined General Meeting of Shareholders, with the possibility of opting for the payment of the dividend in shares. This represents a payout ratio of 51.8%. The dividend will be detached on May 27th, 2019 and paid on June 14th, 2019.

(1) *Adjusted for non-economic items (in 2017), exceptional items and effect of the linearisation of IFRIC 21.*
(2) *Excluding non-economic and exceptional items (gross EPS of EUR 2.92 in 2017)*

2. THE GROUP'S FINANCIAL STRUCTURE

Group **shareholders' equity** totalled EUR 61.0 billion at December 31st, 2018 (EUR 59.4 billion at December 31st, 2017). Net asset value per share was EUR 64.63 and tangible net asset value per share was EUR 55.81.

The **consolidated balance sheet** totalled EUR 1,309 billion at December 31st, 2018 (EUR 1,274 billion at January 1st, 2018[(1)], EUR 1,275 billion at December 31st, 2017). The net amount of customer loan outstandings at December 31st, 2018, including lease financing, was EUR 421 billion (EUR 396 billion at January 1st, 2018, EUR 404 billion at December 31st, 2017) – excluding assets and securities sold under repurchase agreements. At the same time, customer deposits amounted to EUR 399 billion, vs. EUR 395 billion at January 1st, 2018 and December 31st, 2017 (excluding assets and securities sold under repurchase agreements).

At end-December 2018, the parent company had issued EUR 39.2 billion of medium/long-term debt, having an average maturity of 4.5 years and an average spread of 27.5 basis points (vs. the 6-month mid-swap, excluding subordinated debt). The subsidiaries had issued EUR 3.8 billion. At December 31st, 2018, the Group had issued a total of EUR 43 billion of medium/long-term debt. The LCR (Liquidity Coverage Ratio) was well above regulatory requirements at 129% at end-December 2018 vs. 131% at end-September 2018. At the same time, the NSFR (Net Stable Funding Ratio) was over 100% at end-December 2018.

The Group's **risk-weighted assets** (RWA) amounted to EUR 376.0 billion at December 31st, 2018 (vs. EUR 353.3 billion at end-December 2017) according to CRR/CRD4 rules. Risk-weighted assets in respect of credit risk represent 80.5% of the total, at EUR 302.7 billion, up +4.6% vs. December 31st, 2017.

At December 31st, 2018, the Group's fully-loaded **Common Equity Tier 1** ratio stood at 10.9%[(2)], 11.2%[(3)] taking into account the option of a dividend payment in shares subject to approval by the Combined General Meeting on May 22nd, 2019, and 11.5% pro forma for transactions signed (disposals and acquisitions). The Tier 1 ratio stood at 13.7% at end-December 2018 and the total capital ratio amounted to 16.7%.

With a level of 22.9% of RWA and 7.1% of leveraged exposure at end-December 2018, the Group's TLAC ratio is already above the FSB's requirements for 2019. At December 31st, 2018, the Group was also above its MREL requirements of 8% of the TLOF[(4)] (which, in December 2016, represented a level of 24.36% of RWA), which were used as a reference for the SRB calibration.
The **leverage ratio** stood at 4.3% at December 31st, 2018 (4.3% at end-December 2017).

The Group is rated by five rating agencies: (i) DBRS - long-term rating (senior preferred debt) "A (high)", positive trends, short-term rating "R-1 (middle)"; (ii) FitchRatings - long-term rating "A", stable outlook, senior preferred debt rating "A+", short-term rating "F1"; (iii) Moody's – long-term rating (senior preferred debt) "A1", stable outlook, short-term rating "P-1"; (iv) R&I - long-term rating (senior preferred debt) "A", stable outlook; and (v) S&P Global Ratings - long-term rating (senior preferred debt) "A", positive outlook, short-term rating "A-1".

(1) Balances at January 1st, 2018 after first-time application of IFRS 9 except for subsidiaries in the insurance sector

(2) The phased-in ratio, including earnings for the current financial year amounts to 11.0% at end-December 2018 vs. 11.6% at end-December 2017.

(3) Taking into account the assumption of a 50% take-up, having an impact of +23bp on the CET1 ratio

(4) TLOF: Total Liabilities and Own Funds

3. FRENCH RETAIL BANKING

In EUR m	Q4 18	Q4 17	Change	2018	2017	Change
Net banking income	1,912	2,051	*-6.8%*	7,860	8,014	*-1.9%*
Net banking income excl. PEL/CEL	*1,925*	*2,036*	*-5.5%*	*7,838*	*7,982*	*-1.8%*
Operating expenses	(1,430)	(1,828)	*-21.8%*	(5,629)	(5,939)	*-5.2%*
Gross operating income	**482**	**223**	***+116.1%***	**2,231**	**2,075**	***+7.5%***
Gross operating income excl. PEL/CEL	*495*	*208*	*+137.3%*	*2,209*	*2,043*	*+8.1%*
Net cost of risk	(143)	(184)	*-22.3%*	(489)	(547)	*-10.6%*
Operating income	**339**	**39**	***+769.2%***	**1,742**	**1,528**	***+14.0%***
Reported Group net income	**282**	**38**	***+642.1%***	**1,237**	**1,059**	***+16.8%***
RONE	**10.1%**	**1.3%**		**11.0%**	**9.6%**	
Underlying RONE (2)	**9.9%**	**12.2%**		**10.9%**	**13.0%**	

(1) Adjusted for the effect of the linearisation of IFRIC 21, PEL/CEL provision, adjustment of hedging costs in 2017 and the adaptation of the French network and the "Echange Image Chèque" fine in Q4 17 and in 2017.

French Retail Banking enjoyed a solid commercial momentum and delivered a resilient financial performance in 2018, against the backdrop of persistently low interest rates and the transformation of the French networks.

Activity and net banking income

French Retail Banking's three brands, Societe Generale, Crédit du Nord and Boursorama, pursued their commercial expansion, particularly for their growth drivers.

With nearly 460,000 new clients in 2018, Boursorama set a new client onboarding record (+45% vs. 2017) and consolidated its position as the leading online bank in France with nearly 1.7 million clients at end-December 2018.

At the same time, the Societe Generale and Crédit du Nord networks strengthened their franchises on the Group's target customers.

Supported by a solid private banking platform, French Retail Banking continued to expand its mass affluent and wealthy client base (up +3% at end-December 2018 vs. end-December 2017) and recorded net inflow of EUR 3.3 billion in 2018. This robust performance was masked by a challenging market environment, resulting in assets under management declining -1.2% vs. Q4 17, to EUR 61 billion (including Crédit du Nord) at end-December 2018.

Bancassurance enjoyed buoyant activity, with net inflow of EUR 1,730 million. In Q4 18, outstandings amounted to EUR 92.3 billion, with the unit-linked share accounting for 24%.

In the Business customer segment, French Retail Banking continued with the rollout of its regional business centres, with five units at end-December, thereby strengthening its expertise in this segment where the number of customers increased 1% in 2018.
In the case of Professional customers, Societe Generale now has eight new "Pro Corners" (espaces pro) with 103 "corners" dedicated to professionals rolled out in branches, as at end-December 2018. The number of professional customers in French Retail Banking grew by nearly 1% vs. Q4 17.

In a low interest rate environment, the Group confirmed its selective origination strategy.

Housing loan production totalled EUR 4.6 billion in Q4 18 (+0.3% vs. Q4 17) and EUR 18.7 billion in 2018. Consumer loan production remained dynamic in Q4 18, with an increase of +17.4% vs. Q4 17 and +12.7% in 2018.
Outstanding loans to individuals totalled EUR 111 billion and rose +3.1% in Q4 18 vs. Q4 17.

Corporate investment loan production was very robust in Q4 18, up +21.1% at EUR 4.7 billion (+12.4% in 2018 at EUR 14.2 billion). Accordingly, average investment loan outstandings rose +5.0% vs. Q4 17.

Overall, the momentum accelerated in Q4 18, with average loan outstandings rising +4.0% vs. Q4 17 to EUR 189 billion. Average outstanding balance sheet deposits came to EUR 201.7 billion in Q4 18, up +3.8% vs. Q4 17, underpinned by sight deposits (+8.1%). As a result, the average loan/deposit ratio stood at 93.5% in Q4 18 (stable vs. Q4 17).

French Retail Banking posted net banking income (after neutralising the impact of PEL/CEL provisions) of EUR 1,925 million in Q4 18, down -5.5% vs. Q4 17 and -1.8% over 12 months (at EUR 7,838 million), in line with Group expectations (decline of between -1% and -2% in 2018).

The healthy fee momentum (+0.5% in Q4 18 and +1.4% in 2018), particularly for service commissions (+2.8% in Q4 18 and +2.6% in 2018) was more than masked by the fall in net interest income adversely affected by the low interest rate environment (decline of -8.2% in Q4 18 and -5.4% in 2018).

Operating expenses

French Retail Banking's underlying operating expenses totalled EUR 1,430 million, up +3.8% vs. Q4 17 (restated for exceptionals recognised in Q4 17) and +2.6% in 2018 (at EUR 5,629 million), in line with the expected increase in underlying operating expenses of less than 3% for the year. This increase reflects the acceleration of investments in the digital transformation process and the development of growth drivers.
As part of its transformation plan, the Group notably closed more than 100 branches over twelve months, thereby achieving between 2016 and 2018 nearly 60% of its 2020 target (-500 branches).
At the same time, the Group continued to digitalise the banking networks, with the ongoing dematerialisation of the offering.

The cost to income ratio stood at 71.6% in 2018.

Operating income

The net cost of risk declined by 22.3% in Q4 18 vs. Q4 17 (-10.6% in 2018). Operating income came to EUR 339 million in Q4 18 and EUR 1,742 million in 2018 (EUR 1,528 million in 2017).

Contribution to Group net income

French Retail Banking's contribution to Group net income amounted to EUR 282 million in Q4 18 (EUR 38 million in Q4 17). The return on normative equity after linearisation of the IFRIC 21 charge and restated for the PEL/CEL provision stood at 9.9%(1) (vs. 12.2%(1) in Q4 17). The contribution to Group net income and return on normative equity proved resilient in 2018 and came to EUR 1,237 million (EUR 1,059 million in 2017) and 10.9% respectively (13.0%(1) in 2017).

(1) Adjusted for non-economic items, exceptional items and the effect of the linearisation of IFRIC 21

4. INTERNATIONAL RETAIL BANKING & FINANCIAL SERVICES

In EUR m	**Q4 18**	**Q4 17**	**Change**		**2018**	**2017**	**Change**	
Net banking income	2,161	2,057	+5.1%	+7.3%*	8,317	7,914	+5.1%	+6.6%*
Operating expenses	(1,145)	(1,168)	*-2.0%*	*+0.3%**	(4,526)	(4,404)	*+2.8%*	*+4.7%**
Gross operating income	**1,016**	**889**	***+14.3%***	***+16.6%****	**3,791**	**3,510**	***+8.0%***	***+8.9%****
Net cost of risk	(114)	(119)	*-4.2%*	*-2.9%**	(404)	(400)	*+1.0%*	*+10.3%**
Operating income	**902**	**770**	***+17.1%***	***+19.7%****	**3,387**	**3,110**	***+8.9%***	***+8.7%****
Net profits or losses from other assets	2	3	*-33.3%*	*-33.3%*	8	36	*-77.8%*	*-78.4%**
Reported Group net income	**563**	**450**	***+25.1%***	***+25.7%****	**2,065**	**1,939**	***+6.5%***	***+9.3%****
RONE	19.7%	16.2%			18.1%	17.4%		
Underlying RONE (1)	***19.0%***	***15.6%***			***18.1%***	***17.4%***		

(1) *Adjusted for the effect of the linearisation of IFRIC 21*

The division's net banking income totalled EUR 8,317 million in 2018, up +5.1% vs. 2017, driven by an excellent commercial momentum in all regions and businesses. Operating expenses remained under control, amounting over the same period to EUR -4,526 million (+2.8%), resulting in a positive jaws effect despite a EUR 60 million restructuring provision write-back in 2017. Gross operating income totalled EUR 3,791 million in 2018 (+8.0%).

The net cost of risk remained at a low level of EUR 404 million in 2018. It included provision write-backs in the Czech Republic and Romania as well as the receipt of an insurance payout in Romania in 2017 and Q1 18. The virtual stability of the net cost of risk (+1%) reflects rigorous risk management. The contribution to Group net income totalled EUR 2,065 million in 2018, a record level (up +6.5% vs. 2017).

Net banking income totalled EUR 2,161 million in Q4 18 (+5.1% vs. Q4 17). Gross operating income came to EUR 1,016 million (+14.3%) and the contribution to Group net income was EUR 563 million, up +25.1% vs. Q4 17.

Underlying RONE stood at 18.1% in 2018 (17.4% in 2017) and 19.0% in Q4 18 (vs. 15.6% in Q4 17).

International Retail Banking

International Retail Banking's outstanding loans rose +5.0% (+6.4%*) in Q4 18 vs. Q4 17 to EUR 93 billion at end-December 2018, with uniform growth across the three regions. Deposit inflow also remained dynamic. Outstanding deposits totalled EUR 83.3 billion at end-December 2018, up +4.4% (+5.8%*) year-on-year.

International Retail Banking revenues were 6.3% (9.1%*) higher than in 2017 at EUR 5,608 million, while operating expenses were up +2.1% (+5.0%*) at EUR -3,238 million. Gross operating income came to EUR 2,370 million, up +12.5% (+15.2%*) vs. 2017. International Retail Banking's contribution to Group net income amounted to a record level of EUR 1,187 million in 2018 (+13.9% vs. 2017).

In Q4 18, International Retail Banking posted revenues of EUR 1,477 million, gross operating income of EUR 665 million and a contribution to Group net income of EUR 332 million, up +35.0% vs. Q4 17.

In Western Europe, outstanding loans were up +10.4% vs. Q4 17, at EUR 20.1 billion. Car financing remained particularly buoyant over the period. Revenues totalled EUR 836 million in 2018, up +9.7% vs. 2017, while operating expenses were 3.5% higher. Consequently, gross operating income was 15.6% higher in 2018. The contribution to Group net income came to EUR 242 million, up +16.3% vs. 2017.

In the Czech Republic, the Group delivered a solid commercial performance in 2018: outstanding loans rose +3.9% (+4.6%*) and outstanding deposits increased +4.2% (+5.0%*). Revenues were higher (+7.2%, +4.4%*) and amounted to EUR 1,119 million in 2018, driven by a positive volume effect, combined with a rise in rates. Over the same period, operating expenses were 4.2% (1.8%*) higher at EUR -594 million, including in particular a EUR 11.5 million restructuring provision in Q2 18. There was a net write-back in the net cost of risk of EUR 23 million compared with a net write-back of EUR 11 million in 2017. Against this backdrop, the contribution to Group net income came to EUR 266 million, up +4.7% compared to 2017 when the first quarter benefited from a capital gain on a property disposal following the sale of the historic headquarters.

In Romania, outstanding loans totalled EUR 6.8 billion at end-December 2018, up +3.9% (+4.0%*) vs. end-December 2017. Over the same period, deposits amounted to EUR 9.7 billion, up +2.2% (+2.3%*). Against a backdrop of rising interest rates, net banking income climbed +9.5% (+11.6%*) in 2018. Operating expenses were down -1.2% (+0.5%*) with, in particular, a reduction in the contribution to deposit guarantee and resolution funds and after a 2017 impacted by investments in the network's transformation. There was a net write-back in the net cost of risk of EUR 56 million in 2018 compared with a net write-back of EUR 86 million in 2017. The contribution to Group net income was EUR 149 million, up 9.6% vs. 2017.

In other European countries, outstanding loans were up +6.0% (+6.5%*) and outstanding deposits were up +6.6% (+6.5%*) in 2018. Revenues increased +5.9% (+10.5%*) in 2018, while operating expenses were 11.1% (17.1%*) higher than in 2017 given the EUR 60 million restructuring provision write-back in 2017. The net cost of risk remained under control, resulting in a significant decline of -57.1% (-43.1%*) compared to 2017. The contribution to Group net income totalled EUR 181 million (vs. EUR 147 million in 2017).

In Russia, there was further confirmation of commercial expansion in the individual customer segment. Outstanding loans were up +6.2%* at constant exchange rates (-3.8% at current exchange rates) in 2018. Outstanding deposits increased +8.5%* at constant exchange rates (-0.5% at current exchange rates) benefiting from the surplus liquidity in the market. Net banking income for SG Russia(1) came to EUR 815 million in 2018, up +9.1%* (-3.2% at current exchange rates). Operating expenses were up +5.5%* (-5.4% at current exchange rates). The net cost of risk increased by EUR 19 million at constant exchange rates and remained at a generally low level. SG Russia made a positive contribution to Group net income of EUR 144 million vs. EUR 147 million in 2017.

In Africa and the other regions where the Group operates, commercial activity was generally healthy in both Sub-Saharan Africa and the Mediterranean Basin. Outstanding loans rose +5.6% (+5.8%*) in 2018 to EUR 21.2 billion. Outstanding deposits were also higher (+7.3%, +7.4%*) at EUR 20.9 billion. Net banking income totalled EUR 1,641 million in 2018, an increase of +7.1% (+10.3%*) compared to 2017. Over the same period, operating expenses rose +2.4% (+4.6%*). The contribution to Group net income came to EUR 237 million in 2018, up +27.4% vs. 2017.

Insurance

The life insurance savings business saw outstandings increase +1.1%* in 2018 in a challenging market environment. The share of unit-linked products in outstandings was stable at end-December 2018 compared to 2017, at 26%.

There was further growth in Personal Protection insurance (premiums up +7.2%* vs. Q4 17). Likewise, Property/Casualty insurance continued to enjoy strong growth (premiums up +11.7%* vs. Q4 17). International activity was particularly dynamic.

(1) SG Russia encompasses the entities Rosbank, Delta Credit Bank, Rusfinance Bank, Societe Generale Insurance, ALD Automotive and their consolidated subsidiaries

The Insurance business posted a good financial performance in 2018, with net banking income increasing +6.6% to EUR 887 million (+4.9%*) and the cost to income ratio remaining at a low level (37.5%). The contribution to Group net income was 7.3% higher at EUR 368 million in 2018. It amounted to EUR 95 million in Q4 18, up +3.3% vs. Q4 17.

Financial Services to Corporates

Financial Services to Corporates maintained a good commercial momentum in 2018.

Operational Vehicle Leasing and Fleet Management experienced a substantial increase in its vehicle fleet (+10.1% vs. 2017) to 1.663 million vehicles at end-December 2018, driven by the strategy of ramping up distribution channels.

Equipment Finance's outstanding loans were up +4.5% (+4.7%*) in 2018 vs. 2017 at EUR 17.9 billion (excluding factoring).

Financial Services to Corporates' net banking income rose +1.0% in 2018 to EUR 1,822 million (+0.2%*), with ALD's revenues impacted by a reduction in the average residual value of used vehicles sold. Operating expenses increased +3.2% (+2.9%*) compared to 2017 and amounted to EUR -955 million. The net cost of risk amounted to EUR 69 million, an increase of EUR 18 million compared to 2017. The contribution to Group net income was EUR 510 million in 2018, down -7.9% compared to 2017, reflecting primarily the consolidation of ALD for around 80% since its stock market flotation.

In Q4 18, Financial Services to Corporates' revenues totalled EUR 460 million (-2.7%, +0.8%* vs. Q4 17) and operating expenses came to EUR -254 million (+1.6%, +6.3%* vs. Q4 17). The contribution to Group net income amounted to EUR 136 million in Q4 18 vs. EUR 112 million in Q4 17.

5. GLOBAL BANKING & INVESTOR SOLUTIONS

In EUR m	Q4 18	Q4 17	Change		2018	2017	Change	
Net banking income	2,041	2,193	*-6.9%*	*-7.6%**	8,846	9,173	*-3.6%*	*-2.1%**
Operating expenses	(1,779)	(1,743)	*+2.1%*	*+1.3%**	(7,241)	(7,121)	*+1.7%*	*+3.2%**
Gross operating income	**262**	**450**	***-41.8%***	***-42.0%****	**1,605**	**2,052**	***-21.8%***	***-20.3%****
Net cost of risk	**(98)**	35	*n/s*	*n/s*	**(93)**	(2)	*x 46,5*	*n/s*
Operating income	**164**	**485**	***-66.2%***	***-66.3%****	**1,512**	**2,050**	***-26.2%***	***-25.0%****
Reported Group net income	**179**	**374**	***-52.1%***	***-52.3%****	**1,197**	**1,593**	***-24.9%***	***-23.6%****
RONE	4.5%	10.3%			7.8%	10.6%		
Underlying RONE (1)	***2.7%***	***8.5%***			***7.8%***	***10.6%***		

(1) Adjusted for the effect of the linearisation of IFRIC 21

Global Banking & Investor Solutions posted net banking income of EUR 8,846 million in 2018, down -3.6% compared to 2017, in an unfavourable market environment and despite the healthy momentum in Financing & Advisory.

The division's net banking income totalled EUR 2,041 million in Q4 18, down -6.9% vs. Q4 17.

Global Markets & Investor Services

Global Markets & Investor Services' revenues were down -8.3% in 2018, in an unfavourable market environment, impacted by political tensions in Europe and the trade war between the United States and China. However, performances remained resilient in the United States and Asia.

Net banking income came to EUR 1,093 million in Q4 18, down -18.7% vs. Q4 17, with markets having been hit this quarter primarily by widening credit spreads and reduced liquidity in the equity market.

At EUR 1,975 million, the revenues of **Fixed Income, Currencies & Commodities** were down -16.8% in 2018 compared to 2017. They were down -28.8% in Q4 18 vs. Q4 17 and amounted to EUR 366 million. Despite resilient commercial activity, Rate activities were hit by an unfavourable environment. Credit was impacted by widening spreads in line with previous quarters. At the same time, commodities enjoyed a good quarter, with buoyant commercial activity in the energy and carbon market.

Equities and Prime Services posted net banking income of EUR 2,498 million in 2018, down -4.4% vs. 2017, impacted by a declining equity market. In Q4 18, net banking income amounted to EUR 550 million, down -15.5% vs. Q4 17, hit by lower commercial activity. Management of structured product portfolios was affected by sharp market movements. Prime Services continued to turn in a good performance while cash equities remained resilient, with an increase in trading volumes. However, this performance failed to offset the fall in derivative revenues.
The Equity Derivatives franchise was once again voted "Structured Products House of the Year" by Risk Awards.

Securities Services' assets under custody amounted to EUR 4,011 billion at end-December 2018, up +2.8% vs. end-December 2017. Over the same period, assets under administration were down -6.5% at EUR 609 billion. Revenues rose +6.2% in 2018 compared to 2017, to EUR 734 million. This sharp rise reflects the continued healthy commercial momentum.
Revenues were slightly lower (-0.6%) in Q4 18 than in Q4 17.

Financing & Advisory

Financing & Advisory's revenues totalled EUR 2,673 million in 2018, 7.1% higher than in 2017. 2018 was a record year, driven by the successful implementation of the businesses' different initiatives.

Net banking income came to EUR 716 million in Q4 18, up +19.1% vs. Q4 17. Asset Financing (especially aircraft, shipping and real estate) continued to benefit from a good level of origination activity and commissions. The natural resources division enjoyed a healthy momentum in energy project financing. The Asset Backed Products platform saw further expansion.

Global Transaction Banking's earnings were significantly higher in Q4 18, with good commercial activity in Cash Management and Correspondent Banking despite the low interest rate environment.

Asset and Wealth Management

The net banking income of the **Asset and Wealth Management** business line totalled EUR 966 million in 2018, down -3.4% compared to 2017, with revenues remaining resilient in a low interest rate environment. Net banking income amounted to EUR 232 million in Q4 18, down -6.5% vs. Q4 17.

Private Banking's assets under management totalled EUR 113 billion at end-December 2018, 4% lower than in December 2017, impacted by the decline in the markets. 2018 net banking income was 4.2% lower than in 2017 at EUR 756 million, impacted by the decline in international activities in 2018. Revenues fell -4.7% in Q4 18 vs. Q4 17.

Lyxor's assets under management came to EUR 118 billion at end-December 2018, 5.4% higher than in December 2017. Revenues totalled EUR 191 million in 2018, the same level as 2017 revenues. Good inflow offset margin pressure in ETF activity. Lyxor's market share stood at 9.7% in 2018. Revenues amounted to EUR 47 million in Q4 18, down -6.0% vs. Q4 17, with a sluggish market.

Operating expenses

Global Banking & Investor Solutions' operating expenses were up +1.7% compared to 2017 and amounted to EUR 7,241 million, reflecting cost control and investment in the growth of Financing activities and Global Transaction Banking.
Operating expenses were up +2.1% in Q4 18 vs. Q4 17.

Operating income

Gross operating income came to EUR 1,605 million in 2018, down -21.8% compared to 2017, and EUR 262 million in Q4 18, down -41.8% vs. Q4 17.
The net cost of risk amounted to EUR -93 million in 2018 (compared to a very low net cost of risk in 2017 of EUR -2 million due to provision write-backs).
Global Banking & Investor Solutions' operating income totalled EUR 1,512 million in 2018, 26.2% lower than in 2017, and EUR 164 million in Q4 18, down -66.2%.

Net income

The pillar's contribution to Group net income came to EUR 1,197 million in 2018, a decrease of -24.9%, and EUR 179 million in Q4 18.
The pillar's RONE stood at 7.8% in 2018.

6. CORPORATE CENTRE

In EUR m	Q4 18	Q4 17	2018	2017
Net banking income	(187)	22	182	(1,147)
Net banking income (1)	*(187)*	*(71)*	*182*	*(1,094)*
Operating expenses	(104)	(285)	(535)	(374)
Gross operating income	**(291)**	**(263)**	**(353)**	**(1,521)**
Gross operating income (1)	*(291)*	*(263)*	*(353)*	*(1,468)*
Net cost of risk	(8)	(201)	(19)	(400)
Net profits or losses from other assets	(243)	(42)	(274)	237
Reported Group net income	**(400)**	**(793)**	**(635)**	**(1,785)**
Group Net Income (1)	*(400)*	*(857)*	*(635)*	*(1,746)*

(1) Adjusted for revaluation of own financial liabilities in Q4 17 and 2017

The Corporate Centre includes:
- the property management of the Group's head office,
- the Group's equity portfolio,
- the Treasury function for the Group,
- certain costs related to cross-functional projects and certain costs incurred by the Group and not re-invoiced to the businesses.

The revaluation of the Group's own financial liabilities is no longer recognised in profit or loss for the period due to the implementation of IFRS 9 as from January 1st, 2018. Consequently, earnings are no longer restated for this non-economic item.

The Corporate Centre's net banking income totalled EUR 182 million in 2018 vs. EUR -1,094[(1)] million in 2017 and EUR -187 million in Q4 18 vs. EUR -71[(1)] million in Q4 17.

Operating expenses totalled EUR -535 million in 2018 vs. EUR -374 million in 2017. They included an allocation to the provision for disputes of EUR -336 million in 2018. Operating expenses amounted to EUR -104 million in Q4 18 vs. EUR -285 million in Q4 17. In Q4 18, operating expenses included a EUR 1.2 billion charge for the settlement of the US Sanctions Case, fully covered by a write-back of the provision for disputes.
At December 31st, 2018, the provision for disputes amounted to EUR 0.3 billion.

Gross operating income amounted to EUR -291 million in Q4 18 vs. EUR -356[(1)] million in Q4 17. In 2018, gross operating income totalled EUR -353 million vs. EUR -1,468[(1)] million in 2017. Gross operating income came to EUR -288 million in 2018 excluding the impact of exceptional items and after restatement of the Euroclear capital gain.

The net cost of risk amounted to EUR -19 million in 2018 vs. EUR -400 million in 2017, which included a net additional allocation of EUR -400 million to the provision for disputes. The net cost of risk was EUR -8 million in Q4 18 vs. EUR -201 million in Q4 17.

Net profits or losses from other assets include primarily the capital loss recognised under IFRS 5 in respect of disposals currently being finalised by the Group amounting to EUR -268 million in 2018 (EUR -241 million in Q4 18), with EUR -202 million corresponding to disposals already announced (Societe Generale Albania, Societe Generale Serbia, Mobiasbanca Societe Generale in Moldavia) and Societe Generale's stake in La Banque Postale Financement.

The Corporate Centre's contribution to Group net income was EUR -635 million in 2018 vs. EUR -1,746[(1)] million in 2017 and EUR -400 million in Q4 18 (EUR -857[(1)] million in Q4 17).

(1) Excluding non-economic items

7. CONCLUSION

Adaptation in the execution of the 2020 strategic and financial plan "Transform to Grow"

In 2018, Societe Generale achieved several major milestones in the implementation of the "Transform to Grow" strategic plan with:

- The success of the majority of growth initiatives,
- The disciplined execution of the EUR 1.1 billion cost savings plan, with EUR 0.4 billion already achieved over the period 2017/2018, for efficiency investments of EUR 0.7 billion over the same period,
- The rigorous management of the cost of risk at 21 basis points in 2018, towards the bottom end of the expected range of 20-25 basis points,
- The removal of financial uncertainty related to the settlement of litigation issues,
- The refocusing of the Group, with eight disposals already announced resulting in an overall positive impact of around +37 basis points(2) on the CET 1 ratio (representing a contribution to net income of around EUR 125 million in 2018).

Given a geopolitical environment marked by substantial uncertainty, a still low interest rate environment in the eurozone, the relative performance of its businesses and improved visibility on regulatory constraints, the Group has **adapted the execution and financial targets of its "Transform to Grow" plan**. In particular, the Group expects the revision of interest rate assumptions used in its estimates to have an **impact of around EUR 500 million** on the Group's revenues in 2020.

The adaptations are aimed at a **more selective capital allocation**, prioritising **fast-growing and highly profitable businesses**, combined with an **increased ambition to reduce costs**, especially in Global Banking & Investor Solutions. They will help **consolidate the CET1 target of 12% in 2020**.

Within **Global Banking & Investor Solutions**, the Group has adjusted the operational set-up in Global Markets, which will be more focused on leadership and profitable franchises, in which it has competitive advantages. This refocusing will result in a reduction in risk-weighted assets of around EUR 8 billion between now and 2020. The Group will implement an **additional plan to reduce costs by around EUR 500 million** in Global Banking & Investor Solutions and is now aiming for a decline of -6.5%(3) in the division's operating expenses in 2020, rather than stability. The Group is aiming for a **RONE(1)** in 2020 for Global Banking & Investor Solutions ranging from **11.5% to 12.5%.**

International Retail Banking & Financial Services is expected to benefit from a still favourable environment and confirm its status as a profitable growth driver. The target **RONE(1)** for these activities in 2020 is increased to **17.0%-18.0%(4).**

French Retail Banking has demonstrated substantial resilience, with activities in line with the execution of the transformation plan. Given the new interest rate assumptions and the effects on revenues of the measures recently adopted by the French banking sector (around EUR 70 million in 2019), the outlook for French Retail Banking revenues is expected to improve in 2019. The target **RONE(1)** is revised to **11.5%-12.5%** for 2020.

---

(1) Underlying data. See methodology note 5 for the transition from accounting data to underlying data.
(2) O/w 11bp on transactions already carried out.
(3) Versus 2016 restated for EURIBOR/RMBS exceptional items and including Global Transaction Banking.
(4) This trajectory includes the impact of the implementation of the new bank tax in Romania (estimate of around EUR 50 million).

Finally, the Group is **accelerating the refocusing of the regional and business portfolio**, taking the disposal programme target to a positive effect of **+80-90 basis points** on the CET1 ratio by 2020 (the Group's initial target being 50-60 basis points).

The Group has **confirmed the CET1 ratio target of 12% in 2020** and consolidated the capital trajectory through the implementation of additional measures:

- Rigorous control of the allocation of risk-weighted assets by prioritising the most profitable activities (estimated impact on the CET1 ratio limited to around 50 basis points of organic growth when adjusted for changes in Group structure and at constant exchange rates in risk-weighted assets in 2019/2020)
- Reduction in risk-weighted assets allocated to Global Markets (estimated impact on the CET1 ratio of 25 basis points)
- Dynamic optimisation of the stock of risk-weighted assets (estimated impact on the CET1 ratio of 10-20 basis points in 2020)
- Stepping up of the disposal programme taking the overall impact on the CET1 ratio to 80-90 basis points in 2020 (vs. an initial target of 50-60 basis points).

To date, the Group believes that the first-time application of IFRS 16 would have a negative impact on the CET1 ratio of -5 basis points in 2019. Likewise, the consequences of the ECB's model review (including the "Targeted Review of Internal Models") would have an impact of between -30 and -50 basis points in 2019/2020.

In conclusion, the Group's financial targets for 2020 are as follows:

- Group ROTE[1] of between **9%-10%**
- RONE[1] for **French Retail Banking** revised to **11.5%-12.5%**
- RONE[1] for **International Retail Banking & Financial Services** increased to **17.0%-18.0%**
- RONE[1] for **Global Banking & Investor Solutions** ranging from **11.5% to 12.5%**
- CET1 ratio of **12%**
- **50%** payout ratio, with a dividend per share of at least **EUR 2.20**

(1) Underlying data. See methodology note 5 for the transition from accounting data to underlying data.

8. 2018/2019 FINANCIAL CALENDAR

2018/2019 Financial communication calendar

May 3rd, 2019	First quarter 2019 results
August 1st, 2019	Second quarter and first half 2019 results
November 6th, 2019	Third quarter 2019 results

The Alternative Performance Measures, notably the notions of net banking income for the pillars, operating expenses, IFRIC 21 adjustment, (commercial) cost of risk in basis points, ROE, ROTE, RONE, net assets, tangible net assets, and the amounts serving as a basis for the different restatements carried out (in particular the transition from published data to underlying data) are presented in the methodology notes, as are the principles for the presentation of prudential ratios.

This document contains forward-looking statements relating to the targets and strategies of the Societe Generale Group.

These forward-looking statements are based on a series of assumptions, both general and specific, in particular the application of accounting principles and methods in accordance with IFRS (International Financial Reporting Standards) as adopted in the European Union, as well as the application of existing prudential regulations.

These forward-looking statements have also been developed from scenarios based on a number of economic assumptions in the context of a given competitive and regulatory environment. The Group may be unable to:

- anticipate all the risks, uncertainties or other factors likely to affect its business and to appraise their potential consequences;
- evaluate the extent to which the occurrence of a risk or a combination of risks could cause actual results to differ materially from those provided in this document and the related presentation.

Therefore, although Societe Generale believes that these statements are based on reasonable assumptions, these forward-looking statements are subject to numerous risks and uncertainties, including matters not yet known to it or its management or not currently considered material, and there can be no assurance that anticipated events will occur or that the objectives set out will actually be achieved. Important factors that could cause actual results to differ materially from the results anticipated in the forward-looking statements include, among others, overall trends in general economic activity and in Societe Generale's markets in particular, regulatory and prudential changes, and the success of Societe Generale's strategic, operating and financial initiatives.

More detailed information on the potential risks that could affect Societe Generale's financial results can be found in the Registration Document filed with the French Autorité des Marchés Financiers.

Investors are advised to take into account factors of uncertainty and risk likely to impact the operations of the Group when considering the information contained in such forward-looking statements. Other than as required by applicable law, Societe Generale does not undertake any obligation to update or revise any forward-looking information or statements. Unless otherwise specified, the sources for the business rankings and market positions are internal.

9. APPENDIX 1: FINANCIAL DATA

GROUP NET INCOME AFTER TAX BY CORE BUSINESS

In EUR m	Q4 18	Q4 17	Change	2018	2017	Change
French Retail Banking	**282**	38	x7,4	**1 237**	1 059	+16,8%
International Retail Banking and Financial Seervices	**563**	450	+25,1%	**2 065**	1 939	+6,5%
Global Banking and Investor Solutions	**179**	374	-52,1%	**1 197**	1 593	-24,9%
Core Businesses	**1024**	862	+18,8%	**4 499**	4 591	-2,0%
Corporate Centre	**(400)**	(793)	+49,6%	**(635)**	(1 785)	+64,4%
Group	**624**	69	x9	**3 864**	2806	+37,7%

CONSOLIDATED BALANCE SHEET

(ASSETS - In millions of euros)	31.12.2018	01.01.2018
Central banks	96,585	114,404
Financial assets at fair value through profit or loss	365,550	369,112
Hedging derivatives	11,899	12,718
Financial assets measured at fair value through other comprehensive income	50,026	50,468
Securities at amortised cost	12,026	11,592
Due from banks at amortised cost	60,588	53,656
Customer loans at amortised cost	447,229	417,391
Revaluation differences on portfolios hedged against interest rate risk	338	663
Investment of insurance activities	146,768	147,611
Tax assets	5,819	6,292
Other assets	67,446	60,449
Non-current assets held for sale	13,502	13
Investments accounted for using the equity method	249	659
Tangible and intangible assets	26,751	24,200
Goodwill	4,652	4,988
Total	**1,309,428**	**1,274,216**

(LIABILITIES - In millions of euros)	31.12.2018	01.01.2018
Central banks	5,721	5,604
Financial liabilities at fair value through profit or loss	363,083	368,550
Hedging derivatives	5,993	6,146
Debt securities issued	116,339	103,235
Due to banks	94,706	88,621
Customer deposits	416,818	410,633
Revaluation differences on portfolios hedged against interest rate risk	5,257	6,020
Tax liabilities	1,157	1,608
Other liabilities	76,629	69,139
Non-current liabilities held for sale	10,454	
Liabilities related to insurance activities contracts	129,543	131,717
Provisions	4,605	6,345
Subordinated debts	13,314	13,647
Total liabilities	**1,243,619**	**1,211,265**
SHAREHOLDERS' EQUITY		
Shareholders' equity, Group share		
Issued common stocks, equity instruments and capital reserves	29,856	29,427
Retained earnings	28,342	27,698
Net income	3,864	2,806
Sub-total	**62,062**	**59,931**
Unrealised or deferred capital gains and losses	(1,036)	(1,503)
Sub-total equity, Group share	**61,026**	**58,428**
Non-controlling interests	4,783	4,523
Total equity	**65,809**	**62,951**
Total	**1,309,428**	**1,274,216**

NB. Customer loans include lease financing.

10. APPENDIX 2: METHODOLOGY

1 - The Group's consolidated results as at December 31st, 2018 were approved by the Board of Directors on February 6th, 2019.

The financial information presented in respect of the fourth quarter and 2018 has been prepared in accordance with IFRS as adopted in the European Union and applicable at that date. The audit procedures carried out by the Statutory Auditors on the consolidated financial statements are in progress.

2 – Net banking income

The pillars' net banking income is defined on page 44 of Societe Generale's 2018 Registration Document. The terms "Revenues" or "Net Banking Income" are used interchangeably. They provide a normalised measure of each pillar's net banking income taking into account the normative capital mobilised for its activity.

3 – Operating expenses

Operating expenses correspond to the "Operating Expenses" as presented in notes 5 and 8.2 to the Group's consolidated financial statements as at December 31st, 2017 (pages 390 et seq. and page 410 of Societe Generale's 2018 Registration Document). The term "costs" is also used to refer to Operating Expenses.

The Cost/Income Ratio is defined on page 44 of Societe Generale's 2018 Registration Document.

4 – IFRIC 21 adjustment

The IFRIC 21 adjustment corrects the result of the charges recognised in the accounts in their entirety when they are due (generating event) so as to recognise only the portion relating to the current quarter, i.e. a quarter of the total. It consists in smoothing the charge recognised accordingly over the financial year in order to provide a more economic idea of the costs actually attributable to the activity over the period analysed.

5 – Restatements and other significant items for the period – Transition from accounting data to underlying data

Non-economic items correspond to the revaluation of the Group's own financial liabilities and the debt value adjustment on derivative instruments (DVA). These two factors constitute the restated non-economic items in the analyses of the Group's results. They lead to the recognition of self-generated earnings reflecting the market's evaluation of the counterparty risk related to the Group. They are also restated in respect of the Group's earnings for prudential ratio calculations. In accordance with IFRS 9, the variation in the revaluation of the Group's own financial liabilities is no longer recognised in earnings for the period but in shareholders' equity. Consequently, the Group will no longer present published information restated for non-economic items.

Moreover, the Group restates the revenues and earnings of the French Retail Banking pillar **for PEL/CEL provision allocations or write-bac**ks. This adjustment makes it easier to identify the revenues and earnings relating to the pillar's activity, by excluding the volatile component related to commitments specific to regulated savings.

Details of these items, as well as the other items that are the subject of a one-off or recurring restatement (exceptional items), are provided below, given that, in the table below, the items marked with one asterisk (*) are the non-economic items and the items marked with two asterisks (**) are the exceptional items.

The reconciliation enabling the transfer from accounting data to underlying data is set out below:

In EUR m	**Q4 18**	**Q4 17**	**Change**	**2018**	**2017**	**Change**
Net Banking Income	**5,927**	**6,323**	**-6.3%**	**25,205**	**23,954**	**+5.2%**
*(-)Reevaluation of own financial liabilities**		*93*			*(53)*	
*(-)DVA**		*2*			*(4)*	
*(-)Adjustment of hedging costs***		*0*			*(88)*	
*(-)LIA settlement***					*(963)*	
Underlying Net Banking Income	**5,927**	**6,228**	**-4.8%**	**25,205**	**25,062**	**+0.6%**
Operating expenses	**(4,458)**	**(5,024)**	**-11.3%**	**(17,931)**	**(17,838)**	**+0.5%**
(+)IFRIC 21 linearisation	(169)	(157)				
*(-)Adaptation of French retail network***		*(390)*			*(390)*	
*(-)French tax audit/EIC***		*(205)*			*(205)*	
*(-)Provision for disputes***	*0*			*(336)*		
Underlying Operating expenses	**(4,627)**	**(4,586)**	**+0.9%**	**(17,595)**	**(17,243)**	**+2.0%**
Net cost of risk	**(363)**	**(469)**	**-22.6%**	**(1,005)**	**(1,349)**	**-25.5%**
*(-)Provision for disputes***		*(200)*			*(800)*	
*(-)LIA settlement***					*400*	
Underlying Net Cost of Risk	**(363)**	**(269)**	**+34.9%**	**(1,005)**	**(949)**	**+5.9%**
Net profit or losses from other assets	**(169)**	**(39)**	**n/s**	**(208)**	**278**	**n/s**
(-)IFRS 5 effect on Group refocusing plan	(241)			(268)		
*(-)Change in consolidation method of Antarius***					203	
*(-)SG Fortune disposal***		0			73	
Underlying Net profits or losses from other assets	**72**	**(39)**	**n/s**	**60**	**2**	**n/s**
Group net income	**624**	**69**	**x9**	**3,864**	**2,806**	**+37.7%**
*Effect in Group net income of above restatements****	*(120)*	*(808)*		*(604)*	*(1,685)*	
Underlying Group net income	**744**	**877**	**-15.2%**	**4,468**	**4,491**	**-0.5%**

(*) Non-economic items
(**) Exceptional items
(***) Including the effect of changes in tax laws in France and the United States in 2017

6 – Cost of risk in basis points, coverage ratio for doubtful outstandings

The cost of risk or commercial cost of risk is defined on pages 46 and 564 of Societe Generale's 2018 Registration Document. This indicator makes it possible to assess the level of risk of each of the pillars as a percentage of balance sheet loan commitments, including operating leases.

	(In EUR m)	Q4 18	Q4 17	2018	2017
French Retail Banking	Net Cost Of Risk	144	177	489	546
	Gross loan Outstandings	189,034	184,649	186,782	182,058
	Cost of Risk in bp	**30**	**38**	**26**	**30**
International Retail Banking and Financial Services	Net Cost Of Risk	114	109	404	366
	Gross loan Outstandings	137,172	128,015	134,306	125,948
	Cost of Risk in bp	**33**	**34**	**30**	**29**
Global Banking and Investor Solutions	Net Cost Of Risk	97	(30)	93	5
	Gross loan Outstandings	157,974	144,967	152,923	155,130
	Cost of Risk in bp	**25**	**(8)**	**6**	**0**
Corporate Centre	Net Cost Of Risk	8	1	19	0
	Gross loan Outstandings	8,591	7,657	7,597	7,833
	Cost of Risk in bp	**37**	**4**	**25**	**0**
Societe Generale Group	Net Cost Of Risk	363	256	1,005	918
	Gross loan Outstandings	492,771	465,288	481,608	470,968
	Cost of Risk in bp	**29**	**22**	**21**	**19**

The gross coverage ratio for doubtful outstandings is calculated as the ratio of provisions recognised in respect of the credit risk to gross outstandings identified as in default within the meaning of the regulations, without taking account of any guarantees provided. This coverage ratio measures the maximum residual risk associated with outstandings in default ("doubtful").

7 – ROE, ROTE, RONE

The notions of ROE (Return on Equity) and ROTE (Return on Tangible Equity), as well as their calculation methodology, are specified on page 47 of Societe Generale's 2018 Registration Document. This measure makes it possible to assess Societe Generale's return on equity and return on tangible equity.
RONE (Return on Normative Equity) determines the return on average normative equity allocated to the Group's businesses, according to the principles presented on page 47 of Societe Generale's Registration Document.
Group net income used for the ratio numerator is book Group net income adjusted for "interest, net of tax payable to holders of deeply subordinated notes and undated subordinated notes, interest paid to holders of deeply subordinated notes and undated subordinated notes, issue premium amortisations" and "unrealised gains/losses booked under shareholders' equity, excluding conversion reserves" (see methodology note No. 9). For ROTE, income is also restated for goodwill impairment.
Details of the corrections made to book equity in order to calculate ROE and ROTE for the period are given in the table below:

End of period	Q4 18	Q4 17	2018	2017
Shareholders' equity Group share	**61,026**	**59,373**	**61,026**	**59,373**
Deeply subordinated notes	(9,330)	(8,520)	(9,330)	(8,520)
Undated subordinated notes	(278)	(269)	(278)	(269)
Interest net of tax payable to holders of deeply subordinated notes & undated subordinated notes, interest paid to holders of deeply subordinated notes & undated subordinated notes, issue premium amortisations	(14)	(165)	(14)	(165)
OCI excluding conversion reserves	(312)	(1,031)	(312)	(1,031)
Dividend provision	(1,764)	(1,762)	(1,764)	(1,762)
ROE equity end-of-period	**49,328**	**47,626**	**49,328**	**47,626**
Average ROE equity	**49,016**	**47,981**	**48,138**	**48,087**
Average Goodwill	(4,946)	(4,999)	(5,019)	(4,924)
Average Intangible Assets	(2,177)	(1,904)	(2,065)	(1,831)
Average ROTE equity	**41,893**	**41,078**	**41,054**	**41,332**
Group net Income (a)	**624**	**69**	**3,864**	**2,806**
Underlying Group net income (b)	**744**	**877**	**4,468**	**4,491**
Interest, net of tax on deeply subordinated notes and undated subordinated notes (c)	*(124)*	*(117)*	*(462)*	*(466)*
Cancellation of goodwill impairment (d)	*176*	*0*	*198*	*0*
Corrected Group net Income (e) = (a)+(c)+(d)	**676**	**(48)**	**3,600**	**2,340**
Corrected Underlying Group net Income (f)=(b)+(c)	**620**	**760**	**4,006**	**4,025**
Average ROTE equity (g)	**41,893**	**41,078**	**41,054**	**41,332**
ROTE [quarter: (4*e/g), 12M: (e/g)]	6.5%	-0.5%	8.8%	5.7%
Average ROTE equity (underlying) (h)	**41,951**	**41,240**	**41,345**	**41,803**
Underlying ROTE [quarter: (4*f/h), 12M: (f/h)]	5.9%	7.4%	9.7%	9.6%

RONE calculation: Average capital allocated to Core Businesses (in EURm)

In EUR m	Q4 18	Q4 17	Change	2018	2017	Change
French Retail Banking	**11,158**	11,475	-2.8%	**11,201**	11,027	+1.6%
International Retail Banking and Financial Seervices	**11,417**	11,111	+2.8%	**11,390**	11,137	+2.3%
Global Banking and Investor Solutions	**16,058**	14,525	+10.6%	**15,424**	14,996	+2.9%
Core Businesses	**38,633**	37,111	+4.1%	**38,015**	37,160	+2.3%
Corporate Centre	**10,383**	10,870	-4.5%	**10,123**	10,927	-7.4%
Group	**49,016**	47,981	+2.2%	**48,138**	48,087	+0.1%

8 – Net assets and tangible net assets

Net assets and tangible net assets are defined in the methodology, page 49 of the Group's 2018 Registration Document. The items used to calculate them are presented below.

End of period	2018	2017	2016
Shareholders' equity Group share	**61,026**	**59,373**	**61,953**
Deeply subordinated notes	(9,330)	(8,520)	(10,663)
Undated subordinated notes	(278)	(269)	(297)
Interest net of tax payableto holders of deeply subordinated notes & undated subordinated notes, interest paid to holders of deeply subordinated notes & undated subordinated notes, issue premium amortisations	(14)	(165)	(171)
Bookvalue of own shares in trading portfolio	423	223	75
Net Asset Value	**51,827**	**50,642**	**50,897**
Goodwill	(4,860)	(5,154)	(4,709)
Intangible Asset	(2,224)	(1,940)	(1,717)
Net Tangible Asset Value	**44,743**	**43,548**	**44,471**
Number of shares used to calculate NAPS**	**801,942**	**801,067**	**799,462**
Nest Asset Value per Share	**64.6**	**63.2**	**63.7**
Net Tangible Asset Value per Share	**55.8**	**54.4**	**55.6**

*** The number of shares considered is the number of ordinary shares outstanding as at December 31st, 2018, excluding treasury shares and buybacks, but including the trading shares held by the Group.*
In accordance with IAS 33, historical data per share prior to the date of detachment of a preferential subscription right are restated by the adjustment coefficient for the transaction.

9 – Calculation of Earnings Per Share (EPS)

The EPS published by Societe Generale is calculated according to the rules defined by the IAS 33 standard (see page 48 of Societe Generale's 2018 Registration Document). The corrections made to Group net income in order to calculate EPS correspond to the restatements carried out for the calculation of ROE. As specified on page 48 of Societe Generale's 2018 Registration Document, the Group also publishes EPS adjusted for the impact of non-economic and exceptional items presented in methodology note No. 5 (underlying EPS).

The number of shares used for the calculation is as follows:

Average number of shares (thousands)	2018	2017	2016
Existing shares	**807,918**	**807,754**	**807,293**
Deductions			
Shares allocated to cover stock option plans and free shares awarded to staff	5,335	4,961	4,294
Other own shares and treasury shares	842	2,198	4,232
Number of shares used to calculate EPS**	**801,741**	**800,596**	**798,768**
Group net Income	**3,864**	**2,806**	**3,874**
Interest, net of tax on deeply subordinated notes and undated subordinated notes	(462)	(466)	(472)
Capital gain net of tax on partial buybacks			
Adjusted Group net income	**3,402**	**2,340**	**3,402**
EPS (in EUR)	**4.24**	**2.92**	**4.26**
Underlying EPS* (in EUR)	**5.00**	**5.03**	**4.60**

** Excluding non-economic and exceptional items and including linearisation of the IFRIC 21 effect.*

*** The number of shares considered is the number of ordinary shares outstanding as at December 31st, 2018, excluding treasury shares and buybacks, but including the trading shares held by the Group.*

10 – The Societe Generale Group's Common Equity Tier 1 capital

This is calculated in accordance with applicable CRR/CRD4 rules. The fully-loaded solvency ratios are presented pro forma for current earnings, net of dividends, for the current financial year, unless specified otherwise. When there is reference to phased-in ratios, these do not include the earnings for the current financial year, unless specified otherwise. The leverage ratio is calculated according to applicable CRR/CRD4 rules including the provisions of the delegated act of October 2014.

NB (1) The sum of values contained in the tables and analyses may differ slightly from the total reported due to rounding rules.

(2) All the information on the results for the period (notably: press release, downloadable data, presentation slides and supplement) is available on Societe Generale's website www.societegenerale.com in the "Investor" section.

Societe Generale

Societe Generale is one of the leading European financial services groups. Based on a diversified and integrated banking model, the Group combines financial strength and proven expertise in innovation with a strategy of sustainable growth, aiming to be the trusted partner for its clients, committed to the positive transformations of society and the economy.

Active in the real economy for over 150 years, with a solid position in Europe and connected to the rest of the world, Societe Generale has over 147,000 members of staff in 67 countries and supports on a daily basis 31 million individual clients, businesses and institutional investors around the world by offering a wide range of advisory services and tailored financial solutions. The Group is built on three complementary core businesses:

- **French Retail Banking**, which encompasses the Societe Generale, Crédit du Nord and Boursorama brands. Each offers a full range of financial services with omnichannel products at the cutting edge of digital innovation;
- **International Retail Banking, Insurance and Financial Services to Corporates**, with networks in Africa, Russia, Central and Eastern Europe and specialised businesses that are leaders in their markets;
- **Global Banking and Investor Solutions**, which offers recognised expertise, key international locations and integrated solutions.

Societe Generale is included in the principal socially responsible investment indices: DJSI (World and Europe), FTSE4Good (Global and Europe), Euronext Vigeo (World, Europe and Eurozone), four of the STOXX ESG Leaders indices, and the MSCI Low Carbon Leaders Index.

For more information, you can follow us on twitter @societegenerale or visit our website www.societegenerale.com

REGISTERED OFFICE OF THE ISSUER

SG Issuer
33, Boulevard Prince Henri
L-1724 Luxembourg
Luxembourg

REGISTERED OFFICE OF THE GUARANTOR

Société Générale
29, boulevard Haussmann
75009 Paris
France

ISSUER'S AUDITORS

Ernst & Young Société Anonyme
35E, avenue John F. Kennedy
L-1855 Luxembourg
Luxembourg

GUARANTOR'S AUDITORS

Ernst & Young et Autres
Tour First
TSA 14444
92037 Paris-La Défense Cedex
France

Deloitte et Associés
185, avenue Charles-de-Gaulle 92524 Neuilly-sur-Seine cedex France

WARRANT AGENT

THE CENTRAL DEPOSITORY (PTE) LIMITED
11 North Buona Vista Drive
#06-07 The Metropolis Tower 2
Singapore 138589

LEGAL ADVISERS TO THE ISSUER
(as to Singapore law)

ALLEN & GLEDHILL LLP
One Marina Boulevard #28-00
Singapore 018989