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 UBS AG, acting through its London branch, the Certificates, or the Company (as defined below).

8,000,000 European Style Cash Settled Long Certificates relating to

the ordinary shares of HSBC Holdings plc

with a Daily Leverage of 5x

UBS AG

(Incorporated with limited liability in Switzerland)

acting through its London Branch

Issue Price: S$0.50 per Certificate

This document is published for the purpose of obtaining a listing of all the above certificates (the "**Certificates**") to be issued by UBS AG (the "**Issuer**") acting through its London branch, and is supplemental to and should be read in conjunction with a base listing document dated 28 June 2022 (the "**Base Listing Document**"), including its supplements and addenda as executed from time to time, for the purpose of giving information with regard to the Issuer 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 the United States, the United Kingdom, the European Economic Area, Singapore and Hong Kong (see "Placing and Sale" contained herein).

The Certificates are complex products. You should exercise caution in relation to them. 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 and/or any of its affiliates may from time to time purchase the Certificates or sell additional Certificates on the market, the Issuer and/or any of its 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.

For the purpose of section 309B(1) of the Securities and Futures Act 2001 of Singapore (the "**SFA**"), the Issuer has determined, and hereby notifies all relevant persons (as defined in section 309A of the SFA) that 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.

Prospective purchasers should therefore ensure that they understand the nature of the Certificates and carefully study the risk factors set out in the Base Listing Document and pages 5 to 10 of this document before they invest in the Certificates.

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 20 January 2023.

As at the date hereof, the Issuer's long term credit rating by Standard & Poor's Credit Market Services Europe Limited is A+, by Moody's Deutschland GmbH is Aa3 and by Fitch Ratings Limited is AA-.

The Issuer is regulated by, among others, the Swiss Federal Banking Commission. In the United Kingdom, it is authorised by the Prudential Regulatory Authority and subject to regulation by the Financial Conduct Authority and limited regulation by the Prudential Regulatory Authority.

19 January 2023

[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 accepts full responsibility for the accuracy of the information contained in this document and the Base Listing Document in relation to itself and the Certificates. To the best of the knowledge and belief of the Issuer (which has taken all reasonable care to ensure that such is the case), the information contained in this document and the Base Listing Document for which it accepts 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 accepts 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.

No persons have been authorised to give any information or to make any representation save as contained in this document or otherwise authorised by the Issuer in connection with the Certificates and, if given or made, such information or representations must not be relied upon as having been authorised by the Issuer. 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 or its subsidiaries and associates since the date hereof.

This document does not constitute an offer or solicitation by or on behalf of the Issuer 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 requires persons into whose possession this document comes to inform themselves of and observe all such restrictions. In particular, the Certificates have not been, and will not be, registered under the United States Securities Act of 1933, as amended (the "**Securities Act**"). Subject to certain exceptions, Certificates, or interests therein, may not at any time be offered, sold, resold or delivered, directly or indirectly, in the United States or to, or for the account or benefit of, any U.S. person (as defined in Regulation S under the Securities Act) or to others for offering, sale or resale in the United States or to any such U.S. person. Offers and sales of Certificates, or interests therein, in the United States or to U.S. persons would constitute a violation of United States securities laws unless made in compliance with registration requirements of the Securities Act or pursuant to an exemption therefrom. 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 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 and/or any of its 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 and/or any of its 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 Base Listing Document. Terms not defined herein shall have the meanings ascribed thereto in the Conditions.

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RISK FACTORS

The following risk factors are relevant to the Certificates:-

(a) investment in Certificates involves substantial risks including market risk, liquidity risk, and the risk that the Issuer will be unable to satisfy its 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 direct, general and unsecured contractual obligations of the Issuer and if you purchase the Certificates you are relying upon the creditworthiness of the Issuer and have no rights under the Certificates against any 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 have no rights under the Certificates against the Company which has issued the Underlying Stock (as defined below). The Issuer has substantially no obligation to a Certificate Holder (as defined in the Conditions) other than to pay amounts in accordance with the terms thereof as set forth herein and in the Base Listing Document. The Issuer does not in any respect underwrite or guarantee the performance of any Certificate. Any profit or loss realised by a Certificate Holder in respect of a Certificate upon exercise or otherwise due to changes in the value of such Certificate or the Underlying Stock is solely for the account of such Certificate Holder. In addition, the Issuer shall have the absolute discretion to put in place any hedging transaction or arrangement which it deems appropriate in connection with any Certificate or the Underlying Stock. A reduction in the rating, if any, accorded to outstanding debt securities of the Issuer by any one of its rating agencies could result in a reduction in the trading value of the Certificates;

(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 may, in extreme circumstances, sustain a significant loss of their investment if the price of the Underlying Stock has fallen sharply;

(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 and the creditworthiness of the Issuer;

(e) fluctuations in the price of the Underlying Stock will affect the price of the Certificates but not necessarily in the same magnitude and direction, therefore, prospective investors intending to purchase Certificates to hedge their market risk associated with investing in the Underlying Stock which may be specified herein, should recognise the complexities of utilising the Certificates in this manner;

(f) 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) 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 may be suspended for a similar period;

(h) investors should note that the Issuer's obligations to pay amounts in accordance with the terms thereof as set forth herein shall be discharged by delivery of the aggregate Cash Settlement Amount (if positive) to all Certificate Holders in accordance with the agreement with the Warrant Agent;

(i) 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;

(j) 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;

(k) 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 such expiry date the Cash Settlement Amount is zero, a Certificate Holder will lose the value of his investment;

(l) 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);

(m) 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 the Rebalancing Cost (as defined below);

(n) investors should note that there may be an exchange rate risk where the Cash Settlement Amount may be 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;

(o) 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;

(p) 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;

(q) the Air Bag Mechanism (as defined below) is triggered only when the Underlying Stock is calculated or traded, which may not be during the trading hours of the Relevant Stock Exchange for the Certificates (as defined below);

(r) investors should note that 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;

(s) 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 the market (in respect of which the Underlying Stock is listed) opens the following day (including pre-opening trading session and extended auction hours, if applicable) or (ii) a sharp intraday fall in the Underlying Stock of 20% or greater during the observation period compared to the reference price, being: (a) if air bag event has not been previously triggered on the same day, the previous closing price of the Underlying Stock, or (b) if one or more air bag events have been previously triggered on the same day, the latest new observed price. Investors may refer to pages 41 to 42 of this document for more information;

(t) certain events may, pursuant to the terms and conditions of the Certificates, trigger (A) the implementation of methods of adjustment or (B) 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 (A) general market conditions and (B) 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 Condition 13 on pages 28 to 29 of this document for more information;

(u) investors should note that it is not possible to predict the price at which the Certificates will trade in the secondary market or whether such market will be liquid or illiquid. To the extent Certificates of a particular issue are exercised, the number of Certificates of such issue outstanding will decrease, resulting in a diminished liquidity for the remaining Certificates of such issue. A decrease in the liquidity of an issue of Certificates may cause, in turn, an increase in the volatility associated with the price of such issue of Certificates. The Issuer may, but is not obligated to, at any time, purchase Certificates at any price in the open market or by tender or private agreement. Any Certificates so purchased may be held or resold or surrendered for cancellation. To the extent that an issue of Certificates becomes illiquid, an investor may have to exercise such Certificates to realise value;

(v) 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;

(w) 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 should refer to the Taxation Section in the Base Listing Document;

(x) investors should note that the Issuer may enter into discount, commission or fee arrangements with brokers and/or any of its subsidiaries or affiliates with respect to the primary or secondary market in the Certificates. The arrangements may result in the benefit to investors in Certificates buying and selling Certificates through nominated brokers by reducing or eliminating the commission payable by such Certificate Holders. In the event that the commission payable by Certificate Holders is eliminated, fee arrangements between the Issuer and brokers and/or any of its subsidiaries or affiliates will continue to apply. Investors in the Certificates should note that any brokers with whom the Issuer has a commission arrangement does not, and cannot be expected to, deal exclusively in the Certificates, therefore any broker and/or any of its subsidiaries or affiliates may from time to time engage in transactions involving the Underlying Stock and/or structured products of other issuers over the Underlying Stock as the Certificates for their proprietary accounts and/or accounts of their clients. The fact that the same broker may deal simultaneously for different clients in competing products in the market place may affect the value of the Certificates and present certain conflicts of interests;

(y) various potential and actual conflicts of interest may arise from the overall activities of the Issuer and any of its subsidiaries and affiliates.

The Issuer and any of its 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 and any of its 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 and any of its subsidiaries and affiliates have no obligation to disclose such information about the Underlying Stock or such activities. The Issuer and any of its 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;

(z) 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 and any of its 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 and/or related derivatives. In addition, in connection with the offering of any Certificates, the Issuer and any of its respective subsidiaries and affiliates may enter into one or more hedging transactions with respect to the Underlying Stock and/or related derivatives. In connection with such hedging or market-making activities or with respect to proprietary or other trading activities by the Issuer and any of its respective subsidiaries and its affiliates, the Issuer and any of its respective subsidiaries and affiliates may enter into transactions in the Underlying Stock and/or related derivatives which may affect the market price, liquidity or value of the Certificates and which may affect the interests of Certificate Holders;

(aa) 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;

(bb) certain risks relating to the Issuer's operating environment and strategy, including those as set out in Appendix 2 of the Base Listing Document, may impact the Issuer's ability to execute its strategy and directly affect its business activities, financial condition, results of operations and prospects. As a broad-based international financial services firm, the Issuer is inherently exposed to risks that become apparent only with the benefit of hindsight, risks of which it is not presently aware or which it currently does not consider to be material could also materially affect its business activities, financial condition, results of operations and prospects. The sequence in which the risk factors are set out in Appendix 2 of the Base Listing Document is not indicative of their likehood of occurrence or the potential magnitude of their financial consequences;

(cc) 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 website of the SGX-ST. Investors will need to check the website of the SGX-ST regularly and/or rely on their brokers/custodians to obtain such notices;

(dd) Generally, investing in the Certificates may involve risks related to the discontinuance, changes or adjustments to benchmarks generally

Discontinuance of, or changes to, benchmarks may require adjustments to the Issuer's agreements, systems and processes. The interbank offered rate(s) and other interest rate, equity, commodity, foreign exchange and other types of indices which are deemed to be "benchmarks", are the subject of national, international and other regulatory guidance and proposals for reform. Some of these reforms are already effective whilst others are still to be or may be implemented. These reforms may cause such benchmarks to perform differently than in the past, to disappear entirely, or have other consequences which cannot be predicted. Any such consequence could have a material adverse effect on any Certificates referencing such a benchmark. Investors should consult their own independent advisers and make their own assessment about the potential risks or any of the international or national reforms in making any investment decision with respect to any Certificates referencing a benchmark; and (ee) Specifically, the reform of HIBOR may adversely affect the value of the Certificates

The Hong Kong Inter-bank Offered Rate ("**HIBOR**") benchmark is referenced in the Leverage Strategy.

It is not possible to predict with certainty whether, and to what extent, HIBOR will continue to be supported going forwards. This may cause HIBOR to perform differently than they have done in the past, and may have other consequences which cannot be predicted. Such factors may have (without limitation) the following effects: (i) discouraging market participants from continuing to administer or contribute to a benchmark; (ii) triggering changes in the rules or methodologies used in the benchmark and/or (iii) leading to the disappearance of the benchmark. Any of the above changes or any other consequential changes as a result of international or national reforms or other initiatives or investigations, could have a material adverse effect on the value of and return on the Certificates.

In addition, the occurrence of a modification or cessation of HIBOR may cause adjustment of the Certificates which may include selecting one or more successor benchmarks and making related adjustments to the Certificates, including if applicable to reflect increased costs.

The Calculation Agent may make adjustments as it may determine appropriate if any of the following circumstances occurs or may occur: (1) HIBOR is materially changed or cancelled or (2)(i) the relevant authorisation, registration, recognition, endorsement, equivalence decision or approval in respect of the benchmark or the administrator or sponsor of the benchmark is not obtained, (ii) an application for authorisation, registration, recognition, endorsement, equivalence decision, approval or inclusion in any official register is rejected or (iii) any authorisation, registration, recognition, endorsement, equivalence decision or approval is suspended or inclusion in any official register is withdrawn.

Investors should consult their own independent advisers and make their own assessment about the potential risks imposed by any of the international or national reforms in making any investment decision with respect to any Certificate.

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 and the Base Listing Document.

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 Base Listing Document. For the purposes of the Conditions, the following terms shall have the following meanings:

Certificates:	8,000,000 European Style Cash Settled Long Certificates relating to the ordinary shares of HSBC Holdings plc (the "**Underlying Stock**" or the "**Underlying**")
ISIN:	CH1227876203
Company:	HSBC Holdings plc (RIC: 0005.HK)
Underlying Price[3] and Source:	HK$56.65 (Bloomberg)
Calculation Agent:	UBS AG acting through its London Branch
Strike Level:	Zero
Daily Leverage:	5x (within the Leverage Strategy as described below)
Notional Amount per Certificate:	SGD 0.50
Management Fee (p.a.)[4]:	0.40%
Gap Premium (p.a.)[5]:	4.60%, 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:	12 January 2023
Closing Date:	19 January 2023

[3] These figures are calculated as at, and based on information available to the Issuer on or about 19 January 2023. 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 19 January 2023.
[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.

Expected Listing Date:	20 January 2023
Last Trading Date:	The date falling 5 Business Days immediately preceding the Expiry Date, currently being 20 January 2025
Expiry Date:	27 January 2025 (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 January 2025 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 5:00 p.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 5:00 p.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 (if positive) 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 33 to 47 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 Expected Listing Date 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 (subject to Market Disruption Event) 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 33 to 47 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 15 to 19 below.

Initial Exchange Rate[3]: 0.1690625659

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 of continuous trading after the Air Bag is triggered. The resumption of trading is subject further to SGX-ST's requirements, including at least 30 minutes from the time of publication of an announcement on the exchange in respect of the Air Bag Mechanism being triggered, and at least 15 minutes after the SGX-ST grants an approval to resume trading, whichever is later, rounded to the next quarter of an hour. The Leverage Strategy is floored at 0 and the Certificates cannot be valued below zero. Please refer to the "Air Bag Mechanism" section on page 19 below and the "Description of Air Bag Mechanism" section on pages 39 to 40 of this document for further information of the Air Bag Mechanism.
Adjustments and Extraordinary Events:	The Issuer has the right to make adjustments to the terms of the Certificates if certain events, including any capitalisation issue, rights issue, extraordinary distributions, merger, delisting, insolvency (as more specifically set out in the terms and conditions of the Certificates) occur in respect of the Underlying Stock. For the avoidance of doubt, no notice will be given if the Issuer determines that adjustments will not be made.
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 (excluding Saturdays, Sundays and public holidays) 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 the 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 http://dlc.ubs.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, the Leverage Strategy Level as at the Leverage Reset Time (t), calculated in accordance with the following formulae:

On Leverage Reset Time (1):

$\mathrm{LSL}_1 = 1000$

On each subsequent Leverage Reset Time (t):

$$\mathrm{LSL}_t = \mathrm{Max}\left[\mathrm{LSL}_{r(t)} \times \left(1 + \mathrm{LR}_{r(t),t} - \mathrm{FC}_{r(t),t} - \mathrm{RC}_{r(t),t}\right), 0\right]$$

Leverage Reset Time (t)

means

1) the scheduled closing time for the Relevant Stock Exchange for the Underlying Stock (or any successor thereto) on any Observation Date; and

2) end of any Intraday Restrike Event Observation Period.

Leverage Reset Time (1) is the scheduled close for the Relevant Stock Exchange for the Underlying Stock on Issue Date.

Leverage Reset Time r(t)

means the Leverage Reset Time immediately preceding the Leverage Reset Time (t).

$\mathbf{LR_{r(t),t}}$

means the Leveraged Return of the Underlying Stock between Leverage Reset Time r(t) and Leverage Reset Time (t), calculated as follows:

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

$\mathbf{FC_{r(t),t}}$

means, the Funding Cost between the Leverage Reset Time r(t) (included) and the Leverage Reset Time (t) (excluded) calculated as follows:

If the Leverage Reset Time r(t) is at the scheduled closing time for the Relevant Stock Exchange for the Underlying Stock (or any successor thereto) on any Observation Date,

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

Otherwise, $\mathrm{FC_{r(t),t}} = 0$

$\mathbf{RC_{r(t),t}}$

means the Rebalancing Cost of the Leverage Strategy as at Leverage Reset Time (t), calculated as follows:

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

TC

means the Transaction Costs applicable as determined by the Calculation Agent (including Stamp Duty and any other applicable taxes, levies and costs which may be levied on the stock transactions on the Relevant Stock Exchange for the Underlying Stock by the applicable regulatory authorities from time to time) that are currently equal to :

0.13%

"Stamp Duty" refers to the applicable rate of stamp duty on the stock transactions in the jurisdiction of the Relevant Stock Exchange for the Underlying Stock, which may be changed by the applicable regulatory authorities from time to time.

Leverage

5

$\mathbf{S_t}$ means the Underlying Stock Price as of Leverage Reset Time (t) computed as follows, subject to the adjustments and provisions of the Conditions:

If the Leverage Reset Time (t) is at the scheduled closing time for the Relevant Stock Exchange for the Underlying Stock (or any successor thereto) on any Observation Date,

S_t is the Closing Price of the Underlying Stock as of such Observation Date.

Otherwise,

S_t is the lowest price of the Underlying Stock during the respective Intraday Restrike Observation Period.

$\mathbf{Rfactor_t}$ means an amount determined by the Calculation Agent, according to the following formula, subject to the adjustments and provisions of the Conditions:

If in respect of the Leverage Reset Time (t), the immediately preceding Leverage Reset Time r(t) is at the scheduled closing time for the Relevant Stock Exchange for the Underlying Stock (or any successor thereto) on any Observation Date,

$$\mathrm{Rfactor}_t = 1 - \frac{\mathrm{Div}_t}{S_{r(t)}}$$

Otherwise,

$$\mathrm{Rfactor}_t = 1$$

Where

Div_t is the dividend to be paid out in respect of the Underlying Stock on the Observation Date of the Leverage Reset Time (t) if such Observation Date is an ex-dividend date, otherwise is zero. The dividend shall be considered net of any applicable withholding taxes.

$\mathbf{Rate_t}$ means, in respect of the Observation Date of Leverage Reset Time (t), a rate calculated as of such day in accordance with the following formula:

$$\mathrm{Rate}_t = \mathrm{CashRate}_t + \%\mathrm{SpreadLevel}_t$$

$\mathbf{CashRate_t}$ means, in respect of the Observation Date of the Leverage Reset Time (t), the Overnight HKD Hong Kong Interbank Offered Rate (HIBOR) Fixing, as published on Reuters RIC HIHKDOND= or any successor page, being the rate as of day (t), provided that if any of such rate is not available, then that rate shall be determined by reference to the latest available rate that was published on the relevant Reuters page. Upon the occurrence or likely occurrence, as determined by the Calculation Agent, of a Benchmark Event, the Calculation Agent may make adjustments as it may determine appropriate to account for the relevant event or circumstance, including but not limited to using any alternative rates from such date, with or without retroactive effect as the Calculation Agent may in its sole and absolute discretion determine.

$\%\mathbf{SpreadLevel}_{\mathbf{t}}$ means, in respect of the Observation Date of the Leverage Reset Time (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, each being the rate as of day (t), provided that if any of such rates is not available, then that rate shall be determined by reference to the latest available rate that was published on the relevant Reuters page. Upon the occurrence or likely occurrence, as determined by the Calculation Agent, of a Benchmark Event, the Calculation Agent may make adjustments as it may determine appropriate to account for the relevant event or circumstance, including but not limited to using any alternative rates from such date, with or without retroactive effect as the Calculation Agent may in its sole and absolute discretion determine.

Provided that if such difference is negative, $\%\mathbf{SpreadLevel}_{\mathbf{t}}$ should be 0%.

Benchmark Event means:

(a) the relevant reference rate has ceased to be published on the relevant screen page as a result of such benchmark ceasing to be calculated or administered; or

(b) a public statement by the administrator of the relevant reference rate that (in circumstances where no successor administrator has been or will be appointed that will continue publication of such reference rate) it has ceased publishing such reference rate permanently or indefinitely or that it will cease to do so by a specified future date (the "**Specified Future Date**"); or

(c) a public statement by the supervisor of the administrator of the relevant reference rate that such reference rate has been or will, by a specified future date (the "**Specified Future Date**"), be permanently or indefinitely discontinued; or

(d) a public statement by the supervisor of the administrator of the relevant reference rate as a consequence of which Reference Rate will, by a specified future date (the "**Specified Future Date**"), be prohibited from being used, or that its use will be subject to restrictions or adverse consequences, either generally or in respect of the Certificates; or

(e) a public statement by the supervisor of the administrator of the relevant reference rate that, in the view of such supervisor, such reference rate is or will, by a specified future date (the "**Specified Future Date**"), be no longer representative of an underlying market or the methodology to calculate such reference rate has materially changed; or

(f) it has or will, by a specified date within the following six months, become unlawful for the Calculation Agent or the Issuer to calculate any payments due to be made to any holder of the Certificates using the relevant reference rate (including, without limitation, under the Benchmarks Regulation (EU) 2016/1011, if applicable).

Notwithstanding the subparagraphs above, where the relevant Benchmark Event is a public statement within subparagraphs (b), (c), (d) or (e) above and the Specified Future Date in the public statement is more than six months after the date of that public statement, the Benchmark Event shall not be deemed occur until the date falling six months prior to such Specified Future Date.

ACT(r(t),t) ACT(r(t),t) means the number of calendar days between the Observation Date of the Leverage Reset Time r(t) (included) and the Observation Date of the Leverage Reset Time (t) (excluded).

DayCountBasisRate 365

Air Bag Mechanism

Intraday Restrike Event means in respect of an Observation Date, the decrease at any Calculation Time of the Underlying Stock price by 15% or more compared with the amount of $\mathrm{S}_{\mathrm{r(t)}} \times \mathrm{Rfactor}_{\mathrm{t}}$ where r(t) means the immediately preceding Leverage Reset Time prior to 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 (including pre-opening session) for the Relevant Stock Exchange for the Underlying Stock (or any successor thereto).

TimeReferenceClosing means the scheduled closing time (including closing auction session) 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 of continuous trading 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 Base Listing Document 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, 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 28 June 2022, made by UBS AG (the "**Issuer**") acting through its London Branch; and

(ii) a warrant agent agreement (the "**Master Warrant Agent Agreement**" or "**Warrant Agent Agreement**") dated any time on or before 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 Certificate Holders (as defined below) 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*. The Certificates constitute direct, general and unsecured contractual 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 and, in particular, the Certificates will not be secured by any underlying assets. 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.

(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 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.

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 (if positive) 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:

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

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

(i) that fifth Exchange Business Day or Underlying Stock Business Day, as the case may be, shall be deemed to be the Valuation Date or the Observation Date notwithstanding the Market Disruption Event; and

(ii) the Issuer shall determine the Final Reference Level or the relevant closing level on the basis of its good faith estimate of the Final Reference Level or the relevant closing level that would have prevailed on that fifth Exchange Business Day or Underlying Stock Business Day, as the case may be, but for the Market Disruption Event provided that the Issuer, if applicable, may, but shall not be obliged to, determine such Final Reference Level or the relevant closing level by having regard to the manner in which futures contracts relating to the Underlying Stock are calculated.

"**Market Disruption Event**" means the occurrence or existence 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 5:00 p.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 5:00 p.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 5:00 p.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 Warrant Agent who will then 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 dispatched by the Warrant Agent as soon as practicable and no later than five Business Days following the Expiry Date (subject to extension upon the occurrence of a Market Disruption Event (as defined above) 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.

The Issuer's obligations to pay the Cash Settlement Amount shall be discharged by payment to the Warrant Agent in accordance with the Master Warrant Agent Agreement or Warrant Agent Agreement.

(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 (excluding Saturdays, Sundays and public holidays) 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) *Subdivision or Consolidation of the Certificates*. The Issuer reserves the right to subdivide or consolidate the Certificates, provided that such adjustment 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) *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 and unfettered discretion and without any obligation whatsoever) to make such adjustments and amendments as it believes appropriate in circumstances where an event or events (including the events as contemplated in Conditions 6(a) to 6(e)) occur which it believes in its sole discretion (and notwithstanding any prior adjustment made pursuant to the above) and irrespective of, in substitution for, or in addition to the provisions contemplated in Conditions 6(a) to 6(e) 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).

(g) *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 in accordance with Condition 9. For the avoidance of doubt, no notice will be given if the Issuer determines that adjustments will not be made.

7. Purchases

The Issuer or its related corporations 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 website 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 website 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.

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 etc.* The Issuer shall have the right to terminate the Certificates if it shall have determined in its absolute discretion that a Regulatory Event (as defined below) has occurred and, for reasons beyond its control its performance thereunder shall have become unlawful in whole or in part under any applicable present or future law, rule, regulation, judgment, order or directive of any governmental, administrative, legislative or judicial authority or power ("**Applicable Law**").

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 any of its affiliates involved in the issue of the Certificates (hereafter the "**Relevant Affiliates**" and each of the Issuer 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 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 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).

(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 the Applicable Law, pay to each Certificate Holder in respect of each Certificate held by such Certificate Holder an amount calculated by it as the fair market value of the Certificate immediately prior to such termination (ignoring such illegality) less the cost to the Issuer of unwinding any related hedging arrangements. Payment will be made to the Certificate Holder in such manner as shall be notified to the Certificate Holder 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 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.

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 2001 of Singapore

Unless otherwise expressly 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 2001 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 and the Base Listing Document. Terms used in this Summary are defined in the Conditions.

Issuer:	UBS AG acting through its London Branch
Company:	HSBC Holdings plc
The Certificates:	European Style Cash Settled Long Certificates relating to the Underlying Stock
Number:	8,000,000 Certificates
Form:	The Certificates will be issued subject to, and with the benefit of, a master instrument by way of deed poll dated 28 June 2022 (the "**Master Instrument**") and executed by the Issuer and a master warrant agent agreement dated 27 February 2008 (the "**Master Warrant Agent Agreement**") and made between the Issuer 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 5:00 p.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 5:00 p.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 20 January 2023.
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.

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

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) <u>For Certificate Holders who trade the Certificates intraday</u>: 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) <u>For Certificate Holders who hold the Certificates overnight</u>: 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 the 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.

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[7] "t" refers to "**Observation Date**" which means each Underlying Stock Business Day (subject to Market Disruption Event) 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 Level on Business Day (t) divided by the Leverage Strategy 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 HSBC Holdings plc**
Expected Listing Date:	**01/02/2021**
Expiry Date:	**16/02/2021**
Initial Reference Level:	**1,000**
Initial Exchange Rate:	**1**
Final Reference Level:	**1,200**
Final Exchange Rate:	**1**
Issue Price:	**0.50 SGD**
Notional Amount per Certificate:	**0.50 SGD**
Management Fee (p.a.):	**0.40%**
Gap Premium (p.a.):	**4.60%**
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):

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

$$\mathrm{HFF}\ (1) = \ 100\%\ \times \left(1 - 0.40\%\ \times \frac{1}{360}\right) \times \left(1 - 4.60\%\ \times \frac{1}{360}\right)$$

$$\mathrm{HFF}\ (1) = \ 100\%\ \times 99.9989\%\ \ \times 99.9872\%\ \approx\ 99.9861\%$$

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

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

$$\text{HFF (2)} = 99.9861\% \times \left(1 - 0.40\% \times \frac{3}{360}\right) \times \left(1 - 4.60\% \times \frac{3}{360}\right)$$

$$\text{HFF (2)} = 99.9861\% \times 99.9967\% \times 99.9617\% \approx 99.9445\%$$

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

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

In this example, the Hedging Fee Factor as of the Valuation Date would be equal to 99.7919% as illustrated below:

Date	HFF
2/1/2021	100.0000%
2/2/2021	99.9861%
2/3/2021	99.9722%
2/4/2021	99.9583%
2/5/2021	99.9445%
2/8/2021	99.9028%
2/9/2021	99.8889%
2/10/2021	99.8751%
2/11/2021	99.8612%
2/12/2021	99.8473%
2/15/2021	99.8057%
2/16/2021	99.7919%

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 99.7919%

= 119.75%

Cash Settlement Amount = Closing Level x Notional Amount per Certificate

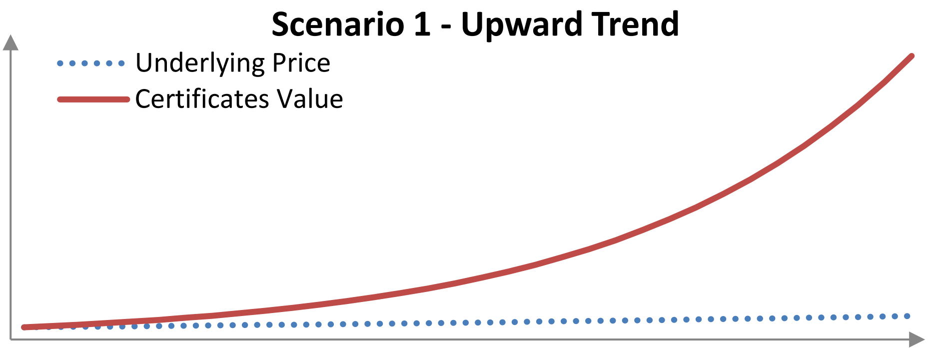
= 119.75% x 0.50 SGD

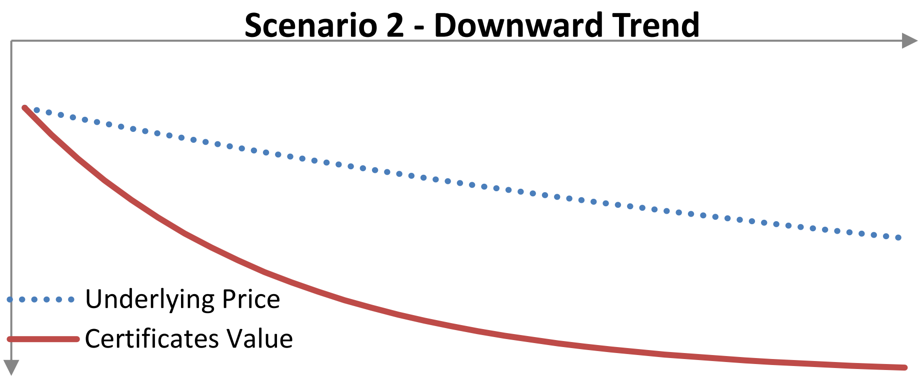
= 0.599 SGD

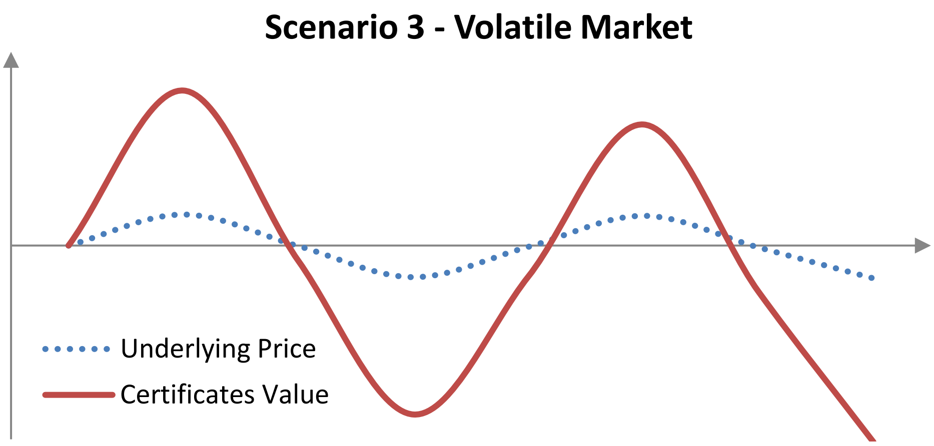
Illustration on how returns and losses can occur under different scenarios

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. Illustrative examples







2. Numerical Examples

Scenario 1 – Upward Trend

Underlying						
	Day 0	Day 1	Day 2	Day 3	Day 4	Day 5
Daily Return		2.00%	2.00%	2.00%	2.00%	2.00%
Value at end of day	10,000.00	10,200.00	10,404.00	10,612.08	10,824.32	11,040.81
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		10.00%	10.00%	10.00%	10.00%	10.00%
Price at end of day	0.50	0.55	0.61	0.67	0.73	0.81
Accumulated Return		10.00%	21.00%	33.10%	46.41%	61.05%

Scenario 2 – Downward Trend

Underlying						
	Day 0	Day 1	Day 2	Day 3	Day 4	Day 5
Daily Return		-2.00%	-2.00%	-2.00%	-2.00%	-2.00%
Value at end of day	10,000.00	9,800.00	9,604.00	9,411.92	9,223.68	9,039.21
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		-10.00%	-10.00%	-10.00%	-10.00%	-10.00%
Price at end of day	0.50	0.45	0.41	0.36	0.33	0.30
Accumulated Return		-10.00%	-19.00%	-27.10%	-34.39%	-40.95%

Scenario 3 – Volatile Market

Underlying						
	Day 0	Day 1	Day 2	Day 3	Day 4	Day 5
Daily Return		2.00%	-2.00%	-2.00%	2.00%	2.00%
Value at end of day	10,000.00	10,200.00	9,996.00	9,796.08	9,992.00	10,191.84
Accumulated Return		2.00%	-0.04%	-2.04%	-0.08%	1.92%

Value of the Certificates						
	Day 0	Day 1	Day 2	Day 3	Day 4	Day 5
Daily Return		10.00%	-10.00%	-10.00%	10.00%	10.00%
Price at end of day	0.50	0.55	0.50	0.45	0.49	0.54
Accumulated Return		10.00%	-1.00%	-10.90%	-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.

In accordance with the Air Bag Mechanism timeline below, when the Air Bag triggers, the following typically occurs:

- Observation Period: the price of the Underlying Stock is observed and its minimum price is recorded (i) during 15 minutes of continuous trading after the Air Bag is triggered, or (ii) until Market Close if there is 15 minutes (or less) of continuous trading until Market Close when the Air Bag is triggered; and

- Reset Period: thereafter, 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.

  During the Observation Period and Reset Period, trading of Certificates is suspended for **at least** 30 minutes of continuous trading after the Air Bag is triggered. Investors cannot sell or purchase any Certificates during this period. The Reset Period (and consequently the resumption of trading) is subject further to SGX-ST’s requirements, including at least 30 minutes from the time of publication of an announcement on the exchange in respect of the Air Bag Mechanism being triggered, and at least 15 minutes after the SGX-ST grants an approval to resume trading, whichever is later, rounded to the next quarter of an hour.

  For the avoidance of doubt, if the Air Bag Mechanism was triggered with more than 60 minutes of continuous trading before Market Close, trading of Certificates will resume the same trading day after the Reset Period has elapsed, subject to the SGX-ST’s approval to resume trading. If the Air Bag Mechanism was triggered between 45 minutes and 60 minutes of continuous trading before Market Close, trading of Certificates may or may not resume the same trading day after the Reset Period has elapsed. If the Air Bag Mechanism was triggered with only 45 minutes (or less) of continuous trading before Market Close, trading of Certificates resumes on the next trading day.

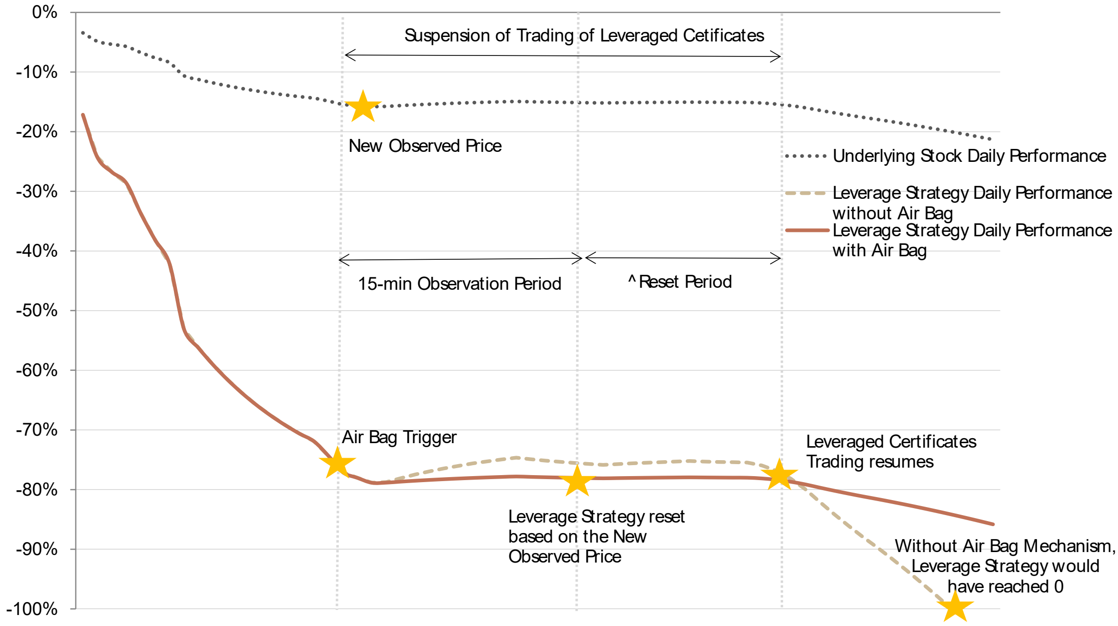
With **Market Close** defined as:

- Underlying Stock closing time with respect to the Observation Period including the closing auction session

- The sooner between Underlying Stock closing time of continuous trading and SGX-ST closing time of continuous trading with respect to the resumption of trading

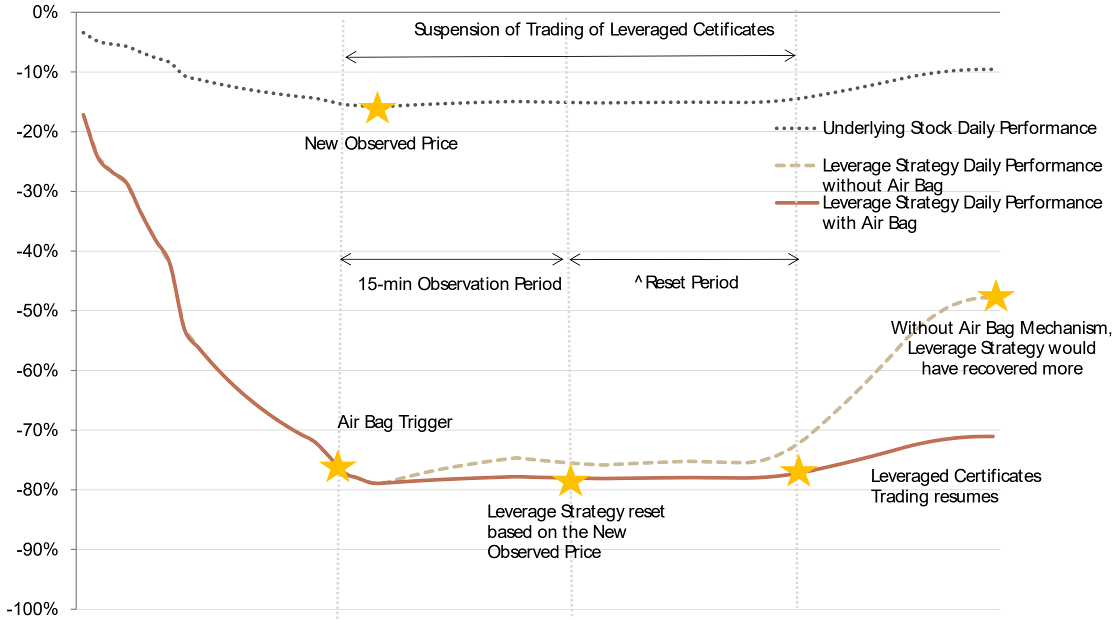
Illustrative examples of the Air Bag Mechanism[9]

Scenario 1 - Downward Trend after Air Bag Trigger



^ The Reset Period (and consequently the resumption of trading) is subject further to SGX-ST's requirements, including at least 30 minutes from the time of publication of an announcement on the exchange in respect of the Air Bag Mechanism being triggered, and at least 15 minutes after the SGX-ST grants an approval to resume trading, whichever is later, rounded to the next quarter of an hour.

Scenario 2 - Upward Trend after Air Bag Trigger



^ The Reset Period (and consequently the resumption of trading) is subject further to SGX-ST's requirements, including at least 30 minutes from the time of publication of an announcement on the exchange in respect of the Air Bag Mechanism being triggered, and at least 15 minutes after the SGX-ST grants an approval to resume trading, whichever is later, rounded to the next quarter of an hour.

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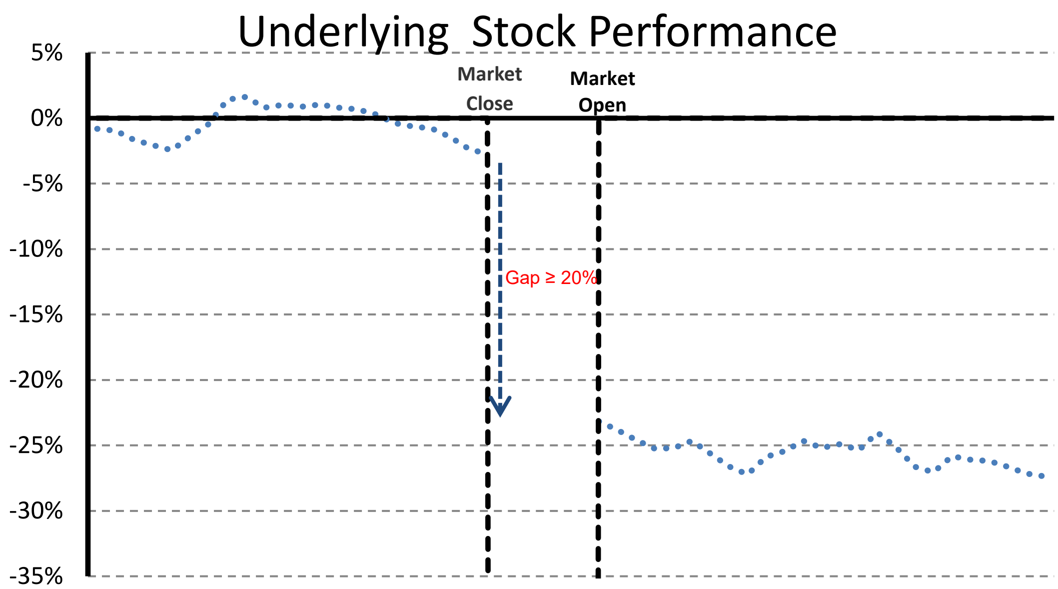
[9] The illustrative examples are not exhaustive.

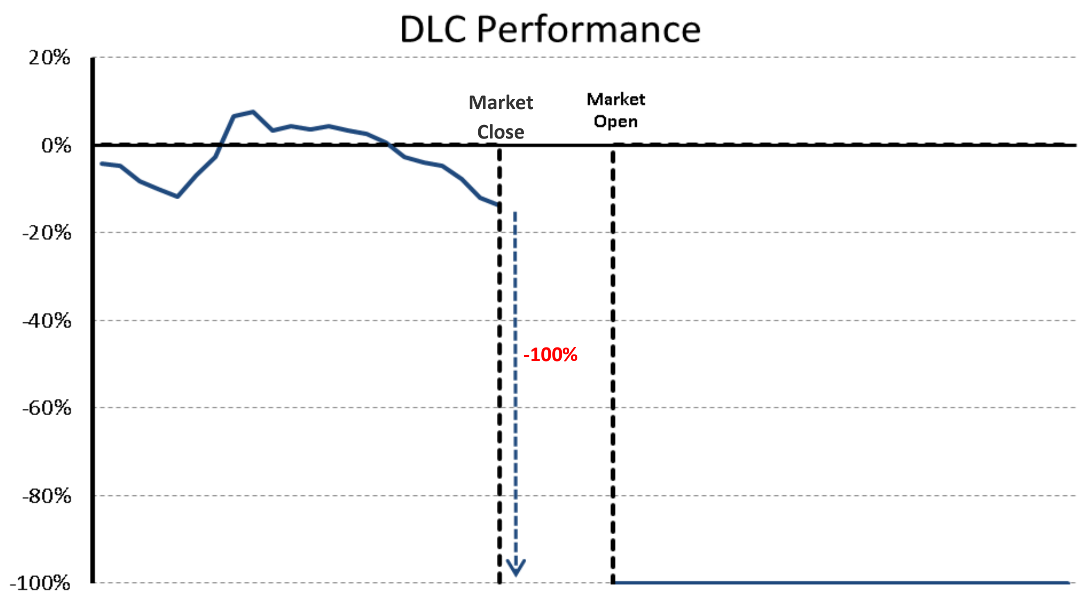
Scenarios where the investor may lose the entire value of the investment

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.

<u>Scenario 1 – Overnight fall of the Underlying Stock</u>

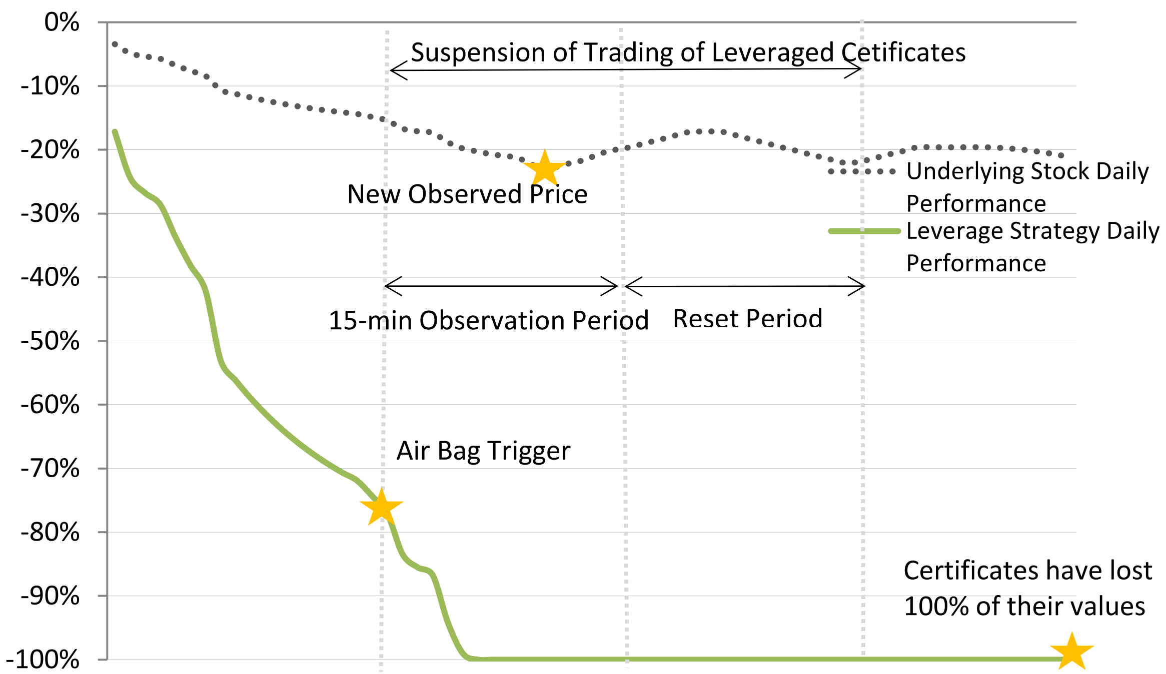
On any business day, the opening price of the Underlying Stock may be higher or lower than the closing price on the previous day. The difference between the previous closing price and the opening price of the Underlying Stock is termed a “gap”. If the opening price of the Underlying Stock is 20% or more below the previous day closing price, the Air Bag Mechanism would only be triggered when the market (in respect of which the Underlying Stock is listed) opens the following day (including pre-opening trading session and extended auction hours, if applicable), 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 within the 15 minutes Observation Period compared to the reference price, being: (i) if air bag event has not been previously triggered on the same day, the previous closing price of the Underlying Stock, or (ii) if one or more air bag events have been previously triggered on the same day, the latest New Observed Price. 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 the Observation Date of the Leverage Reset Time (t) is an ex-date with respect to a corporate action related to the Underlying Stock, and the immediately preceding Leverage Reset Time r(t) is at the scheduled closing time for the Relevant Stock Exchange for the Underlying Stock (or any successor thereto), the Calculation Agent may, in its sole and absolute discretion, replace the $Rfactor_t$ with respect to such Leverage Reset Time (t) by an amount computed according to the following generic formula :

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

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:

$\mathrm{DivExc}_\mathrm{t}$ 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):

$\mathrm{S}_{\mathrm{r(t)}}$ = \$100

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:

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

$\mathrm{S_{r(t)}}$	$\mathrm{S_{r(t)}} \times Rfactor_t$	$\mathrm{S_t}$	Adjusted Underlying Stock Performance
100	50	51	2%

Value of the Certificate r(t)	Value of the Certificate (t)	Certificates' performance (excluding any cost and fees)
0.50	0.55	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):

$\mathrm{S_{r(t)}}$ = $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:

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

$\mathrm{S_{r(t)}}$	$\mathrm{S_{r(t)}} \times Rfactor_t$	$\mathrm{S_t}$	Adjusted Underlying Stock Performance
100	200	202	1%

Value of the Certificate r(t)	Value of the Certificate (t)	Certificates' performance (excluding any cost and fees)
0.50	0.525	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.

$\mathrm{S_{r(t)}}$ = $100

$\mathrm{S_t}$ = $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:

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

$\mathrm{S_{r(t)}}$	$\mathrm{S_{r(t)}} \times Rfactor_t$	$\mathrm{S_t}$	Adjusted Underlying Stock Performance
100	80	84	5%

Value of the Certificate r(t)	Value of the Certificate (t)	Certificates' performance (excluding any cost and fees)
0.50	0.625	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. <u>Bonus Issues</u>

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

$\mathrm{S}_{\mathrm{r(t)}}$ = $100

S_{t} = $85

$\mathrm{Div}_{\mathrm{t}} = \$0$

$\mathrm{DivExc}_{\mathrm{t}} = \$0$

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:

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

$\mathrm{S}_{\mathrm{r(t)}}$	$\mathrm{S}_{\mathrm{t(t)}} \times Rfactor_t$	S_{t}	Adjusted Underlying Stock Performance
100	83.33	85	2%

Value of the Certificate r(t)	Value of the Certificate (t)	Certificates' performance (excluding any cost and fees)
0.50	0.55	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. <u>Extraordinary Dividend</u>

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

$\mathrm{S}_{\mathrm{r(t)}}$ = $100

$\mathrm{S_t}$ = \$84

$\mathrm{Div_t} = \$0$

$\mathrm{DivExc_t} = \$20$

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:

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

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

Value of the Certificate r(t)	Value of the Certificate (t)	Certificates’ performance (excluding any cost and fees)
0.50	0.625	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**") is a banking and financial services company. The Company manages its products and services through three businesses: Wealth and Personal Banking (WPB), Commercial Banking (CMB), and Global Banking and Markets (GBM). It operates across various geographical regions, which include Europe, Asia, Middle East and North Africa, North America, and Latin America. WPB business offers Retail Banking, Wealth Management, Asset Management and Insurance. CMB products and services to serve the needs of commercial customers, including small and medium-sized enterprises, mid-market enterprises and corporates. It includes credit and lending, international trade and receivables finance, treasury management and liquidity solutions, commercial insurance and investments. GBM supports government, corporate and institutional clients, and private investors across the world.

The information set out in Appendix I of this document relates to the earnings release of the Company and its subsidiaries for the nine-month period ended 30 September 2022 and has been extracted and reproduced from an announcement by the Company dated 25 October 2022 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

UBS AG, acting through its London Branch, 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	:	(i) when the best bid price of the Certificate is S$10 and below: 10 ticks or S$0.20 whichever is greater; and (ii) when the best bid price of the Certificate is above S$10: 5% of the best bid price of the Certificate.
(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);

(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 is 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.

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.

United Kingdom

In relation to each tranche of Certificates, the Issuer has represented, warranted and agreed that:

(a) No deposit-taking: in relation to any 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:

(A) whose ordinary activities involve them in acquiring, holding, managing or disposing of investments (as principal or agent) for the purposes of their businesses; or

(B) 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 the Financial Services and Markets Act 2000 (the "**FSMA**") by the Issuer;

(b) Financial Promotion: it has only communicated or caused to be communicated and will only communicate or cause to be communicated any 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 or would not, if the Issuer was not an authorised person, apply to the Issuer; and

(c) General Compliance: 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.

If the applicable Supplemental Listing Document in respect of any Certificates specifies the "Prohibition of Sales to European Economic Area Retail Investors" as "Not Applicable", the Issuer has represented and agreed that it has not offered, sold or otherwise made available such Certificates to any retail investor in the United Kingdom. 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 (8) of Article 2 of Regulation (EU) No 2017/565 as it forms part of domestic law by virtue of the European Union (Withdrawal) Act 2018 ("**EUWA**"); or

(ii) a customer within the meaning of the provisions of the FSMA and any rules or regulations made under the FSMA which were relied on immediately before exit day to implement Directive (EU) 2016/97, where that customer would not qualify as a professional client, as defined in point (8) of Article 2(1) of Regulation (EU) No 600/2014 as it forms part of domestic law by virtue of the EUWA; or

(iii) not a qualified investor as defined in Article 2 of Regulation (EU) 2017/1129 as it forms part of domestic law by virtue of the EUWA; and

(b) the expression an "**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 for the Certificates.

If the applicable Supplemental Listing Document in respect of any Certificates specifies the "Prohibition of Sales to European Economic Area Retail Investors" as "Not Applicable", the Issuer has represented and agreed that it has not made and will not make an offer of Certificates which are the subject of the offering contemplated by the Base Listing Document as completed by this Supplemental Listing Document to the public in the United Kingdom except that it may make an offer of such Certificates to the public in the United Kingdom:

a) if the Supplemental Listing Document in relation to the Certificates specifies an offer of those Certificates may be made other than pursuant to Article 1(4) of the UK Prospectus Regulation in the United Kingdom (a "**Public Offer**"), following the date of publication of a prospectus in relation to such Certificates which either (i) has been approved by the UK Financial Conduct Authority ("**FCA**"), or (ii) is to be treated as if it had been approved by the FCA in accordance with the transitional provision in Regulation 74 of the Prospectus (Amendment etc.) (EU Exit) Regulations 2019, provided that any such prospectus has subsequently been completed by final terms contemplating such Public Offer, in the period beginning and ending on the dates specified in such prospectus or final terms, as applicable, and the Issuer has consented in writing to its use for the purpose of that Public Offer;

b) at any time to any legal entity which is a qualified investor as defined in Article 2 of the UK Prospectus Regulation;

c) at any time to fewer than 150 natural or legal persons (other than qualified investors as defined in Article 2 of the UK Prospectus Regulation); or

d) at any time in any other circumstances falling within section 86 of the FSMA, provided that no such offer of Certificates to the public referred to in (a) to (c) above shall require the publication of a prospectus pursuant to section 85 of the FSMA or supplement a prospectus pursuant to Article 23 of the UK Prospectus Regulation,

provided that no such offer of Certificates referred to in (b) to (d) above shall require the Issuer to publish a prospectus pursuant to section 85 of the FSMA or supplement a prospectus pursuant to Article 23 of the UK Prospectus Regulation.

For the purposes of this provision, the expression "an offer of Certificates to the public" in relation to any products in the United Kingdom means 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, and the expression "**UK Prospectus Regulation**" means Regulation (EU) 2017/1129 as it forms part of domestic law by virtue of the EUWA.

United States of America

The Certificates have not been, and will not be, registered under the Securities Act. Subject to certain exceptions, Certificates, or interests therein, may not at any time be offered, sold, resold or delivered, directly or indirectly, in the United States or to, or for the account or benefit of, any U.S. person or to others for offering, sale or resale in the United States or to any such U.S. person. Offers and sales of Certificates, or interests therein, in the United States or to U.S. persons would constitute a violation of United States securities laws unless made in compliance with registration requirements of the Securities Act or pursuant to an exemption therefrom. The Certificates will not be offered, sold or delivered within the United States or to U.S. persons. As used herein, "**United States**" means the United States of America (including the States and the District of Columbia), its territories, its possessions and other areas subject to its jurisdiction; and "**U.S. person**" means (i) any citizen or resident of the United States, including any corporation, partnership or other entity created or organised in or under the laws of the United States or of any political subdivision thereof, (ii) any estate or trust the income of which is subject to United States income taxation regardless of its source, (iii) "U.S. person" as such term is defined in (a) Regulation S under the Securities Act or (b) the Interpretive Guidance and Policy Statement Regarding Compliance with Certain Swap Regulations promulgated by the U.S. Commodity Futures Trading Commission ("**CFTC**") pursuant to the U.S. Commodity Exchange Act of 1936, as amended, or (iv) a person other than a "Non-United States Person" as defined in CFTC Rule 4.7, in each case, as such definition is amended, modified or supplemented from time to time.

Prohibition of Sales to European Economic Area

If the applicable Supplemental Listing Document in respect of any Certificates specifies the "Prohibition of Sales to European Economic Area Retail Investors" as "Not Applicable", the Issuer has represented and agreed 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 contemplated by the Base Listing Document as completed by this Supplemental Listing 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**");

(ii) a customer within the meaning of Directive 2016/97 (as amended), 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 Regulation (EU) 2017/1129 (as amended, the "**Prospectus Regulation**"); and

(b) the expression an "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.

PUBLIC OFFER SELLING RESTRICTION UNDER THE PROSPECTUS REGULATION

If the Supplemental Listing Document specifies "Prohibition of Sales to European Economic Area Retail Investors" as "Not Applicable", in relation to each member state of the European

Economic Area (each, a "**Relevant State**"), the Issuer has represented, warranted and agreed that it has not made and will not make an offer of Certificates which are the subject of the offering contemplated by the Base Listing Document as completed by this Supplemental Listing Document to the public in that Relevant State except that it may make an offer of such Certificates to the public in that Relevant State:

(a) Approved listing document: if the Supplemental Listing Document in relation to the Certificates specifies that an offer of those Certificates may be made other than pursuant to Article 1(4) of the Prospectus Regulation in that Relevant State (a "**Non-exempt Offer**"), following the date of publication of a listing document in relation to such Certificates which has been approved by the competent authority in that Relevant State or, where appropriate, approved in another Relevant State and notified to the competent authority in that Relevant State, provided that any such listing document has subsequently been completed by the Supplemental Listing Document contemplating such Non-exempt Offer, in accordance with the Prospectus Regulation, in the period beginning and ending on the dates specified in such listing document or Supplemental Listing Document, as applicable and the Issuer has consented in writing to its use for the purpose of that Non-exempt Offer;

(b) Qualified investors: at any time to any legal entity which is a qualified investor as defined in the Prospectus Regulation;

(c) Fewer than 150 offered: at any time to fewer than 150 natural or legal persons (other than qualified investors as defined in the Prospectus Regulation), subject to obtaining the prior consent of the Issuer for any such offer; or

(d) Other exempt offers: at any time in any other circumstances falling within Article 3(2) of the Prospectus Regulation,

provided that no such offer of Certificates referred to in (b) to (d) above shall require the Issuer to publish a listing document pursuant to Article 3 of the Prospectus Regulation or supplement a listing document pursuant to Article 23 of the Prospectus Regulation.

For the purposes of this provision, the expression an "**offer of Certificates to the public**" in relation to any Certificates in any Relevant State means 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 for the Certificates, as the same may be varied in that Relevant State by any measure implementing the Prospectus Regulation in that Relevant State.

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 2001 of Singapore.

Hong Kong

No person, other than a person permitted to do so under the securities laws of Hong Kong, has issued, or had in its possession for the purposes of issue, or will issue, or have in its possession for the purposes of issue any advertisement, invitation or document relating to the Certificates, whether in Hong Kong or elsewhere, which is directed at, or the contents of which are likely to be accessed or read by, the public in 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" within the meaning of the Securities and Futures Ordinance (Cap. 571) of the Laws of Hong Kong and any rules made thereunder.

SUPPLEMENTAL INFORMATION RELATING TO THE ISSUER

The information set out in Appendix II of this document relates to the recent developments in the Issuer's business.

The information set out in Appendix III of this document is an extract of the unaudited consolidated financial statements of UBS AG and its subsidiaries for the third quarter ended 30 September 2022.

For more information on the Issuer, please see http://www.ubs.com/.

Queries regarding the Certificates may be directed to +852 2971 6668 or OL-HKWarrants@ubs.com.

SUPPLEMENTAL GENERAL INFORMATION

The information set out herein is supplemental to, and should be read in conjunction with, the information set out on page 274 of the Base Listing Document.

1. Save as disclosed in the Base Listing Document and herein, there is no litigation, arbitration or administrative proceedings relating to claims or amounts which are material in the context of the issue of the Certificates to which the Issuer is a party nor, to the best of its knowledge and belief, is there any threatened litigation, arbitration or administrative proceedings relating to claims or amounts which are material in the context of the issue of the Certificates which would in either case jeopardise its ability to discharge its obligations in respect of the Certificates.

2. UBS AG, Singapore Branch at 9 Penang Road, Singapore 238459, has been authorised to accept, on behalf of the Issuer, service of process and any other notices required to be served on the Issuer. Any notices required to be served on the Issuer should be sent to UBS AG, Singapore Branch at the above address for the attention of Han-Kiat Tan, Legal & Compliance.

3. Settlement of trades done on a normal "ready basis" on the SGX-ST generally take place on the second Business Day following the transaction. Dealing in the Certificates will take place in board lots of 100 Certificates 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.

4. 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.

5. There has been no adverse change, material in the context of the issue of the Certificates, in the financial position of the Issuer since 30 September 2022.

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

   (a) the Master Instrument; and

   (b) the Master Warrant Agent Agreement.

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

7. The Issuer has appropriate risk management capabilities to manage the issue of the Certificates.

8. Copies of the following documents may be inspected during usual business hours on any weekday (Saturdays, Sundays and holidays excepted) at the office of Allen & Gledhill LLP at One Marina Boulevard #28-00, Singapore 018989, during the period of 14 days from the date of this document:

(a) the articles of association of the Issuer;

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

(c) the Base Listing Document; and

(d) this document.

APPENDIX I

REPRODUCTION OF THE EARNINGS RELEASE FOR THE NINE-MONTH PERIOD ENDED 30 SEPTEMBER 2022 OF HSBC HOLDINGS PLC AND ITS SUBSIDIARIES

25 October 2022

(Hong Kong Stock Code: 5)

HSBC Holdings plc

3Q22 EARNINGS RELEASE

The attached announcement is being released to all the stock exchanges on which HSBC Holdings plc is listed.

For and on behalf of
HSBC Holdings plc

Aileen Taylor
Group Company Secretary and Chief Governance Officer

The Board of Directors of HSBC Holdings plc as at the date of this announcement comprises: Mark Tucker*, Noel Quinn, Geraldine Buckingham†, Rachel Duan†, Carolyn Julie Fairbairn†, James Anthony Forese†, Steven Guggenheimer†, José Antonio Meade Kuribreña†, Eileen K Murray†, David Nish†, Ewen Stevenson and Jackson Tai†.

* Non-executive Group Chairman
† Independent non-executive Director

HSBC Holdings plc
Registered Office and Group Head Office:
8 Canada Square, London E14 5HQ, United Kingdom
Web: www.hsbc.com
Incorporated in England with limited liability. Registered in England: number 617987

HSBC

25 OCTOBER 2022

HSBC HOLDINGS PLC

3Q22 EARNINGS RELEASE

Noel Quinn, Group Chief Executive, said:

"We maintained our strong momentum in the third quarter and delivered a good set of results. Our strategy produced good organic growth in all three global businesses, and net interest income increased on the back of rising interest rates. We retained a tight grip on costs, despite inflationary pressures, and remain on track to achieve our cost targets for 2022 and 2023. We are focused on executing our plans and delivering our returns target of at least 12% from 2023 onwards and, as a result, higher distributions to our shareholders."

Financial performance (3Q22 vs. 3Q21)

- **Reported profit after tax decreased $1.7bn to $2.6bn and reported profit before tax fell $2.3bn to $3.1bn.** Our 3Q22 results included an impairment of $2.4bn following the reclassification of our retail banking operations in France to held for sale, as well as a net charge for expected credit losses and other credit impairment charges ('ECL'), compared with a net release in 3Q21. There was continued strong growth in net interest income. **Adjusted profit before tax increased $1.0bn to $6.5bn.**
- **Reported revenue decreased 3% to $11.6bn,** reflecting an impairment on the planned disposal of our retail banking operations in France, as well as adverse foreign currency translation impacts of $1.0bn. However, net interest income increased in all of our global businesses due to interest rate rises. **Adjusted revenue rose 28% to $14.3bn.**
- **Net interest margin ('NIM') of 1.57%** increased 38 basis points ('bps') compared with 3Q21, and by 22bps from 2Q22.
- **Reported ECL were $1.1bn,** including allowances to reflect increased economic uncertainty, inflation, rising interest rates and the ongoing developments in mainland China's commercial real estate sector. This compared with a $0.7bn net release in 3Q21.
- **Reported operating expenses were unchanged from 3Q21.** The benefits of our cost-saving initiatives and favourable foreign currency translation impacts of $0.7bn were offset by an increase of $0.3bn in restructuring and other related costs, higher investments in technology, an increase in the performance-related pay accrual due to the expected phasing of our profits for the year, and the impacts of rising inflation. **Adjusted operating expenses rose 5%** due to a higher performance-related pay accrual and increased investment spend, mainly in technology. Compared with 2Q22, adjusted operating expenses were broadly stable.
- **Customer lending balances fell $61bn in the quarter on a reported basis. On an adjusted basis, lending balances fell $18bn,** reflecting a $23bn reclassification of loans relating to the planned disposal in France to assets held for sale, partly mitigated by growth in mortgage balances of $2bn in the UK and $1bn in Hong Kong.
- **Common equity tier 1 ('CET1') capital ratio of 13.4% fell 0.2 percentage points from 2Q22,** including a 0.3 percentage point impact from the reclassification of our French retail banking operations to held for sale and a 0.1 percentage point impact from further losses in equity from financial instruments as yield curves steepened.

Financial performance (9M22 vs. 9M21)

- **Reported profit after tax decreased $0.9bn to $11.8bn,** which included a $1.8bn deferred tax gain. **Reported profit before tax fell $3.9bn to $12.3bn,** including an impairment on the planned disposal of our retail banking operations in France of $2.4bn. **Adjusted profit before tax increased $0.1bn to $17.2bn.**
- **Reported revenue decreased 2% to $36.9bn,** including a $2.1bn adverse impact of foreign currency translation differences, the impairment on the planned disposal of our retail banking operations in France and adverse movements in market impacts in insurance manufacturing in Wealth and Personal Banking ('WPB'). These reductions were in part offset by a $3.3bn rise in net interest income, with growth in all of our global businesses. **Adjusted revenue increased 11% to $40bn.**
- **Reported ECL were $2.2bn,** including allowances to reflect increased economic uncertainty, inflation and rising interest rates, as well as the ongoing developments in mainland China's commercial real estate sector, in part offset by the release of most of our remaining Covid-19-related reserves. This compared with releases of $1.4bn in 9M21. ECL charges were 30bps of average gross loans.
- **Reported operating expenses decreased $0.7bn or 3%,** and included a favourable impact of foreign currency translation differences of $1.5bn. There was a lower performance-related pay accrual and a positive impact from our cost-saving initiatives, which in part mitigated higher restructuring and other related costs, investments and inflationary pressures. **Adjusted operating expenses were broadly stable (up $0.2bn or 1%).**

Outlook

- **Our outlook on revenue remains positive and we have upgraded our net interest income guidance for 2022 to $32bn,** based on the current market consensus for global central bank rates. **In 2023, we now expect net interest income of at least $36bn** (on an IFRS 4 basis), with the reduction from the at least $37bn guidance provided at our interim results reflecting the impact of sterling depreciation against the US dollar and a higher cost of funding in our trading book. We continue to monitor the expected path of interest rates. This is expected to be supported by low-single-digit percentage lending growth.
- **We expect ECL charges to be around 30bps of average loans in 2022.** Macroeconomic headwinds, including higher inflation and a weaker outlook, continue to weigh on the global economy. However, our stage 3 losses in 9M22 remained stable and the credit indicators in our wholesale and retail portfolios remain relatively benign compared with historical levels. For 2023 we expect to be at the higher end of our planning range of between 30bps to 40bps, and continue to monitor economic developments closely, including the impact of rising interest rates and the ongoing developments in mainland China's commercial real estate sector.
- **We remain on track for 2022 adjusted operating expenses to be broadly stable compared with 2021.** Notwithstanding increasing inflationary pressures, we continue to maintain strict cost discipline and target 2023 adjusted cost growth of approximately 2%, compared with 2022 (on an IFRS 4 basis).
- The impact of our growth and transformation programmes, as well as the impact of higher global interest rates, mean **we continue to target a return on average tangible equity ('RoTE') of at least 12% from 2023 onwards, and expect a dividend payout ratio of 50% for 2023 and 2024.**
- **While our CET1 position of 13.4% is below our medium-term target range of 14% to 14.5%, we intend to manage it back to within our target range by 1H23 through revenue growth and cost control, as well as through risk-weighted asset ('RWA') and capital actions.** Once we are back within our target range, we intend to continue to manage capital efficiently, returning excess capital to shareholders where appropriate.

Key financial metrics

	Nine months ended		Quarter ended		
	30 Sep 2022	30 Sep 2021	**30 Sep 2022**	30 Jun 2022	30 Sep 2021
Reported results					
Reported revenue ($m)	**36,852**	37,563	**11,616**	12,772	12,012
Reported profit before tax ($m)	**12,323**	16,242	**3,147**	5,010	5,403
Reported profit after tax ($m)	**11,776**	12,664	**2,561**	5,772	4,242
Profit attributable to the ordinary shareholders of the parent company ($m)	**10,202**	10,819	**1,913**	5,486	3,543
Cost efficiency ratio (%)	**66.2**	66.8	**68.7**	63.5	66.5
Net interest margin (%)	**1.39**	1.20	**1.57**	1.35	1.19
Basic earnings per share ($)	**0.51**	0.54	**0.10**	0.28	0.18
Diluted earnings per share ($)	**0.51**	0.53	**0.10**	0.27	0.17
Alternative performance measures					
Adjusted revenue ($m)	**39,993**	35,931	**14,303**	12,698	11,197
Adjusted profit before tax ($m)	**17,182**	17,046	**6,509**	5,775	5,508
Adjusted cost efficiency ratio (%)	**56.7**	62.5	**51.0**	57.2	61.9
Expected credit losses and other credit impairment charges ('ECL') (annualised) as % of average gross loans and advances to customers (%)	**0.30**	(0.17)	**0.43**	0.18	(0.23)
Return on average ordinary shareholders' equity (annualised) (%)	**8.0**	8.2	**4.7**	13.0	8.0
Return on average tangible equity (annualised) (%)[1]	**9.2**	9.1	**7.8**	13.3	8.7

	At		
	30 Sep 2022	30 Jun 2022	31 Dec 2021
Balance sheet			
Total assets ($m)	**2,991,965**	2,985,420	2,957,939
Net loans and advances to customers ($m)	**967,522**	1,028,356	1,045,814
Customer accounts ($m)	**1,567,267**	1,651,301	1,710,574
Average interest-earning assets, year to date ($m)	**2,212,185**	2,233,321	2,209,513
Loans and advances to customers as % of customer accounts (%)	**61.7**	62.3	61.1
Total shareholders' equity ($m)	**177,659**	188,382	198,250
Tangible ordinary shareholders' equity ($m)	**140,695**	148,308	158,193
Net asset value per ordinary share at period end ($)	**8.00**	8.41	8.76
Tangible net asset value per ordinary share at period end ($)	**7.13**	7.48	7.88
Capital, leverage and liquidity			
Common equity tier 1 capital ratio (%)[2,3]	**13.4**	13.6	15.8
Risk-weighted assets ($m)[2,3]	**828,315**	851,743	838,263
Total capital ratio (%)[2,3]	**18.1**	18.6	21.2
Leverage ratio (%)[2,3]	**5.4**	5.5	5.2
High-quality liquid assets (liquidity value) ($bn)[3]	**605.5**	656.6	717.0
Liquidity coverage ratio (%)[3]	**127**	134	138
Share count			
Period end basic number of $0.50 ordinary shares outstanding (millions)	**19,738**	19,819	20,073
Period end basic number of $0.50 ordinary shares outstanding and dilutive potential ordinary shares (millions)	**19,857**	19,949	20,189
Average basic number of $0.50 ordinary shares outstanding (millions)	**19,886**	19,954	20,197
Dividend per ordinary share (in respect of the period) ($)	**—**	0.09	0.18

For reconciliations of our reported results to an adjusted basis, including lists of significant items, see page 31. Definitions and calculations of other alternative performance measures are included in 'Alternative performance measures' on page 28.

1 *Profit attributable to ordinary shareholders, excluding impairment of goodwill and other intangible assets and changes in present value of in-force insurance contracts ('PVIF') (net of tax), divided by average ordinary shareholders' equity excluding goodwill, PVIF and other intangible assets (net of deferred tax).*

2 *Unless otherwise stated, regulatory capital ratios and requirements are based on the transitional arrangements of the Capital Requirements Regulation in force at the time, including the regulatory transitional arrangements for IFRS 9 'Financial Instruments'. For further details, see pages 25 to 27. Leverage comparatives for 2021 are reported based on the disclosure rules in force at that time, and include claims on central banks. Current period leverage metrics exclude central bank claims in accordance with the UK leverage rules that were implemented on 1 January 2022.*

3 *Regulatory numbers and ratios are as presented at the date of reporting. Small changes may exist between these numbers and ratios and those subsequently submitted in regulatory filings. Where differences are significant, we will restate in subsequent periods.*

Contents

HSBC Holdings plc will be conducting a trading update conference call with analysts and investors today to coincide with the publication of its Earnings Release. The call will take place at 08.30am BST. Details of how to participate in the call and the live audio webcast can be found at www.hsbc.com/investors.

About HSBC

HSBC Holdings plc

HSBC Holdings plc, the parent company of HSBC, is headquartered in London. HSBC serves customers worldwide from offices in 63 countries and territories in its geographical regions: Europe, Asia, North America, Latin America, and Middle East and North Africa. With assets of $2,992bn at 30 September 2022, HSBC is one of the world's largest banking and financial services organisations.

Business highlights

HSBC's purpose is 'Opening up a world of opportunity'. Our strategy, announced in February 2021, aims to deliver against our purpose and our ambition of being the preferred international financial partner for our clients. It has four key pillars:

- focus on our strengths – investing in the areas where we see significant opportunities for growth;
- digitise at scale – increasing our investment in technology to improve how we serve customers and increase efficiency;
- energise for growth – building a strong culture, introducing simpler ways of working, and by equipping staff with the future skills they need; and
- transition to net zero – becoming a net zero bank and helping our customers capture the opportunities presented by the transition to a net zero future.

The macroeconomic environment has deteriorated during 2022 as the war between Russia and Ukraine and the ongoing impacts of the Covid-19 pandemic have led to higher inflation, a resulting increase in interest rates and slower growth for the global economy. This has created volatility within equity markets, adversely affecting market impacts within our insurance manufacturing business, and a reduction in real wages for many people, which has contributed to an increase in our ECL provisions. In addition, recent economic policy in the UK caused the value of sterling to fall and yields on government securities to rise sharply, increasing uncertainty around the path of future Bank of England policy rates. We are closely monitoring the impact of these developments and any implications on our business.

On 30 September 2022, we classified our retail banking operations in France to held for sale, as part of our actions to simplify our operations in continental Europe. Upon classification to held for sale, we recognised an impairment of $2.4bn. Any remaining gains or losses not previously recognised, including from the recycling of foreign currency translation reserves and the reversal of any remaining deferred tax assets and liabilities, will be recognised on completion. The sale is currently anticipated to complete in the second half of 2023. For further details of the planned sale of our retail banking operations in France, see page 10.

We regularly review our businesses in all markets and are currently exploring a potential sale of the Group's 100% equity stake in HSBC Bank Canada. No decisions have been made and updates will be provided as required.

We continued to make progress on our net zero ambition. On 22 September 2022, HSBC Asset Management announced its thermal coal phase-out policy, which builds on the principles of the Group's policy published in December 2021 and factors in Asset Management's fiduciary duties and influence as an investor.

We plan to release by the end of the year an update of our thermal coal phase-out policy and a new energy policy that covers our approach for the wider energy sector. We are also working on our approach to mitigating deforestation risk, and plan to replace our existing forestry and agricultural commodity policies with the intention of releasing a holistic deforestation policy in 2023.

Expanding on the financed emissions targets to 2030 that we released earlier this year for the oil and gas, and power and utilities sectors, we are currently assessing financed emissions and initial targets for additional sectors to be disclosed at the time of our annual results for 2022. These include coal mining, aluminium, cement, iron and steel, and transport (including automotive, aviation and shipping). We are monitoring the progress of the Partnership for Carbon Accounting Financials' guidance on facilitated emissions and we intend to publish facilitated emissions targets to capture capital markets activities for the oil and gas, and power and utilities sectors in due course.

We intend to publish a climate transition plan in 2023. This plan will bring together our climate strategy, science-based targets for 2030 and 2050, and details on how we plan to embed this into our processes, policies and governance. We intend to report annually on progress against the plan in our *Annual Report and Accounts*.

The delivery of our financial targets remains on track. Cumulatively, since the start of our cost-reduction programme in 2020, we have delivered savings of $4.9bn, with costs to achieve of $5.3bn. We expect to spend moderately less than our planned $7bn in costs to achieve by the end of 2022, at which time the programme will conclude. We continue to expect to deliver total savings at the high end of our $5bn to $5.5bn range, with an estimated $1bn of additional savings expected in 2023.

At 30 September 2022, we had delivered cumulative gross RWA reductions of $120bn, relative to our ambition to achieve gross RWA reductions of $120bn or more by the end of 2022.

During 3Q22, we renamed our Global Liquidity and Cash Management business Global Payments Solutions as we reshape our payments proposition into a technology-enabled, globally connected payments franchise, enabling us to better support our clients' needs and facilitate commerce.

Financial summary

Adjusted performance

Adjusted performance is computed by adjusting reported results for the effects of foreign currency translation differences and significant items, which both distort period-on-period comparisons.

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

Foreign currency translation differences

Foreign currency translation differences reflect the movements of the US dollar against most major currencies. We exclude them to derive constant currency data, allowing us to assess balance sheet and income statement performance on a like-for-like basis and to better understand the underlying trends in the business.

Foreign currency translation differences

Foreign currency translation differences for 9M22 and 3Q22 are computed by retranslating into US dollars for non-US dollar branches, subsidiaries, joint ventures and associates:

- the income statements for 9M21 at the average rate of exchange for 9M22;
- the income statement for the quarterly periods at the average rate of exchange for 3Q22; and
- the closing prior period balance sheets at the prevailing rates of exchange at 30 September 2022.

No adjustment has been made to the exchange rates used to translate foreign currency-denominated assets and liabilities into the functional currencies of any HSBC branches, subsidiaries, joint ventures or associates. The constant currency data of HSBC's Argentina subsidiaries have not been adjusted further for the impacts of hyperinflation. Since 1 June 2022, Turkey has been deemed a hyperinflationary economy for accounting purposes. HSBC has an operating entity in Turkey and the constant currency data has not been adjusted further for the impacts of hyperinflation. When reference is made to foreign currency translation differences in tables or commentaries, comparative data reported in the functional currencies of HSBC's operations have been translated at the appropriate exchange rates applied in the current period on the basis described above.

Significant items

'Significant items' refers collectively to the items that management and investors would ordinarily identify and consider separately to improve the understanding of the underlying trends in the business.

The tables on pages 32 to 42 detail the effects of significant items on each of our global business segments and geographical regions during 9M22, 9M21, 3Q22, 2Q22 and 3Q21.

Adjusted performance – foreign currency translation of significant items

The foreign currency translation differences related to significant items are presented as a separate component of significant items. This is considered a more meaningful presentation as it allows better comparison of period-on-period movements in performance.

Global business performance

The Group Chief Executive, supported by the rest of the Group Executive Committee ('GEC'), is considered to be the Chief Operating Decision Maker ('CODM') for the purposes of identifying the Group's reportable segments.

The Group Chief Executive and the rest of the GEC review operating activity on a number of bases, including by global business and geographical region. Our global businesses – Wealth and Personal Banking, Commercial Banking and Global Banking and Markets – along with Corporate Centre are our reportable segments under IFRS 8 'Operating Segments'. Global business results are assessed by the CODM on the basis of adjusted performance, which removes the effects of significant items and currency translation from reported results. Therefore, we present these results on an adjusted basis.

As required by IFRS 8, reconciliations of the total adjusted global business results to the Group's reported results are presented on page 31. Supplementary reconciliations of adjusted to reported results by global business are presented on pages 32 to 36 for information purposes.

Management view of adjusted revenue

Our global business segment commentary includes tables that provide breakdowns of adjusted revenue by major product. These reflect the basis on which revenue performance of the businesses is assessed and managed.

Summary consolidated income statement

	Nine months ended		Quarter ended		
	30 Sep 2022	30 Sep 2021	**30 Sep 2022**	30 Jun 2022	30 Sep 2021
	$m	$m	**$m**	$m	$m
Net interest income	**23,032**	19,708	**8,581**	7,454	6,610
Net fee income	**8,847**	9,996	**2,783**	2,938	3,322
Net income from financial instruments held for trading or managed on a fair value basis	**7,719**	5,909	**2,798**	2,601	1,725
Net (expense)/income from assets and liabilities of insurance businesses, including related derivatives, measured at fair value through profit or loss	**(4,337)**	2,825	**(1,288)**	(1,806)	30
Changes in fair value of designated debt and related derivatives[1]	**(100)**	(147)	**58**	(80)	(80)
Changes in fair value of other financial instruments mandatorily measured at fair value through profit or loss	**186**	686	**120**	(3)	138
Gains less losses from financial investments	**81**	555	**60**	(22)	122
Net insurance premium income	**10,303**	8,382	**2,657**	4,034	2,719
Other operating income/(expense)[2]	**(2,498)**	339	**(3,221)**	358	184
Total operating income	**43,233**	48,253	**12,548**	15,474	14,770
Net insurance claims and benefits paid and movement in liabilities to policyholders	**(6,381)**	(10,690)	**(932)**	(2,702)	(2,758)
Net operating income before change in expected credit losses and other credit impairment charges[3]	**36,852**	37,563	**11,616**	12,772	12,012
Change in expected credit losses and other credit impairment charges	**(2,165)**	1,378	**(1,075)**	(448)	659
Net operating income	**34,687**	38,941	**10,541**	12,324	12,671
Total operating expenses excluding impairment of goodwill and other intangible assets	**(24,311)**	(24,954)	**(7,968)**	(8,036)	(7,909)
Impairment of goodwill and other intangible assets	**(83)**	(122)	**(7)**	(71)	(80)
Operating profit	**10,293**	13,865	**2,566**	4,217	4,682
Share of profit in associates and joint ventures	**2,030**	2,377	**581**	793	721
Profit before tax	**12,323**	16,242	**3,147**	5,010	5,403
Tax credit/(charge)	**(547)**	(3,578)	**(586)**	762	(1,161)
Profit after tax	**11,776**	12,664	**2,561**	5,772	4,242
Attributable to:					
– ordinary shareholders of the parent company	**10,202**	10,819	**1,913**	5,486	3,543
– preference shareholders of the parent company	**—**	7	**—**	—	—
– other equity holders	**1,089**	1,161	**463**	138	495
– non-controlling interests	**485**	677	**185**	148	204
Profit after tax	**11,776**	12,664	**2,561**	5,772	4,242
	$	$	**$**	$	$
Basic earnings per share	**0.51**	0.54	**0.10**	0.28	0.18
Diluted earnings per share	**0.51**	0.53	**0.10**	0.27	0.17
Dividend per ordinary share (paid in the period)[4]	**0.27**	0.22	**0.09**	0.18	0.07
	%	%	**%**	%	%
Return on average ordinary shareholders' equity (annualised)	**8.0**	8.2	**4.7**	13.0	8.0
Return on average tangible equity (annualised)	**9.2**	9.1	**7.8**	13.3	8.7
Cost efficiency ratio	**66.2**	66.8	**68.7**	63.5	66.5

1 *The debt instruments, issued for funding purposes, are designated under the fair value option to reduce an accounting mismatch.*
2 *Includes $2.4bn losses relating to the planned sale of the retail banking operations in France.*
3 *Net operating income before change in expected credit losses and other credit impairment charges, also referred to as revenue.*
4 *Includes an interim dividend of $0.09 per ordinary share in respect of the financial year ending 31 December 2022, paid in September 2022, and an interim dividend of $0.18 per ordinary share in respect of the financial year ending 31 December 2021, paid in April 2022.*

Distribution of results by global business and geographical region

Distribution of results by global business

	Nine months ended		Quarter ended		
	30 Sep 2022	30 Sep 2021	**30 Sep 2022**	30 Jun 2022	30 Sep 2021
	$m	$m	**$m**	$m	$m
Adjusted revenue[1]					
Wealth and Personal Banking	**17,208**	16,017	**6,286**	5,523	5,038
Commercial Banking	**11,526**	9,436	**4,309**	3,556	3,083
Global Banking and Markets	**11,664**	10,803	**3,823**	3,693	3,286
Corporate Centre	**(405)**	(325)	**(115)**	(74)	(210)
Total	**39,993**	35,931	**14,303**	12,698	11,197
Adjusted profit before tax					
Wealth and Personal Banking	**5,352**	5,527	**2,406**	1,776	1,776
Commercial Banking	**5,638**	4,980	**2,060**	1,689	1,767
Global Banking and Markets	**4,410**	4,528	**1,531**	1,602	1,330
Corporate Centre	**1,782**	2,011	**512**	708	635
Total	**17,182**	17,046	**6,509**	5,775	5,508

1 *Adjusted net operating income before change in expected credit losses and other credit impairment charges including the effects of foreign currency translation differences and significant items, also referred to as adjusted revenue.*

Distribution of results by geographical region

	Nine months ended		Quarter ended		
	30 Sep 2022	30 Sep 2021	**30 Sep 2022**	30 Jun 2022	30 Sep 2021
	$m	$m	**$m**	$m	$m
Reported profit/(loss) before tax					
Europe	**(685)**	3,110	**(1,568)**	630	1,142
Asia	**9,814**	10,239	**3,514**	3,496	3,303
Middle East and North Africa	**1,241**	1,101	**493**	363	378
North America	**1,318**	1,163	**460**	305	358
Latin America	**635**	629	**248**	216	222
Total	**12,323**	16,242	**3,147**	5,010	5,403
Adjusted profit before tax					
Europe	**3,591**	3,662	**1,436**	1,283	1,229
Asia	**10,096**	10,245	**3,681**	3,492	3,262
Middle East and North Africa	**1,274**	1,064	**509**	375	365
North America	**1,505**	1,424	**597**	389	434
Latin America	**716**	651	**286**	236	218
Total	**17,182**	17,046	**6,509**	5,775	5,508

Tables showing adjusted profit before tax by global business and region are presented to support the commentary on adjusted performance on the following pages.

The tables on pages 32 to 42 reconcile reported to adjusted results for each of our global business segments and geographical regions.

Income statement commentary

Group

3Q22 compared with 3Q21 – reported results

Movement in reported profit before tax compared with 3Q21

	Quarter ended			
	30 Sep 2022	30 Sep 2021	**Variance 3Q22 vs. 3Q21**	
	$m	$m	**$m**	**%**
Revenue	**11,616**	12,012	**(396)**	**(3)**
ECL	**(1,075)**	659	**(1,734)**	**>(100)**
Operating expenses	**(7,975)**	(7,989)	**14**	**0**
Share of profit/(loss) from associates and JVs	**581**	721	**(140)**	**(19)**
Profit before tax	**3,147**	5,403	**(2,256)**	**(42)**
Tax expense	**(586)**	(1,161)	**575**	**50**
Profit after tax	**2,561**	4,242	**(1,681)**	**(40)**

Reported profit

Reported profit after tax of $2.6bn was $1.7bn or 40% lower than in 3Q21.

Reported profit before tax of $3.1bn was $2.3bn or 42% lower. The reduction was primarily driven by an impairment of $2.4bn recognised following the reclassification of our retail banking business in France as held for sale on 30 September 2022. In addition, a net ECL charge in 3Q22, notably due to a deterioration in the forward economic outlook from heightened levels of uncertainty, inflation and rising interest rates, compared with a net release in 3Q21. These factors were partly offset by continued growth in net interest income reflecting the impact of interest rate rises. Reported operating expenses were unchanged as continued investment in technology, a higher performance-related pay accrual and a rise in restructuring and other related costs were largely offset by a favourable impact of foreign currency translation differences and our cost-saving initiatives.

IFRS 17 'Insurance Contracts' sets the requirements that an entity should apply in accounting for insurance contracts it issues and reinsurance contracts it holds. IFRS 17 is effective from 1 January 2023 and could have a significant adverse impact on the profitability of our insurance business. For further details of the impact of IFRS 17 on the results of our insurance operations, see page 318 of the *Annual Report and Accounts 2021*.

Reported revenue

Reported revenue of $11.6bn was $0.4bn or 3% lower, primarily due to an impairment of $2.4bn recognised following the classification of our retail banking business in France as held for sale on 30 September 2022. The reduction also included an adverse impact of foreign currency translation differences of $1.0bn, and adverse market impacts in life insurance manufacturing in WPB of $0.4bn, primarily reflecting weaker performances in equity markets, compared with adverse market impacts of $40m in 3Q21.

Investment distribution revenue in WPB fell due to muted customer sentiment, which reduced activity in equity markets, while lower Capital Markets and Advisory revenue in Global Banking and Markets ('GBM') reflected a reduction in market activity. Additionally, revenue fell in Markets Treasury from lower net interest income due to the impact of rising interest rates on our funding costs and flattening yield curves across all regions, as well as from lower disposal gains related to risk management activities. This revenue is allocated to our global businesses.

These reductions were partly offset by continued growth in net interest income of $2.0bn, reflecting the impact of interest rate rises and balance sheet growth, mainly in Global Payments Solutions ('GPS') in Commercial Banking ('CMB') and GBM, and in Personal Banking in WPB. In GBM, Global Foreign Exchange revenue reflected a strong trading performance and higher client activity.

Reported ECL

Reported ECL were a net charge of $1.1bn, compared with a net release of $0.7bn in 3Q21. The 3Q22 charges related to heightened economic uncertainty, inflation and rising interest rates, as well as from ongoing developments in the commercial real estate sector in mainland China. This compared with a net release in 3Q21 relating to Covid-19-related allowances previously built up in 2020.

Reported operating expenses

Reported operating expenses of $8.0bn were unchanged compared with 3Q21, which included favourable impacts from foreign currency translation differences of $0.7bn and our cost-saving initiatives of $0.6bn. These factors mitigated cost growth from increased investment in technology, a rise in restructuring and other related costs of $0.3bn, a higher performance-related pay accrual for which the Group-wide phasing of the accrual is driven by the expected profile of full-year profits, and inflationary impacts. In addition, investment in wealth in Asia increased, while operations costs rose due to business volume growth.

Reported share of profit from associates and JVs

Reported share of profit from associates and joint ventures of $0.6bn was $0.1bn or 19% lower than in 3Q21, primarily as 3Q21 included a higher share of profit from Business Growth Fund ('BGF') due to the recovery in asset valuations.

Group

3Q22 compared with 3Q21 – adjusted results

Movement in adjusted profit before tax compared with 3Q21

	Quarter ended			
	30 Sep 2022	30 Sep 2021	**Variance 3Q22 vs. 3Q21**	
	$m	$m	**$m**	**%**
Revenue	**14,303**	11,197	**3,106**	**28**
ECL	**(1,075)**	561	**(1,636)**	**>(100)**
Operating expenses	**(7,300)**	(6,926)	**(374)**	**(5)**
Share of profit from associates and JVs	**581**	676	**(95)**	**(14)**
Profit before tax	**6,509**	5,508	**1,001**	**18**

Adjusted profit

Adjusted profit before tax of $6.5bn was $1.0bn or 18% higher than in 3Q21, reflecting an increase in adjusted revenue in all of our global businesses, mainly due to a rise in net interest income as global interest rates rose, and balance sheet growth. This increase was partly offset by ECL charges in 3Q22 compared with net releases in 3Q21. The ECL charge in 3Q22 reflected a deterioration in the forward economic outlook due to the impact of heightened economic uncertainty, inflation and rising interest rates. Adjusted operating expenses increased compared with 3Q21, mainly driven by our continued investment in technology, a higher performance-related pay accrual and the impact of inflation, while adjusted share of profit from associates and joint ventures was lower.

Adjusted revenue

Adjusted revenue of $14.3bn was $3.1bn or 28% higher than in 3Q21. The increase was mainly from higher net interest income from the positive impact of interest rate rises and balance sheet growth, mainly in GPS in CMB and GBM, and in Personal Banking in WPB. In GBM, Global Foreign Exchange revenue benefited from a strong trading performance and higher client activity.

These increases were partly offset by a net adverse movement in market impacts in life insurance manufacturing of $375m, and lower investment distribution revenue in WPB as muted customer sentiment led to reduced activity in equity markets. In GBM, Capital Markets and Advisory revenue fell due to a reduction in market activity, and a decline in Principal Investments revenue reflected lower revaluation gains relative to 3Q21.

Revenue relating to Markets Treasury fell by $0.1bn from lower net interest income due to the impact of rising interest rates on our funding costs and flattening yield curves across all regions, as well as from lower disposal gains related to risk management activities. This revenue is allocated to our global businesses.

Adjusted ECL

Adjusted ECL, which removes the period-on-period effects of foreign currency translation differences, were a net charge of $1.1bn, compared with a net release of $0.6bn in 3Q21. The 3Q22 charge related to heightened economic uncertainty, inflation and rising interest rates, as well as from ongoing developments in the commercial real estate sector in mainland China. This compared with the net release in 3Q21 of Covid-19-related allowances previously built up in 2020.

Adjusted operating expenses

Adjusted operating expenses of $7.3bn were $0.4bn or 5% higher. The rise in costs reflected growth in technology investment of $0.3bn, notably investments in our digital capabilities, and a higher performance-related pay accrual of $0.2bn for which the Group-wide phasing of the accrual is driven by the expected profile of full-year profits. Inflation and the impact of retranslating the prior year results of our operations in hyperinflationary economies at current quarter average rates of foreign exchange also contributed to higher costs. In addition, investment in wealth in Asia rose by $0.1bn and operations costs increased by $0.1bn reflecting business growth. These increases were in part mitigated by the impact of our cost-saving initiatives of $0.6bn.

Adjusted share of profit from associates and JVs

Adjusted share of profit from associates and joint ventures of $0.6bn decreased by $0.1bn or 14%, primarily as 3Q21 included a higher share of profit from BGF due to the recovery in asset valuations.

Group

9M22 compared with 9M21 – reported results

Movement in reported profit before tax compared with 9M21

	Nine months ended			
	30 Sep 2022	30 Sep 2021	**Variance 9M22 vs. 9M21**	
	$m	$m	**$m**	**%**
Revenue	**36,852**	37,563	**(711)**	**(2)**
ECL	**(2,165)**	1,378	**(3,543)**	**>(100)**
Operating expenses	**(24,394)**	(25,076)	**682**	**3**
Share of profit from associates and JVs	**2,030**	2,377	**(347)**	**(15)**
Profit before tax	**12,323**	16,242	**(3,919)**	**(24)**
Tax expense	**(547)**	(3,578)	**3,031**	**85**
Profit after tax	**11,776**	12,664	**(888)**	**(7)**

Reported profit

Reported profit after tax of $11.8bn was $0.9bn or 7% lower than in 9M21, despite the impact of a $1.8bn gain in 9M22 on the recognition of a deferred tax asset from historical losses. This gain was as a result of improved profit forecasts from the UK tax group, which accelerated the expected utilisation of these losses.

Reported profit before tax of $12.3bn was $3.9bn or 24% lower than in 9M21. The decrease reflected lower revenue, despite the increase in net interest income from the positive impact of interest rate rises in all of our global businesses. This was mainly due to an impairment of $2.4bn recognised following the reclassification of our retail banking business in France as held for sale on 30 September 2022, an adverse impact of foreign currency translation differences and unfavourable market impacts in life insurance manufacturing in WPB. In addition, the net ECL charge in 9M22 was $2.2bn, reflecting stage 3 charges of $1.2bn, in part relating to the commercial real estate sector in mainland China, as well as from the impact of heightened economic uncertainty, inflation and rising interest rates. This compared with a net release in 9M21.

These factors were partly offset by a 3% decrease in reported operating expenses, primarily reflecting the favourable impact of foreign currency translation differences, while restructuring and other related costs increased.

Reported revenue

Reported revenue of $36.9bn was $0.7bn or 2% lower than in 9M21, primarily due to an impairment of $2.4bn recognised following the reclassification of our retail banking business in France as held for sale on 30 September 2022, as well as losses of $0.4bn associated with the planned sales of our branch operations in Greece and our operations in Russia. Reported revenue included an adverse impact of foreign currency translation differences of $2.1bn, and unfavourable market impacts in life insurance manufacturing in WPB of $1,072m, compared with favourable movements in 9M21 of $373m. There was also a decrease in Markets Treasury revenue, which is allocated to our global businesses, due to lower net interest income from the impact of rising interest rates on our funding costs and flattening yield curves across all regions, as well as from lower disposal gains related to risk management activities.

In WPB, lower investment distribution revenue reflected muted customer sentiment resulting in reduced activity in equity markets, and Covid-19-related restrictions in Hong Kong in 1Q22, which resulted in the temporary closure of parts of our branch network. In GBM, there was a reduction in Capital Markets and Advisory revenue, reflecting reductions in the global fee pool, while lower revaluation gains resulted in a reduction in Principal Investments revenue relative to 9M21. Global Debt Markets revenue also fell due to lower primary issuances and challenging market conditions.

These reductions were partly offset by a $3.3bn increase in net interest income from the positive impact of interest rate rises, mainly in GPS in CMB and GBM, and in Personal Banking in WPB. In GBM, Global Foreign Exchange revenue benefited from continued elevated levels of market volatility. In addition, there were strong sales in our life insurance manufacturing business in WPB, with growth in the value of new business, while insurance revenue also included a gain following a pricing update for our policyholders' funds held on deposit with us in Hong Kong to reflect the cost to provide this service.

Reported ECL

Reported ECL were a net charge of $2.2bn, which reflected stage 3 charges of $1.2bn, including charges related to the commercial real estate sector in mainland China. We also recognised additional stage 1 and stage 2 allowances to reflect heightened levels of economic uncertainty, inflation and rising interest rates, in part offset by the release of most of our remaining Covid-19-related allowances. This compared with a net release of $1.4bn in 9M21 relating to Covid-19-related allowances previously built up in 2020.

For further details on the calculation of ECL, including the measurement uncertainties and significant judgements applied to such calculations, the impact of the economic scenarios and management judgemental adjustments, see pages 21 to 24.

Reported operating expenses

Reported operating expenses of $24.4bn were $0.7bn or 3% lower than in 9M21, primarily as foreign currency translation differences resulted in a favourable impact of $1.5bn.

Reported operating expenses also included the positive impact of our cost-saving initiatives of $1.7bn and a lower performance-related pay accrual of $0.4bn (including the impact of cost saves), for which the Group-wide phasing of the accrual is driven by the expected profile of full-year profits. Given profits in 9M21 benefited from significant ECL releases, we recognised a larger share of the accrual in the first nine months of the year relative to 9M22. These reductions were partly offset by an increase due to our continued investment in technology of $0.5bn, including investments in our digital capabilities, increases in restructuring and other related costs of $0.5bn, and inflationary impacts.

Reported share of profit from associates and JVs

Reported share of profit from associates and joint ventures of $2.0bn was $0.3bn or 15% lower than in 9M21, primarily as 9M21 included a higher share of profit from BGF due to the recovery in asset valuations.

Tax expense

Tax in 9M22 was a charge of $0.5bn and included a $1.8bn credit arising from the recognition of a deferred tax asset from historical tax losses in HSBC Holdings. This was a result of improved profit forecasts for the UK tax group, which accelerated the expected utilisation of these losses and reduced uncertainty regarding their recoverability. Excluding this, the effective tax rate for 9M22 was 19%, which was 3 percentage points lower than in 9M21. The effective tax rate for 9M22 was decreased by the remeasurement of deferred tax balances following the substantive enactment in 1Q22 of legislation to reduce the rate of the UK banking surcharge from 8% to 3% from 1 April 2023.

In September 2022, the UK government announced that existing legislation to increase the main rate of UK corporation tax from 19% to 25% and to reduce the rate of the UK banking surcharge from 8% to 3% from 1 April 2023 would be cancelled. A further announcement on 14 October 2022 confirmed that the main rate of corporation tax from 1 April 2023 would be 25%, as currently legislated. However, the future rate of the UK banking surcharge is yet to be clarified. The UK government announcements of September and October are not reflected in the 3Q22 financial results as no legislation to effect any changes was substantively enacted.

Group

9M22 compared with 9M21 – adjusted results

Movement in adjusted profit before tax compared with 9M21

	Nine months ended			
	30 Sep 2022	30 Sep 2021	**Variance 9M22 vs. 9M21**	
	$m	$m	**$m**	**%**
Revenue	**39,993**	35,931	**4,062**	**11**
ECL	**(2,165)**	1,236	**(3,401)**	**>(100)**
Operating expenses	**(22,676)**	(22,446)	**(230)**	**(1)**
Share of profit from associates and JVs	**2,030**	2,325	**(295)**	**(13)**
Profit before tax	**17,182**	17,046	**136**	**1**

Adjusted profit

Adjusted profit before tax of $17.2bn was $0.1bn or 1% higher than in 9M21, reflecting higher adjusted revenue, mainly from net interest income growth following global interest rate rises. This increase was partly offset by an ECL charge in 9M22, compared with a net release in 9M21. The ECL charge in 9M22 reflected stage 3 charges, as well as the impact of heightened economic uncertainty, inflation, and rising interest rates. Adjusted profit from associates and joint ventures decreased, while adjusted operating expenses were broadly stable compared with 9M21, reflecting continued cost discipline.

Adjusted revenue

Adjusted revenue of $40.0bn was $4.1bn or 11% higher than in 9M21. The increase was driven by net interest income growth of $4.4bn following global interest rate rises, mainly in GPS in CMB and GBM, and Personal Banking in WPB. Global Foreign Exchange in GBM benefited from elevated market volatility, and there were strong sales in our insurance business in WPB, with the value of new business up by $0.3bn or 34%. In addition, insurance revenue included a $0.3bn gain following a pricing update for our policyholders' funds held on deposit with us in Hong Kong to reflect the cost to provide this service.

These increases in adjusted revenue were partly offset by unfavourable movements in market impacts in life insurance manufacturing in WPB of $1.4bn. Revenue was also lower in investment distribution, as muted customer sentiment led to reduced activity in equity markets, and Covid-19-related restrictions in Hong Kong in 1Q22 resulted in the temporary closure of parts of our branch network. In GBM, Capital Markets and Advisory revenue decreased reflecting a reduction in the global fee pool, and Principal Investments revenue fell due to lower revaluation gains relative to 9M21. In addition, Global Debt Markets revenue fell due to lower primary issuances and challenging market conditions.

Revenue relating to Markets Treasury decreased by $0.5bn due to lower net interest income from the impact of rising interest rates on our funding costs and flattening yield curves across all regions, as well as from lower disposal gains related to risk management activities. This revenue is allocated to our global businesses.

Adjusted ECL

Adjusted ECL were a net charge of $2.2bn, which reflected stage 3 charges of $1.2bn, including charges related to the commercial real estate sector in mainland China. The charge also included stage 1 and stage 2 allowances to reflect heightened economic uncertainty, inflation and rising interest rates, in part offset by the release of most of our remaining Covid-19-related allowances. The net ECL release of $1.2bn in 9M21 related to Covid-19 allowances previously built up in 2020.

Adjusted operating expenses

Adjusted operating expenses of $22.7bn were broadly stable compared with 9M21. Increases reflected our continued investment in technology of $0.7bn, including investments in our digital capabilities, inflation, and the impact of retranslating the prior year results of our operations in hyperinflationary economies at current year average rates of foreign exchange. These increases were broadly offset by the impact of our cost-saving initiatives of $1.7bn and a lower performance-related pay accrual of $0.3bn (including the impact of cost saves), which reflected the expected phasing of our profits for the year.

We remain on track for 2022 adjusted operating expenses to be broadly stable compared with 2021. Notwithstanding increasing inflationary pressures, we continue to maintain strict cost discipline and target 2023 adjusted cost growth of approximately 2%, compared with 2022 (on an IFRS 4 basis). During 9M22, the impact of foreign exchange rate movements resulted in a decrease in our operating expenses. Our adjusted operating expenses for 2021 were $32.1bn at the average rates of exchange for 2021. Based on the average rates of exchange for September 2022 year-to-date, our adjusted operating expenses retranslate to approximately $30bn.

The number of employees expressed in full-time equivalent staff ('FTE') at 30 September 2022 was 220,075, an increase of 378 compared with 31 December 2021. The number of contractors at 30 September 2022 was 6,755, an increase of 563, primarily as a result of our growth and transformation initiatives.

Adjusted share of profit from associates and JVs

Adjusted share of profit from associates and joint ventures of $2.0bn was 13% lower than in 9M21, primarily as 9M21 included a higher share of profit from BGF due to the recovery in asset valuations.

Net interest margin

	Nine months ended		Quarter ended		
	30 Sep 2022	30 Sep 2021	**30 Sep 2022**	30 Jun 2022	30 Sep 2021
	$m	$m	**$m**	$m	$m
Net interest income	**23,032**	19,708	**8,581**	7,454	6,610
Average interest-earning assets	**2,212,185**	2,195,384	**2,170,599**	2,207,731	2,207,960
	%	%	**%**	%	%
Gross interest yield[1]	**2.15**	1.64	**2.68**	2.03	1.62
Less: gross interest payable[1]	**(0.92)**	(0.54)	**(1.36)**	(0.83)	(0.53)
Net interest spread[2]	**1.23**	1.10	**1.32**	1.20	1.09
Net interest margin[3]	**1.39**	1.20	**1.57**	1.35	1.19

1 *Gross interest yield is the average annualised interest rate earned on average interest-earning assets ('AIEA'). Gross interest payable is the average annualised interest cost as a percentage of average interest-bearing liabilities.*
2 *Net interest spread is the difference between the average annualised interest rate earned on AIEA, net of amortised premiums and loan fees, and the average annualised interest rate payable on average interest-bearing funds.*
3 *Net interest margin is net interest income expressed as an annualised percentage of AIEA.*

Net interest margin ('NIM') of 1.39% was 19 basis points ('bps') higher compared with 9M21, driven by higher market interest rates. The yield on AIEA increased by 51bps, partly offset by a 38bps rise in the funding cost of average interest-bearing liabilities. The increase in NIM in 3Q22 included the adverse impact of significant items and foreign currency translation differences. Excluding these, NIM increased by 20bps.

NIM was up 38bps compared with 3Q21, predominantly driven by improved asset yields as a result of higher interest rates.

In 2023, we now expect net interest income of at least $36bn (on an IFRS 4 basis), with the reduction from the at least $37bn guidance provided at our interim results reflecting the impact of sterling depreciation against the US dollar and a higher cost of funding in our trading book, with an associated benefit in non-net interest income. We continue to monitor the expected path of interest rates. Within net interest income, we expect an increase in the interest expense from the funding of our trading activities. However, this increase is expected to be mitigated by growth in trading income.

Results from insurance operations

IFRS 17 'Insurance Contracts' will be effective from 1 January 2023, with comparatives restated from 1 January 2022. The standard sets out the requirements that an entity should apply in accounting for insurance contracts it issues and reinsurance contracts it holds, and applies retrospectively. The main changes arising from IFRS 17 are the removal of the present value of in-force long-term insurance business ('PVIF') asset in respect of unearned profits, the recognition of a contractual service margin ('CSM') liability, the measurement of insurance liabilities, and the redesignation of financial assets held to support insurance liabilities currently measured at amortised cost, to fair value under IFRS 9. All of these impacts will be subject to deferred tax.

The Group continues to make progress on the implementation of IFRS 17 with accounting policies, data and models in place, with the focus now on finalising the opening balance sheet and rehearsing our operational readiness. However, industry practice and interpretation of aspects of the standard are still evolving, and there remains uncertainty around the likely financial impact of its implementation. As previously guided, our preliminary management estimate of the impact of applying IFRS 17, compared with our current accounting policies for insurance contracts, is an approximate two-third reduction in total equity of our insurance operations at 1 January 2022. Work is ongoing to estimate the impact on the 2022 income statement, which will form the basis of comparative period results after adoption of the standard in 2023. It will also support an update to our previously communicated planning assumption of a reduction in profitability of approximately two-thirds, albeit within a range of expected outcomes and before the effect of market volatility in specific periods.

Planned sale of the retail banking business in France

On 25 November 2021, HSBC Continental Europe signed a framework agreement with Promontoria MMB SAS ('My Money Group') and its subsidiary Banque des Caraïbes SA, regarding the planned sale of HSBC Continental Europe's retail banking business in France.

The sale, which is subject to regulatory approvals and the satisfaction of other relevant conditions, includes: HSBC Continental Europe's French retail banking business; the Crédit Commercial de France ('CCF') brand; and HSBC Continental Europe's 100% ownership interest in HSBC SFH (France) and its 3% ownership interest in Crédit Logement.

The sale is currently anticipated to complete in the second half of 2023. As a result, in accordance with IFRS 5, the disposal group was classified as held for sale on 30 September 2022, at which point the Group recognised the estimated impairment of $2.4bn, which included impairment of goodwill of $0.4bn and related transaction costs. The disposal group will be remeasured at the lower of carrying amount and fair value less costs to sell at each reporting period. Any remaining gains or losses not previously recognised, including from the recycling of foreign currency translation reserves and the reversal of any remaining deferred tax assets and liabilities, will be recognised on completion.

The deferred tax liability of $0.4bn that was previously recognised as a consequence of the temporary difference in tax and accounting treatment in respect of the provision for loss on disposal was reversed on classifying the disposal group as held for sale.

The impact of classifying the disposal group as held for sale resulted in a 0.3 percentage point reduction in the Group's CET1 ratio at 30 September 2022. This impact will be partly offset by the reduction in RWAs upon closing.

At 30 September 2022, total assets of $23.5bn, including $23.3bn of loans and advances to customers, and total liabilities of $25.5bn, including customer accounts of $20.9bn, were reclassified as held for sale.

Group profit before tax impact recognised on classification to held for sale

	Nine months ended 30 Sep 2022 $m
Loss on disposal[1]	1,876
Goodwill impairment	425
PVIF impact	62
Total profit before tax impact	**2,363**

1 *Includes the write-down of the disposal group to fair value less costs to sell, net of fair value gains and losses on financial liabilities designated at fair value held for sale and related derivatives.*

Income statement of the disposal group held for sale

	Nine months ended 30 Sep 2022 $bn
Revenue	0.3
ECL	–
Operating expenses	(0.2)
Profit before tax	**0.1**

Assets of the disposal group held for sale

	At 30 Sep 2022 $bn
Cash and deposits at central banks	0.1
Financial assets designated and otherwise mandatorily measured at fair value through profit or loss	0.0
Loans and advances to customers	23.3
Prepayments, accrued income and other assets	0.1
Total assets	**23.5**

Liabilities of the disposal group held for sale

	At 30 Sep 2022 $bn
Customer accounts	20.9
Financial liabilities designated at fair value	3.2
Debt securities in issue	1.2
Accruals, deferred income and other liabilities	0.2
Total liabilities	**25.5**
Net liabilities classified as held for sale	(2.1)
Expected cash contribution[1]	3.9
Disposal group post-cash contribution[2]	**1.8**

1 *The contributions are reported within 'Cash and balances at central banks' on the Group's consolidated balance sheet.*
2 *'Disposal group post-cash contribution' includes the net asset value of the transferring business of €1.6bn ($1.6bn) and $0.2bn of additional items to which a nil value is ascribed per the framework agreement.*

Under the financial terms of the planned transaction, HSBC Continental Europe will transfer the business with a net asset value of €1.6bn ($1.6bn), subject to adjustment (upwards or downwards) in certain circumstances, for a consideration of €1. Any required increase to the net asset value of the business to achieve the net asset value of €1.6bn ($1.6bn) will be satisfied by the inclusion of additional cash. The value of cash contribution will be determined by the net asset or liability position of the disposal group at the point of completion. Based upon the net liabilities of the disposal group at 30 September 2022, HSBC would be expected to include a cash contribution of $3.9bn as part of the planned transaction.

Summary consolidated balance sheet

	At		
	30 Sep 2022	30 Jun 2022	31 Dec 2021
	$m	$m	$m
Assets			
Cash and balances at central banks	**309,505**	363,608	403,018
Trading assets	**201,929**	217,350	248,842
Financial assets designated and otherwise mandatorily measured at fair value through profit or loss	**44,013**	45,873	49,804
Derivatives	**350,584**	262,923	196,882
Loans and advances to banks	**99,023**	96,429	83,136
Loans and advances to customers	**967,522**	1,028,356	1,045,814
Reverse repurchase agreements – non-trading	**281,696**	244,451	241,648
Financial investments	**413,874**	430,796	446,274
Assets held for sale	**24,901**	3,989	3,411
Other assets	**298,918**	291,645	239,110
Total assets	**2,991,965**	2,985,420	2,957,939
Liabilities and equity			
Liabilities			
Deposits by banks	**97,528**	105,275	101,152
Customer accounts	**1,567,267**	1,651,301	1,710,574
Repurchase agreements – non-trading	**122,962**	129,707	126,670
Trading liabilities	**82,830**	80,569	84,904
Financial liabilities designated at fair value	**119,041**	126,006	145,502
Derivatives	**340,622**	251,469	191,064
Debt securities in issue	**87,527**	87,944	78,557
Liabilities under insurance contracts	**110,647**	113,130	112,745
Liabilities of disposal groups held for sale	**28,840**	3,907	9,005
Other liabilities	**248,708**	239,422	190,989
Total liabilities	**2,805,972**	2,788,730	2,751,162
Equity			
Total shareholders' equity	**177,659**	188,382	198,250
Non-controlling interests	**8,334**	8,308	8,527
Total equity	**185,993**	196,690	206,777
Total liabilities and equity	**2,991,965**	2,985,420	2,957,939

Balance sheet commentary

Balance sheet – 30 September 2022 compared with 30 June 2022

At 30 September 2022, our total assets of $3.0tn were $7bn higher on a reported basis and included adverse effects of foreign currency translation differences of $124bn. On a constant currency basis, total assets were $131bn higher, which included a rise in derivative assets, driven by mark-to-market movements on interest rate and foreign exchange swaps, mainly in the UK, and an increase in reverse repurchase agreements – non-trading.

Reported loans and advances to customers as a percentage of customer accounts was 61.7%, which was lower compared with 62.3% at 30 June 2022.

Loans and advances to customers

Reported loans and advances to customers of $1.0tn were $61bn lower, which included adverse effects of foreign currency translation differences of $43bn. On a constant currency basis, customer lending balances were $18bn lower due to the reclassification of $23bn of loans within our retail banking operation in France to held for sale, partly offset by mortgage growth and higher balances in GBM and CMB. The commentary that follows is on a constant currency basis.

Customer lending fell in WPB by $21bn to $432bn due to the reclassification of $23bn to held for sale and from a fall in Global Private Banking as clients deleveraged due to market volatility. These reductions were in part mitigated by higher mortgage balances in the UK (up $2bn) and Hong Kong (up $1bn). Customer lending also grew in North America and Latin America, notably in mortgages and unsecured lending.

In CMB, customer lending of $335bn was $1bn higher, as growth in the UK in term and trade lending was partly offset by reductions in Hong Kong, which reflected a more subdued performance in trade.

In GBM, lending of $201bn increased by $3bn, driven by higher overdrafts in the UK, as a seasonal reduction of loans and deposits for clients' half-year reporting at 30 June 2022 was reversed during 3Q22.

Customer accounts

Customer accounts of $1.6tn decreased by $84bn on a reported basis, which included adverse effects of foreign currency translation differences of $68bn. On a constant currency basis, customer accounts were $16bn lower due to the reclassification of $21bn to held for sale of our retail banking operations in France.

Customer accounts in WPB also fell by $9bn in Hong Kong, which included the impact of deposit outflows into investments, resulting in positive net new invested assets in Wealth. In addition, there was a migration from interest-bearing current accounts to term deposits in Hong Kong, as customers took advantage of preferable rates of interest on those accounts. These decreases were partly offset by increases in GBM of $10bn, as customers redeployed their commercial surplus to cash as interest rates rose, notably in Europe, and from a reversal of a seasonal reduction at 30 June 2022 for their half-year reporting.

Financial investments measured at fair value through other comprehensive income

As part of our interest rate hedging strategy, we hold a portfolio of financial investments measured at fair value through other comprehensive income ('FVOCI'), which are classified as hold-to-collect-and-sell. As a result, the change in value of these instruments is recognised through 'debt instruments at fair value through other comprehensive income' in equity. At 30 September 2022, we held $271bn of these instruments.

The increase in term market yield curves in 3Q22 drove a pre-tax FVOCI loss of $1.1bn on hold-to-collect-and-sell positions, with a post-tax FVOCI loss of $0.9bn. In the 9M22 period, the pre-tax FVOCI loss was $7.4bn, with a post-tax loss of $5.8bn. Overall, the Group is positively exposed to rising interest rates through net interest income, although there is an impact on our capital base due to the fair value of hold-to-collect-and-sell instruments. These instruments are reported within 'financial investments'. There is an initial negative effect materialising through reserves, after which the net interest income of the Group is expected to result in a net benefit over time, provided policy rates follow market implied rates.

Over time, these adverse movements will unwind as the instruments reach maturity, although not all will necessarily be held to maturity.

It is currently estimated that it will take approximately four quarters for the benefit to Group net interest income to offset the adverse impact of the adverse revaluations recognised during 9M22, provided the composition of the portfolio were to remain static.

Risk-weighted assets – 30 September 2022 compared with 30 June 2022

Risk-weighted assets ('RWAs') fell by $23.4bn during the quarter. Excluding foreign currency translation differences, RWAs rose by $4.4bn, reflecting the following movements:

- a $9.6bn increase in asset size, primarily due to heightened market risk volatility, as well as from growth in loans in CMB and WPB in our main regions;
- a $3.2bn decrease due to changes to methodology and policy, predominantly from risk parameter refinements in our global businesses; and
- a $1.3bn decrease from the implementation of a new retail model in France.

Global businesses

Wealth and Personal Banking – adjusted results

Management view of adjusted revenue

	Nine months ended				Quarter ended		
	30 Sep 2022	30 Sep 2021	**Variance 9M22 vs. 9M21**		**30 Sep 2022**	30 Jun 2022	30 Sep 2021
	$m	$m	**$m**	**%**	**$m**	$m	$m
Wealth	**6,014**	6,850	**(836)**	**(12)**	**1,901**	2,152	2,088
– investment distribution	**2,414**	2,693	**(279)**	**(10)**	**794**	789	846
– Global Private Banking	**1,470**	1,346	**124**	**9**	**525**	472	441
net interest income	**658**	463	**195**	**42**	**270**	213	153
non-interest income	**812**	883	**(71)**	**(8)**	**255**	259	288
– life insurance manufacturing	**1,287**	1,950	**(663)**	**(34)**	**277**	635	513
– asset management	**843**	861	**(18)**	**(2)**	**305**	256	288
Personal Banking	**10,919**	8,693	**2,226**	**26**	**4,262**	3,369	2,824
– net interest income	**9,937**	7,704	**2,233**	**29**	**3,933**	3,048	2,494
– non-interest income	**982**	989	**(7)**	**(1)**	**329**	321	330
Other[1]	**275**	474	**(199)**	**(42)**	**123**	2	126
Net operating income[2]	**17,208**	16,017	**1,191**	**7**	**6,286**	5,523	5,038
RoTE excluding significant items (annualised) (%)	**15.2**	17.2					

1 *'Other' includes Markets Treasury, HSBC Holdings interest expense and hyperinflation. It also includes the distribution and manufacturing (where applicable) of retail and credit protection insurance, disposal gains and other non-product-specific income.*
2 *'Net operating income' means net operating income before change in expected credit losses and other credit impairment charges (also referred to as 'revenue').*

9M22 compared with 9M21

Adjusted profit before tax of $5.4bn was $0.2bn or 3% lower than in 9M21, and included an adverse movement of $1.4bn in market impacts in life insurance manufacturing. There was also a net ECL charge in 9M22 of $0.9bn, compared with a release of $0.2bn in 9M21, as well as higher operating expenses. Despite the adverse movement in market impacts, adjusted revenue increased from rising interest rates.

Adjusted revenue of $17.2bn was $1.2bn or 7% higher. Growth in Personal Banking net interest income of $2.2bn from rising interest rates and balance sheet growth in the UK, Hong Kong, North America and Mexico was partly offset by lower revenue in life insurance manufacturing, despite strong insurance sales, due to a net adverse movement in market impacts of $1.4bn.

In Wealth, revenue of $6.0bn was down $0.8bn or 12%, notably from an adverse movement of $1.4bn in market impacts in life insurance manufacturing. However, our investments in Asia contributed to the delivery of net new invested assets of $91bn since 30 September 2021.

- Investment distribution revenue was $0.3bn or 10% lower, as muted customer sentiment led to lower activity in equity markets, which compared with a strong 9M21, and as Covid-19-related restrictions in Hong Kong in 1Q22 resulted in the temporary closure of parts of our branch network.
- Life insurance manufacturing revenue was $0.7bn or 34% lower due to a net adverse movement in market impacts of $1.4bn. In 9M22, an adverse movement of $1.1bn compared with favourable impacts of $0.3bn in 9M21, reflecting a weaker performance in equity markets. However, the value of new business written increased by $0.3bn or 34%, reflecting the launch of new products. In addition, there was a $0.3bn gain following a pricing update for our policyholders' funds held on deposit with us in Hong Kong to reflect the cost to provide this service. We also recognised a $0.1bn provisional gain on the completion of our acquisition of AXA Singapore.
- Global Private Banking revenue was $0.1bn or 9% higher due to the positive impact of rising interest rates on net interest income. This increase was partly offset by a decline in brokerage and trading revenue, reflecting reduced client activity compared with a strong 9M21.
- Asset management revenue was $18m or 2% lower, as adverse market conditions led to valuation losses on our seed investment book. This was partly offset by growth in management fees from net new invested assets of $41bn in 9M22.

In Personal Banking, revenue of $10.9bn was up $2.2bn or 26%.

- Net interest income was $2.2bn or 29% higher due to the benefit of interest rate rises. This was supported by strong balance sheet growth in the UK, Asia, North America and Latin America. Compared with 9M21, deposit balances in HSBC UK increased by $9bn or 5%, and mortgage lending rose in the UK by $9bn and in Hong Kong by $4bn. In addition, unsecured lending increased in Mexico and the UK.

Adjusted ECL were a net charge of $0.9bn, reflecting a more normalised level of charges, including provisions relating to a deterioration in the forward economic outlook from heightened levels of uncertainty and inflationary pressures. This compared with a net release of $0.2bn in 9M21 from Covid-19-related allowances previously built up in 2020.

Adjusted operating expenses of $11.0bn were $0.2bn or 2% higher, mainly due to continued investments, notably in wealth in Asia, and the impact of higher inflation, which were partly offset by the benefits of our cost-saving initiatives and the Group-wide phasing of the performance-related pay accrual.

The reported results of our WPB business included an impairment of $2.4bn recognised following the reclassification of our retail banking business in France as held for sale on 30 September 2022. This impairment is excluded from our adjusted results. At 30 September 2022, related loans and advances to customers of $23.3bn and customer accounts of $20.9bn were reclassified as held for sale.

3Q22 compared with 3Q21

Adjusted profit before tax of $2.4bn was $0.6bn or 35% higher than in 3Q21. This was driven by a $1.2bn increase in adjusted revenue, reflecting the benefit of interest rate rises and balance sheet growth in the UK and Hong Kong. A reduction in Wealth revenue of $0.2bn was driven by a net adverse movement of $0.4bn in market impacts in life insurance manufacturing and a reduction in investment distribution, as muted customer sentiment led to lower activity in equity markets, although the value of new business in insurance increased by 22%. The increase in revenue was partly offset by higher adjusted ECL reflecting the deterioration in the forward economic outlook, compared with a net release in 3Q21 of Covid 19-related allowances. Adjusted operating expenses increased by $0.1bn or 3%, mainly due to continued investments in wealth in Asia and an increase of the performance-related pay accrual, which were partly offset by the benefits of our cost-saving initiatives.

Commercial Banking – adjusted results

Management view of adjusted revenue

	Nine months ended				Quarter ended		
	30 Sep 2022	30 Sep 2021	**Variance 9M22 vs. 9M21**		**30 Sep 2022**	30 Jun 2022	30 Sep 2021
	$m	$m	**$m**	**%**	**$m**	$m	$m
Global Trade and Receivables Finance	**1,596**	1,358	**238**	**18**	**518**	519	462
Credit and Lending	**4,378**	4,226	**152**	**4**	**1,407**	1,427	1,392
Global Payments Solutions	**4,268**	2,492	**1,776**	**71**	**1,899**	1,304	823
GBM products, Insurance and Investments, and Other[1]	**1,284**	1,360	**(76)**	**(6)**	**485**	306	406
– of which: share of revenue from Markets and Securities Services and Banking products	***911***	*751*	***160***	***21***	***303***	*284*	*247*
Net operating income[2]	**11,526**	9,436	**2,090**	**22**	**4,309**	3,556	3,083
RoTE excluding significant items (annualised) (%)	**13.7**	11.6					

1 *Includes CMB's share of revenue from the sale of Markets and Securities Services and Banking products to CMB customers. GBM's share of revenue from the sale of these products to CMB customers is included within the corresponding lines of the GBM management view of adjusted revenue. Also includes allocated revenue from Markets Treasury, HSBC Holdings interest expense and hyperinflation.*

2 *'Net operating income' means net operating income before change in expected credit losses and other credit impairment charges (also referred to as 'revenue').*

9M22 compared with 9M21

Adjusted profit before tax of $5.6bn was $0.7bn or 13% higher than in 9M21. This was driven by an increase in adjusted revenue across all CMB products and in all regions, notably in Asia and the UK, and included a 97% increase in Global Payments Solutions ('GPS') net interest income. This was partly offset by a net ECL charge compared with a net release of ECL in 9M21. Adjusted operating expenses remained stable, as increased investment spend was mitigated by continued cost discipline.

Adjusted revenue of $11.5bn was $2.1bn or 22% higher:

- In GPS, revenue increased by $1.8bn or 71%, with double-digit percentage growth in all regions, particularly in Asia and the UK, driven by a 7% increase in average deposit balances at improved margins, reflecting interest rate rises and business repricing actions. There was also a 21% increase in fee income, with growth in all regions, as we delivered on our strategic fee initiatives.
- In Global Trade and Receivables Finance ('GTRF'), revenue increased by $0.2bn or 18%, with double-digit percentage growth in all regions, notably in Asia and the UK, driven by an increase in average balances, which rose by 22% compared with 9M21 at improved margins. In addition, fee income grew by 7% compared with 9M21.
- In Credit and Lending, revenue increased by $0.2bn or 4%, with growth in all regions, driven by wider margins and a 2% growth in average balances. Period end balances were 5% higher compared with 31 December 2021, with growth across all regions notably in Asia and North America. In addition, fee income grew by 2%.
- In GBM products, Insurance and Investments, and Other, revenue decreased by $0.1bn or 6%, reflecting the adverse effects of hyperinflation accounting in Turkey and Argentina, coupled with lower Markets Treasury and insurance revenue. This was partly offset by a 21% increase in collaboration revenue from GBM products, notably Foreign Exchange.

Adjusted ECL were a net charge of $1.0bn, compared with a net release of $0.5bn in 9M21. The charge in 9M22 mainly related to exposures in the commercial real estate sector in mainland China and a deterioration in the forward economic outlook from heightened levels of uncertainty and inflationary pressures. This compared with a larger net release in 9M21 of Covid-19-related allowances previously built up in 2020.

Adjusted operating expenses of $4.9bn remained stable. The continued investment in technology and the impact of higher inflation were mitigated by continued cost discipline on discretionary spend and through hiring efficiencies, as well as from the impact of our cost-saving initiatives and the Group-wide phasing of the performance-related pay accrual.

3Q22 compared with 3Q21

Adjusted profit before tax of $2.1bn was $0.3bn or 17% higher than in 3Q21, primarily due to an increase in adjusted revenue in GPS, driven by higher net interest income from the positive impact of interest rate rises. This was partly offset by an increase in adjusted ECL of $0.9bn, reflecting the effects of deterioration in the forward economic outlook from heightened levels of uncertainty and inflationary pressures, as well as from ongoing developments in the commercial real estate sector in mainland China. Adjusted operating expenses remained stable, as increased investment in technology and an increase of the performance-related pay accrual were mostly offset by the impact of our cost-saving initiatives and continued disciplined hiring.

Global Banking and Markets – adjusted results

Management view of adjusted revenue

	Nine months ended				Quarter ended		
	30 Sep 2022	30 Sep 2021	Variance 9M22 vs. 9M21		30 Sep 2022	30 Jun 2022	30 Sep 2021
	$m	$m	$m	%	$m	$m	$m
Markets and Securities Services	**6,909**	6,096	**813**	**13**	**2,209**	2,256	1,839
– Securities Services	**1,498**	1,366	**132**	**10**	**525**	468	480
– Global Debt Markets	**548**	836	**(288)**	**(34)**	**112**	219	153
– Global Foreign Exchange	**3,280**	2,334	**946**	**41**	**1,065**	1,109	716
– Equities	**876**	940	**(64)**	**(7)**	**260**	193	326
– Securities Financing	**711**	626	**85**	**14**	**244**	243	205
– Credit and funding valuation adjustments	**(4)**	(6)	**2**	**33**	**3**	24	(41)
Banking	**5,224**	4,704	**520**	**11**	**1,825**	1,699	1,542
– Global Trade and Receivables Finance	**558**	512	**46**	**9**	**185**	182	168
– Global Payments Solutions	**2,024**	1,286	**738**	**57**	**859**	624	430
– Credit and Lending	**1,804**	1,848	**(44)**	**(2)**	**552**	626	588
– Capital Markets and Advisory	**622**	898	**(276)**	**(31)**	**179**	148	312
– Other[1]	**216**	160	**56**	**35**	**50**	119	44
GBM Other	**(469)**	3	**(472)**	**>(100)**	**(211)**	(262)	(95)
– Principal Investments	**60**	320	**(260)**	**(81)**	**(21)**	21	86
– Other[2]	**(529)**	(317)	**(212)**	**(67)**	**(190)**	(283)	(181)
Net operating income[3]	**11,664**	10,803	**861**	**8**	**3,823**	3,693	3,286
RoTE excluding significant items (annualised) (%)	**11.8**	10.1					

1 *Includes portfolio management, earnings on capital and other capital allocations on all Banking products.*
2 *Includes notional tax credits and Markets Treasury, HSBC Holdings interest expense and hyperinflation.*
3 *'Net operating income' means net operating income before change in expected credit losses and other credit impairment charges (also referred to as 'revenue').*

9M22 compared with 9M21

Adjusted profit before tax of $4.4bn was $0.1bn or 3% lower than in 9M21. Growth in adjusted revenue of $0.9bn or 8% was more than offset by a net ECL charge in 9M22 of $0.3bn, compared with a net release in 9M21 of $0.5bn, and from an increase of $0.1bn in adjusted operating expenses.

Adjusted revenue of $11.7bn was $0.9bn or 8% higher, reflecting a strong Markets and Securities Services performance driven by increased client activity and disciplined risk management, and growth in GPS net interest income from higher interest rates.

In Markets and Securities Services, revenue increased by $0.8bn or 13%.

- In Global Foreign Exchange, revenue growth of $0.9bn or 41% reflected increased client activity due to elevated market volatility and the combined macroeconomic impacts of rising inflation, increased interest rates and a strengthening of the US dollar, as well as from disciplined risk management.
- In Securities Services, revenue grew by $0.1bn or 10% from higher net interest income as global interest rates rose, partly offset by reduced fee income from lower market levels.
- In Securities Financing, revenue increased by $0.1bn or 14%, driven by client franchise growth and disciplined risk management.
- In Global Debt Markets, revenue fell by $0.3bn or 34%, reflecting lower primary issuances and challenging market conditions.
- In Equities, revenue fell by $0.1bn or 7% in the context of a strong 9M21, and as capital markets activity was subdued in 9M22.

In Banking, revenue increased by $0.5bn or 11%.

- In GPS, revenue increased by $0.7bn or 57%, driven by margin growth from the rising global interest rate environment and higher global average deposit balances. Fee income grew in all regions from continued delivery on our strategic initiatives.
- Capital Markets and Advisory revenue decreased by $0.3bn or 31%, in line with the reduced global fee pool.

In GBM Other, Principal Investments revenue declined by $0.3bn or 81%, as 9M22 included lower revaluation gains compared with 9M21. There was also a reduction in revenue from Markets Treasury and the impact of hyperinflationary accounting, which is allocated to the global businesses.

Adjusted ECL were a net charge of $0.3bn, reflecting a deterioration in the forward economic outlook due to the heightened levels of uncertainty and inflationary pressures. This compared with the net release of $0.5bn in 9M21 of Covid-19-related allowances previously built up in 2020.

Adjusted operating expenses of $6.9bn increased by $0.1bn or 2% from the impact of higher inflation and strategic investments, partly offset by the impact of our cost-saving initiatives and the Group-wide phasing of the performance-related pay accrual.

3Q22 compared with 3Q21

Adjusted profit before tax of $1.5bn was $0.2bn or 15% higher than in 3Q21. Adjusted revenue was $0.5bn or 16% higher, mainly from increased revenue in GPS and Global Foreign Exchange. GPS performance reflected the impact of rising interest rates, growth in deposit balances and higher fees through strategic initiatives. Global Foreign Exchange revenue increased from a strong trading performance and higher client activity. These increases were partly offset by a decrease in Capital Markets and Advisory revenue, reflecting reduced market activity, a fall in Principal Investments valuations and a lower allocation of revenue from Markets Treasury. Adjusted ECL were a net charge of $0.1bn in 3Q22, compared with a net release of $0.1bn in 3Q21. Adjusted operating expenses were $0.1bn or 5% higher, and included an increase in the performance-related pay accrual.

Corporate Centre – adjusted results

Management view of adjusted revenue

	Nine months ended				Quarter ended		
	30 Sep	30 Sep	**Variance**		**30 Sep**	30 Jun	30 Sep
	2022	2021	**9M22 vs. 9M21**		**2022**	2022	2021
	$m	$m	**$m**	**%**	**$m**	$m	$m
Central Treasury[1]	**(76)**	(89)	**13**	**15**	**(48)**	(32)	(35)
Legacy portfolios	**(3)**	(19)	**16**	**84**	**(6)**	23	(34)
Other[2]	**(326)**	(217)	**(109)**	**(50)**	**(61)**	(65)	(141)
Net operating income[3]	**(405)**	(325)	**(80)**	**(25)**	**(115)**	(74)	(210)
RoTE excluding significant items (annualised) (%)	**4.6**	5.4					

1 *Central Treasury comprises valuation differences on issued long-term debt and associated swaps.*

2 *Revenue from Markets Treasury, HSBC Holdings net interest expense and hyperinflation are allocated out to the global businesses, to align them better with their revenue and expense. The total Markets Treasury revenue component of this allocation for 9M22 was $1,240m (9M21: $1,754m; 3Q22: $365m; 2Q22: $358m; 3Q21: $485m).*

3 *'Net operating income' means net operating income before change in expected credit losses and other credit impairment charges (also referred to as 'revenue').*

9M22 compared with 9M21

Adjusted profit before tax of $1.8bn was $0.2bn or 11% lower than in 9M21 due to a reduction in adjusted share of profit from associates and joint ventures, partly offset by lower operating expenses.

Adjusted negative revenue was $0.1bn or 25% lower, mainly due to transactional foreign currency-related valuation losses on hedges and revaluation losses on properties, compared with gains in 9M21.

Adjusted operating expenses decreased by $0.1bn, reflecting an increase in costs allocated to our global businesses.

Adjusted share of profit from associates and joint ventures of $2.0bn decreased by $0.3bn or 13%, primarily as 9M21 included a higher share of profit from BGF due to a recovery in asset valuations.

3Q22 compared with 3Q21

Adjusted profit before tax of $0.5bn was $0.1bn lower than in 3Q21. This was mainly driven by a decrease in the share of profit from associates and joint ventures, primarily from BGF due to the non-recurrence of prior year asset valuation gains, together with higher operating expenses. This was partly offset by higher adjusted revenue due to transactional foreign currency-related valuation gains on hedges and losses in 3Q21 related to the disposal of legacy portfolios in the US.

Notes

- Income statement comparisons, unless stated otherwise, are between the nine-month period ended 30 September 2022 and the nine-month period ended 30 September 2021. Balance sheet comparisons, unless otherwise stated, are between balances at 30 September 2022 and the corresponding balances at 30 June 2022.
- The financial information on which this Earnings Release is based, and the data set out in the appendix to this statement, are unaudited and have been prepared in accordance with our significant accounting policies as described on pages 318 to 328 of our *Annual Report and Accounts 2021.*

Dividends

- On 1 August 2022, the Directors approved an interim dividend for the 2022 half-year of $0.09 per ordinary share, which was paid on 29 September 2022 in cash. The sterling and Hong Kong dollar amounts of approximately £0.078821 and HK$0.706305 were calculated using the forward exchange rates quoted by HSBC Bank plc in London at or about 11.00am on 20 September 2022. On 1 August 2022, it was also announced that we intend to revert to paying quarterly dividends in 2023.

Risk

Approach to risk management

We aim to use a comprehensive risk management approach across the organisation and across all risk types, underpinned by our culture and values. This is outlined in our risk management framework, including the key principles and practices that we employ in managing material risks, both financial and non-financial. The framework fosters continual monitoring, promotes risk awareness and encourages sound operational and strategic decision making. It also supports a consistent approach to identifying, assessing, managing and reporting the risks we accept and incur in our activities. We continue to actively review and develop our risk management framework and enhance our approach to managing risk with clear accountabilities.

We operate a wide-ranging stress testing programme, which is a key part of our risk management and capital and liquidity planning. Stress testing provides management with key insights into the impacts of severely adverse events on the Group, and provides confidence to regulators on the Group's financial stability.

We continue to develop our climate change capabilities and methodologies, and are currently executing an internal climate scenario analysis to identify challenges and opportunities to our net zero strategy, as well as to inform capital planning and risk appetite.

At 30 September 2022, our CET1 ratio decreased to 13.4%, from 13.6% at 30 June 2022, and our liquidity coverage ratio ('LCR') was 127%.

Geopolitical and macroeconomic risks

The Russia-Ukraine war has continued to elevate geopolitical instability and resulted in the use of significant sanctions and trade restrictions against Russia by the US, the UK and the EU, as well as other countries. To date these include sanctions against numerous Russian government officials and individuals with close ties to the Russian government, as well as Russian financial institutions and companies. They also include general restrictions on certain activities relating to Russia. Russia has implemented certain countermeasures in response.

The Russia-Ukraine war, alongside the economic impacts that continue to result from the Covid-19 pandemic, has increased commodity prices, with the resulting sharp increase in inflation creating further challenges for monetary authorities and our customers. Central banks both in developed and emerging markets have stepped up the pace of monetary policy tightening in 2022 in an attempt to help ease inflationary pressures. It is presently unclear whether inflation will abate in the coming months as the ongoing Russia-Ukraine war is likely to keep energy and food prices at high levels. Central banks are set to continue to tighten monetary policy as they have done through 2022. Alongside China's Covid-19 policies and uncertainty in its real estate sector, this could lead to a significant economic slowdown and potential recession in some parts of the global economy.

Fiscal deficits are likely to increase in both developed and emerging markets as substantial public spending is rolled out to help the private sector manage rising prices, against a backdrop of higher interest rates. This could increase the strains on highly leveraged sovereigns, corporates and households. While the average maturity of sovereign debt in developed markets has lengthened, rising interest rates could reduce the affordability of debt and may eventually bring into question its sustainability in some countries. Among emerging markets, those that need to refinance maturing US dollar-denominated debt in the context of a strengthening dollar may face increasing difficulties. Our businesses also continue to consider the wider conduct implications of the increasing cost of living. We are engaging closely with our key regulators to ensure we continue to meet their expectations of financial institutions' activities within volatile markets.

Following the fiscal statement of 23 September 2022 by the UK government of large spending commitments, there was a fall in the value of sterling and a sharp rise in the yields of UK government securities, known as gilts. This prompted the Bank of England to reverse its plan to begin selling its gilt holdings from September, and ultimately for the UK government to reverse most of the previously announced fiscal measures. While these measures helped to stabilise markets for the time being, market perceptions of UK macroeconomic policy may remain unsettled, given the uncertain political and economic outlook and the likely impact of energy price increases in 2023.

Higher inflationary and interest rate expectations around the world – and the resulting economic uncertainty – are having an impact on ECL. In line with existing practice we have continued to carry out enhanced monitoring of model outputs and the use of model overlays, including management adjustments based on the expert judgement of senior credit risk managers to reflect current market and interest rate conditions where they have not been incorporated in the underlying macroeconomic scenarios. Inflation and rising interest rates have been considered both directly in certain models, and assessed via adjustments where not directly considered. Management adjustments have been made to our calculations of ECL to address the market uncertainty that followed the UK government fiscal statement on 23 September. While many of the government programmes implemented during the Covid-19 pandemic to support businesses and individuals have largely ceased, this has impacted the level of credit losses, which in turn may have impacted the longer-term reliability of loss and capital models.

The US, the UK, the EU, Canada and other countries have imposed various sanctions and trade restrictions on Chinese persons and companies, and may continue to impose further measures. In response to foreign sanctions and trade restrictions, China imposed sanctions and trade restrictions, and enacted laws that could impact the Group and its customers. Further sanctions and counter-sanctions, whether in connection with Russia or China, may affect the Group and its customers by creating regulatory, reputational and market risks.

Negotiations between the UK and the EU over the operation of the Northern Ireland Protocol are continuing and appear set to intensify in the coming months. While there are signs that differences may be diminishing, it remains the case that failure to reach agreement could have implications for the future operation of the EU-UK Trade and Cooperation Agreement.

In August 2022, the US Inflation Reduction Act introduced a minimum tax of 15% with effect from 1 January 2023. This is expected to accelerate the timing of US federal tax payments, and result in an estimated additional $900m of tax becoming payable by HSBC within the next 10 years. In addition, potential changes to tax legislation and tax rates in the countries and territories in which we operate could increase our effective tax rate in the future.

We continue to monitor, and seek to manage, the potential implications of all the above developments on our customers and our business.

Risks related to Covid-19

While the impact of the Covid-19 pandemic on the global economy has largely abated in most markets, it continues to disrupt economic activity in mainland China where stringent health polices continue to remain in place. These have adversely impacted China's economy, Asia tourism and global supply chains. A full return to pre-pandemic levels of social interaction across all our key markets remains unlikely in the short to medium term.

We continue to monitor the situation closely and, given the remaining uncertainties related to the post-pandemic landscape, additional mitigating actions may be required.

Climate risk

The pace of regulatory developments focusing on climate risk management, disclosures, and stress testing and scenario analysis has continued to increase through the year. Geopolitical tensions continue to drive high commodity and energy prices, causing macroeconomic volatility and uncertainty for the pace of the energy transition. While this may affect the near-term climate transition path for HSBC and our customers, we remain committed to our climate ambition to align our own operations and supply chain to net zero by 2030, and the financed emissions from our portfolio of customers to net zero by 2050.

During 2022, we continued to develop our climate risk management capabilities across our key risk areas through our dedicated climate risk programme. We have further enhanced our risk appetite and metrics, and made enhancements to our product governance process to include climate risk considerations. We also continue to incorporate findings from regulatory stress tests into our internal climate scenario analysis and our key risk management activities.

Ibor transition

The publication of sterling, Swiss franc, euro and Japanese yen Libor interest rate benchmarks, as well as Euro Overnight Index Average ('Eonia'), ceased from the end of 2021. Our interbank offered rate ('Ibor') transition programme – which is tasked with the development of new near risk-free rate ('RFR') products and the transition of legacy Ibor products – has supported the transition of the majority of the remaining contracts in these benchmarks to RFRs, or alternative reference rates, with a limited number of contracts remaining.

During the first nine months of 2022, we continued to develop processes, technology and RFR product capabilities throughout the Group, particularly in entities that have US dollar Libor contracts that require transition. Additionally, we implemented controls to help ensure we do not undertake any new US dollar Libor contracts outside of agreed-upon exemptions, and are monitoring new trade activity to control the associated risks. We have begun to engage with our clients to support them through the transition of their US dollar Libor and other demising Ibor contracts, with progress made on the transition of trade, hedging and lending facilities.

We continue to actively engage in market and industry discussions around the transition of US dollar Libor and other demising Ibors, and are prepared for the impacts related to the upcoming cessation of one-month and six-month 'synthetic' sterling tenors and Japanese yen Libor.

We continue to be exposed to risks associated with Ibor transition. These key risks remain unchanged and include regulatory compliance risk, resilience risk, financial reporting risk, legal risk, model risk and market risk. We have implemented mitigating controls, where required, and continue to actively manage and monitor these risks.

Credit risk

Summary of credit risk

At 30 September 2022, gross loans and advances to customers and banks of $1,077bn decreased by $63.3bn, including adverse foreign exchange movements of $98.6bn, compared with 31 December 2021. They were $58.6bn lower compared with 30 June 2022, including adverse foreign exchange movements of $46.9bn.

The commentary that follows compares our summary of credit risk at 30 September 2022 with 31 December 2021.

Excluding foreign exchange movements, growth was driven by a $22.6bn increase in wholesale loans and advances to customers and a $22.1bn increase in loans and advances to banks, partly offset by a $9.4bn decrease in personal loans and advances to customers.

The underlying increase in wholesale loans and advances to customers was driven mainly in the UK (up $8.0bn), the US (up $4.2bn), Canada (up $4.1bn), India (up $2.7bn), mainland China (up $1.9bn), Australia (up $1.9bn), Japan (up $1.5bn) and South Korea (up $1.3bn), partly offset by Hong Kong (down $6.8bn).

The underlying decrease in personal loans and advances to customers was driven mainly by decreases in France (down $21.3bn) and Switzerland (down $1.8bn), partly offset by the UK (up $7.4bn), Australia (up $1.7bn), Hong Kong (up $1.5bn), Mexico (up $1.1bn) and Canada (up $0.9bn). The decrease in France was mainly due to our retail banking business being classified as assets held for sale.

At 30 September 2022, the allowance for ECL of $11.4bn decreased by $0.8bn compared with 31 December 2021, including favourable foreign exchange movements of $1.0bn. The $11.4bn allowance comprised $10.8bn in respect of assets held at amortised cost, $0.4bn in respect of loan commitments and financial guarantees, and $0.2bn in respect of debt instruments measured at fair value through other comprehensive income ('FVOCI').

Excluding foreign exchange movements, the allowance for ECL in relation to loans and advances to customers decreased marginally from 31 December 2021. This was attributable to broadly unchanged allowances for ECL in wholesale and personal loans and advances to customers. In wholesale lending, a $0.1bn increase driven by stage 1 and stage 2 allowances was offset by a $0.1bn decrease in stage 3 and purchased or originated credit impaired ('POCI') allowances, while in personal lending a $0.3bn decrease driven by stage 3 allowances was offset by a $0.3bn increase in stage 1 and stage 2 allowances.

The ECL charge for the first nine months of 2022 was $2.2bn, inclusive of recoveries. This was driven by higher ECL charges related to increasing inflationary pressures, rising interest rates, Chinese commercial real estate exposures and economic uncertainty, partly offset by a release in Covid-19-related allowances at the beginning of the year.

The ECL charge comprised: $1.3bn in respect of wholesale lending, of which the stage 3 and POCI charge was $0.8bn; $0.8bn in respect of personal lending, of which the stage 3 charge was $0.4bn; and $0.1bn in respect of debt instruments measured at FVOCI.

Summary of financial instruments to which the impairment requirements in IFRS 9 are applied

	At 30 Sep 2022		At 31 Dec 2021	
	Gross carrying/ nominal amount	Allowance for ECL[1]	Gross carrying/ nominal amount	Allowance for ECL[1]
	$m	$m	$m	$m
Loans and advances to customers at amortised cost	**977,955**	**(10,433)**	1,057,231	(11,417)
Loans and advances to banks at amortised cost	**99,086**	**(63)**	83,153	(17)
Other financial assets measured at amortised cost	**955,732**	**(318)**	880,351	(193)
– cash and balances at central banks	**309,509**	**(4)**	403,022	(4)
– items in the course of collection from other banks	**4,501**	**—**	4,136	—
– Hong Kong Government certificates of indebtedness	**43,222**	**—**	42,578	—
– reverse repurchase agreements – non-trading	**281,696**	**—**	241,648	—
– financial investments	**140,932**	**(81)**	97,364	(62)
– assets held for sale[2]	**26,858**	**(156)**	2,859	(43)
– other assets[3]	**149,014**	**(77)**	88,744	(84)
Total gross carrying amount on-balance sheet	**2,032,773**	**(10,814)**	2,020,735	(11,627)
Loan and other credit-related commitments	**588,851**	**(365)**	627,637	(379)
Financial guarantees	**17,331**	**(47)**	27,795	(62)
Total nominal amount off-balance sheet[4]	**606,182**	**(412)**	655,432	(441)
	2,638,955	**(11,226)**	2,676,167	(12,068)

	Fair value	Memorandum allowance for ECL[5]	Fair value	Memorandum allowance for ECL[5]
	$m	$m	$m	$m
Debt instruments measured at fair value through other comprehensive income ('FVOCI')	**271,397**	**(153)**	347,203	(96)

1 *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.*
2 *Includes $23,493m gross carrying amounts and $89m allowances for ECL related to the planned sale of HSBC Continental Europe's retail banking business in France (31 December 2021: $nil), and $3,139m gross carrying amounts and $65m allowances for ECL related to assets held for sale in Greece and Russia. At 31 December 2021, $2,424m gross carrying amounts and $39m allowances for ECL were related to assets held for sale due to the exit of domestic mass market retail banking in the US.*
3 *Includes only those financial instruments that are subject to the impairment requirements of IFRS 9. 'Other assets' as presented within the summary consolidated balance sheet on page 12 comprises both financial and non-financial assets, including cash collateral and settlement accounts.*
4 *Represents the maximum amount at risk should the contracts be fully drawn upon and clients default.*
5 *Debt instruments measured at FVOCI continue to be measured at fair value with the allowance for ECL as a memorandum item. Change in ECL is recognised in 'Change in expected credit losses and other credit impairment charges' in the income statement.*

Summary of credit risk (excluding debt instruments measured at FVOCI) by stage distribution and ECL coverage at 30 September 2022

	Gross carrying/nominal amount[1]					Allowance for ECL					ECL coverage %				
	Stage 1	Stage 2	Stage 3	POCI[2]	Total	Stage 1	Stage 2	Stage 3	POCI[2]	Total	Stage 1	Stage 2	Stage 3	POCI[2]	Total
	$m	$m	$m	$m	$m	$m	$m	$m	$m	$m	%	%	%	%	%
Loans and advances to customers at amortised cost	**824,203**	**136,361**	**17,279**	**112**	**977,955**	**(1,189)**	**(3,320)**	**(5,888)**	**(36)**	**(10,433)**	**0.1**	**2.4**	**34.1**	**32.1**	**1.1**
Loans and advances to banks at amortised cost	**97,203**	**1,809**	**74**	**—**	**99,086**	**(14)**	**(30)**	**(19)**	**—**	**(63)**	**—**	**1.7**	**25.7**	**—**	**0.1**
Other financial assets measured at amortised cost	**947,317**	**7,903**	**466**	**46**	**955,732**	**(86)**	**(77)**	**(149)**	**(6)**	**(318)**	**—**	**1.0**	**32.0**	**13.0**	**—**
Loan and other credit-related commitments	**558,091**	**29,508**	**1,252**	**—**	**588,851**	**(121)**	**(178)**	**(66)**	**—**	**(365)**	**—**	**0.6**	**5.3**	**—**	**0.1**
Financial guarantees	**14,739**	**2,437**	**155**	**—**	**17,331**	**(5)**	**(23)**	**(19)**	**—**	**(47)**	**—**	**0.9**	**12.3**	**—**	**0.3**
At 30 Sep 2022	**2,441,553**	**178,018**	**19,226**	**158**	**2,638,955**	**(1,415)**	**(3,628)**	**(6,141)**	**(42)**	**(11,226)**	**0.1**	**2.0**	**31.9**	**26.6**	**0.4**

1 *Represents the maximum amount at risk should the contracts be fully drawn upon and clients default.*
2 *Purchased or originated credit-impaired ('POCI').*

Summary of credit risk (excluding debt instruments measured at FVOCI) by stage distribution and ECL coverage at 31 December 2021

	Gross carrying/nominal amount[1]					Allowance for ECL					ECL coverage %				
	Stage 1	Stage 2	Stage 3	POCI[2]	Total	Stage 1	Stage 2	Stage 3	POCI[2]	Total	Stage 1	Stage 2	Stage 3	POCI[2]	Total
	$m	$m	$m	$m	$m	$m	$m	$m	$m	$m	%	%	%	%	%
Loans and advances to customers at amortised cost	918,936	119,224	18,797	274	1,057,231	(1,367)	(3,119)	(6,867)	(64)	(11,417)	0.1	2.6	36.5	23.4	1.1
Loans and advances to banks at amortised cost	81,636	1,517	—	—	83,153	(14)	(3)	—	—	(17)	—	0.2	—	—	—
Other financial assets measured at amortised cost	875,016	4,988	304	43	880,351	(91)	(54)	(42)	(6)	(193)	—	1.1	13.8	14.0	—
Loan and other credit-related commitments	594,473	32,389	775	—	627,637	(165)	(174)	(40)	—	(379)	—	0.5	5.2	—	0.1
Financial guarantees	24,932	2,638	225	—	27,795	(11)	(30)	(21)	—	(62)	—	1.1	9.3	—	0.2
At 31 Dec 2021	2,494,993	160,756	20,101	317	2,676,167	(1,648)	(3,380)	(6,970)	(70)	(12,068)	0.1	2.1	34.7	22.1	0.5

1 *Represents the maximum amount at risk should the contracts be fully drawn upon and clients default.*
2 *Purchased or originated credit-impaired ('POCI').*

Measurement uncertainty and sensitivity analysis of ECL estimates

At 30 September 2022, ECL estimates continued to be subject to a high degree of uncertainty in relation to economic scenarios. A combination of macroeconomic uncertainty and lower GDP growth, including as a result of a global supply chain crisis, rising interest rates and increasing inflationary pressures, have resulted in a cautious selection of economic scenarios and their weightings.

Economic uncertainty is particularly acute in the UK due to variability of energy price risk and fiscal policy decisions that led to market volatility, while economic forecasts in mainland China and Hong Kong further deteriorated as public health policies and a housing market slowdown weighed on growth.

As a result, additional stage 1 and stage 2 ECL allowances were recorded, including management judgements that were applied to incorporate the effects of heightened levels of macroeconomic and geopolitical uncertainty worldwide over our modelled estimates and to continue to reflect a degree of caution.

The recognition and measurement of ECL involves the use of significant judgement and estimation. We form multiple economic scenarios based on economic forecasts, apply these assumptions to credit risk models to estimate future credit losses, and probability-weight the results to determine an unbiased ECL estimate. Management judgemental adjustments are used to address late-breaking events, data and model limitations, model deficiencies and expert credit judgements.

Methodology

At 30 September 2022, four economic scenarios were used to capture the uncertain nature of the economic environment and to articulate management's view of the range of potential outcomes.

In both 1Q22 and 2Q22, a fifth scenario was deployed for the purposes of capturing downside growth and inflation risks. These scenarios were not used in 3Q22 and have been retired. In 3Q22, the update to the Central scenario forecast, for both inflation and interest rates, is consistent with the crystallisation of those risks into baseline expectations. More extreme outcomes are covered by the standard scenarios used in forward economic guidance.

Of those four scenarios, three are drawn from consensus forecasts and distributional estimates. The fourth scenario, the Downside 2, represents management's view of severe downside risks. Scenarios produced to calculate ECL are aligned to HSBC's top and emerging risks.

Description of economic scenarios

The economic assumptions presented in this section have been formed by HSBC, with reference to external forecasts specifically for the purpose of calculating ECL.

Economic forecasts are subject to a high degree of uncertainty in the current environment. The global economy continues to be buffeted by high inflation, energy price fluctuations and adherence to stringent pandemic-related public health policies in Asia. Rapid changes to monetary and fiscal policy make conditions for estimating future economic outcomes challenging.

Global economic growth is slowing and economic forecasts in the third quarter deteriorated in most markets. In North America and Europe, higher energy and food prices have pushed inflation forecasts higher, while the consequential squeeze on household disposable income has resulted in lower growth forecasts. In Asia, adherence to a stringent pandemic-related public health policy response has caused GDP growth expectations to be cut. Growth also faces an increasing headwind from a global tightening of interest rates. Higher inflation has shifted interest rate expectations substantially higher. The implications for interest rate-sensitive sectors have been negative, and house price forecasts in particular have been lowered.

Key sources of ongoing uncertainty include energy prices, inflation and the outlook for monetary policy. In addition, Europe faces an energy supply squeeze that risks further price volatility and rationing. In Asia, management of Covid-19 remains a key source of uncertainty. Geopolitical risks also present downside threats. These risks include a prolonged and escalating Russia-Ukraine war, continued differences between the US and China over a range of strategic issues and the evolution of the UK's relationship with the EU.

The four global scenarios used for calculating ECL at 30 September 2022 are the consensus Central scenario, the consensus Upside scenario, the consensus Downside scenario and the Downside 2 scenario.

- The consensus Central scenario: This scenario features an initial period of below-trend GDP growth in most markets as inflation and tighter monetary policy cause a squeeze on business margins and households' real disposable income. Growth returns to its long-term expected trend in later years as central banks bring growth back to target.
- The consensus Upside scenario: This scenario features stronger economic activity in the near term, compared with the consensus Central scenario. In this scenario, growth accelerates, unemployment falls further and equity markets and house prices see stronger gains than in the Central scenario.

- The consensus Downside scenario: This scenario features weaker economic activity compared with the Central scenario, driven by a temporary demand shock that causes a moderate global recession. In this scenario, GDP contracts, unemployment rises, and equity markets and house prices fall. This scenario is structured so that inflation and commodity prices fall, before gradually recovering towards their long-run expected trends.
- The Downside 2 scenario: This scenario reflects management's view of the tail end of the economic distribution. It incorporates the simultaneous crystallisation of a number of risks that drive inflation and interest rates substantially higher than in the Central scenario. The narrative features an escalation of the Russia-Ukraine war, worsening of supply chain disruptions and the emergence of a vaccine-resistant Covid-19 strain, which cause a deep global recession with a rapid increase in unemployment and sharp falls in asset prices.

Both the consensus Downside and the Downside 2 scenarios are global in nature, and while they differ in severity, they assume that the key risks to HSBC, listed above, crystallise simultaneously.

The range of macroeconomic projections across the various scenarios is shown in the table below:

Macroeconomic projections in key markets

	Central scenario				Consensus Upside scenario			Consensus Downside scenario			Downside 2 scenario		
	Five-year average	2022	2023	2024	Five-year average	Best outcome		Five-year average	Worst outcome		Five-year average	Worst outcome	
Hong Kong													
GDP growth rate (%)	2.9	0.1	3.6	2.7	4.4	9.9	(1Q23)	1.2	(3.4)	(4Q23)	0.5	(10.9)	(3Q23)
Unemployment rate (%)	3.5	4.5	3.8	3.5	3.2	2.8	(3Q24)	4.3	5.6	(2Q23)	5.2	6.0	(2Q23)
House price growth (%)	0.7	(2.4)	(1.8)	(0.3)	2.5	4.9	(2Q23)	(1.5)	(9.4)	(4Q23)	(4.6)	(13.9)	(4Q23)
Inflation rate (%)	2.1	2.2	2.2	2.1	2.7	3.0	(4Q22)	1.1	(1.1)	(2Q24)	0.0	(1.3)	(3Q24)
Probability (%)		55				5			35			5	
Mainland China													
GDP growth rate (%)	4.8	3.6	5.2	4.9	6.2	12.8	(2Q23)	3.5	0.4	(4Q23)	2.3	(5.6)	(3Q23)
Unemployment rate (%)	3.9	4.0	3.9	3.9	3.8	3.7	(4Q23)	4.1	4.5	(2Q23)	5.1	5.6	(3Q24)
House price growth (%)	3.5	(1.3)	2.1	3.7	4.7	8.0	(4Q23)	2.3	(3.5)	(1Q23)	(0.9)	(17.1)	(3Q23)
Inflation rate (%)	2.3	2.3	2.5	2.3	2.8	2.8	(3Q24)	1.4	(1.0)	(3Q24)	2.3	1.4	(3Q24)
Probability (%)		55				5			35			5	
UK													
GDP growth rate (%)	1.2	3.4	(0.2)	1.3	2.0	3.4	(3Q24)	0.3	(2.1)	(3Q23)	0.0	(7.7)	(3Q23)
Unemployment rate (%)	4.2	3.9	4.3	4.2	3.8	3.3	(3Q24)	6.3	7.0	(1Q24)	7.1	8.5	(2Q24)
House price growth (%)	2.6	9.1	1.2	1.8	3.8	6.2	(4Q22)	0.4	(6.4)	(4Q23)	(2.8)	(18.3)	(4Q23)
Inflation rate (%)	3.7	9.3	8.2	2.2	5.4	5.4	(1Q24)	3.4	(0.4)	(3Q24)	3.4	(2.9)	(1Q24)
Probability (%)		55				5			30			10	
US													
GDP growth rate (%)	1.5	1.7	0.7	1.6	2.5	3.8	(3Q23)	0.4	(3.1)	(3Q23)	0.5	(5.1)	(3Q23)
Unemployment rate (%)	3.9	3.7	4.0	4.0	3.5	3.1	(4Q22)	4.5	5.6	(3Q23)	7.6	9.0	(3Q24)
House price growth (%)	4.2	16.8	5.4	2.9	5.0	15.2	(4Q22)	3.1	(2.3)	(4Q23)	1.8	(13.7)	(3Q23)
Inflation rate (%)	2.8	7.9	3.8	2.3	4.0	4.1	(3Q24)	2.0	0.0	(1Q24)	2.6	1.2	(3Q24)
Probability (%)		65				5			20			10	

Note: The 'worst' or the 'best' outcome refers to the quarter that is either the trough or peak in the respective variable, in the first two years of the scenario. This applies to inflation, where higher inflation is interpreted as the 'worst' outcome and lower inflation as the 'best'.

At 30 September 2022, the consensus Upside and Central scenarios for mainland China had a combined weighting of 60% (30 June 2022: 60%). In Hong Kong, the combined weighting of the consensus Upside and Central scenarios was 60% (30 June 2022: 60%). For the UK, the combined weighting of the consensus Upside and Central scenarios was 60% (30 June 2022: 60%), and in the US the combined weighting for the consensus Upside and Central scenarios was 70% (30 June 2022: 65%).

Management judgemental adjustments

In the context of IFRS 9, management judgemental adjustments are typically increases or decreases to the ECL at either a customer, segment or portfolio level to account for late-breaking events, model deficiencies and other assessments applied during management review and challenge.

Management judgemental adjustments are reviewed under the governance process for IFRS 9 (as detailed in the section 'Credit risk management' on page 137 of the *Annual Report and Accounts 2021*).

We have internal governance in place to monitor management judgemental adjustments regularly and, where possible, to reduce the reliance on these through model recalibration or redevelopment, as appropriate.

Management judgemental adjustments decreased by $0.5bn compared with 31 December 2021. Adjustments related to the Covid-19 pandemic were reduced, while adjustments for uncertainty related to potential low economic growth, high inflation and interest rates, and broader macroeconomic and geopolitical risks increased. For the UK, management made a $0.1bn adjustment to the wholesale portfolio and a $0.1bn adjustment to the retail portfolio to reflect uncertainty around interest rates, and the wider economy following the UK government fiscal statement on 23 September 2022 as the effects were not incorporated in the macroeconomic scenarios.

Management judgemental adjustments made in estimating the reported ECL at 30 September 2022 are set out in the following table. It shows the adjustments applicable to the scenario-weighted ECL numbers.

Management judgemental adjustments to ECL at 30 September 2022[1]

	Retail $bn	Wholesale $bn	Total $bn
Banks, sovereigns, government entities and low-risk counterparties	**(0.1)**	**—**	**(0.1)**
Corporate lending adjustments		**0.8**	**0.8**
Retail lending inflation-related adjustments	**0.1**		**0.1**
Other macroeconomic-related adjustments	**0.2**		**0.2**
Pandemic-related economic recovery adjustments			**—**
Other retail lending adjustments	**0.1**		**0.1**
Total	**0.4**	**0.8**	**1.2**

Management judgemental adjustments to ECL at 31 December 2021[1]

	Retail $bn	Wholesale $bn	Total $bn
Banks, sovereigns, government entities and low-risk counterparties		(0.1)	(0.1)
Corporate lending adjustments		1.3	1.3
Retail lending inflation-related adjustments			
Other macroeconomic-related adjustments			—
Pandemic-related economic recovery adjustments	0.2		0.2
Other retail lending adjustments	0.3		0.3
Total	0.5	1.2	1.7

1 *Management judgemental adjustments presented in the table reflect increases or (decreases) to ECL, respectively.*

In the wholesale portfolio, management judgemental adjustments were an ECL increase of $0.8bn at 30 September 2022 (31 December 2021: $1.2bn increase).

- Adjustments to corporate exposures increased ECL by $0.8bn at 30 September 2022 (31 December 2021: $1.3bn increase). These principally reflected the outcomes of management judgements for high-risk and vulnerable sectors in some of our key markets, supported by credit experts' input, portfolio risk metrics and quantitative analyses. The highest increase was observed in the real estate sector, including material adjustments to reflect the uncertainty of the higher risk Chinese commercial real estate exposures, booked in Hong Kong, and recent downgrades of key unsecured exposures. Adjustments reduced $0.5bn since 31 December 2021 as modelled ECL was considered to more adequately reflect the risks present at 30 September 2022.

In the retail portfolio, management judgemental adjustments were an ECL increase of $0.4bn at 30 September 2022 (31 December 2021: $0.5bn increase).

- Retail lending inflation-related adjustments increased ECL by $0.1bn (31 December 2021: $0.0bn). These adjustments addressed where country-specific inflation risks were not fully captured by the modelled output, most notably in the UK.
- Other macroeconomic-related adjustments increased ECL by $0.2bn (31 December 2021: $0.0bn). These adjustments were primarily in relation to country-specific risks related to macroeconomic conditions. These adjustments included accounting for the elevated uncertainty that followed the UK government's fiscal announcements around taxes and energy bills support, which were not fully captured in the scenarios.
- Pandemic-related economic recovery adjustments continued to reduce and were made only for markets in Asia where there remain concerns regarding Covid-19.
- Other retail lending adjustments increased ECL by $0.1bn (31 December 2021: $0.3bn), reflecting those customers who remain in or have recently exited customer support programmes, and all other data and model adjustments.

Economic scenarios sensitivity analysis of ECL estimates

Management considered the sensitivity of the ECL outcome against the economic forecasts as part of the ECL governance process by recalculating the ECL under each scenario described above for selected portfolios, applying a 100% weighting to each scenario in turn. The weighting is reflected in both the determination of a significant increase in credit risk and the measurement of the resulting ECL.

The ECL calculated for the Upside and Downside scenarios should not be taken to represent the upper and lower limits of possible ECL outcomes. The impact of defaults that might occur in the future under different economic scenarios is captured by recalculating ECL for loans in stages 1 and 2 at the balance sheet date. The population of stage 3 loans (in default) at the balance sheet date is unchanged in these sensitivity calculations. Stage 3 ECL would only be sensitive to changes in forecasts of future economic conditions if the loss-given default of a particular portfolio was sensitive to these changes.

There is a particularly high degree of estimation uncertainty in numbers representing tail risk scenarios when assigned a 100% weighting.

For wholesale credit risk exposures, the sensitivity analysis excludes ECL for financial instruments related to defaulted obligors because the measurement of ECL is relatively more sensitive to credit factors specific to the obligor than future economic scenarios. Therefore, it is impracticable to separate the effect of macroeconomic factors in individual assessments.

For retail credit risk exposures, the sensitivity analysis includes ECL for loans and advances to customers related to defaulted obligors. This is because the retail ECL for secured mortgage portfolios, including loans in all stages, is sensitive to macroeconomic variables.

Group ECL sensitivity results

The ECL impact of the scenarios and judgemental management adjustments are highly sensitive to movements in economic forecasts. If the Group ECL balance (excluding wholesale stage 3, which is assessed individually) was estimated solely on the basis of the consensus Central scenario, consensus Upside scenario, consensus Downside scenario or the Downside 2 scenario at 30 September 2022, it would increase/(decrease) as presented in the below sensitivity table.

	Retail[1]	Wholesale[2]
Total Group ECL at 30 September 2022	**$bn**	**$bn**
Reported ECL	**2.8**	**3.1**
Scenarios		
100% consensus Central scenario	**(0.3)**	**(0.7)**
100% consensus Upside scenario	**(0.5)**	**(1.2)**
100% consensus Downside scenario	**0.1**	**0.7**
100% Downside 2 scenario	**1.1**	**5.5**

	Retail[1]	Wholesale[2]
Total Group ECL at 31 December 2021	$bn	$bn
Reported ECL	3.0	3.1
Scenarios		
100% consensus Central scenario	(0.2)	(0.6)
100% consensus Upside scenario	(0.5)	(1.2)
100% consensus Downside scenario	0.2	0.6
100% Downside 2 scenario	2.0	5.5

1 *ECL sensitivities exclude portfolios utilising less complex modelling approaches.*
2 *Includes low credit-risk financial instruments, such as debt instruments at FVOCI, which have high carrying values but low ECL under all the scenarios.*

At 30 September 2022, the Group reported a modest decrease in reported ECL for the retail portfolio compared with 31 December 2021, while reported ECL remained broadly flat for the wholesale portfolio. The 100% weighted ECL across the consensus scenarios also reflected immaterial changes for both retail and wholesale portfolios. The Downside 2 scenario impact was lower in retail, primarily due to model refinements in certain markets.

Personal lending

Total personal lending for loans and advances to customers by stage distribution

	Gross carrying amount				Allowance for ECL			
	Stage 1	**Stage 2**	**Stage 3**	**Total**	**Stage 1**	**Stage 2**	**Stage 3**	**Total**
	$m	**$m**	**$m**	**$m**	**$m**	**$m**	**$m**	**$m**
By geography								
Europe	**153,894**	**12,900**	**1,195**	**167,989**	**(141)**	**(657)**	**(259)**	**(1,057)**
– of which: UK	***143,613***	***12,791***	***960***	***157,364***	***(121)***	***(651)***	***(216)***	***(988)***
Asia	**182,218**	**8,842**	**1,159**	**192,219**	**(136)**	**(327)**	**(190)**	**(653)**
– of which: Hong Kong	***126,204***	***5,236***	***218***	***131,658***	***(56)***	***(223)***	***(40)***	***(319)***
MENA	**5,485**	**235**	**137**	**5,857**	**(30)**	**(43)**	**(70)**	**(143)**
North America	**42,192**	**2,606**	**516**	**45,314**	**(30)**	**(95)**	**(82)**	**(207)**
Latin America	**9,946**	**735**	**345**	**11,026**	**(267)**	**(275)**	**(166)**	**(708)**
At 30 Sep 2022	**393,735**	**25,318**	**3,352**	**422,405**	**(604)**	**(1,397)**	**(767)**	**(2,768)**
By geography								
Europe	212,284	5,639	2,148	220,071	(199)	(499)	(637)	(1,335)
– of which: UK	*176,547*	*4,668*	*1,488*	*182,703*	*(167)*	*(480)*	*(399)*	*(1,046)*
Asia	187,391	7,796	1,303	196,490	(158)	(381)	(226)	(765)
– of which: Hong Kong	*125,854*	*4,959*	*202*	*131,015*	*(65)*	*(231)*	*(43)*	*(339)*
MENA	4,965	252	202	5,419	(38)	(40)	(94)	(172)
North America	43,489	2,126	1,005	46,620	(43)	(67)	(118)	(228)
Latin America	8,827	626	284	9,737	(220)	(232)	(151)	(603)
At 31 Dec 2021	456,956	16,439	4,942	478,337	(658)	(1,219)	(1,226)	(3,103)

At 30 September 2022, the stage 2 personal lending balances in the UK of $12.8bn increased by $8.1bn compared with 31 December 2021. This increase is largely explained by a management adjustment in the mortgage portfolio designed to reflect UK interest rate forecast and inflation risk in certain segments of our customer base that may be more susceptible to these pressures. While no increase in stress has emerged among this customer group, mortgage carrying amounts and related allowances for ECL have been classified as stage 2 as a recognition of the higher perceived risk to inflationary and interest rate pressures that may occur. The impact on ECL is driven by a combination of an uplift in probability of default ('PD') applied, and the change from 12-month ECL to lifetime ECL due to the stage transfer. However, the PD applied for these segments is significantly better than the preceding portfolio and therefore there is no material impact in ECL. We will continue to monitor the impact of inflation and interest rates; and update the management judgemental adjustments as these impacts abate or translate into changes in customer behaviour and performance.

Wholesale lending

Total wholesale lending for loans and advances to banks and customers at amortised cost

	Gross carrying amount					Allowance for ECL				
	Stage 1	Stage 2	Stage 3	POCI	Total	Stage 1	Stage 2	Stage 3	POCI	Total
	$m	$m	$m	$m	$m	$m	$m	$m	$m	$m
By geography										
Europe	**138,833**	**32,694**	**6,175**	**26**	**177,728**	**(279)**	**(574)**	**(1,385)**	**(2)**	**(2,240)**
– of which: UK	***98,952***	***21,587***	***4,757***	***25***	***125,321***	***(221)***	***(438)***	***(829)***	***(1)***	***(1,489)***
Asia	**290,365**	**60,361**	**5,192**	**68**	**355,986**	**(209)**	**(986)**	**(2,520)**	**(22)**	**(3,737)**
– of which: Hong Kong	***164,479***	***35,894***	***3,633***	***40***	***204,046***	***(106)***	***(774)***	***(1,490)***	***(22)***	***(2,392)***
MENA	**28,603**	**3,445**	**1,597**	**18**	**33,663**	**(16)**	**(60)**	**(885)**	**(12)**	**(973)**
North America	**56,997**	**13,259**	**549**	**—**	**70,805**	**(40)**	**(269)**	**(117)**	**—**	**(426)**
Latin America	**12,873**	**3,093**	**488**	**—**	**16,454**	**(55)**	**(64)**	**(233)**	**—**	**(352)**
At 30 Sep 2022	**527,671**	**112,852**	**14,001**	**112**	**654,636**	**(599)**	**(1,953)**	**(5,140)**	**(36)**	**(7,728)**
By geography										
Europe	154,575	31,871	6,741	30	193,217	(356)	(654)	(1,806)	(9)	(2,825)
– of which: UK	*101,029*	*24,461*	*5,126*	*28*	*130,644*	*(306)*	*(518)*	*(1,060)*	*(6)*	*(1,890)*
Asia	297,423	53,993	3,997	199	355,612	(182)	(830)	(2,299)	(43)	(3,354)
– of which: Hong Kong	*165,437*	*30,305*	*1,990*	*159*	*197,891*	*(85)*	*(650)*	*(836)*	*(21)*	*(1,592)*
MENA	26,135	5,295	1,682	22	33,134	(62)	(108)	(1,028)	(11)	(1,209)
North America	53,513	10,397	652	—	64,562	(57)	(215)	(169)	—	(441)
Latin America	11,970	2,746	783	23	15,522	(66)	(96)	(339)	(1)	(502)
At 31 Dec 2021	543,616	104,302	13,855	274	662,047	(723)	(1,903)	(5,641)	(64)	(8,331)

Capital risk

Capital overview

Capital adequacy metrics

	At	
	30 Sep 2022	30 Jun 2022
Risk-weighted assets ('RWAs') ($bn)		
Credit risk	**671.8**	697.1
Counterparty credit risk	**42.0**	42.8
Market risk	**33.5**	27.4
Operational risk	**81.0**	84.4
Total risk-weighted assets	**828.3**	851.7
Capital on a transitional basis ($bn)		
Common equity tier 1 ('CET1') capital	**110.8**	115.8
Tier 1 capital	**130.5**	137.5
Total capital	**149.9**	158.5
Capital ratios on a transitional basis (%)		
CET1	**13.4**	13.6
Tier 1	**15.8**	16.1
Total capital	**18.1**	18.6
Capital on an end point basis ($bn)		
CET1 capital	**110.8**	115.8
Tier 1 capital	**130.5**	137.5
Total capital	**144.5**	150.6
Capital ratios on an end point basis (%)		
CET1	**13.4**	13.6
Tier 1	**15.8**	16.1
Total capital	**17.4**	17.7
Liquidity coverage ratio ('LCR')		
Total high-quality liquid assets ($bn)	**605.5**	656.6
Total net cash outflow ($bn)	**477.7**	491.7
LCR ratio (%)	**127**	134

Capital figures and ratios in the previous table are calculated in accordance with the revised Capital Requirements Regulation and Directive, as implemented ('CRR II'). The table presents them under the transitional arrangements in CRR II for capital instruments and after their expiry, known as the end point. The end point figures in the table above include the benefit of the regulatory transitional arrangements in CRR II for IFRS 9, which are more fully described on page 27.

References to EU regulations and directives (including technical standards) should, as applicable, be read as references to the UK's version of such regulation and/or directive, as onshored into UK law under the European Union (Withdrawal) Act 2018, and subsequently amended under UK law.

Capital

At 30 September 2022, our common equity tier 1 ('CET1') capital ratio decreased to 13.4% from 13.6% at 30 June 2022, reflecting a decline in CET1 capital of $5.0bn and a fall in RWAs of $23.4bn. The key drivers of the overall fall in our CET1 ratio during the quarter were:

- a 0.3 percentage point decrease from the reclassification of our French retail operations to held for sale, which comprised a $2.0bn post-tax charge for the expected loss on disposal and impacts from CET1 capital thresholds;
- a 0.1 percentage point decrease from the $1.0bn post-tax fall in the fair value of securities classified as held to collect and sell; and
- a 0.2 percentage point increase from $1.8bn capital generation through profits less dividends after excluding the expected loss on disposal of our French retail operations.

Our Pillar 2A requirement (in accordance with the PRA's Individual Capital Requirement) was equivalent to 2.7% of RWAs, of which 1.5% was met by CET1 capital. Throughout 3Q22 we complied with the PRA's regulatory capital adequacy requirement.

Minimum requirement for own funds and eligible liabilities ('MREL')

MREL includes own funds and liabilities that can be written down or converted into capital resources in order to absorb losses or recapitalise a bank in the event of its failure. In line with our existing structure and business model, HSBC has three resolution groups – the European resolution group, the Asian resolution group and the US resolution group. There are some smaller entities that fall outside these resolution groups.

During the period, we identified an error in the RWA calculations of the European resolution group whereby $35bn of non-capital MREL instruments issued by the Asian and US resolution groups and held by the European resolution group were excluded from these calculations and were only deducted from MREL, whereas the relevant UK legislation requires these instruments to be both risk-weighted and deducted from MREL.

In rectifying this error, we changed our treatment of $35bn of non-capital MREL investments held by the European resolution group from entities outside its group to deduct them from the European resolution group's own funds rather than from solely its MREL, allowing us to exclude them from RWAs.

The change in treatment significantly reduced the European resolution group's total capital and increased its leverage ratio at 30 September 2022, but the European resolution group has no capital requirements. There was no impact on the Group's capital or MREL ratios, however the Group's MREL requirements did increase marginally.

Our MREL issuance plans for 2022 are not expected to be significantly impacted by this change. We will review this capital treatment and any resultant impact on our issuance plans in the future.

For further details on MREL, refer to our Pillar 3 Disclosures at 30 September 2022*, which are expected to be published on or around 2 November 2022.*

Leverage

Leverage ratio[1]

	At	
	30 Sep 2022	30 Jun 2022
	$bn	$bn
Tier 1 capital	**130.5**	137.5
Total leverage ratio exposure	**2,414.8**	2,484.2
	%	%
Leverage ratio	**5.4**	5.5

1 *The CRR II regulatory transitional arrangements for IFRS 9 are applied in the leverage ratio calculation. This calculation is in line with the UK leverage rules that were implemented on 1 January 2022, and excludes central bank claims.*

Our leverage ratio was 5.4% at 30 September 2022, down from 5.5% at 30 June 2022, due to a reduction in tier 1 capital. This was partly offset by a fall in the leverage exposure, which was primarily due to foreign currency translation movements.

At 30 September 2022, our UK minimum leverage ratio requirement of 3.25% was supplemented by a leverage ratio buffer of 0.8%, made up of an additional leverage ratio buffer of 0.7% and a countercyclical leverage ratio buffer of 0.1%. These buffers translated into capital values of $16.9bn and $2.4bn respectively. We exceeded these leverage requirements.

Risk-weighted assets

RWAs by global business

	WPB	CMB	GBM	Corporate Centre	Total
	$bn	$bn	$bn	$bn	$bn
Credit risk	**147.3**	**306.7**	**147.4**	**70.4**	**671.8**
Counterparty credit risk	**1.1**	**0.9**	**39.2**	**0.8**	**42.0**
Market risk	**1.3**	**0.7**	**24.1**	**7.4**	**33.5**
Operational risk	**30.2**	**23.6**	**27.6**	**(0.4)**	**81.0**
At 30 Sep 2022	**179.9**	**331.9**	**238.3**	**78.2**	**828.3**
At 30 Jun 2022	186.1	341.9	241.1	82.6	851.7

RWA movement by global business by key driver

	Credit risk, counterparty credit risk and operational risk					
	WPB	CMB	GBM	Corporate Centre	Market risk	Total RWAs
	$bn	$bn	$bn	$bn	$bn	$bn
RWAs at 1 July 2022	**184.8**	**341.3**	**221.7**	**76.5**	**27.4**	**851.7**
Asset size	2.0	3.6	1.6	(3.8)	6.2	9.6
Asset quality	1.5	(0.8)	(0.4)	(0.5)	—	(0.2)
Model updates	(1.3)	—	—	—	—	(1.3)
Methodology and policy	(1.2)	0.8	(2.3)	(0.4)	(0.1)	(3.2)
Acquisitions and disposals	(0.5)	—	—	—	—	(0.5)
Foreign exchange movements	(6.7)	(13.7)	(6.4)	(1.0)	—	(27.8)
Total RWA movement	**(6.2)**	**(10.1)**	**(7.5)**	**(5.7)**	**6.1**	**(23.4)**
RWAs at 30 Sep 2022	**178.6**	**331.2**	**214.2**	**70.8**	**33.5**	**828.3**

Risk-weighted assets ('RWAs') fell by $23.4bn during 3Q22. Excluding a decrease of $27.8bn due to foreign currency translation differences, RWAs increased by $4.4bn, predominantly attributed to asset size growth, partly offset by reductions due to risk parameter refinements and model updates.

At 30 September 2022, our cumulative RWA saves as part of our transformation programme were $120bn.

Asset size

A $9.6bn increase in RWAs due to asset size movements included $6.2bn of additional market risk RWAs, mostly attributable to heightened market volatility. Credit risk RWAs saw a $5.2bn increase in CMB and GBM that reflected corporate loan growth in Asia, Europe and the Americas. Retail lending growth in Hong Kong drove a $2.0bn rise in WPB RWAs. A $3.8bn decrease in Corporate Centre RWAs partly offset these movements, which was mainly due to lower thresholds for the recognition of significant investments in financial sector entities.

Asset quality

Portfolio mix changes were the main cause of book quality movements across the global businesses and regions, leading to an overall $0.2bn drop in RWAs.

Model updates

The $1.3bn fall in RWAs from model updates was due to the implementation of a new retail model in France.

Methodology and policy

Methodology and policy changes led to an RWA reduction of $3.2bn, reflecting risk parameter refinements in all of the global businesses. The $0.8bn increase in CMB included the impact of a revised treatment of corporate specialised lending in Hong Kong.

Regulatory developments

Future changes to our ratios will occur with the implementation of Basel 3.1, which forms the outstanding measures to be implemented from the Basel III reforms, with the PRA expected to consult on the UK's implementation in the last quarter of 2022, with an effective date of 1 January 2025. We currently do not foresee a material net impact on our ratios from the initial implementation. The RWA output floor under Basel 3.1 is expected to be subject to a five-year transitional provision. Any impact from the output floor would be towards the end of the transition period.

Regulatory transitional arrangements for IFRS 9 'Financial Instruments'

We have adopted the regulatory transitional arrangements in CRR II for IFRS 9, including paragraph four of article 473a. Our capital and ratios are presented under these arrangements throughout the tables in this section, including in the end point figures. At 30 September 2022, the add-back to CET1 capital amounted to $0.4bn under the standardised approach with a tax impact of $0.1bn. As a result, our CET1 ratio would fall to 13.3% without these arrangements.

For further details, refer to our Pillar 3 Disclosures at 30 September 2022*, which are expected to be published on or around 2 November 2022.*

Alternative performance measures

Use of alternative performance measures

Our reported results are prepared in accordance with IFRSs as detailed in our financial statements starting on page 308 of the *Annual Report and Accounts 2021.* We use a combination of reported and alternative performance measures, including those derived from our reported results that eliminate factors that distort period-on-period comparisons. These are considered alternative performance measures (non-GAAP financial measures).

The following information details the adjustments made to the reported results and the calculation of other alternative performance measures. All alternative performance measures are reconciled to the closest reported performance measure.

Return on average ordinary shareholders' equity and return on average tangible equity

Return on average ordinary shareholders' equity ('RoE') is computed by taking profit attributable to the ordinary shareholders of the parent company ('reported results'), divided by average ordinary shareholders' equity ('reported equity') for the period. The adjustment to reported results and reported equity excludes amounts attributable to non-controlling interests and holders of preference shares and other equity instruments.

Return on average tangible equity ('RoTE') is computed by adjusting reported results for the movements in the present value of in-force long-term insurance business ('PVIF') and for impairment of goodwill and other intangible assets (net of tax), divided by average reported equity adjusted for goodwill, intangibles and PVIF for the period.

Return on average tangible equity excluding significant items is annualised profit attributable to ordinary shareholders, excluding changes in PVIF and significant items (net of tax), divided by average tangible shareholders' equity excluding fair value of own debt, debit valuation adjustment ('DVA') and other adjustments for the period.

We provide RoTE ratios in addition to RoE as a way of assessing our performance, which is closely aligned to our capital position.

Return on average ordinary shareholders' equity and return on average tangible equity

	Nine months ended		Quarter ended		
	30 Sep 2022	30 Sep 2021	**30 Sep 2022**	30 Jun 2022	30 Sep 2021
	$m	$m	**$m**	$m	$m
Profit					
Profit attributable to the ordinary shareholders of the parent company	**10,202**	10,819	**1,913**	5,486	3,543
Impairment of goodwill and other intangible assets (net of tax)	**489**	17	**443**	42	17
Decrease/(increase) in PVIF (net of tax)	**(190)**	(52)	**509**	(516)	(68)
Profit attributable to the ordinary shareholders, excluding goodwill, other intangible assets impairment and PVIF	**10,501**	10,784	**2,865**	5,012	3,492
Significant items (net of tax) and other adjustments[1]	**1,805**	1,673			
Profit attributable to the ordinary shareholders, excluding goodwill impairment, PVIF and significant items	**12,306**	12,457			
Equity					
Average ordinary shareholders' equity	**170,587**	176,075	**163,053**	169,505	176,481
Effect of goodwill, PVIF and other intangibles (net of deferred tax)	**(17,823)**	(17,721)	**(17,801)**	(18,215)	(17,919)
Average tangible equity	**152,764**	158,354	**145,252**	151,290	158,562
Fair value of own debt, DVA and other adjustments	**(598)**	1,547			
Average tangible equity excluding fair value of own debt, DVA and other adjustments	**152,166**	159,901			
Ratio	**%**	%	**%**	%	%
Return on average ordinary shareholders' equity (annualised)	**8.0**	8.2	**4.7**	13.0	8.0
Return on tangible equity (annualised)	**9.2**	9.1	**7.8**	13.3	8.7
Return on tangible equity excluding significant items (annualised)[1]	**10.8**	10.4			

1 *Other adjustments includes entries relating to the timing of payments on additional tier 1 coupons.*

Return on average tangible equity by global business

	Nine months ended 30 Sep 2022				
	Wealth and Personal Banking	Commercial Banking	Global Banking and Markets	Corporate Centre	Total
	$m	$m	$m	$m	$m
Profit before tax	**3,038**	**5,511**	**4,413**	**(639)**	**12,323**
Tax expense	**(601)**	**(1,285)**	**(662)**	**2,001**	**(547)**
Profit after tax	**2,437**	**4,226**	**3,751**	**1,362**	**11,776**
Less attributable to: preference shareholders, other equity holders, non-controlling interests	**(502)**	**(440)**	**(505)**	**(127)**	**(1,574)**
Profit attributable to ordinary shareholders of the parent company	**1,935**	**3,786**	**3,246**	**1,235**	**10,202**
Decrease/(increase) in PVIF (net of tax)	**(223)**	**33**	**—**	**—**	**(190)**
Significant items (net of tax)	**1,839**	**103**	**4**	**267**	**2,213**
Other adjustments	**8**	**(8)**	**(10)**	**91**	**81**
Profit attributable to ordinary shareholders, excluding PVIF and significant items	**3,559**	**3,914**	**3,240**	**1,593**	**12,306**
Average tangible shareholders' equity excluding fair value of own debt, DVA and other adjustments	**31,334**	**38,249**	**36,752**	**45,831**	**152,166**
RoTE excluding significant items (annualised) (%)	**15.2**	**13.7**	**11.8**	**4.6**	**10.8**
	Nine months ended 30 Sep 2021				
Profit before tax	5,510	5,316	4,335	1,081	16,242
Tax expense	(1,179)	(1,413)	(906)	(80)	(3,578)
Profit after tax	4,331	3,903	3,429	1,001	12,664
Less attributable to: preference shareholders, other equity holders, non-controlling interests	(563)	(502)	(572)	(208)	(1,845)
Profit attributable to ordinary shareholders of the parent company	3,768	3,401	2,857	793	10,819
Increase in PVIF (net of tax)	(48)	(1)	—	(3)	(52)
Significant items (net of tax)	195	22	327	938	1,482
Other adjustments	2	(3)	(2)	211	208
Profit attributable to ordinary shareholders, excluding PVIF and significant items	3,917	3,419	3,182	1,939	12,457
Average tangible shareholders' equity excluding fair value of own debt, DVA and other adjustments	30,506	39,363	42,050	47,982	159,901
RoTE excluding significant items (annualised) (%)	17.2	11.6	10.1	5.4	10.4

Net asset value and tangible net asset value per ordinary share

Net asset value per ordinary share is total shareholders' equity less non-cumulative preference shares and capital securities ('total ordinary shareholders' equity'), divided by the number of ordinary shares in issue excluding shares that the company has purchased and are held in treasury.

Tangible net asset value per ordinary share is total ordinary shareholders' equity excluding goodwill, PVIF and other intangible assets (net of deferred tax) ('tangible ordinary shareholders' equity'), divided by the number of basic ordinary shares in issue excluding shares that the company has purchased and are held in treasury.

Net asset value and tangible net asset value per ordinary share

	At		
	30 Sep 2022	30 Jun 2022	30 Sep 2021
	$m	$m	$m
Total shareholders' equity	**177,659**	188,382	198,144
Preference shares and other equity instruments	**(19,746)**	(21,691)	(22,414)
Total ordinary shareholders' equity	**157,913**	166,691	175,730
Goodwill, PVIF and intangible assets (net of deferred tax)	**(17,218)**	(18,383)	(18,019)
Tangible ordinary shareholders' equity	**140,695**	148,308	157,711
Basic number of $0.50 ordinary shares outstanding	**19,738**	19,819	20,201
Value per share	**$**	$	$
Net asset value per ordinary share	**8.00**	8.41	8.70
Tangible net asset value per ordinary share	**7.13**	7.48	7.81

Expected credit losses and other credit impairment charges as % of average gross loans and advances to customers

Expected credit losses and other credit impairment charges ('ECL') as % of average gross loans and advances to customers is the annualised adjusted ECL divided by adjusted average gross loans and advances to customers for the period.

The adjusted numbers are derived by adjusting reported ECL and loans and advances to customers for the effects of foreign currency translation differences.

Expected credit losses and other credit impairment charges as % of average gross loans and advances to customers

	Nine months ended		Quarter ended		
	30 Sep 2022	30 Sep 2021	**30 Sep 2022**	30 Jun 2022	30 Sep 2021
	$m	$m	**$m**	$m	$m
Expected credit losses and other credit impairment charges ('ECL')	**(2,165)**	1,378	**(1,075)**	(448)	659
Currency translation		(142)		15	(98)
Adjusted ECL	**(2,165)**	1,236	**(1,075)**	(433)	561
Average gross loans and advances to customers	**1,035,229**	1,057,457	**1,008,541**	1,052,866	1,061,781
Currency translation	**(55,083)**	(102,875)	**(21,631)**	(63,567)	(99,891)
Average gross loans and advances to customers – at most recent balance sheet foreign exchange rates	**980,146**	954,582	**986,910**	989,299	961,890
Ratio	**%**	%	**%**	%	%
Expected credit losses and other credit impairment charges as % of average gross loans and advances to customers	**0.30**	(0.17)	**0.43**	0.18	(0.23)

Reconciliation of reported and adjusted results

Reconciliation of reported and adjusted results

	Nine months ended		Quarter ended		
	30 Sep 2022	30 Sep 2021	**30 Sep 2022**	30 Jun 2022	30 Sep 2021
	$m	$m	**$m**	$m	$m
Revenue[1]					
Reported	**36,852**	37,563	**11,616**	12,772	12,012
Currency translation		(2,069)		(470)	(1,000)
Significant items	**3,141**	437	**2,687**	396	185
– customer redress programmes	**(3)**	(18)	**(17)**	12	—
– disposals, acquisitions and investment in new businesses[2]	**2,728**	—	**2,440**	288	—
– fair value movements on financial instruments[3]	**452**	258	**232**	58	64
– restructuring and other related costs[4]	**(36)**	195	**32**	11	125
– currency translation of significant items		2		27	(4)
Adjusted	**39,993**	35,931	**14,303**	12,698	11,197
Change in expected credit losses and other credit impairment charges					
Reported	**(2,165)**	1,378	**(1,075)**	(448)	659
Currency translation		(142)		15	(98)
Adjusted	**(2,165)**	1,236	**(1,075)**	(433)	561
Operating expenses					
Reported	**(24,394)**	(25,076)	**(7,975)**	(8,107)	(7,989)
Currency translation		1,454		287	705
Significant items	**1,718**	1,176	**675**	561	358
– customer redress programmes	**(21)**	24	**(15)**	(10)	7
– disposals, acquisitions and investment in new businesses	**9**	—	**9**	—	—
– impairment of goodwill and other intangibles	**9**	—	**—**	9	—
– restructuring and other related costs	**1,721**	1,245	**681**	589	397
– currency translation of significant items		(93)		(27)	(46)
Adjusted	**(22,676)**	(22,446)	**(7,300)**	(7,259)	(6,926)
Share of profit in associates and joint ventures					
Reported	**2,030**	2,377	**581**	793	721
Currency translation		(52)		(24)	(45)
Adjusted	**2,030**	2,325	**581**	769	676
Profit before tax					
Reported	**12,323**	16,242	**3,147**	5,010	5,403
Currency translation		(809)		(192)	(438)
Significant items	**4,859**	1,613	**3,362**	957	543
– revenue	**3,141**	437	**2,687**	396	185
– operating expenses	**1,718**	1,176	**675**	561	358
Adjusted profit before tax	**17,182**	17,046	**6,509**	5,775	5,508
Reported tax (charge)/credit	**(547)**	(3,578)	**(586)**	762	(1,161)
Currency translation		221		36	112
Tax significant items	**(2,648)**	(210)	**(648)**	(1,935)	(63)
– tax charge/(credit) on significant items	**(883)**	(222)	**(648)**	(170)	(69)
– recognition of losses on HSBC Holdings	**(1,765)**	—	**—**	(1,765)	—
– currency translation on significant items		12		—	6
Adjusted profit after tax	**13,987**	13,479	**5,275**	4,638	4,396
Loans and advances to customers (net)					
Reported	**967,522**	1,039,677	**967,522**	1,028,356	1,039,677
Currency translation		(91,988)		(42,859)	(91,988)
Adjusted	**967,522**	947,689	**967,522**	985,497	947,689
Customer accounts					
Reported	**1,567,267**	1,687,982	**1,567,267**	1,651,301	1,687,982
Currency translation		(147,529)		(67,555)	(147,529)
Adjusted	**1,567,267**	1,540,453	**1,567,267**	1,583,746	1,540,453

1 *Net operating income before change in expected credit losses and other credit impairment charges, also referred to as revenue.*
2 *Includes losses from classifying businesses as held for sale as part of a broader restructuring of our European business, of which $2.4bn relates to the planned sale of the retail banking operations in France.*
3 *Includes fair value movements on non-qualifying hedges and debit valuation adjustments on derivatives.*
4 *Comprises gains and losses relating to the business update in February 2020, including losses associated with the RWA reduction programme.*

Reconciliation of reported and adjusted results – global businesses

Analysis of significant items by global business is presented below.

Reconciliation of reported results to adjusted results – global businesses

	Nine months ended 30 Sep 2022				
	Wealth and Personal Banking	Commercial Banking	Global Banking and Markets	Corporate Centre	Total
	$m	$m	$m	$m	$m
Revenue[1]					
Reported	15,043	11,524	11,805	(1,520)	36,852
Significant items	2,165	2	(141)	1,115	3,141
– customer redress programmes	(4)	1	–	–	(3)
– disposals, acquisitions and investment in new businesses[2]	2,267	–	–	461	2,728
– fair value movements on financial instruments[3]	1	(1)	(202)	654	452
– restructuring and other related costs[4]	(99)	2	61	–	(36)
Adjusted	17,208	11,526	11,664	(405)	39,993
ECL					
Reported	(878)	(970)	(315)	(2)	(2,165)
Adjusted	(878)	(970)	(315)	(2)	(2,165)
Operating expenses					
Reported	(11,148)	(5,043)	(7,077)	(1,126)	(24,394)
Significant items	149	125	138	1,306	1,718
– customer redress programmes	(27)	–	–	6	(21)
– disposals, acquisitions and investment in new businesses	1	–	–	8	9
– impairment of goodwill and other intangibles	–	–	–	9	9
– restructuring and other related costs	175	125	138	1,283	1,721
Adjusted	(10,999)	(4,918)	(6,939)	180	(22,676)
Share of profit in associates and joint ventures					
Reported	21	–	–	2,009	2,030
Adjusted	21	–	–	2,009	2,030
Profit/(loss) before tax					
Reported	3,038	5,511	4,413	(639)	12,323
Significant items	2,314	127	(3)	2,421	4,859
– revenue	2,165	2	(141)	1,115	3,141
– operating expenses	149	125	138	1,306	1,718
Adjusted profit before tax	5,352	5,638	4,410	1,782	17,182
Loans and advances to customers (net)					
Reported	431,776	334,874	200,523	349	967,522
Adjusted	431,776	334,874	200,523	349	967,522
Customer accounts					
Reported	778,969	460,125	327,754	419	1,567,267
Adjusted	778,969	460,125	327,754	419	1,567,267

1 *Net operating income before change in expected credit losses and other credit impairment charges, also referred to as revenue.*
2 *Includes losses from classifying businesses as held for sale as part of the broader restructuring of our European business, of which $2.4bn relates to the planned sale of the retail banking operations in France.*
3 *Includes fair value movements on non-qualifying hedges and debit valuation adjustments on derivatives.*
4 *Comprises gains and losses relating to the business update in February 2020, including losses associated with the RWA reduction programme.*

Reconciliation of reported results to adjusted results – global businesses (continued)

	Nine months ended 30 Sep 2021				
	Wealth and Personal Banking	Commercial Banking	Global Banking and Markets	Corporate Centre	Total
	$m	$m	$m	$m	$m
Revenue[1]					
Reported	16,816	10,044	11,214	(511)	37,563
Currency translation	(805)	(595)	(656)	(13)	(2,069)
Significant items	6	(13)	245	199	437
– customer redress programmes	1	(19)	—	—	(18)
– fair value movements on financial instruments[2]	—	(1)	4	255	258
– restructuring and other related costs[3]	1	2	264	(72)	195
– currency translation on significant items	4	5	(23)	16	2
Adjusted	16,017	9,436	10,803	(325)	35,931
ECL					
Reported	289	521	561	7	1,378
Currency translation	(50)	(70)	(20)	(2)	(142)
Adjusted	239	451	541	5	1,236
Operating expenses					
Reported	(11,619)	(5,250)	(7,440)	(767)	(25,076)
Currency translation	630	297	517	10	1,454
Significant items	236	45	107	788	1,176
– customer redress programmes	18	—	—	6	24
– restructuring and other related costs	233	52	120	840	1,245
– currency translation on significant items	(15)	(7)	(13)	(58)	(93)
Adjusted	(10,753)	(4,908)	(6,816)	31	(22,446)
Share of profit in associates and joint ventures					
Reported	24	1	—	2,352	2,377
Currency translation	—	—	—	(52)	(52)
Adjusted	24	1	—	2,300	2,325
Profit before tax					
Reported	5,510	5,316	4,335	1,081	16,242
Currency translation	(225)	(368)	(159)	(57)	(809)
Significant items	242	32	352	987	1,613
– revenue	6	(13)	245	199	437
– operating expenses	236	45	107	788	1,176
Adjusted profit before tax	5,527	4,980	4,528	2,011	17,046
Loans and advances to customers (net)					
Reported	481,795	345,156	211,976	750	1,039,677
Currency translation	(46,651)	(29,829)	(15,409)	(99)	(91,988)
Adjusted	435,144	315,327	196,567	651	947,689
Customer accounts					
Reported	844,611	488,201	354,466	704	1,687,982
Currency translation	(67,023)	(43,863)	(36,523)	(120)	(147,529)
Adjusted	777,588	444,338	317,943	584	1,540,453

1 *Net operating income before change in expected credit losses and other credit impairment charges, also referred to as revenue.*
2 *Includes fair value movements on non-qualifying hedges and debit valuation adjustments on derivatives.*
3 *Comprises gains and losses relating to the business update in February 2020, including losses associated with the RWA reduction programme.*

Reconciliation of reported and adjusted items – global businesses

	Quarter ended 30 Sep 2022				
	Wealth and Personal Banking	Commercial Banking	Global Banking and Markets	Corporate Centre	Total
	$m	$m	$m	$m	$m
Revenue[1]					
Reported	4,037	4,308	3,862	(591)	11,616
Significant items	2,249	1	(39)	476	2,687
– customer redress programmes	(15)	(2)	–	–	(17)
– disposals, acquisitions and investment in new businesses[2]	2,267	–	–	173	2,440
– fair value movements on financial instruments[3]	3	1	(75)	303	232
– restructuring and other related costs[4]	(6)	2	36	–	32
Adjusted	6,286	4,309	3,823	(115)	14,303
ECL					
Reported	(305)	(682)	(88)	–	(1,075)
Adjusted	(305)	(682)	(88)	–	(1,075)
Operating expenses					
Reported	(3,634)	(1,626)	(2,255)	(460)	(7,975)
Significant items	46	59	51	519	675
– customer redress programmes	(17)	–	–	2	(15)
– disposals, acquisitions and investment in new businesses	1	–	–	8	9
– restructuring and other related costs	62	59	51	509	681
Adjusted	(3,588)	(1,567)	(2,204)	59	(7,300)
Share of profit in associates and joint ventures					
Reported	13	–	–	568	581
Adjusted	13	–	–	568	581
Profit/(loss) before tax					
Reported	111	2,000	1,519	(483)	3,147
Significant items	2,295	60	12	995	3,362
– revenue	2,249	1	(39)	476	2,687
– operating expenses	46	59	51	519	675
Adjusted profit before tax	2,406	2,060	1,531	512	6,509
Loans and advances to customers (net)					
Reported	431,776	334,874	200,523	349	967,522
Adjusted	431,776	334,874	200,523	349	967,522
Customer accounts					
Reported	778,969	460,125	327,754	419	1,567,267
Adjusted	778,969	460,125	327,754	419	1,567,267

1 *Net operating income before change in expected credit losses and other credit impairment charges, also referred to as revenue.*
2 *Includes losses from classifying businesses as held for sale as part of the broader restructuring of our European business, of which $2.4bn relates to the planned sale of the retail banking operations in France.*
3 *Includes fair value movements on non-qualifying hedges and debit valuation adjustments on derivatives.*
4 *Comprises gains and losses relating to the business update in February 2020, including losses associated with the RWA reduction programme.*

Reconciliation of reported results to adjusted results – global businesses (continued)

	Quarter ended 30 Jun 2022				
	Wealth and Personal Banking	Commercial Banking	Global Banking and Markets	Corporate Centre	Total
	$m	$m	$m	$m	$m
Revenue[1]					
Reported	5,684	3,682	3,916	(510)	12,772
Currency translation	(169)	(129)	(141)	(31)	(470)
Significant items	8	3	(82)	467	396
– customer redress programmes	9	3	—	—	12
– disposals, acquisitions and investment in new businesses[2]	—	—	—	288	288
– fair value movements on financial instruments[3]	(1)	(1)	(97)	157	58
– restructuring and other related costs[4]	(1)	—	10	2	11
– currency translation on significant items	1	1	5	20	27
Adjusted	5,523	3,556	3,693	(74)	12,698
ECL					
Reported	(231)	(300)	83	—	(448)
Currency translation	10	4	—	1	15
Adjusted	(221)	(296)	83	1	(433)
Operating expenses					
Reported	(3,686)	(1,663)	(2,315)	(443)	(8,107)
Currency translation	114	57	95	21	287
Significant items	46	35	46	434	561
– customer redress programmes	(12)	—	—	2	(10)
– impairment of goodwill and other intangibles	—	—	—	9	9
– restructuring and other related costs	61	36	49	443	589
– currency translation on significant items	(3)	(1)	(3)	(20)	(27)
Adjusted	(3,526)	(1,571)	(2,174)	12	(7,259)
Share of profit in associates and joint ventures					
Reported	—	—	—	793	793
Currency translation	—	—	—	(24)	(24)
Adjusted	—	—	—	769	769
Profit/(loss) before tax					
Reported	1,767	1,719	1,684	(160)	5,010
Currency translation	(45)	(68)	(46)	(33)	(192)
Significant items	54	38	(36)	901	957
– revenue	8	3	(82)	467	396
– operating expenses	46	35	46	434	561
Adjusted profit before tax	1,776	1,689	1,602	708	5,775
Loans and advances to customers (net)					
Reported	475,464	348,253	204,097	542	1,028,356
Currency translation	(22,272)	(14,044)	(6,517)	(26)	(42,859)
Adjusted	453,192	334,209	197,580	516	985,497
Customer accounts					
Reported	836,026	479,680	335,033	562	1,651,301
Currency translation	(30,434)	(20,259)	(16,817)	(45)	(67,555)
Adjusted	805,592	459,421	318,216	517	1,583,746

1 *Net operating income before change in expected credit losses and other credit impairment charges, also referred to as revenue.*
2 *Includes losses from classifying businesses as held for sale as part of a broader restructuring of our European business.*
3 *Includes fair value movements on non-qualifying hedges and debit valuation adjustments on derivatives.*
4 *Comprises gains and losses relating to the business update in February 2020, including losses associated with the RWA reduction programme.*

Reconciliation of reported results to adjusted results – global businesses (continued)

	Quarter ended 30 Sep 2021				
	Wealth and Personal Banking	Commercial Banking	Global Banking and Markets	Corporate Centre	Total
	$m	$m	$m	$m	$m
Revenue[1]					
Reported	5,416	3,374	3,511	(289)	12,012
Currency translation	(382)	(294)	(306)	(18)	(1,000)
Significant items	4	3	81	97	185
– fair value movements on financial instruments[2]	1	—	(9)	72	64
– restructuring and other related costs[3]	1	—	102	22	125
– currency translation on significant items	2	3	(12)	3	(4)
Adjusted	5,038	3,083	3,286	(210)	11,197
ECL					
Reported	237	272	147	3	659
Currency translation	(36)	(50)	(11)	(1)	(98)
Adjusted	201	222	136	2	561
Operating expenses					
Reported	(3,802)	(1,706)	(2,382)	(99)	(7,989)
Currency translation	297	141	250	17	705
Significant items	28	27	40	263	358
– customer redress programmes	5	—	—	2	7
– restructuring and other related costs	29	33	47	288	397
– currency translation on significant items	(6)	(6)	(7)	(27)	(46)
Adjusted	(3,477)	(1,538)	(2,092)	181	(6,926)
Share of profit in associates and joint ventures					
Reported	13	—	—	708	721
Currency translation	1	—	—	(46)	(45)
Adjusted	14	—	—	662	676
Profit before tax					
Reported	1,864	1,940	1,276	323	5,403
Currency translation	(120)	(203)	(67)	(48)	(438)
Significant items	32	30	121	360	543
– revenue	4	3	81	97	185
– operating expenses	28	27	40	263	358
Adjusted profit before tax	1,776	1,767	1,330	635	5,508
Loans and advances to customers (net)					
Reported	481,795	345,156	211,976	750	1,039,677
Currency translation	(46,651)	(29,829)	(15,409)	(99)	(91,988)
Adjusted	435,144	315,327	196,567	651	947,689
Customer accounts					
Reported	844,611	488,201	354,466	704	1,687,982
Currency translation	(67,023)	(43,863)	(36,523)	(120)	(147,529)
Adjusted	777,588	444,338	317,943	584	1,540,453

1 *Net operating income before change in expected credit losses and other credit impairment charges, also referred to as revenue.*
2 *Includes fair value movements on non-qualifying hedges and debit valuation adjustments on derivatives.*
3 *Comprises gains and losses relating to the business update in February 2020, including losses associated with the RWA reduction programme.*

Reconciliation of reported and adjusted risk-weighted assets

The following table reconciles reported and adjusted risk-weighted assets ('RWAs').

Reconciliation of reported and adjusted risk-weighted assets

	At 30 Sep 2022				
	Wealth and Personal Banking	Commercial Banking	Global Banking and Markets	Corporate Centre	Total
	$bn	$bn	$bn	$bn	$bn
Risk-weighted assets					
Reported	**179.9**	**331.9**	**238.3**	**78.2**	**828.3**
Adjusted[1]	**179.9**	**331.9**	**238.3**	**78.2**	**828.3**
	At 30 June 2022				
Risk-weighted assets					
Reported	186.1	341.9	241.1	82.6	851.7
Currency translation	(6.7)	(13.7)	(6.4)	(1.0)	(27.8)
Adjusted[1]	179.4	328.2	234.7	81.6	823.9
	At 31 Mar 2022				
Risk-weighted assets					
Reported	190.3	338.7	242.9	90.4	862.3
Currency translation	(12.7)	(25.8)	(12.0)	(1.8)	(52.3)
Adjusted[1]	177.6	312.9	230.9	88.6	810.0

1 *Adjusted risk-weighted assets are calculated using reported risk-weighted assets adjusted for the effects of currency translation differences and material significant items.*

Reconciliation of reported and adjusted results – geographical regions

Analysis of significant items by geographical regions is presented below.

Reconciliation of reported results to adjusted results – geographical regions

	Nine months ended 30 Sep 2022					
	Europe $m	Asia $m	MENA $m	North America $m	Latin America $m	Total $m
Revenue[1]						
Reported[2]	11,817	20,445	2,127	4,797	2,751	36,852
Significant items[2]	2,975	(228)	(6)	(104)	(1)	3,141
– customer redress programmes	(3)	–	–	–	–	(3)
– disposals, acquisitions and investment in new businesses[3]	2,728	–	–	–	–	2,728
– fair value movement on financial instruments[4]	535	(63)	(6)	(12)	(2)	452
– restructuring and other related costs[2,5]	(285)	(165)	–	(92)	1	(36)
Adjusted[2]	14,792	20,217	2,121	4,693	2,750	39,993
ECL						
Reported	(566)	(1,195)	43	(77)	(370)	(2,165)
Adjusted	(566)	(1,195)	43	(77)	(370)	(2,165)
Operating expenses						
Reported[2]	(11,901)	(11,285)	(1,138)	(3,402)	(1,753)	(24,394)
Significant items[2]	1,301	510	39	291	82	1,718
– customer redress programmes	(21)	–	–	–	–	(21)
– disposals, acquisitions and investment in new businesses	9	–	–	–	–	9
– impairment of goodwill and other intangibles	9	–	–	–	–	9
– restructuring and other related costs[2]	1,304	510	39	291	82	1,721
Adjusted[2]	(10,600)	(10,775)	(1,099)	(3,111)	(1,671)	(22,676)
Share of profit/(loss) in associates and joint ventures						
Reported	(35)	1,849	209	–	7	2,030
Adjusted	(35)	1,849	209	–	7	2,030
Profit/(loss) before tax						
Reported	(685)	9,814	1,241	1,318	635	12,323
Significant items	4,276	282	33	187	81	4,859
– revenue[2]	2,975	(228)	(6)	(104)	(1)	3,141
– operating expenses[2]	1,301	510	39	291	82	1,718
Adjusted profit before tax	3,591	10,096	1,274	1,505	716	17,182
Loans and advances to customers (net)						
Reported	322,546	480,167	27,676	113,597	23,536	967,522
Adjusted	322,546	480,167	27,676	113,597	23,536	967,522
Customer accounts						
Reported	570,419	756,033	43,937	166,262	30,616	1,567,267
Adjusted	570,419	756,033	43,937	166,262	30,616	1,567,267

1 *Net operating income before change in expected credit losses and other credit impairment charges, also referred to as revenue.*
2 *Amounts are non-additive across geographical regions due to inter-company transactions within the Group.*
3 *Includes losses from classifying businesses as held for sale as part of a broader restructuring of our European business, of which $2.4bn relates to the planned sale of the retail banking operations in France.*
4 *Includes fair value movements on non-qualifying hedges and debit valuation adjustments on derivatives.*
5 *Comprises gains and losses relating to the business update in February 2020, including losses associated with the RWA reduction programme.*

Reconciliation of reported results to adjusted results – geographical regions (continued)

	Nine months ended 30 Sep 2021					
	Europe	Asia	MENA	North America	Latin America	Total
	$m	$m	$m	$m	$m	$m
Revenue[1]						
Reported[2]	14,913	19,830	1,879	4,501	2,262	37,563
Currency translation[2]	(1,459)	(476)	(147)	(35)	(112)	(2,069)
Significant items	156	(106)	(1)	24	6	437
– customer redress programmes	(18)	—	—	—	—	(18)
– fair value movements on financial instruments[3]	252	2	—	4	—	258
– restructuring and other related costs[2,4]	(88)	(113)	—	20	6	195
– currency translation on significant items	10	5	(1)	—	—	2
Adjusted[2]	13,610	19,248	1,731	4,490	2,156	35,931
ECL						
Reported	1,327	(312)	160	257	(54)	1,378
Currency translation	(141)	9	(3)	(1)	(6)	(142)
Adjusted	1,186	(303)	157	256	(60)	1,236
Operating expenses						
Reported[2]	(13,384)	(11,181)	(1,143)	(3,595)	(1,595)	(25,076)
Currency translation[2]	1,133	292	80	21	88	1,454
Significant items	884	318	34	252	46	1,176
– customer redress programmes	24	—	—	—	—	24
– restructuring and other related costs[2]	950	327	37	253	48	1,245
– currency translation on significant items	(90)	(9)	(3)	(1)	(2)	(93)
Adjusted[2]	(11,367)	(10,571)	(1,029)	(3,322)	(1,461)	(22,446)
Share of profit in associates and joint ventures						
Reported	254	1,902	205	—	16	2,377
Currency translation	(21)	(31)	—	—	—	(52)
Adjusted	233	1,871	205	—	16	2,325
Profit before tax						
Reported	3,110	10,239	1,101	1,163	629	16,242
Currency translation	(488)	(206)	(70)	(15)	(30)	(809)
Significant items	1,040	212	33	276	52	1,613
– revenue[2]	156	(106)	(1)	24	6	437
– operating expenses[2]	884	318	34	252	46	1,176
Adjusted profit before tax	3,662	10,245	1,064	1,424	651	17,046
Loans and advances to customers (net)						
Reported	398,308	487,559	27,095	106,422	20,293	1,039,677
Currency translation	(67,506)	(18,658)	(1,740)	(3,940)	(144)	(91,988)
Adjusted	330,802	468,901	25,355	102,482	20,149	947,689
Customer accounts						
Reported	666,968	771,463	42,089	179,100	28,362	1,687,982
Currency translation	(113,240)	(25,584)	(3,651)	(4,177)	(877)	(147,529)
Adjusted	553,728	745,879	38,438	174,923	27,485	1,540,453

1 *Net operating income before change in expected credit losses and other credit impairment charges, also referred to as revenue.*
2 *Amounts are non-additive across geographical regions due to inter-company transactions within the Group.*
3 *Includes fair value movements on non-qualifying hedges and debit valuation adjustments on derivatives.*
4 *Comprises gains and losses relating to the business update in February 2020, including losses associated with the RWA reduction programme.*

Reconciliation of reported results to adjusted results – geographical regions

	Quarter ended 30 Sep 2022					
	Europe	Asia	MENA	North America	Latin America	Total
	$m	$m	$m	$m	$m	$m
Revenue[1]						
Reported[2]	2,465	7,496	789	1,608	970	11,616
Significant items[2]	2,538	(62)	(1)	1	(1)	2,687
– customer redress programmes	(17)	–	–	–	–	(17)
– disposals, acquisitions and investment in new businesses[3]	2,440	–	–	–	–	2,440
– fair value movements on financial instruments[4]	227	13	(1)	(6)	(1)	232
– restructuring and other related costs[2,5]	(112)	(75)	–	7	–	32
Adjusted[2]	5,003	7,434	788	1,609	969	14,303
ECL						
Reported	(264)	(666)	(6)	(30)	(109)	(1,075)
Adjusted	(264)	(666)	(6)	(30)	(109)	(1,075)
Operating expenses						
Reported[2]	(3,757)	(3,814)	(382)	(1,118)	(616)	(7,975)
Significant items[2]	466	229	17	136	39	675
– customer redress programmes	(15)	–	–	–	–	(15)
– disposals, acquisitions and investment in new businesses	9	–	–	–	–	9
– restructuring and other related costs[2]	472	229	17	136	39	681
Adjusted[2]	(3,291)	(3,585)	(365)	(982)	(577)	(7,300)
Share of profit/(loss) in associates and joint ventures						
Reported	(12)	498	92	–	3	581
Adjusted	(12)	498	92	–	3	581
Profit/(loss) before tax						
Reported	(1,568)	3,514	493	460	248	3,147
Significant items	3,004	167	16	137	38	3,362
– revenue[2]	2,538	(62)	(1)	1	(1)	2,687
– operating expenses[2]	466	229	17	136	39	675
Adjusted profit before tax	1,436	3,681	509	597	286	6,509
Loans and advances to customers (net)						
Reported	322,546	480,167	27,676	113,597	23,536	967,522
Adjusted	322,546	480,167	27,676	113,597	23,536	967,522
Customer accounts						
Reported	570,419	756,033	43,937	166,262	30,616	1,567,267
Adjusted	570,419	756,033	43,937	166,262	30,616	1,567,267

1 *Net operating income before change in expected credit losses and other credit impairment charges, also referred to as revenue.*
2 *Amounts are non-additive across geographical regions due to inter-company transactions within the Group.*
3 *Includes losses from classifying businesses as held for sale as part of a broader restructuring of our European business, of which $2.4bn relates to the planned sale of the retail banking operations in France.*
4 *Includes fair value movements on non-qualifying hedges and debit valuation adjustments on derivatives.*
5 *Comprises gains and losses relating to the business update in February 2020, including losses associated with the RWA reduction programme.*

Reconciliation of reported to adjusted results – geographical regions (continued)

	Quarter ended 30 Jun 2022					
	Europe	Asia	MENA	North America	Latin America	Total
	$m	$m	$m	$m	$m	$m
Revenue[1]						
Reported[2]	4,567	6,820	614	1,552	956	12,772
Currency translation[2]	(354)	(111)	(2)	(11)	(34)	(470)
Significant items[2]	354	(96)	(4)	(5)	(1)	396
– customer redress programmes	12	—	—	—	—	12
– disposals, acquisitions and investment in new businesses[3]	288	—	—	—	—	288
– fair value movements on financial instruments[4]	124	(56)	(4)	(4)	(2)	58
– restructuring and other related costs[2,5]	(95)	(43)	—	—	1	11
– currency translation on significant items	25	3	—	(1)	—	27
Adjusted[2]	4,567	6,613	608	1,536	921	12,698
ECL						
Reported	27	(218)	6	(105)	(158)	(448)
Currency translation	6	3	—	2	4	15
Adjusted	33	(215)	6	(103)	(154)	(433)
Operating expenses						
Reported[2]	(3,966)	(3,777)	(376)	(1,142)	(583)	(8,107)
Currency translation[2]	225	64	7	6	27	287
Significant items[2]	424	159	11	92	23	561
– customer redress programmes	(10)	—	—	—	—	(10)
– impairment of goodwill and other intangibles	9	—	—	—	—	9
– restructuring and other related costs[2]	451	161	10	92	23	589
– currency translation on significant items	(26)	(2)	1	—	—	(27)
Adjusted[2]	(3,317)	(3,554)	(358)	(1,044)	(533)	(7,259)
Share of profit in associates and joint ventures						
Reported	2	671	119	—	1	793
Currency translation	(2)	(23)	—	—	1	(24)
Adjusted	—	648	119	—	2	769
Profit before tax						
Reported	630	3,496	363	305	216	5,010
Currency translation	(125)	(67)	5	(3)	(2)	(192)
Significant items	778	63	7	87	22	957
– revenue[2]	354	(96)	(4)	(5)	(1)	396
– operating expenses[2]	424	159	11	92	23	561
Adjusted profit before tax	1,283	3,492	375	389	236	5,775
Loans and advances to customers (net)						
Reported	368,923	492,548	28,348	116,075	22,462	1,028,356
Currency translation	(29,754)	(9,171)	(277)	(3,364)	(293)	(42,859)
Adjusted	339,169	483,377	28,071	112,711	22,169	985,497
Customer accounts						
Reported	628,977	779,153	44,008	168,699	30,464	1,651,301
Currency translation	(51,398)	(11,403)	(623)	(3,403)	(728)	(67,555)
Adjusted	577,579	767,750	43,385	165,296	29,736	1,583,746

1 *Net operating income before change in expected credit losses and other credit impairment charges, also referred to as revenue.*
2 *Amounts are non-additive across geographical regions due to inter-company transactions within the Group.*
3 *Includes losses from classifying businesses as held for sale as part of a broader restructuring of our European business.*
4 *Includes fair value movements on non-qualifying hedges and debit valuation adjustments on derivatives.*
5 *Comprises gains and losses relating to the business update in February 2020, including losses associated with the RWA reduction programme.*

Reconciliation of reported to adjusted results – geographical regions (continued)

	Quarter ended 30 Sep 2021					
	Europe	Asia	MENA	North America	Latin America	Total
	$m	$m	$m	$m	$m	$m
Revenue[1]						
Reported[2]	4,684	6,574	627	1,450	777	12,012
Currency translation[2]	(716)	(232)	(58)	(17)	(59)	(1,000)
Significant items	67	(54)	—	21	(1)	185
– fair value movements on financial instruments[3]	64	(3)	—	4	(1)	64
– restructuring and other related costs[2,4]	3	(54)	—	17	—	125
– currency translation on significant items	—	3	—	—	—	(4)
Adjusted[2]	4,035	6,288	569	1,454	717	11,197
ECL						
Reported	657	(105)	44	45	18	659
Currency translation	(99)	5	4	—	(8)	(98)
Adjusted	558	(100)	48	45	10	561
Operating expenses						
Reported[2]	(4,300)	(3,709)	(358)	(1,137)	(585)	(7,989)
Currency translation[2]	556	149	28	10	44	705
Significant items	294	121	13	62	20	358
– customer redress programmes	7	—	—	—	—	7
– restructuring and other related costs[2]	333	125	15	62	21	397
– currency translation on significant items	(46)	(4)	(2)	—	(1)	(46)
Adjusted[2]	(3,450)	(3,439)	(317)	(1,065)	(521)	(6,926)
Share of profit in associates and joint ventures						
Reported	101	543	65	—	12	721
Currency translation	(15)	(30)	—	—	—	(45)
Adjusted	86	513	65	—	12	676
Profit before tax						
Reported	1,142	3,303	378	358	222	5,403
Currency translation	(274)	(108)	(26)	(7)	(23)	(438)
Significant items	361	67	13	83	19	543
– revenue[2]	67	(54)	—	21	(1)	185
– operating expenses[2]	294	121	13	62	20	358
Adjusted profit before tax	1,229	3,262	365	434	218	5,508
Loans and advances to customers (net)						
Reported	398,308	487,559	27,095	106,422	20,293	1,039,677
Currency translation	(67,506)	(18,658)	(1,740)	(3,940)	(144)	(91,988)
Adjusted	330,802	468,901	25,355	102,482	20,149	947,689
Customer accounts						
Reported	666,968	771,463	42,089	179,100	28,362	1,687,982
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Adjusted	553,728	745,879	38,438	174,923	27,485	1,540,453

1 Net operating income before change in expected credit losses and other credit impairment charges, also referred to as revenue.
2 Amounts are non-additive across geographical regions due to inter-company transactions within the Group.
3 Includes fair value movements on non-qualifying hedges and debit valuation adjustments on derivatives.
4 Comprises gains and losses relating to the business update in February 2020, including losses associated with the RWA reduction programme.

Additional information

Dividend on preference shares

A quarterly dividend of £0.01 per Series A sterling preference share is payable on 15 March, 15 June, 15 September and 15 December 2022 for the quarter then ended at the sole and absolute discretion of the Board of HSBC Holdings plc. Accordingly, the Board of HSBC Holdings plc has approved a quarterly dividend to be payable on 15 December 2022 to holders of record on 30 November 2022.

For and on behalf of

HSBC Holdings plc

Aileen Taylor

Group Company Secretary and Chief Governance Officer

The Board of Directors of HSBC Holdings plc as at the date of this announcement comprises: Mark Tucker*, Geraldine Buckingham†, Rachel Duan†, Carolyn Julie Fairbairn†, James Anthony Forese†, Steven Guggenheimer†, José Antonio Meade Kuribreña†, Eileen K Murray†, David Nish†, Noel Quinn, Ewen Stevenson and Jackson Tai†.

* *Non-executive Group Chairman*

† *Independent non-executive Director*

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Cautionary statement regarding forward-looking statements

This *Earnings Release 3Q22* contains certain forward-looking statements with respect to HSBC's: financial condition; results of operations and business, including the strategic priorities; financial, investment and capital targets; and ESG targets, commitments and ambitions described herein.

Statements that are not historical facts, including statements about HSBC's beliefs and expectations, are forward-looking statements. Words such as 'may', 'will', 'should', 'expects', 'targets', 'anticipates', 'intends', 'plans', 'believes', 'seeks', 'estimates', 'potential' and 'reasonably possible', or the negative thereof, other variations thereon or similar expressions are intended to identify forward-looking statements. These statements are based on current plans, information, data, estimates and projections, and therefore undue reliance should not be placed on them. Forward-looking statements speak only as of the date they are made. HSBC makes no commitment to revise or update any forward-looking statements to reflect events or circumstances occurring or existing after the date of any forward-looking statements. Written and/or oral forward-looking statements may also be made in the periodic reports to the US Securities and Exchange Commission, summary financial statements to shareholders, proxy statements, offering circulars and prospectuses, press releases and other written materials, and in oral statements made by HSBC's Directors, officers or employees to third parties, including financial analysts. Forward-looking statements involve inherent risks and uncertainties. Readers are cautioned that a number of factors could cause actual results to differ, in some instances materially, from those anticipated or implied in any forward-looking statement.

These include, but are not limited to:

- changes in general economic conditions in the markets in which we operate, such as new, continuing or deepening recessions, inflationary pressures and fluctuations in employment and creditworthy customers beyond those factored into consensus forecasts (including, without limitation, as a result of the Russia-Ukraine war and the Covid-19 pandemic); the Russia-Ukraine war and the Covid-19 pandemic and their impact on global economies, which could have a material adverse effect on (among other things) our financial condition, results of operations, prospects, liquidity, capital position and credit ratings; deviations from the market and economic assumptions that form the basis for our ECL measurements (including, without limitation, as a result of the Russia-Ukraine war, inflationary pressures and the Covid-19 pandemic); potential changes in HSBC's dividend policy; changes in foreign exchange rates and interest rates, including the accounting impact resulting from financial reporting in respect of hyperinflationary economies; volatility in equity markets; lack of liquidity in wholesale funding or capital markets, which may affect our ability to meet our obligations under financing facilities or to fund new loans, investments and businesses; geopolitical tensions or diplomatic developments producing social instability or legal uncertainty, such as the Russia-Ukraine war and the related imposition of sanctions, the US approach to strategic competition with China, supply chain restrictions, claims of human rights violations, diplomatic tensions, including between China and the US, the UK, the EU, Australia, India and other countries, and developments in Hong Kong and Taiwan, alongside other potential areas of tension, which may affect HSBC by creating regulatory, reputational and market risks; the efficacy of government, customer and HSBC's actions in managing and mitigating ESG risks, in particular climate risk, nature-related risks and human rights risks, and in supporting the global transition to net zero carbon emissions, each of which can impact HSBC both directly and indirectly through our customers and which may cause both idiosyncratic and systemic risks resulting in potential financial and non-financial impacts; illiquidity and downward price pressure in national real estate markets; adverse changes in central banks' policies with respect to the provision of liquidity support to financial markets; heightened market concerns over sovereign creditworthiness in over-indebted countries; adverse changes in the funding status of public or private defined benefit pensions; societal shifts in customer financing and investment needs, including consumer perception as to the continuing availability of credit; exposure to counterparty risk, including third parties using us as a conduit for illegal activities without our knowledge; the discontinuation of certain key Ibors and the development of near risk-free benchmark rates, as well as the transition of legacy Ibor contracts to near risk-free benchmark rates, which exposes HSBC to material execution risks, and increases some financial and non-financial risks; and price competition in the market segments we serve;
- changes in government policy and regulation, including the monetary, interest rate and other policies of central banks and other regulatory authorities in the principal markets in which we operate and the consequences thereof (including, without limitation, actions taken as a result of the Covid-19 pandemic and the impact of the Russia-Ukraine war on inflation); initiatives to change the size, scope of activities and interconnectedness of financial institutions in connection with the implementation of stricter regulation of financial institutions in key markets worldwide; revised capital and liquidity benchmarks, which could serve to deleverage bank balance sheets and lower returns available from the current business model and portfolio mix; changes to tax laws and tax rates applicable to HSBC, including the imposition of levies or taxes designed to change business mix and risk appetite; the practices, pricing or responsibilities of financial institutions serving their consumer markets; expropriation, nationalisation, confiscation of assets and changes in legislation relating to foreign ownership; the UK's relationship with the EU following the UK's withdrawal from the EU, which continues to be characterised by uncertainty, particularly with respect to the regulation of financial services, despite the signing of the Trade and Cooperation Agreement between the UK and the EU; changes in UK macroeconomic and fiscal policy as a result of the change in UK government leadership, which may result in fluctuations in the value of the pound sterling; the passage of the Hong Kong national security law and restrictions on telecommunications, as well as the US Hong Kong Autonomy Act, which have caused tensions between China, the US and the UK; general changes in government policy that may significantly influence investor decisions; the costs, effects and outcomes of regulatory reviews, actions or litigation, including any additional compliance requirements; and the effects of competition in the markets where we operate including increased competition from non-bank financial services companies; and
- factors specific to HSBC, including our success in adequately identifying the risks we face, such as the incidence of loan losses or delinquency, and managing those risks (through account management, hedging and other techniques); our ability to achieve our financial, investment, capital and ESG targets, commitments and ambitions (including with respect to the commitments set forth in our thermal coal phase-out policy and our targets to reduce our on-balance sheet financed emissions in the oil and gas and power and utilities sectors), which may result in our failure to achieve any of the expected benefits of our strategic priorities; model limitations or failure, including, without limitation, the impact that high inflationary concerns and the consequences of the Covid-19 pandemic have had on the performance and usage of financial models, which may require us to hold additional capital, incur losses and/or use compensating controls, such as judgemental post-model adjustments, to address model limitations; changes to the judgements, estimates and assumptions we base our financial statements on; changes in our ability to meet the requirements of regulatory stress tests; a reduction in the credit ratings assigned to us or any of our subsidiaries, which could increase the cost or decrease the availability of our funding and affect our liquidity position and net interest margin; changes to the reliability and security of our data management, data privacy, information and technology infrastructure, including threats from cyber-attacks, which may impact our ability to service clients and may result in financial loss, business disruption and/or loss of customer services and data; the accuracy and effective use of data, including internal management information that may not have been independently verified; changes in insurance customer behaviour and insurance claim rates; our dependence on loan payments and dividends from subsidiaries to meet our obligations; changes in accounting standards, including the implementation of IFRS 17 'Insurance Contracts', which may have a material impact on the way we prepare our financial statements and (with respect to IFRS 17) may negatively affect the profitability of HSBC's insurance business; changes in our ability to manage third-party, fraud and reputational risks inherent in our operations; employee misconduct, which may result in regulatory sanctions and/or reputational or financial harm; changes in skill requirements, ways of working and talent shortages, which may affect our ability to recruit and retain senior management and diverse and skilled personnel; and changes in our ability to develop sustainable finance and climate-related products consistent with the evolving expectations of our regulators, and our capacity to measure the climate impact from our financing activity (including as a result of data limitations and changes in methodologies), which may affect our ability to achieve our climate ambition, our targets to reduce financed emissions in our oil and gas and power and utilities portfolio and the commitments set forth in our thermal coal phase-out policy, and increase the risk of greenwashing. Effective risk management depends on, among other things, our ability through stress testing and other techniques to prepare for events that cannot be captured by the statistical models it uses; our success in addressing operational, legal and regulatory, and litigation challenges; and other risks and uncertainties we identify in 'Risks' on pages 18 to 19 of this *Earnings Release 3Q22*.

Abbreviations

1Q21	First quarter of 2021
1Q22	First quarter of 2022
2Q21	Second quarter of 2021
2Q22	Second quarter of 2022
3Q21	Third quarter of 2021
3Q22	Third quarter of 2022
4Q21	Fourth quarter of 2021
4Q22	Fourth quarter of 2022
9M21	Nine months to 30 September 2021
9M22	Nine months to 30 September 2022
AIEA	Average interest-earning assets
Basel III	Basel Committee's reforms to strengthen global capital and liquidity rules
Basel 3.1	Outstanding measures to be implemented from the Basel III reforms
BGF	Business Growth Fund, an investment firm that provides growth capital for small and mid-sized businesses in the UK and Ireland
Bps	Basis points. One basis point is equal to one-hundredth of a percentage point
CET1	Common equity tier 1
CMB	Commercial Banking, a global business
CODM	Chief Operating Decision Maker
Corporate Centre	Corporate Centre comprises Central Treasury, our legacy businesses, interests in our associates and joint ventures, central stewardship costs and consolidation adjustments
CRR II	Revised Capital Requirements Regulation and Directive, as implemented
DVA	Debit valuation adjustment
EBA	European Banking Authority
ECL	Expected credit losses. In the income statement, ECL is recorded as a change in expected credit losses and other credit impairment charges. In the balance sheet, ECL is recorded as an allowance for financial instruments to which only the impairment requirements in IFRS 9 are applied
EEA	European Economic Area
Eonia	Euro Overnight Index Average
ESG	Environmental, social and governance
EU	European Union
FTE	Full-time equivalent staff
FVOCI	Fair value through other comprehensive income
GAAP	Generally accepted accounting principles
GBM	Global Banking and Markets, a global business
GDP	Gross domestic product
GEC	Group Executive Committee
GPS	Global Payment Solutions, the business formerly known as Global Liquidity and Cash Management
Group	HSBC Holdings together with its subsidiary undertakings
GTRF	Global Trade and Receivables Finance
Hong Kong	Hong Kong Special Administrative Region of the People's Republic of China
HSBC	HSBC Holdings together with its subsidiary undertakings
HSBC Bank plc	HSBC Bank plc, also known as the non-ring-fenced bank
HSBC Holdings	HSBC Holdings plc, the parent company of HSBC
HSBC UK	HSBC UK Bank plc, also known as the ring-fenced bank
IAS	International Accounting Standards
Ibor	Interbank offered rate
IFRSs	International Financial Reporting Standards
IRB	Internal ratings-based
JV	Joint venture
LCR	Liquidity coverage ratio
Libor	London interbank offered rate
Long term	For our strategic goals, we define long term as five to six years, commencing 1 January 2020
Mainland China	People's Republic of China excluding Hong Kong and Macau
Medium term	For our strategic goals, we define medium term as three to five years, commencing 1 January 2020
MENA	Middle East and North Africa
MREL	Minimum requirement for own funds and eligible liabilities
MSS	Markets and Securities Services, HSBC's capital markets and securities services businesses in Global Banking and Markets
Net operating income	Net operating income before change in expected credit losses and other credit impairment charges, also referred to as revenue
NIM	Net interest margin
POCI	Purchased or originated credit-impaired financial assets
PRA	Prudential Regulation Authority (UK)
PVIF	Present value of in-force long-term insurance business and long-term investment contracts with DPF
Revenue	Net operating income before ECL
RFR	Risk-free rate
RoE	Return on average ordinary shareholders' equity
RoTE	Return on average tangible equity
RWA	Risk-weighted asset
WPB	Wealth and Personal Banking, a global business
$m/$bn/$tn	United States dollar millions/billions/trillions. We report in US dollars

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APPENDIX II

RECENT DEVELOPMENTS IN THE ISSUER'S BUSINESS

This section supersedes in its entirety the section in the Base Listing Document entitled "Information Relating to UBS AG".

1. Overview

UBS AG ("**Issuer**") with its subsidiaries (together, "**UBS AG consolidated**", or "**UBS AG Group**"; together with UBS Group AG, which is the holding company of UBS AG, and its subsidiaries, "**UBS Group**", "**Group**", "**UBS**" or "**UBS Group AG consolidated**") provides financial advice and solutions to private, institutional and corporate clients worldwide, as well as private clients in Switzerland. The operational structure of the Group is comprised of the Group Functions and four business divisions: Global Wealth Management, Personal & Corporate Banking, Asset Management and the Investment Bank.

On 30 September 2022, UBS Group's common equity tier 1 ("**CET1**") capital ratio was 14.4%, the CET1 leverage ratio was 4.51%, and the total loss-absorbing capacity ratio was 33.7%.[1] On the same date, invested assets stood at USD 3,706 billion, equity attributable to shareholders was USD 55,756 million and market capitalisation was USD 46,674 million. On the same date, UBS employed 72,009 people.[2]

On 30 September 2022, UBS AG consolidated CET1 capital ratio was 13.6%, the CET1 leverage ratio was 4.25%, and the total loss-absorbing capacity ratio was 32.8%.[1] On the same date, invested assets stood at USD 3,706 billion and equity attributable to UBS AG shareholders was USD 54,610 million. On the same date, UBS AG Group employed 47,429 people.[2]

The rating agencies S&P Global Ratings Europe Limited ("**S&P**"), Moody's Deutschland GmbH ("**Moody's**"), and Fitch Ratings Limited ("**Fitch**") have published solicited credit ratings reflecting their assessment of the creditworthiness of UBS AG, i.e. its ability to fulfil in a timely manner payment obligations, such as principal or interest payments on long-term loans, also known as debt servicing. The ratings from Fitch and S&P may be attributed a plus or minus sign, and those from Moody's a number. These supplementary attributes indicate the relative position within the respective rating class. UBS AG has a long-term counterparty credit rating of A+ from S&P, long-term senior debt rating of Aa3 from Moody's, and long-term issuer default rating of AA- from Fitch.

An explanation of the significance of ratings may be obtained from the rating agencies. Generally, rating agencies base their ratings on such material and information, and such of their own investigations, studies and assumptions, as they deem appropriate. The ratings of UBS AG should be evaluated independently from similar ratings of other entities, and from the rating, if any, of its securities. A credit rating is not a recommendation to buy, sell or hold securities issued or guaranteed by the rated entity and may be subject to review, revision, suspension, reduction or withdrawal at any time by the assigning rating agency. Fitch is established in the UK and registered under Regulation (EU) No 1060/2009 as it forms part of domestic law of the UK by virtue of the EUWA (the "**UK CRA Regulation**") and currently appears on the list of credit rating agencies registered or certified with the Financial Conduct Authority published on its website www.fca.org.uk/markets/credit-rating-agencies/registered-certified-cras. Ratings given by Fitch are endorsed by Fitch Ratings Ireland Limited, which is established in the EEA and registered under Regulation (EU) No 1060/2009, as amended (the "**EU CRA Regulation**") and currently appears on the list of credit ratings agencies published by ESMA on its website www.esma.europa.eu in accordance with the EU CRA Regulation.

[1] All figures based on the Swiss systemically relevant bank framework. Refer to the "Capital management" section of the Annual Report 2021 and of the UBS Group Third Quarter 2022 Report for more information.
[2] Full-time equivalents.

S&P and Moody's are established in the European Union and registered under the EU CRA Regulation and currently appear on the list of credit ratings agencies published by ESMA on its website in accordance with the EU CRA Regulation. Ratings given by S&P and Moody's are endorsed by Standard & Poor's Global Ratings UK Limited and Moody's Investors Service Ltd, respectively, which are established in the UK and registered under the UK CRA Regulation and currently appear on the list of credit rating agencies registered or certified with the FCA published on its website.

No profit forecasts or estimates are included in this document.

No recent events particular to the Issuer have occurred which are to a material extent relevant to the evaluation of the Issuer's solvency.

2. Information about the Issuer

2.1 Corporate Information

The legal and commercial name of the Issuer is UBS AG.

The Issuer was incorporated under the name SBC AG on 28 February 1978 for an unlimited duration and entered in the Commercial Register of Canton Basel-City on that day. On 8 December 1997, the Issuer changed its name to UBS AG. The Issuer in its present form was created on 29 June 1998 by the merger of Union Bank of Switzerland (founded 1862) and Swiss Bank Corporation (founded 1872). UBS AG is entered in the Commercial Registers of Canton Zurich and Canton Basel-City. The registration number is CHE-101.329.561.

UBS AG is incorporated and domiciled in Switzerland and operates under the Swiss Code of Obligations as an Aktiengesellschaft, a corporation limited by shares. UBS AG's Legal Entity Identifier (LEI) code is BFM8T61CT2L1QCEMIK50.

According to article 2 of the articles of association of UBS AG dated 26 April 2018 ("**Articles of Association**"), the purpose of UBS AG is the operation of a bank. Its scope of operations extends to all types of banking, financial, advisory, trading and service activities in Switzerland and abroad. UBS AG may establish branches and representative offices as well as banks, finance companies and other enterprises of any kind in Switzerland and abroad, hold equity interests in these companies, and conduct their management. UBS AG is authorized to acquire, mortgage and sell real estate and building rights in Switzerland and abroad. UBS AG may borrow and invest money on the capital markets. UBS AG is part of the group of companies controlled by the group parent company UBS Group AG. It may promote the interests of the group parent company or other group companies. It may provide loans, guarantees and other kinds of financing and security for group companies.

The addresses and telephone numbers of UBS AG's two registered offices and principal places of business are: Bahnhofstrasse 45, CH-8001 Zurich, Switzerland, telephone +41 44 234 1111; and Aeschenvorstadt 1, CH-4051 Basel, Switzerland, telephone +41 61 288 5050.

2.2 UBS's borrowing and funding structure and financing of UBS's activities

For information on UBS's expected financing of its business activities, please refer to "*Liquidity and funding management*" in the "*Capital, liquidity and funding, and balance sheet*" section of the Annual Report 2021.

3. Business Overview

3.1 Organisational Structure of the Issuer

UBS AG is a Swiss bank and the parent company of the UBS AG Group. It is 100% owned by UBS Group AG, which is the holding company of the UBS Group. UBS operates as a group with four business divisions and Group Functions.

In 2014, UBS began adapting its legal entity structure in response to too-big-to-fail requirements and other regulatory initiatives. First, UBS Group AG was established as the ultimate parent holding company for the Group. In 2015, UBS AG transferred its personal & corporate banking and Swiss-booked wealth management businesses to the newly established UBS Switzerland AG, a banking subsidiary of UBS AG in Switzerland. That same year, UBS Business Solutions AG, a wholly owned subsidiary of UBS Group AG, was established and acts as the Group service company. In 2016, UBS Americas Holding LLC became the intermediate holding company for UBS's US subsidiaries and UBS's wealth management subsidiaries across Europe were merged into UBS Europe SE, UBS's German-headquartered European subsidiary. In 2019, UBS Limited, UBS's UK headquartered subsidiary, was merged into UBS Europe SE.

UBS Group AG's interests in subsidiaries and other entities as of 31 December 2021, including interests in significant subsidiaries, are discussed in "Note 29 Interests in subsidiaries and other entities" to the UBS Group AG's consolidated financial statements included in the UBS Group AG and UBS AG Annual Report 2021 published on 07 March 2022 ("**Annual Report 2021**").

UBS AG's interests in subsidiaries and other entities as of 31 December 2021, including interests in significant subsidiaries, are discussed in "Note 29 Interests in subsidiaries and other entities" to the UBS AG's consolidated financial statements included in the Annual Report 2021.

UBS AG is the parent company of, and conducts a significant portion of its operations through, its subsidiaries. UBS AG has contributed a significant portion of its capital and provides substantial liquidity to subsidiaries. In addition, UBS Business Solutions AG provides substantial services to group companies including UBS AG and its subsidiaries. To this extent, UBS AG is dependent on certain of the entities of the UBS AG Group and of the UBS Group.

3.2 Principal activities

UBS businesses are organised globally into four business divisions: Global Wealth Management, Personal & Corporate Banking, Asset Management, and the Investment Bank. All four business divisions are supported by Group Functions. Each of the business divisions and Group Functions are described below. A description of the businesses, organisational structures, products and services and targeted markets of the business divisions and Group Functions can be found under "*Our businesses*" in the "*Our strategy, business model and environment*" section of the Annual Report 2021.

- *Global Wealth Management* provides financial services, advice and solutions to private clients, in particular in the ultrahigh net worth and high net worth segments. Its offering ranges from investment management to estate planning and corporate finance advice, in addition to specific wealth management products and services. The business division is managed globally across the regions.
- *Personal & Corporate Banking* serves its private, corporate, and institutional clients' needs, from basic banking to retirement, financing, investments and strategic transactions, in Switzerland, through its branch network and digital channels.
- *Asset Management* is a large-scale and diversified global asset manager. It offers investment capabilities and styles across all major traditional and alternative asset classes, as well as advisory support to institutions, wholesale intermediaries and wealth management clients globally.
- *The Investment Bank* provides a range of services to institutional, corporate and wealth management clients globally, to help them raise capital, grow their businesses, invest and manage risks. Its offerings include advisory services, facilitating clients raising debt and equity

from the public and private markets and capital markets, cash and derivatives trading across equities and fixed income, and financing.

– *Group Functions* is made up of the following major areas: Group Services (which consists of Technology, Corporate Services, Human Resources, Finance, Legal, Risk Control, Compliance, Regulatory & Governance, Communications & Branding and Group Sustainability and Impact), Group Treasury and Non-core and Legacy Portfolio.

3.3 Competition

The financial services industry is characterised by intense competition, continuous innovation, restrictive, detailed, and sometimes fragmented regulation and ongoing consolidation. UBS faces competition at the level of local markets and individual business lines, and from global financial institutions that are comparable to UBS in their size and breadth, as well as competition from new technology-based market entrants, which may not be subject to the same level of regulation. Barriers to entry in individual markets and pricing levels are being eroded by new technology. UBS expects these trends to continue and competition to increase.

Any statements regarding the competitive position of UBS AG, UBS AG Group or the Group contained in this document are made on the basis of the opinion of UBS AG or the Group.

3.4 Recent Developments

3.4.1 UBS AG consolidated key figures

UBS AG derived the selected consolidated financial information included in the table below for the years ended 31 December 2021, 2020 and 2019 from the Annual Report 2021, except where noted. The selected consolidated financial information included in the table below for the nine months ended 30 September 2022 and 30 September 2021 was derived from the UBS AG Third Quarter 2022 Report.

The consolidated financial statements were prepared in accordance with International Financial Reporting Standards ("**IFRS**") issued by the International Accounting Standards Board ("**IASB**"). Information for the years ended 31 December 2021, 2020 and 2019 which is indicated as being unaudited in the table below was included in the Annual Report 2021, but has not been audited on the basis that the respective disclosures are not required under IFRS, and therefore are not part of the audited financial statements. Prospective investors should read the whole of this document, the Annual Report 2021 and the UBS AG Third Quarter 2022 Report and should not rely solely on the summarized information set out below.

	As of or for the nine months ended		As of or for the year ended		
USD million, except where indicated	30.9.22	30.9.21	31.12.21	31.12.20	31.12.19
	unaudited		*audited, except where indicated*		
Results					
Income statement					
Total revenues [1]	26,838	27,008	35,828	33,474	29,385
Net interest income	4,946	4,860	6,605	5,788	4,415
Net fee and commission income	14,664	16,897	22,438	19,207	17,460
Other net income from financial instruments measured at fair value through profit or loss	5,637	4,480	5,844	6,930	6,833

Credit loss expense / (release)	22	(121)	(148)	695	78
Operating expenses	19,644	19,785	27,012	25,081	24,138
Operating profit / (loss) before tax	7,171	7,345	8,964	7,699	5,169
Net profit / (loss) attributable to shareholders	5,566	5,777	7,032	6,196	3,965
Balance sheet [2]					
Total assets	1,111,926		1,116,145	1,125,327	971,927
Total financial liabilities measured at amortized cost	682,047		744,762	732,364	617,429
of which: customer deposits	498,239		544,834	527,929	450,591
of which: debt issued measured at amortized cost	55,425		82,432	85,351	62,835
of which: subordinated debt	2,959		5,163	7,744	7,431
Total financial liabilities measured at fair value through profit or loss	365,946		300,916	325,080	291,452
of which: debt issued designated at fair value	67,696		71,460	59,868	66,592
Loans and advances to customers	374,747		398,693	380,977	327,992
Total equity	54,941		58,442	58,073	53,896
Equity attributable to shareholders	54,610		58,102	57,754	53,722
Profitability and growth					
Return on equity (%) [3]	13.2	13.6	12.3*	10.9*	7.4*
Return on tangible equity (%) [4]	14.8	15.3	13.9*	12.4*	8.5*
Return on common equity tier 1 capital (%) [5]	17.7	19.5	17.6*	16.6*	11.3*
Return on leverage ratio denominator, gross (%) [6, 7]	3.4	3.5	3.4*	3.4*	3.2*
Cost / income ratio (%) [8]	73.2	73.3	75.4*	74.9*	82.1*
Net profit growth (%) [9]	(3.6)	24.7	13.5*	56.3*	(3.4)*
Resources					
Common equity tier 1 capital [10]	42,064	41,356	41,594	38,181	35,233*
Risk-weighted assets [10]	308,571	299,612	299,005*	286,743*	257,831*
Common equity tier 1 capital ratio (%) [10]	13.6	13.8	13.9*	13.3*	13.7*
Going concern capital ratio (%) [10]	18.1	18.5	18.5*	18.3*	18.3*
Total loss-absorbing capacity ratio (%) [10]	32.8	32.6	33.3*	34.2*	33.9*
Leverage ratio denominator [6, 10]	989,909	1,044,438	1,067,679*	1,036,771*	911,228*
Common equity tier 1 leverage ratio (%) [6, 10]	4.25	3.96	3.90*	3.68*	3.87*
Other					
Invested assets (USD billion) [11]	3,706	4,432	4,596	4,187	3,607
Personnel (full-time equivalents)	47,429	47,293	47,067*	47,546*	47,005*

* unaudited

[1] Effective from the second quarter of 2022, *Operating income* has been renamed *Total revenues* and excludes *Credit loss expense / (release)*, which is now presented separately on the Income statement. Prior-period information reflects the new presentation structure, with no effect on *Operating profit / (loss) before tax* and *Net profit / (loss) attributable to shareholders*.

[2] Except for *Total assets*, *Total equity* and *Equity attributable to shareholders*, balance sheet information for year ended 31 December 2019 is derived from the Annual Report 2020.

[3] Calculated as annualized net profit attributable to shareholders divided by average equity attributable to shareholders. This measure provides information about the profitability of the business in relation to equity.

[4] Calculated as annualized net profit attributable to shareholders divided by average equity attributable to shareholders less average goodwill and intangible assets. This measure provides information about the profitability of the business in relation to tangible equity.

[5] Calculated as annualized net profit attributable to shareholders divided by average common equity tier 1 capital. This measure provides information about the profitability of the business in relation to common equity tier 1 capital.

[6] Leverage ratio denominators and leverage ratios for year 2020 do not reflect the effects of the temporary exemption that applied from 25 March 2020 until 1 January 2021 and was granted by FINMA in connection with COVID-19.

[7] Calculated as annualized total revenues divided by average leverage ratio denominator. This measure provides information about the revenues of the business in relation to the leverage ratio denominator.

[8] Calculated as operating expenses divided by total revenues. This measure provides information about the efficiency of the business by comparing operating expenses with gross income.

[9] Calculated as the change in net profit attributable to shareholders from continuing operations between current and comparison periods divided by net profit attributable to shareholders from continuing operations of the comparison period. This measure provides information about profit growth since the comparison period .

[10] Based on the applicable Swiss systemically relevant bank framework as of 1 January 2020.

[11] Consists of invested assets for Global Wealth Management, Asset Management and Personal & Corporate Banking. Calculated as the sum of managed fund assets, managed institutional assets, discretionary and advisory wealth management portfolios, fiduciary deposits, time deposits, savings accounts, and wealth management securities or brokerage accounts. This measure provides information about the volume of client assets managed by or deposited with UBS for investment purposes.

3.4.2 Regulatory, legal and other developments

Refer to “*Recent developments*” in the UBS Group First Quarter 2022 Report, in the UBS Group Second Quarter 2022 Report and in the UBS Group Third Quarter 2022 Report, as well as to “*Our environment*” and "*Regulatory and legal developments*" in the Annual Report 2021, for further information on key regulatory, legal and other developments.

3.5 Trend Information

For information on trends, refer to “*Outlook*” under “*Group performance*”, and to “*Country risk*” and “*Non-financial risk*” under “*Risk management and control*” in the UBS Group Third Quarter 2022 Report, as well as to the “*Our environment*” section, and to “*Top and emerging risks*” and “*Country risk*” in the “*Risk management and control*” section of the Annual Report 2021. In addition, please refer to the "*Risk factors*" and the “*Recent Developments*” sections of this document for more information.

4. Administrative, Management and Supervisory Bodies of the Issuer

UBS AG complies with all relevant Swiss legal and regulatory corporate governance requirements. As a foreign private issuer with debt securities listed on the New York Stock Exchange ("**NYSE**"), UBS AG also complies with the relevant NYSE corporate governance standards applicable to foreign private issuers.

UBS AG operates under a strict dual board structure, as mandated by Swiss banking law. The Board of Directors ("**BoD**") exercises the ultimate supervision over management, whereas the Executive Board ("**EB**"), headed by the President of the Executive Board ("**President of the EB**"), has executive management responsibility. The functions of Chairman of the BoD and President of the EB are assigned to two different people, ensuring a separation of power. This structure establishes checks and balances and preserves the institutional independence of the BoD from the executive management of UBS AG Group, for which responsibility is delegated to the EB under the leadership of the President of the EB. No member of one board may simultaneously be a member of the other.

Supervision and control of the EB remain with the BoD. The authorities and responsibilities of the two bodies are governed by the Articles of Association and the Organization Regulations of UBS AG.

4.1 Board of Directors

The BoD consists of between 5 and 12 members. All the members of the BoD are elected individually by the shareholders at the Annual General Meeting ("**AGM**") for a term of office of one year, which expires after the completion of the next AGM. Shareholders also elect the Chairman upon proposal of the BoD.

The BoD meets as often as business requires, and at least six times a year.

4.1.1 Members of the Board of Directors

The current members of the BoD are listed below.

Member	Title	Term of office	Current principal activities outside UBS AG
Colm Kelleher	Chairman	2023	Chairman of the Board of Directors of UBS Group AG; member of the board of Norfolk Southern Corporation (chair of the risk and finance committee); member of the Board of Directors of the Bretton Woods Committee; member of the board of the Swiss Finance Council; member of the board of Americans for Oxford; member of the Oxford Chancellor's Court of Benefactors; member of the Advisory Council of the British Museum; member of the International Advisory Council of the China Securities Regulatory Commission; member of the European Financial Services Round Table; member of the European Banking Group; member of the International Monetary Conference.
Lukas Gähwiler	Vice Chairman	2023	Vice Chairman of the Board of Directors of UBS Group AG; vice chairman of the Board of Directors of Pilatus Aircraft Ltd; member of the Board of Directors of Ringier AG; member of the Board of Directors of Opernhaus Zürich AG; vice chairman of the Swiss Bankers Association; chairman of the Employers Association of Banks in Switzerland; member of the Board of Directors of the Swiss Employers Association; member of the Board of economiesuisse; chairman of the Foundation Board of the UBS Pension Fund; member of the Foundation Council of the UBS

			Center for Economics in Society; and member of the board of the Swiss Finance Council.
Jeremy Anderson	Member	2023	Senior Independent Director of the Board of Directors of UBS Group AG; board member of Prudential plc; trustee of the UK's Productivity Leadership Group; trustee of Kingham Hill Trust; trustee of St. Helen Bishopsgate.
Claudia Böckstiegel	Member	2023	Member of the Board of Directors of UBS Group AG; General Counsel and member of the Enlarged Executive Committee of Roche Holding AG.
William C. Dudley	Member	2023	Member of the Board of Directors of UBS Group AG; member of the board of Treliant LLC; senior advisor to the Griswold Center for Economic Policy Studies at Princeton University; member of the Group of Thirty; member of the Council on Foreign Relations; chair of the Bretton Woods Committee board of directors; member of the board of the Council for Economic Education.
Patrick Firmenich	Member	2023	Member of the Board of Directors of UBS Group AG; chairman of the board of Firmenich International SA; chairman of Firmenich SA; member of the board of Jacobs Holding AG; member of the Board of INSEAD and INSEAD World Foundation; member of the Advisory Council of the Swiss Board Institute.
Fred Hu	Member	2023	Member of the Board of Directors of UBS Group AG; founder, chairman and CEO of Primavera Capital Group; non-executive chairman of the board of Yum China Holdings (chair of the nomination and governance committee); board member of Industrial and Commercial Bank of China; chairman of Primavera Capital Ltd; member of the Board of Ant Group; board member of Minsheng Financial Leasing Co.; trustee of the China Medical Board; Governor of the Chinese International School in Hong Kong SAR; co-chairman of the Nature Conservancy Asia Pacific Council; member of the Board of Trustees of the Institute for Advanced Study; director and member of the Executive Committee of China Venture Capital and Private Equity Association Ltd.
Mark Hughes	Member	2023	Member of the Board of Directors of UBS Group AG; chair of the Board of Directors of the Global Risk Institute; visiting lecturer at the University of Leeds; senior advisor to McKinsey & Company.
Nathalie Rachou	Member	2023	Member of the Board of Directors of UBS Group AG; member of the board of Euronext N.V. (chair of the remuneration committee); member of the board of Veolia Environnement SA (chair of the audit committee); member of the board of the African Financial Institutions Investment Platform.
Julie G. Richardson	Member	2023	Member of the Board of Directors of UBS Group AG; member of the board of Yext (chair of the audit committee); member of the board of Datalog (chair of the audit committee); member of the Board of Fivetran; ; member of the Board of Coalition, Inc.
Dieter Wemmer	Member	2023	Member of the Board of Directors of UBS Group AG; board member of Ørsted A/S (chair of the audit and risk committee); chairman of Marco Capital Holdings Limited, Malta and subsidiaries; member of the Berlin Center of Corporate Governance.

Jeanette Wong	Member	2023	Member of the Board of Directors of UBS Group AG; member of the board of Prudential plc; member of the board of Singapore Airlines Limited; member of the Board Risk Committee of GIC Pte Ltd; board member of Jurong Town Corporation; board member of PSA International; chairman of the CareShield Life Council; member of the Securities Industry Council; member of the Board of Trustees of the National University of Singapore.

4.2 Executive Board ("EB")

Under the leadership of the President of the EB, the EB has executive management responsibility for UBS AG and its business. All EB members (with the exception of the President of the EB) are proposed by the President of the EB. The appointments are made by the BoD.

4.2.1 Members of the Executive Board

The current members of the EB are listed below.

Member and business address	**Function**	**Current principal activities outside UBS AG**
Ralph Hamers UBS AG, Bahnhofstrasse 45, CH-8001 Zurich	President of the Executive Board	Member of the Group Executive Board and Group Chief Executive Officer of UBS Group AG; member of the Board of the Swiss-American Chamber of Commerce; member of the Institut International D'Etudes Bancaires; member of the IMD Foundation Board; member of the McKinsey Advisory Council; member of the World Economic Forum International Business Council; Governor of the Financial Services/Banking Community of the World Economic Forum ; member of the International Advisory Panel, Monetary Authority of Singapore.
Christian Bluhm UBS AG, Bahnhofstrasse 45, CH-8001 Zurich	Chief Risk Officer	Member of the Group Executive Board and Group Chief Risk Officer of UBS Group AG; chairman of the Board of Christian Bluhm Photography AG; board member of UBS Switzerland AG; member of the Foundation Board of the UBS Pension Fund; member of the Foundation Board – International Financial Risk Institute.
Mike Dargan UBS AG, Bahnhofstrasse 45, CH-8001 Zurich	Chief Digital and Information Officer	Member of the Group Executive Board and Group Chief Digital and Information Officer of UBS Group AG; President of the Executive Board and board member of UBS Business Solutions AG; member of the Board of Directors of Done Next Holdings AG; member of the Board of Trustees of the Inter-Community School Zurich; member of the Board of Governors of the International Baccalaureate.
Suni Harford UBS AG, 1285 Avenue of the Americas, New York, NY 10019 USA	President Asset Management	Member of the Group Executive Board and President Asset Management of UBS Group AG; chairman of the Board of Directors of UBS Asset Management AG; chair of the Board of UBS Optimus Foundation; member of the Leadership Council of the Bob Woodruff Foundation.

Naureen Hassan UBS AG, 1285 Avenue of the Americas, New York, NY 10019 USA	President UBS Americas	Member of the Group Executive Board and President UBS Americas of UBS Group AG; CEO of UBS Americas Holding LLC.
Robert Karofsky UBS AG, 1285 Avenue of the Americas, New York, NY 10019, USA	President Investment Bank	Member of the Group Executive Board and President Investment Bank of UBS Group AG; member of the board of UBS Americas Holding LLC; member of the board of UBS Optimus Foundation; trustee of the UBS Americas Inc. Political Action Committee.
Iqbal Khan UBS AG, Bahnhofstrasse 45, CH-8001 Zurich	President Global Wealth Management and President UBS Europe, Middle East and Africa	Member of the Executive Board, President Global Wealth Management and President UBS Europe, Middle East and Africa of UBS Group AG; member of the Supervisory Board of UBS Europe SE; member of the board of UBS Optimus Foundation; board member of Room to Read Switzerland.
Edmund Koh UBS AG, One Raffles Quay North Tower, Singapore 048583	President UBS Asia Pacific	Member of the Group Executive Board and President UBS Asia Pacific of UBS Group AG; member of the Board of Trustees of the Wealth Management Institute, Singapore; board member of Next50 Limited, Singapore; board member of Medico Suites (S) Pte Ltd; member of a sub-committee of the Singapore Ministry of Finance's Committee on the Future Economy; member of the Financial Centre Advisory Panel of the Monetary Authority of Singapore; council member of the Asian Bureau of Finance and Economic Research; trustee of the Cultural Matching Fund, Singapore; member of University of Toronto's International Leadership Council for Asia.
Barbara Levi UBS AG, Bahnhofstrasse 45, CH-8001 Zurich	General Counsel	Member of the Group Executive Board and Group General Counsel of UBS Group AG; member of the Employers' Board of the Global Institute for Women's Leadership, King's College London; member of the Board of Directors of the European General Counsel Association; member of the Legal Committee of the Swiss-American Chamber of Commerce.
Markus Ronner UBS AG, Bahnhofstrasse 45, CH-8001 Zurich	Chief Compliance and Governance Officer	Member of the Group Executive Board and Group Chief Compliance and Governance Officer of UBS Group AG; chairman of the Board of Directors of UBS Switzerland AG.
Sarah Youngwood UBS AG, Bahnhofstrasse 45, CH-8001 Zurich	Chief Financial Officer	Member of the Group Executive Board and Group Chief Financial Officer of UBS Group AG; member of the Board of UBS Business Solutions AG; Advisory Board Member – Wall Street Women's Alliance.

4.3 Potential Conflicts of Interest

Members of the BoD and the EB may act as directors or executive officers of other companies (for current principal positions outside UBS AG, if any, of BoD and EB members, please see sections 4.1.1 and 4.2.1 above, respectively) and may have economic or other private interests that differ from those of UBS AG. Conflicts of interest may potentially arise from these positions or interests. For example, it cannot be excluded that a member of the BoD or EB has or will have a function within a company, the shares of which are or will be traded by UBS AG or which has or will have a business relationship with UBS AG. UBS AG is confident that its internal corporate governance practices and its compliance with relevant legal and regulatory provisions reasonably ensure that any conflicts of interest of the type described above are appropriately managed, including through disclosure when appropriate.

Other than as indicated above, UBS is not aware of potential conflicts of interests between any duties to the Issuer of the members of the BoD and the EB and their private interests or other duties.

5. Auditors

Based on article 31 of the Articles of Association, UBS AG shareholders elect the auditors for a term of office of one year. At the AGMs of 27 April 2020, 7 April 2021 and 5 April 2022, Ernst & Young Ltd., Aeschengraben 27, 4051 Basel, Switzerland ("**Ernst & Young**") was elected as auditor for the consolidated and standalone financial statements of UBS AG for a one-year term.

Ernst & Young is a member of EXPERTsuisse, the Swiss Expert Association for Audit, Tax and Fiduciary. Ernst & Young is also registered with the Swiss Federal Audit Oversight Authority, which is responsible for the licensing and supervision of audit firms and individuals that provide audit services in Switzerland.

6. Major Shareholders of the Issuer

UBS Group AG owns 100% of the outstanding shares of UBS AG. UBS AG is a wholly owned subsidiary of UBS Group AG. While UBS has no specific corporate measures intended to prevent abuse of control to the detriment of minority shareholders, UBS has adopted a comprehensive and integrated governance framework which takes into account the specific requirements of each relevant jurisdiction. This governance framework includes separate articles of association and organizational regulations for UBS Group AG and UBS AG. In addition, as UBS AG is regulated as a bank in Switzerland, it is subject to capital regulation and close supervisory oversight. This includes the general requirement under Swiss law that contracts of UBS AG with affiliates are subject to an arm's length principle of negotiation.

7. Financial Information concerning the Issuer’s Assets and Liabilities, Financial Position and Profits and Losses

7.1 Historical Annual Financial Information

Detailed information about UBS AG consolidated and UBS AG assets and liabilities, financial position and profits and losses for financial year 2021 is available in the section "*UBS AG consolidated financial statements*" of the Annual Report 2021 and in the UBS AG's standalone financial statements for the year ended 31 December 2021 (the "**Standalone Financial Statements 2021**"), respectively; and for financial year 2020 it is available in the "*UBS AG consolidated financial statements*" section of the UBS Group AG and UBS AG annual report 2020, published on 5 March 2021 ("**Annual Report 2020**") and in the UBS AG's standalone financial statements for the year ended 31 December 2020 published on 5 March 2021 (the "**Standalone Financial Statements 2020**"). The consolidated and standalone financial accounts are closed on 31 December of each year.

The annual financial reports form an essential part of UBS AG's reporting. They include the audited consolidated financial statements of UBS AG, prepared in accordance with International Financial Reporting Standards, as issued by the International Accounting Standards Board. The annual reports also include discussions and analysis of the consolidated financial and business results of UBS, its business divisions and Group Functions. In addition, UBS AG prepares and publishes standalone financial statements in accordance with Swiss GAAP, as well as certain additional disclosures required under US Securities and Exchange Commission regulations.

7.2 Auditing of Historical Annual Financial Information

The consolidated financial statements and the standalone financial statements of UBS AG for the financial years 2021 and 2020 were audited by Ernst & Young. The reports of the auditors on the consolidated financial statements can be found on pages 422-428 (inclusive) of the Annual Report 2021 and on pages 417-428 (inclusive) of the Annual Report 2020. The reports of the auditors on the standalone financial statements of UBS AG can be found on pages 37-42 (inclusive) of the Standalone Financial Statements 2021 and on pages 34-39 (inclusive) of the Standalone Financial Statements 2020.

There are no qualifications in the auditors' reports on the consolidated financial statements of UBS AG and the standalone financial statements of UBS AG for the years ended on 31 December 2021 and 31 December 2020.

7.3 Interim Financial Information

Reference is also made to (i) the UBS Group AG first quarter 2022 report published on 26 April 2022 ("**UBS Group First Quarter 2022 Report**") and the UBS AG first quarter 2022 report published on 29 April 2022 ("**UBS AG First Quarter 2022 Report**"), which contain information on the financial condition and results of operations, including the interim financial statements, of UBS Group AG consolidated and UBS AG consolidated, respectively, as of and for the period ended 31 March 2022; (ii) UBS Group AG second quarter 2022 report published on 26 July 2022 ("**UBS Group Second Quarter 2022 Report**") and the UBS AG second quarter 2022 report published on 29 July 2022 ("**UBS AG Second Quarter 2022 Report**"), which contain information on the financial condition and results of operations, including the interim financial statements, of UBS Group AG consolidated and UBS AG consolidated, respectively, as of and for the period ended 30 June 2022; and (iii) UBS Group AG third quarter 2022 report published on 25 October 2022 ("**UBS Group Third Quarter 2022 Report**") and the UBS AG third quarter 2022 report published on 28 October 2022 ("**UBS AG Third Quarter 2022 Report**"), which contain information on the financial condition and results of operations, including the interim financial statements, of UBS Group AG consolidated and UBS AG consolidated, respectively, as of and for the period ended 30 September 2022. The interim consolidated financial statements are not audited.

7.4 Litigation, Regulatory and Similar Matters

UBS operates in a legal and regulatory environment that exposes it to significant litigation and similar risks arising from disputes and regulatory proceedings. As a result, UBS is involved in various disputes and legal proceedings, including litigation, arbitration, and regulatory and criminal investigations. Such matters are subject to many uncertainties, and the outcome and the timing of resolution are often difficult to predict, particularly in the earlier stages of a case. The uncertainties inherent in all such matters affect the amount and timing of any potential outflows for both matters with respect to which provisions have been established and other contingent liabilities. Litigation, regulatory and similar matters may also result in non-monetary penalties and consequences. A guilty plea to, or conviction of, a crime could have material consequences for UBS. Resolution of regulatory proceedings may require UBS to obtain waivers of regulatory disqualifications to maintain certain operations, may entitle regulatory authorities to limit, suspend or terminate licenses and regulatory authorizations and may permit financial market utilities to limit, suspend or terminate UBS's participation in such utilities. Failure to obtain such waivers, or any limitation, suspension or termination of licenses, authorizations or participations, could have material consequences for UBS.

Specific litigation, regulatory and other matters, including all such matters that management considers to be material and others that management believes to be of significance due to potential financial, reputational and other effects, are described in "*Note 16 Provisions and contingent liabilities*" to the UBS AG unaudited interim consolidated financial statements included in the UBS AG Third Quarter 2022 Report. The amount of damages claimed, the size of a transaction or other information is provided where available and appropriate in order to assist users in considering the magnitude of potential exposures.

7.5 Material Contracts

Except as otherwise disclosed in this document (including the documents incorporated herein by reference), no material contracts have been entered into outside of the ordinary course of UBS AG's or UBS AG Group's business which could result in any member of the UBS AG Group being under an obligation or entitlement that is material to UBS AG's ability to meet its obligations to the investors in relation to the issued securities.

7.6 Significant Changes in the Financial Position and Performance; Material Adverse Change in Prospects

Except as otherwise indicated in this document (including the documents incorporated herein by reference), no material changes have occurred in UBS AG's assets and liabilities, financial position or profits and losses since 30 September 2022.

8. Share Capital

As reflected in the Articles of Association most recently registered with the Commercial Register of the Canton of Zurich and the Commercial Register of Basel-City, UBS AG has (i) fully paid and issued share capital of CHF 385,840,846.60, divided into 3,858,408,466 registered shares with a par value of CHF 0.10 each (article 4), and (ii) conditional capital in the amount of CHF 38,000,000, comprising 380,000,000 registered shares with a par value of CHF 0.10 each that can be issued upon the voluntary or mandatory exercise of conversion rights and/or warrants (article 4a).

9. Documents Available

The most recent Articles of Association of UBS AG are available on UBS's Corporate Governance website, at www.ubs.com/governance. Save as otherwise indicated herein, information on or accessible through the Group's corporate website, www.ubs.com, does not form part of and is not incorporated into this document.

APPENDIX III

EXTRACT OF
THE UNAUDITED CONSOLIDATED FINANCIAL STATEMENTS OF
UBS AG AND ITS SUBSIDIARIES
FOR THE THIRD QUARTER ENDED 30 SEPTEMBER 2022

UBS AG interim consolidated financial statements (unaudited)

Income statement

		For the quarter ended			Year-to-date	
USD m	Note	30.9.22	30.6.22	30.9.21	30.9.22	30.9.21
Interest income from financial instruments measured at amortized cost and fair value through other comprehensive income	3	3,081	2,381	2,178	7,607	6,382
Interest expense from financial instruments measured at amortized cost	3	(1,794)	(1,103)	(853)	(3,706)	(2,572)
Net interest income from financial instruments measured at fair value through profit or loss	3	278	356	339	1,045	1,049
Net interest income	3	1,565	1,634	1,664	4,946	4,860
Other net income from financial instruments measured at fair value through profit or loss		1,792	1,620	1,695	5,637	4,480
Fee and commission income	4	4,971	5,235	6,124	16,074	18,369
Fee and commission expense	4	(476)	(450)	(510)	(1,410)	(1,472)
Net fee and commission income	4	4,495	4,785	5,615	14,664	16,897
Other income	5	456	996	237	1,591	772
Total revenues		8,308	9,036	9,210	26,838	27,008
Credit loss expense / (release)	9	(3)	7	(14)	22	(121)
Personnel expenses	6	3,617	3,762	3,951	11,613	12,109
General and administrative expenses	7	2,077	2,364	2,101	6,674	6,312
Depreciation, amortization and impairment of non-financial assets		458	451	459	1,358	1,364
Operating expenses		6,152	6,577	6,512	19,644	19,785
Operating profit / (loss) before tax		2,159	2,452	2,712	7,171	7,345
Tax expense / (benefit)	8	551	478	549	1,577	1,550
Net profit / (loss)		1,608	1,974	2,163	5,594	5,795
Net profit / (loss) attributable to non-controlling interests		9	10	9	28	18
Net profit / (loss) attributable to shareholders		1,598	1,964	2,154	5,566	5,777

Statement of comprehensive income

	For the quarter ended			Year-to-date	
USD m	30.9.22	30.6.22	30.9.21	30.9.22	30.9.21
Comprehensive income attributable to shareholders					
Net profit / (loss)	1,598	1,964	2,154	5,566	5,777
Other comprehensive income that may be reclassified to the income statement					
Foreign currency translation					
Foreign currency translation movements related to net assets of foreign operations, before tax	(1,097)	(994)	(383)	(2,556)	(1,342)
Effective portion of changes in fair value of hedging instruments designated as net investment hedges, before tax	467	434	174	1,113	676
Foreign currency translation differences on foreign operations reclassified to the income statement	24	8	7	32	(1)
Effective portion of changes in fair value of hedging instruments designated as net investment hedges reclassified to the income statement	(3)	(4)	0	(7)	7
Income tax relating to foreign currency translations, including the impact of net investment hedges	6	5	53	14	59
Subtotal foreign currency translation, net of tax	(603)	(551)	(149)	(1,405)	(601)
Financial assets measured at fair value through other comprehensive income					
Net unrealized gains / (losses), before tax	(3)	(3)	(44)	(445)	(154)
Net realized gains / (losses) reclassified to the income statement from equity	0	0	0	0	(9)
Reclassification of financial assets to Other financial assets measured at amortized cost[1]		449		449	
Income tax relating to net unrealized gains / (losses)	0	(116)	11	(3)	42
Subtotal financial assets measured at fair value through other comprehensive income, net of tax	(3)	330	(33)	0	(121)
Cash flow hedges of interest rate risk					
Effective portion of changes in fair value of derivative instruments designated as cash flow hedges, before tax[2]	(2,053)	(1,298)	(112)	(5,816)	(742)
Net (gains) / losses reclassified to the income statement from equity	16	(149)	(282)	(370)	(804)
Income tax relating to cash flow hedges	373	276	77	1,168	292
Subtotal cash flow hedges, net of tax	(1,664)	(1,171)	(316)	(5,018)	(1,254)
Cost of hedging					
Cost of hedging, before tax	17	21	5	114	(18)
Income tax relating to cost of hedging	(3)	0	0	(3)	0
Subtotal cost of hedging, net of tax	14	21	5	111	(18)
Total other comprehensive income that may be reclassified to the income statement, net of tax	(2,257)	(1,370)	(493)	(6,312)	(1,992)
Other comprehensive income that will not be reclassified to the income statement					
Defined benefit plans					
Gains / (losses) on defined benefit plans, before tax	146	127	15	401	(20)
Income tax relating to defined benefit plans	40	(8)	(10)	14	(6)
Subtotal defined benefit plans, net of tax	186	119	6	415	(25)
Own credit on financial liabilities designated at fair value					
Gains / (losses) from own credit on financial liabilities designated at fair value, before tax	452	296	(98)	1,171	(8)
Income tax relating to own credit on financial liabilities designated at fair value	(116)	(26)	0	(142)	0
Subtotal own credit on financial liabilities designated at fair value, net of tax	335	271	(98)	1,029	(8)
Total other comprehensive income that will not be reclassified to the income statement, net of tax	521	389	(92)	1,444	(34)
Total other comprehensive income	(1,735)	(981)	(584)	(4,868)	(2,026)
Total comprehensive income attributable to shareholders	(137)	982	1,570	698	3,751
Comprehensive income attributable to non-controlling interests					
Net profit / (loss)	9	10	9	28	18
Total other comprehensive income that will not be reclassified to the income statement, net of tax	(17)	(28)	(14)	(27)	(12)
Total comprehensive income attributable to non-controlling interests	(8)	(17)	(5)	1	6
Total comprehensive income					
Net profit / (loss)	1,608	1,974	2,163	5,594	5,795
Other comprehensive income	(1,753)	(1,009)	(598)	(4,895)	(2,038)
of which: other comprehensive income that may be reclassified to the income statement	*(2,257)*	*(1,370)*	*(493)*	*(6,312)*	*(1,992)*
of which: other comprehensive income that will not be reclassified to the income statement	*504*	*361*	*(106)*	*1,416*	*(46)*
Total comprehensive income	(145)	965	1,565	699	3,757

1 Effective 1 April 2022, a portfolio of assets previously classified as Financial assets measured at fair value through other comprehensive income was reclassified to Other financial assets measured at amortized cost. Refer to Note 1 for more information. 2 The result for the first nine months of 2022 mainly reflects net unrealized losses on US dollar hedging derivatives, resulting from significant increases in the relevant US dollar long-term interest rates.

Balance sheet

USD m	Note	30.9.22	30.6.22	31.12.21
Assets				
Cash and balances at central banks		166,406	190,353	192,817
Loans and advances to banks		14,403	16,435	15,360
Receivables from securities financing transactions		66,926	63,291	75,012
Cash collateral receivables on derivative instruments	11	48,210	43,766	30,514
Loans and advances to customers	9	374,747	384,878	398,693
Other financial assets measured at amortized cost	12	47,045	37,551	26,236
Total financial assets measured at amortized cost		717,738	736,274	738,632
Financial assets at fair value held for trading	10	84,833	99,730	131,033
of which: assets pledged as collateral that may be sold or repledged by counterparties		*26,810*	*33,830*	*43,397*
Derivative financial instruments	10,11	195,208	160,524	118,145
Brokerage receivables	10	22,510	19,289	21,839
Financial assets at fair value not held for trading	10	53,418	57,240	59,642
Total financial assets measured at fair value through profit or loss		355,969	336,784	330,659
Financial assets measured at fair value through other comprehensive income	10	2,243	2,251	8,844
Investments in associates		1,032	1,094	1,243
Property, equipment and software		10,939	11,109	11,712
Goodwill and intangible assets		6,210	6,312	6,378
Deferred tax assets		9,276	9,083	8,839
Other non-financial assets	12	8,519	9,567	9,836
Total assets		1,111,926	1,112,474	1,116,145
Liabilities				
Amounts due to banks		13,870	15,202	13,101
Payables from securities financing transactions		4,540	5,956	5,533
Cash collateral payables on derivative instruments	11	44,321	40,468	31,801
Customer deposits		498,239	514,344	544,834
Funding from UBS Group AG measured at amortized cost		55,663	57,089	57,295
Debt issued measured at amortized cost	14	55,425	65,820	82,432
Other financial liabilities measured at amortized cost	12	9,990	10,516	9,765
Total financial liabilities measured at amortized cost		682,047	709,395	744,762
Financial liabilities at fair value held for trading	10	30,741	30,450	31,688
Derivative financial instruments	10,11	192,300	156,892	121,309
Brokerage payables designated at fair value	10	48,093	49,798	44,045
Debt issued designated at fair value	10,13	67,696	70,457	71,460
Other financial liabilities designated at fair value	10,12	27,116	30,373	32,414
Total financial liabilities measured at fair value through profit or loss		365,946	337,970	300,916
Provisions	16	3,235	3,407	3,452
Other non-financial liabilities	12	5,757	6,618	8,572
Total liabilities		1,056,985	1,057,390	1,057,702
Equity				
Share capital		338	338	338
Share premium		24,663	24,661	24,653
Retained earnings		30,681	28,592	27,912
Other comprehensive income recognized directly in equity, net of tax		(1,072)	1,154	5,200
Equity attributable to shareholders		54,610	54,746	58,102
Equity attributable to non-controlling interests		330	339	340
Total equity		54,941	55,085	58,442
Total liabilities and equity		1,111,926	1,112,474	1,116,145

Statement of changes in equity

USD m	Share capital and share premium	Retained earnings	OCI recognized directly in equity, net of tax[1]	*of which: foreign currency translation*	*of which: cash flow hedges*	Total equity attributable to shareholders
Balance as of 1 January 2022[2]	24,991	27,912	5,200	*4,617*	*628*	58,102
Tax (expense) / benefit	6					6
Dividends		(4,200)				(4,200)
Translation effects recognized directly in retained earnings		(44)	44		*44*	0
Share of changes in retained earnings of associates and joint ventures		0				0
New consolidations / (deconsolidations) and other increases / (decreases)	4	3	(3)			4
Total comprehensive income for the period		7,010	(6,312)	*(1,405)*	*(5,018)*	698
of which: net profit / (loss)		*5,566*				*5,566*
of which: OCI, net of tax		*1,444*	*(6,312)*	*(1,405)*	*(5,018)*	*(4,868)*
Balance as of 30 September 2022[2]	25,001	30,681	(1,072)	*3,212*	*(4,346)*	54,610
Non-controlling interests as of 30 September 2022						330
Total equity as of 30 September 2022						54,941
Balance as of 1 January 2021[2]	24,918	25,251	7,585	*5,126*	*2,321*	57,754
Tax (expense) / benefit	(67)					(67)
Dividends		(4,539)				(4,539)
Translation effects recognized directly in retained earnings		23	(23)		*(23)*	0
Share of changes in retained earnings of associates and joint ventures		1				1
New consolidations / (deconsolidations) and other increases / (decreases)	185					185
Total comprehensive income for the period		5,743	(1,992)	*(601)*	*(1,254)*	3,751
of which: net profit / (loss)		*5,777*				*5,777*
of which: OCI, net of tax		*(34)*	*(1,992)*	*(601)*	*(1,254)*	*(2,026)*
Balance as of 30 September 2021[2]	25,036	26,480	5,569	*4,526*	*1,044*	57,085
Non-controlling interests as of 30 September 2021						333
Total equity as of 30 September 2021						57,418

1 Excludes other comprehensive income related to defined benefit plans and own credit that is recorded directly in Retained earnings. 2 Excludes non-controlling interests.

Statement of cash flows

	Year-to-date	
USD m	30.9.22	30.9.21
Cash flow from / (used in) operating activities		
Net profit / (loss)	5,594	5,795
Non-cash items included in net profit and other adjustments:		
Depreciation, amortization and impairment of non-financial assets	1,358	1,364
Credit loss expense / (release)	22	(121)
Share of net (profit) / loss of associates and joint ventures and impairment related to associates	(31)	(72)
Deferred tax expense / (benefit)	553	426
Net loss / (gain) from investing activities	(934)	(321)
Net loss / (gain) from financing activities	(22,615)	(217)
Other net adjustments	14,674	5,395
Net change in operating assets and liabilities:		
Loans and advances to banks and amounts due to banks	1,808	2,626
Securities financing transactions at amortized cost	5,347	(1,926)
Cash collateral on derivative instruments	(5,320)	(3,174)
Loans and advances to customers and customer deposits	(17,474)	(14,510)
Financial assets and liabilities at fair value held for trading and derivative financial instruments	23,045	(3,808)
Brokerage receivables and payables	3,243	10,715
Financial assets at fair value not held for trading and other financial assets and liabilities	4,185	18,157
Provisions and other non-financial assets and liabilities	(4)	1,766
Income taxes paid, net of refunds	(1,230)	(674)
Net cash flow from / (used in) operating activities	12,219	21,421
Cash flow from / (used in) investing activities		
Purchase of subsidiaries, associates and intangible assets	0	(1)
Disposal of subsidiaries, associates and intangible assets	1,682[1]	564
Purchase of property, equipment and software	(1,066)	(1,146)
Disposal of property, equipment and software	9	268
Purchase of financial assets measured at fair value through other comprehensive income	(3,958)	(3,118)
Disposal and redemption of financial assets measured at fair value through other comprehensive income	3,234	2,798
Net (purchase) / redemption of debt securities measured at amortized cost	(8,228)	223
Net cash flow from / (used in) investing activities	(8,329)	(414)
Cash flow from / (used in) financing activities		
Net short-term debt issued / (repaid)	(16,249)	(7,717)
Distributions paid on UBS AG shares	(4,200)	(4,539)
Issuance of debt designated at fair value and long-term debt measured at amortized cost[2]	68,812	81,146
Repayment of debt designated at fair value and long-term debt measured at amortized cost[2]	(54,184)	(65,416)
Net cash flows from other financing activities	(460)	(129)
Net cash flow from / (used in) financing activities	(6,282)	3,345
Total cash flow		
Cash and cash equivalents at the beginning of the period	207,755	173,430
Net cash flow from / (used in) operating, investing and financing activities	(2,391)	24,352
Effects of exchange rate differences on cash and cash equivalents	(15,773)	(6,895)
Cash and cash equivalents at the end of the period[3]	189,592	190,888
Additional information		
Net cash flow from / (used in) operating activities includes:		
Interest received in cash	10,197	8,292
Interest paid in cash	5,120	3,981
Dividends on equity investments, investment funds and associates received in cash	1,556	1,969

1 Includes cash proceeds from the sales of: UBS AG's shareholding in its Japanese real estate joint venture, Mitsubishi Corp.-UBS Realty Inc.; UBS AG's wholly owned subsidiary UBS Swiss Financial Advisers AG; and UBS AG's domestic wealth management business in Spain. 2 Includes funding from UBS Group AG measured at amortized cost (recognized in Funding from UBS Group AG measured at amortized cost in the balance sheet) and measured at fair value (recognized in Other financial liabilities designated at fair value in the balance sheet). 3 Consists of balances with an original maturity of three months or less. USD 3,855m and USD 3,823m (mainly reflected in Loans and advances to banks) were restricted as of 30 September 2022 and 30 September 2021, respectively. Refer to "Note 23 Restricted and transferred financial assets" in the "Consolidated financial statements" section of the Annual Report 2021 for more information.

Notes to the UBS AG interim consolidated financial statements (unaudited)

Note 1 Basis of accounting

Basis of preparation

The consolidated financial statements (the financial statements) of UBS AG and its subsidiaries (together, UBS AG) are prepared in accordance with International Financial Reporting Standards (IFRS), as issued by the International Accounting Standards Board (the IASB), and are presented in US dollars (USD). These interim financial statements are prepared in accordance with IAS 34, *Interim Financial Reporting*.

In preparing these interim financial statements, the same accounting policies and methods of computation have been applied as in the UBS AG consolidated annual financial statements for the period ended 31 December 2021, except for the changes described in this Note. These interim financial statements are unaudited and should be read in conjunction with UBS AG's audited consolidated financial statements in the Annual Report 2021. In the opinion of management, all necessary adjustments have been made for a fair presentation of UBS AG's financial position, results of operations and cash flows.

Preparation of these interim financial statements requires management to make estimates and assumptions that affect the reported amounts of assets, liabilities, income, expenses and disclosures of contingent assets and liabilities. These estimates and assumptions are based on the best available information. Actual results in the future could differ from such estimates and differences may be material to the financial statements. Revisions to estimates, based on regular reviews, are recognized in the period in which they occur. For more information about areas of estimation uncertainty that are considered to require critical judgment, refer to "Note 1a Material accounting policies" in the "Consolidated financial statements" section of the Annual Report 2021.

Changes to the presentation of the financial statements

Effective from the second quarter of 2022, UBS AG has made several changes to simplify the presentation of the income statement alongside other primary financial statements and disclosure notes and to align them with management information. In particular, *Total operating income* has been renamed *Total revenues* and excludes *Credit loss expense / (release)*, which is now separately presented below *Total revenues*.

Reclassification of a portfolio from *Financial assets measured at fair value through other comprehensive income* to *Other financial assets measured at amortized cost*

Effective from 1 April 2022, UBS AG has reclassified a portfolio of financial assets from *Financial assets measured at fair value through other comprehensive income* (FVOCI) with a fair value of USD 6.9bn (the Portfolio) to *Other financial assets measured at amortized cost* in line with the principles in IFRS 9, *Financial Instruments*, which require a reclassification when an entity changes its business model for managing financial assets.

The Portfolio's cumulative fair value losses of USD 449m pre-tax and USD 333m post-tax, previously recognized in *Other comprehensive income*, have been removed from equity and adjusted against the value of the assets at the reclassification date, so that the Portfolio is measured as if the assets had always been classified at amortized cost, with a value as of 1 April 2022 of USD 7.4bn.

The reclassification had no effect on the income statement.

The reclassified Portfolio is made up of high-quality liquid assets, primarily US government treasuries and US government agency mortgage-backed securities, held and separately managed by UBS Bank USA (BUSA).

Note 1 Basis of accounting (continued)

The accounting reclassification has arisen as a direct result of the transformation of UBS AG's Global Wealth Management Americas business that has significantly impacted BUSA. This includes initiatives approved by the Group Executive Board to significantly grow and extend the business, as disclosed on 1 February 2022 during UBS's fourth quarter 2021 earnings presentation. BUSA's deposit base has grown by more than 100% in the last two years, generating substantial cash balances, with a number of new products being launched, including new deposit types that are longer in duration, additional lending and a broader range of customer segments targeted.

Following the commencement of these activities and the announcement made in the first quarter of 2022, the Portfolio is no longer held in a business model to collect the contractual cash flows and sell the assets, but is instead solely held to collect the contractual cash flows until the assets mature, requiring a reclassification of the Portfolio in line with IFRS 9 with effect from 1 April 2022.

The fair value of the Portfolio as of 30 September 2022 was USD 5.8bn (30 June 2022: USD 6.4bn). A pre-tax fair value loss of USD 515m would have been recognized in *Other comprehensive income* during the third quarter of 2022 (second quarter of 2022: USD 264m) if the Portfolio had not been reclassified.

Currency translation rates

The following table shows the rates of the main currencies used to translate the financial information of UBS AG's operations with a functional currency other than the US dollar into US dollars.

	Closing exchange rate				Average rate[1]				
	As of				For the quarter ended			Year-to-date	
	30.9.22	30.6.22	31.12.21	30.9.21	30.9.22	30.6.22	30.9.21	30.9.22	30.9.21
1 CHF	1.01	1.05	1.10	1.07	1.03	1.04	1.09	1.05	1.09
1 EUR	0.98	1.05	1.14	1.16	0.99	1.06	1.17	1.05	1.19
1 GBP	1.12	1.22	1.35	1.35	1.16	1.25	1.37	1.24	1.38
100 JPY	0.69	0.74	0.87	0.90	0.72	0.76	0.90	0.78	0.91

1 Monthly income statement items of operations with a functional currency other than the US dollar are translated into US dollars using month-end rates. Disclosed average rates for a quarter represent an average of three month-end rates, weighted according to the income and expense volumes of all operations of UBS AG with the same functional currency for each month. Weighted average rates for individual business divisions may deviate from the weighted average rates for UBS AG.

Note 2 Segment reporting

USD m	Global Wealth Management	Personal & Corporate Banking	Asset Management	Investment Bank	Group Functions	UBS AG
For the nine months ended 30 September 2022[1]						
Net interest income	3,775	1,559	(12)	(1)	(375)	4,946
Non-interest income	10,588	1,616	2,478	7,033	177	21,892
Total revenues	14,363	3,175	2,466	7,031	(197)	26,838
Credit loss expense / (release)	(3)	42	0	(20)	2	22
Operating expenses	10,518	1,867	1,192	5,320	748	19,644
Operating profit / (loss) before tax	**3,847**	**1,266**	**1,274**	**1,731**	**(947)**	**7,171**
Tax expense / (benefit)						1,577
Net profit / (loss)						**5,594**
As of 30 September 2022[1]						
Total assets	**384,057**	**217,409**	**15,968**	**426,064**	**68,427**	**1,111,926**
For the nine months ended 30 September 2021[1]						
Net interest income	3,130	1,577	(11)	318	(155)	4,860
Non-interest income	11,467	1,610	1,906	6,920	245	22,149
Total revenues	14,597	3,187	1,896	7,238	90	27,008
Credit loss expense / (release)	(27)	(76)	0	(19)	0	(121)
Operating expenses	10,460	1,899	1,200	5,375	851	19,785
Operating profit / (loss) before tax	**4,165**	**1,365**	**695**	**1,882**	**(762)**	**7,345**
Tax expense / (benefit)						1,550
Net profit / (loss)						**5,795**
As of 31 December 2021[1]						
Total assets[2]	**395,235**	**225,425**	**25,202**	**346,641**	**123,641**	**1,116,145**

1 Refer to "Note 2 Segment reporting" in the "Consolidated financial statements" section of the Annual Report 2021 for more information about UBS AG's reporting segments. 2 In the first quarter of 2022, UBS AG refined the methodology applied to allocate balance sheet resources from Group Functions to the business divisions, with prospective effect. If the new methodology had been applied as of 31 December 2021, balance sheet assets allocated to business divisions would have been USD 17bn higher, of which USD 14bn would have related to the Investment Bank.

Note 3 Net interest income

	For the quarter ended			Year-to-date	
USD m	30.9.22	30.6.22	30.9.21	30.9.22	30.9.21
Interest income from loans and deposits[1]	2,523	1,887	1,644	6,071	4,843
Interest income from securities financing transactions[2]	415	209	132	742	393
Interest income from other financial instruments measured at amortized cost	148	118	71	338	213
Interest income from debt instruments measured at fair value through other comprehensive income	12	6	33	60	84
Interest income from derivative instruments designated as cash flow hedges	(17)	160	297	396	849
Total interest income from financial instruments measured at amortized cost and fair value through other comprehensive income	3,081	2,381	2,178	7,607	6,382
Interest expense on loans and deposits[3]	1,226	618	408	2,272	1,262
Interest expense on securities financing transactions[4]	282	288	299	794	850
Interest expense on debt issued	265	176	122	576	385
Interest expense on lease liabilities	21	21	24	64	75
Total interest expense from financial instruments measured at amortized cost	1,794	1,103	853	3,706	2,572
Total net interest income from financial instruments measured at amortized cost and fair value through other comprehensive income	1,287	1,278	1,325	3,901	3,810
Net interest income from financial instruments measured at fair value through profit or loss	278	356	339	1,045	1,049
Total net interest income	1,565	1,634	1,664	4,946	4,860

1 Consists of interest income from cash and balances at central banks, loans and advances to banks and customers, and cash collateral receivables on derivative instruments, as well as negative interest on amounts due to banks, customer deposits, and cash collateral payables on derivative instruments. 2 Includes interest income on receivables from securities financing transactions and negative interest, including fees, on payables from securities financing transactions. 3 Consists of interest expense on amounts due to banks, cash collateral payables on derivative instruments, customer deposits, and funding from UBS Group AG, as well as negative interest on cash and balances at central banks, loans and advances to banks, and cash collateral receivables on derivative instruments. 4 Includes interest expense on payables from securities financing transactions and negative interest, including fees, on receivables from securities financing transactions.

Note 4 Net fee and commission income

	For the quarter ended			Year-to-date	
USD m	30.9.22	30.6.22	30.9.21	30.9.22	30.9.21
Underwriting fees	188	122	353	512	1,165
M&A and corporate finance fees	152	220	315	608	883
Brokerage fees	780	870	1,017	2,728	3,412
Investment fund fees	1,173	1,233	1,428	3,794	4,270
Portfolio management and related services	2,178	2,298	2,517	6,938	7,227
Other	500	492	495	1,494	1,411
Total fee and commission income[1]	4,971	5,235	6,124	16,074	18,369
of which: recurring	*3,453*	*3,593*	*3,951*	*10,905*	*11,395*
of which: transaction-based	*1,504*	*1,632*	*2,139*	*5,126*	*6,803*
of which: performance-based	*14*	*10*	*34*	*43*	*171*
Fee and commission expense	476	450	510	1,410	1,472
Net fee and commission income	4,495	4,785	5,615	14,664	16,897

1 Reflects third-party fee and commission income for the third quarter of 2022 of USD 3,106m for Global Wealth Management (second quarter of 2022: USD 3,281m; third quarter of 2021: USD 3,663m), USD 398m for Personal & Corporate Banking (second quarter of 2022: USD 422m; third quarter of 2021: USD 429m), USD 682m for Asset Management (second quarter of 2022: USD 720m; third quarter of 2021: USD 815m), USD 782m for the Investment Bank (second quarter of 2022: USD 811m; third quarter of 2021: USD 1,214m) and USD 2m for Group Functions (second quarter of 2022: USD 1m; third quarter of 2021: USD 3m).

Note 5 Other income

UBS AG recognized other income of USD 456m in the third quarter of 2022, which included pre-tax gains in Global Wealth Management of USD 133m on the sale of UBS AG's domestic wealth management business in Spain and USD 86m on the sale of UBS AG's wholly owned subsidiary UBS Swiss Financial Advisers AG, as well as a USD 70m gain related to a legacy litigation settlement. In the second quarter of 2022, UBS AG recognized other income of USD 996m, which included a pre-tax gain of USD 848m in Asset Management on the sale of UBS AG's minority shareholding in its Japanese real estate joint venture, Mitsubishi Corp.-UBS Realty Inc. In the third quarter of 2021, UBS AG recognized other income of USD 237m, which included a pre-tax gain of USD 100m from the sale of UBS AG's domestic wealth management business in Austria.

Note 6 Personnel expenses

	For the quarter ended			Year-to-date	
USD m	30.9.22	30.6.22	30.9.21	30.9.22	30.9.21
Salaries and variable compensation	2,057	2,194	2,212	6,716	7,013
Financial advisor compensation[1]	1,093	1,122	1,239	3,436	3,592
Contractors	29	30	33	87	107
Social security	179	164	205	571	603
Post-employment benefit plans	122	137	140	442	459
Other personnel expenses	136	116	123	361	335
Total personnel expenses	3,617	3,762	3,951	11,613	12,109

1 Financial advisor compensation consists of formulaic compensation based directly on compensable revenues generated by financial advisors and supplemental compensation calculated on the basis of financial advisor productivity, firm tenure, new assets and other variables. It also includes expenses related to compensation commitments with financial advisors entered into at the time of recruitment that are subject to vesting requirements.

Note 7 General and administrative expenses

	For the quarter ended			Year-to-date	
USD m	30.9.22	30.6.22	30.9.21	30.9.22	30.9.21
Outsourcing costs	109	115	112	331	296
IT expenses	122	126	116	370	363
Consulting, legal and audit fees	116	123	111	343	310
Real estate and logistics costs	119	129	137	371	391
Market data services	91	89	90	273	272
Marketing and communication	45	43	34	119	101
Travel and entertainment	39	43	17	101	37
Litigation, regulatory and similar matters[1]	21	220	12	298	84
Other	1,416	1,475	1,473	4,467	4,459
of which: shared services costs charged by UBS Group AG or its subsidiaries	*1,237*	*1,348*	*1,288*	*3,975*	*3,957*
Total general and administrative expenses	2,077	2,364	2,101	6,674	6,312

1 Reflects the net increase in provisions for litigation, regulatory and similar matters recognized in the income statement. Refer to Note 16b for more information.

Note 8 Income taxes

UBS AG recognized income tax expenses of USD 551m for the third quarter of 2022, representing an effective tax rate of 25.6%, compared with USD 549m and an effective tax rate of 20.2% for the third quarter of 2021.

Current tax expenses were USD 347m, compared with USD 400m, and related to taxable profits of UBS Switzerland AG and other entities.

Deferred tax expenses were USD 204m, compared with USD 148m. These include an expense of USD 173m that primarily relates to the amortization of deferred tax assets that were previously recognized in relation to tax losses carried forward and deductible temporary differences of UBS Americas Inc. They also include an expense of USD 31m in respect of a decrease in the expected value of future tax deductions for deferred compensation awards, due to a decrease in the Group's share price during the quarter.

a) Credit loss expense / release

Total net credit loss releases in the third quarter of 2022 were USD 3m, reflecting USD 4m net credit loss expenses related to stage 1 and 2 positions and USD 7m net credit loss releases primarily related to stage 3 positions in Personal & Corporate Banking.

Stage 1 and 2 net expenses of USD 4m included scenario-update-related expenses of USD 13m, mainly from the update of interest rate forecasts, partly offset by the net effect of changes to models and portfolio quality and size.

b) Changes to ECL models, scenarios, scenario weights and post-model adjustments

Scenarios and scenario weights

The expected credit loss (ECL) scenarios, along with their related macroeconomic factors and market data, were reviewed in light of the economic and political conditions prevailing in the third quarter of 2022 through a series of governance meetings, with input and feedback from UBS AG Risk and Finance experts across the business divisions and regions. UBS AG decided to apply the same scenarios and weights in the third quarter of 2022 as in the second quarter of 2022.

The baseline scenario assumptions on a calendar-year basis are included in the table on the next page. Such baseline information includes interest rate increases by central banks in September 2022, as well as other updated macroeconomic data.

The global crisis scenario and the asset price inflation scenario were updated with current macroeconomic factors, but remain materially unchanged compared with the second quarter of 2022. Shocks in equity prices in the global crisis scenario have been made slightly less severe in the third quarter of 2022 than in the second quarter to reflect the decline seen in the first half of 2022.

As a response to inflationary developments and the war in Ukraine, in the first quarter of 2022 UBS AG replaced the mild global interest rate steepening scenario applied at year-end 2021 with the severe global interest rate steepening scenario. In the second quarter of 2022, a new severe Russia–Ukraine conflict scenario was developed. It has similar dynamics to the severe global interest rate steepening scenario, but includes a deepening energy crisis and disruptions in the delivery of Russian energy. These factors have resulted in surging commodity prices and accelerated inflation in major economies, compared with the severe global interest rate steepening scenario. Eurozone economic activity in particular is impacted in this scenario, due to the region’s reliance on its supply of energy from Russia. Equity price shocks in the severe Russia–Ukraine conflict scenario have been made slightly less severe in the third quarter of 2022 than in the second quarter, to reflect the decline seen in the first half of 2022.

Refer to the table on the next page for scenarios and weights applied.

Note 9 Expected credit loss measurement (continued)

Post-model adjustments

Total stage 1 and 2 allowances and provisions amounted to USD 507m as of 30 September 2022 and included post-model adjustments (PMA) of USD 151m (30 June 2022: USD 155m; 31 December 2021: USD 224m).

The PMA represent uncertainty and risk related to substantially heightened geopolitical tensions and the continued COVID-19 pandemic, which cannot be fully and reliably modeled, due to a lack of sufficiently supportable data.

The PMA were reduced during the second and first quarters of 2022 as the application of different and more adverse scenarios and scenario assumptions in UBS AG's models addressed some of the uncertainties that had been reflected in the PMA in prior periods.

Comparison of shock factors

	Baseline		
Key parameters	2021	2022	2023
Real GDP growth (annual percentage change)			
US	5.5	1.7	0.6
Eurozone	5.1	2.9	0.8
Switzerland	3.1	2.1	0.6
Unemployment rate (%, annual average)			
US	5.4	3.6	3.7
Eurozone	7.7	6.7	6.9
Switzerland	3.0	2.2	2.1
Fixed income: 10-year government bonds (%, Q4)			
USD	1.5	3.8	3.7
EUR	(0.2)	2.2	2.2
CHF	(0.1)	1.3	1.4
Real estate (annual percentage change, Q4)			
US	16.1	10.1	1.7
Eurozone	7.9	3.3	0.5
Switzerland	6.0	5.0	0.0

Economic scenarios and weights applied

	Assigned weights in %		
ECL scenario	30.9.22	30.6.22	31.12.21
Upside	0.0	0.0	5.0
Baseline	55.0	55.0	55.0
Mild global interest rate steepening	–	–	10.0
Severe Russia–Ukraine conflict scenario	25.0	25.0	–
Global crisis	20.0	20.0	30.0

c) ECL-relevant balance sheet and off-balance sheet positions including ECL allowances and provisions

The following tables provide information about financial instruments and certain non-financial instruments that are subject to ECL requirements. For amortized-cost instruments, the carrying amount represents the maximum exposure to credit risk, taking into account the allowance for credit losses. Financial assets measured at fair value through other comprehensive income (FVOCI) are also subject to ECL; however, unlike amortized-cost instruments, the allowance for credit losses for FVOCI instruments does not reduce the carrying amount of these financial assets. Instead, the carrying amount of financial assets measured at FVOCI represents the maximum exposure to credit risk.

In addition to recognized financial assets, certain off-balance sheet financial instruments and other credit lines are also subject to ECL. The maximum exposure to credit risk for off-balance sheet financial instruments is calculated based on the maximum contractual amounts.

USD m	30.9.22							
	Carrying amount[1]				ECL allowances			
Financial instruments measured at amortized cost	Total	Stage 1	Stage 2	Stage 3	Total	Stage 1	Stage 2	Stage 3
Cash and balances at central banks	166,406	166,350	56	0	(15)	0	(15)	0
Loans and advances to banks	14,403	14,342	61	0	(6)	(5)	(1)	0
Receivables from securities financing transactions	66,926	66,926	0	0	(2)	(2)	0	0
Cash collateral receivables on derivative instruments	48,210	48,210	0	0	0	0	0	0
Loans and advances to customers	374,747	358,320	14,973	1,455	(760)	(124)	(170)	(466)
of which: Private clients with mortgages	*148,347*	*140,274*	*7,430*	*643*	*(129)*	*(26)*	*(78)*	*(25)*
of which: Real estate financing	*42,647*	*38,981*	*3,658*	*8*	*(55)*	*(17)*	*(38)*	*0*
of which: Large corporate clients	*11,775*	*10,035*	*1,458*	*282*	*(119)*	*(20)*	*(18)*	*(81)*
of which: SME clients	*13,032*	*11,504*	*1,179*	*349*	*(241)*	*(24)*	*(22)*	*(195)*
of which: Lombard	*134,535*	*134,455*	*0*	*79*	*(34)*	*(8)*	*0*	*(26)*
of which: Credit cards	*1,737*	*1,352*	*358*	*27*	*(36)*	*(10)*	*(10)*	*(17)*
of which: Commodity trade finance	*3,383*	*3,368*	*0*	*15*	*(92)*	*(5)*	*0*	*(86)*
Other financial assets measured at amortized cost	47,045	46,482	404	160	(92)	(18)	(7)	(67)
of which: Loans to financial advisors	*2,505*	*2,191*	*187*	*128*	*(69)*	*(10)*	*(3)*	*(56)*
Total financial assets measured at amortized cost	717,738	700,630	15,494	1,614	(874)	(149)	(192)	(533)
Financial assets measured at fair value through other comprehensive income	2,243	2,243	0	0	0	0	0	0
Total on-balance sheet financial assets in scope of ECL requirements	719,981	702,872	15,494	1,614	(874)	(149)	(192)	(533)
	Total exposure				ECL provisions			
Off-balance sheet (in scope of ECL)	Total	Stage 1	Stage 2	Stage 3	Total	Stage 1	Stage 2	Stage 3
Guarantees	20,835	19,652	1,054	128	(36)	(12)	(8)	(16)
of which: Large corporate clients	*3,537*	*2,714*	*748*	*75*	*(12)*	*(2)*	*(3)*	*(7)*
of which: SME clients	*1,201*	*1,015*	*134*	*52*	*(7)*	*(1)*	*(1)*	*(5)*
of which: Financial intermediaries and hedge funds	*10,950*	*10,882*	*68*	*0*	*(11)*	*(8)*	*(4)*	*0*
of which: Lombard	*2,273*	*2,272*	*0*	*1*	*(1)*	*0*	*0*	*(1)*
of which: Commodity trade finance	*2,062*	*2,061*	*0*	*0*	*(1)*	*(1)*	*0*	*0*
Irrevocable loan commitments	37,456	34,996	2,378	82	(102)	(60)	(42)	0
of which: Large corporate clients	*22,121*	*20,283*	*1,779*	*58*	*(85)*	*(51)*	*(34)*	*0*
Forward starting reverse repurchase and securities borrowing agreements	8,161	8,161	0	0	0	0	0	0
Committed unconditionally revocable credit lines	38,652	36,691	1,918	43	(42)	(30)	(12)	0
of which: Real estate financing	*8,223*	*8,099*	*124*	*0*	*(5)*	*(5)*	*0*	*0*
of which: Large corporate clients	*3,889*	*3,448*	*436*	*5*	*(8)*	*(2)*	*(6)*	*0*
of which: SME clients	*4,446*	*4,111*	*306*	*29*	*(17)*	*(14)*	*(3)*	*0*
of which: Lombard	*6,884*	*6,879*	*0*	*5*	*0*	*0*	*0*	*0*
of which: Credit cards	*8,976*	*8,537*	*435*	*3*	*(6)*	*(4)*	*(2)*	*0*
of which: Commodity trade finance	*282*	*282*	*0*	*0*	*0*	*0*	*0*	*0*
Irrevocable committed prolongation of existing loans	3,732	3,725	4	4	(2)	(2)	0	0
Total off-balance sheet financial instruments and other credit lines	108,837	103,225	5,355	257	(182)	(104)	(62)	(16)
Total allowances and provisions					(1,056)	(253)	(254)	(549)

1 The carrying amount of financial assets measured at amortized cost represents the total gross exposure net of the respective ECL allowances.

Note 9 Expected credit loss measurement (continued)

USD m	30.6.22							
	Carrying amount[1]				ECL allowances			
Financial instruments measured at amortized cost	Total	Stage 1	Stage 2	Stage 3	Total	Stage 1	Stage 2	Stage 3
Cash and balances at central banks	190,353	190,296	57	0	(13)	0	(13)	0
Loans and advances to banks	16,435	16,318	117	0	(8)	(7)	(1)	0
Receivables from securities financing transactions	63,291	63,291	0	0	(2)	(2)	0	0
Cash collateral receivables on derivative instruments	43,766	43,766	0	0	0	0	0	0
Loans and advances to customers	384,878	367,433	15,759	1,686	(793)	(129)	(163)	(501)
of which: Private clients with mortgages	*150,884*	*142,050*	*8,064*	*770*	*(126)*	*(27)*	*(72)*	*(27)*
of which: Real estate financing	*43,291*	*39,358*	*3,925*	*7*	*(59)*	*(17)*	*(42)*	*0*
of which: Large corporate clients	*12,208*	*10,791*	*1,088*	*329*	*(141)*	*(27)*	*(17)*	*(98)*
of which: SME clients	*13,309*	*11,744*	*1,167*	*397*	*(249)*	*(22)*	*(22)*	*(205)*
of which: Lombard	*140,333*	*140,251*	*0*	*82*	*(37)*	*(7)*	*0*	*(29)*
of which: Credit cards	*1,760*	*1,384*	*349*	*27*	*(36)*	*(10)*	*(9)*	*(17)*
of which: Commodity trade finance	*3,699*	*3,686*	*0*	*12*	*(94)*	*(5)*	*0*	*(89)*
Other financial assets measured at amortized cost[2]	37,551	37,000	391	160	(99)	(18)	(7)	(74)
of which: Loans to financial advisors	*2,447*	*2,171*	*144*	*132*	*(78)*	*(11)*	*(2)*	*(64)*
Total financial assets measured at amortized cost	**736,274**	**718,104**	**16,325**	**1,846**	**(915)**	**(155)**	**(184)**	**(575)**
Financial assets measured at fair value through other comprehensive income[2]	**2,251**	**2,251**	**0**	**0**	**0**	**0**	**0**	**0**
Total on-balance sheet financial assets in scope of ECL requirements	**738,525**	**720,355**	**16,325**	**1,846**	**(915)**	**(155)**	**(184)**	**(575)**

	Total exposure				ECL provisions			
Off-balance sheet (in scope of ECL)	Total	Stage 1	Stage 2	Stage 3	Total	Stage 1	Stage 2	Stage 3
Guarantees	22,556	21,381	1,028	146	(40)	(16)	(9)	(15)
of which: Large corporate clients	*3,539*	*2,710*	*734*	*95*	*(10)*	*(3)*	*(3)*	*(4)*
of which: SME clients	*1,213*	*1,034*	*128*	*51*	*(9)*	*(1)*	*(1)*	*(7)*
of which: Financial intermediaries and hedge funds	*12,113*	*12,021*	*92*	*0*	*(16)*	*(11)*	*(5)*	*0*
of which: Lombard	*2,332*	*2,332*	*0*	*0*	*(1)*	*0*	*0*	*(1)*
of which: Commodity trade finance	*2,388*	*2,387*	*0*	*0*	*(1)*	*(1)*	*0*	*0*
Irrevocable loan commitments	37,703	35,308	2,359	37	(113)	(67)	(46)	0
of which: Large corporate clients	*22,649*	*21,001*	*1,642*	*6*	*(94)*	*(60)*	*(34)*	*0*
Forward starting reverse repurchase and securities borrowing agreements	3,985	3,985	0	0	0	0	0	0
Committed unconditionally revocable credit lines	41,615	39,266	2,306	42	(37)	(27)	(10)	0
of which: Real estate financing	*9,123*	*8,931*	*193*	*0*	*(5)*	*(5)*	*0*	*0*
of which: Large corporate clients	*4,354*	*3,662*	*687*	*5*	*(6)*	*(1)*	*(5)*	*0*
of which: SME clients	*4,660*	*4,240*	*392*	*29*	*(16)*	*(13)*	*(3)*	*0*
of which: Lombard	*7,697*	*7,693*	*0*	*4*	*0*	*0*	*0*	*0*
of which: Credit cards	*9,162*	*8,725*	*433*	*3*	*(6)*	*(4)*	*(2)*	*0*
of which: Commodity trade finance	*172*	*172*	*0*	*0*	*0*	*0*	*0*	*0*
Irrevocable committed prolongation of existing loans	5,156	5,136	18	2	(2)	(2)	0	0
Total off-balance sheet financial instruments and other credit lines	**111,015**	**105,076**	**5,712**	**228**	**(192)**	**(112)**	**(66)**	**(15)**
Total allowances and provisions					**(1,107)**	**(267)**	**(250)**	**(590)**

1 The carrying amount of financial assets measured at amortized cost represents the total gross exposure net of the respective ECL allowances. 2 Effective 1 April 2022, a portfolio of assets previously classified as Financial assets measured at fair value through other comprehensive income was reclassified to Other financial assets measured at amortized cost. Refer to Note 1 for more information.

Note 9 Expected credit loss measurement (continued)

USD m	31.12.21							
	Carrying amount[1]				ECL allowances			
Financial instruments measured at amortized cost	Total	Stage 1	Stage 2	Stage 3	Total	Stage 1	Stage 2	Stage 3
Cash and balances at central banks	192,817	192,817	0	0	0	0	0	0
Loans and advances to banks	15,360	15,333	26	1	(8)	(7)	(1)	0
Receivables from securities financing transactions	75,012	75,012	0	0	(2)	(2)	0	0
Cash collateral receivables on derivative instruments	30,514	30,514	0	0	0	0	0	0
Loans and advances to customers	398,693	381,496	15,620	1,577	(850)	(126)	(152)	(572)
of which: Private clients with mortgages	*152,479*	*143,505*	*8,262*	*711*	*(132)*	*(28)*	*(71)*	*(33)*
of which: Real estate financing	*43,945*	*40,463*	*3,472*	*9*	*(60)*	*(19)*	*(40)*	*0*
of which: Large corporate clients	*13,990*	*12,643*	*1,037*	*310*	*(170)*	*(22)*	*(16)*	*(133)*
of which: SME clients	*14,004*	*12,076*	*1,492*	*436*	*(259)*	*(19)*	*(15)*	*(225)*
of which: Lombard	*149,283*	*149,255*	*0*	*27*	*(33)*	*(6)*	*0*	*(28)*
of which: Credit cards	*1,716*	*1,345*	*342*	*29*	*(36)*	*(10)*	*(9)*	*(17)*
of which: Commodity trade finance	*3,813*	*3,799*	*7*	*7*	*(114)*	*(6)*	*0*	*(108)*
Other financial assets measured at amortized cost	26,236	25,746	302	189	(109)	(27)	(7)	(76)
of which: Loans to financial advisors	*2,453*	*2,184*	*106*	*163*	*(86)*	*(19)*	*(3)*	*(63)*
Total financial assets measured at amortized cost	**738,632**	**720,917**	**15,948**	**1,767**	**(969)**	**(161)**	**(160)**	**(647)**
Financial assets measured at fair value through other comprehensive income	**8,844**	**8,844**	**0**	**0**	**0**	**0**	**0**	**0**
Total on-balance sheet financial assets in scope of ECL requirements	**747,477**	**729,762**	**15,948**	**1,767**	**(969)**	**(161)**	**(160)**	**(647)**

	Total exposure				ECL provisions			
Off-balance sheet (in scope of ECL)	Total	Stage 1	Stage 2	Stage 3	Total	Stage 1	Stage 2	Stage 3
Guarantees	20,972	19,695	1,127	150	(41)	(18)	(8)	(15)
of which: Large corporate clients	*3,464*	*2,567*	*793*	*104*	*(6)*	*(3)*	*(3)*	*0*
of which: SME clients	*1,353*	*1,143*	*164*	*46*	*(8)*	*(1)*	*(1)*	*(7)*
of which: Financial intermediaries and hedge funds	*9,575*	*9,491*	*84*	*0*	*(17)*	*(13)*	*(4)*	*0*
of which: Lombard	*2,454*	*2,454*	*0*	*0*	*(1)*	*0*	*0*	*(1)*
of which: Commodity trade finance	*3,137*	*3,137*	*0*	*0*	*(1)*	*(1)*	*0*	*0*
Irrevocable loan commitments	39,478	37,097	2,335	46	(114)	(72)	(42)	0
of which: Large corporate clients	*23,922*	*21,811*	*2,102*	*9*	*(100)*	*(66)*	*(34)*	*0*
Forward starting reverse repurchase and securities borrowing agreements	1,444	1,444	0	0	0	0	0	0
Committed unconditionally revocable credit lines	42,373	39,802	2,508	63	(38)	(28)	(10)	0
of which: Real estate financing	*7,328*	*7,046*	*281*	*0*	*(5)*	*(4)*	*(1)*	*0*
of which: Large corporate clients	*5,358*	*4,599*	*736*	*23*	*(7)*	*(4)*	*(3)*	*0*
of which: SME clients	*5,160*	*4,736*	*389*	*35*	*(15)*	*(11)*	*(3)*	*0*
of which: Lombard	*8,670*	*8,670*	*0*	*0*	*0*	*0*	*0*	*0*
of which: Credit cards	*9,466*	*9,000*	*462*	*4*	*(6)*	*(5)*	*(2)*	*0*
of which: Commodity trade finance	*117*	*117*	*0*	*0*	*0*	*0*	*0*	*0*
Irrevocable committed prolongation of existing loans	5,611	5,527	36	48	(3)	(3)	0	0
Total off-balance sheet financial instruments and other credit lines	**109,878**	**103,565**	**6,006**	**307**	**(196)**	**(121)**	**(60)**	**(15)**
Total allowances and provisions					**(1,165)**	**(282)**	**(220)**	**(662)**

1 The carrying amount of financial assets measured at amortized cost represents the total gross exposure net of the respective ECL allowances.

Note 9 Expected credit loss measurement (continued)

The table below provides information about the ECL gross exposure and the ECL coverage ratio for UBS AG's core loan portfolios (i.e., *Loans and advances to customers* and *Loans to financial advisors*) and relevant off-balance sheet exposures. *Cash and balances at central banks*, *Loans and advances to banks*, *Receivables from securities financing transactions*, *Cash collateral receivables on derivative instruments* and *Financial assets measured at fair value through other comprehensive income* are not included in the table below, due to their lower sensitivity to ECL.

ECL coverage ratios are calculated by dividing ECL allowances and provisions by the gross carrying amount of the related exposures.

Coverage ratios for core loan portfolio — 30.9.22

	Gross carrying amount (USD m)				ECL coverage (bps)				
On-balance sheet	Total	Stage 1	Stage 2	Stage 3	Total	Stage 1	Stage 2	Stage 1&2	Stage 3
Private clients with mortgages	148,476	140,301	7,508	668	9	2	104	7	370
Real estate financing	42,702	38,998	3,695	8	13	4	102	13	429
Total real estate lending	191,178	179,299	11,203	676	10	2	104	8	370
Large corporate clients	11,893	10,055	1,476	363	100	20	123	33	2,234
SME clients	13,273	11,527	1,202	544	181	21	187	36	3,578
Total corporate lending	25,166	21,582	2,678	906	143	20	151	35	3,041
Lombard	134,569	134,463	0	106	3	1	0	1	2,495
Credit cards	1,774	1,362	367	44	205	74	263	114	3,783
Commodity trade finance	3,475	3,374	0	101	264	16	0	16	8,556
Other loans and advances to customers	19,346	18,364	895	88	28	8	42	9	4,112
Loans to financial advisors	2,573	2,201	190	183	266	45	148	53	3,040
Total other lending	161,737	159,763	1,451	522	18	3	112	4	4,239
Total[1]	378,081	360,644	15,333	2,104	22	4	113	8	2,480

	Gross exposure (USD m)				ECL coverage (bps)				
Off-balance sheet	Total	Stage 1	Stage 2	Stage 3	Total	Stage 1	Stage 2	Stage 1&2	Stage 3
Private clients with mortgages	5,456	5,253	201	1	4	3	17	4	410
Real estate financing	9,059	8,880	179	0	8	7	53	8	0
Total real estate lending	14,515	14,133	381	1	7	6	34	7	410
Large corporate clients	29,740	26,639	2,963	138	36	21	145	33	506
SME clients	6,708	6,097	503	108	48	28	204	42	432
Total corporate lending	36,449	32,736	3,466	246	38	22	154	35	474
Lombard	12,392	12,386	0	6	1	0	0	0	0
Credit cards	8,976	8,537	435	3	7	5	37	7	0
Commodity trade finance	2,343	2,343	0	0	3	3	0	3	0
Financial intermediaries and hedge funds	17,139	16,732	407	0	7	5	97	7	0
Other off-balance sheet commitments	8,861	8,196	666	0	15	10	30	12	0
Total other lending	49,712	48,194	1,508	9	7	5	50	6	0
Total[2]	100,675	95,064	5,355	257	18	11	116	17	607
Total on- and off-balance sheet[3]	478,756	455,708	20,687	2,361	21	5	114	10	2,276

1 Includes Loans and advances to customers of USD 375,508m and Loans to financial advisors of USD 2,573m, which are presented on the balance sheet line Other financial assets measured at amortized cost. 2 Excludes Forward starting reverse repurchase and securities borrowing agreements. 3 Includes on-balance-sheet exposure, gross, and off-balance-sheet exposure (notional), and the related ECL coverage ratio (bps).

Note 9 Expected credit loss measurement (continued)

Coverage ratios for core loan portfolio — 30.6.22

	Gross carrying amount (USD m)				ECL coverage (bps)				
On-balance sheet	Total	Stage 1	Stage 2	Stage 3	Total	Stage 1	Stage 2	Stage 1&2	Stage 3
Private clients with mortgages	151,010	142,077	8,136	798	8	2	88	7	342
Real estate financing	43,350	39,375	3,967	8	14	4	106	14	505
Total real estate lending	194,360	181,452	12,103	805	10	2	94	8	344
Large corporate clients	12,349	10,818	1,105	427	114	25	153	37	2,286
SME clients	13,558	11,766	1,190	602	184	19	187	34	3,400
Total corporate lending	25,907	22,584	2,294	1,029	151	22	170	35	2,938
Lombard	140,370	140,259	0	111	3	1	0	1	2,641
Credit cards	1,796	1,394	359	43	201	72	263	111	3,805
Commodity trade finance	3,793	3,692	0	101	248	15	0	15	8,768
Other loans and advances to customers	19,446	18,182	1,167	98	26	7	7	7	3,796
Loans to financial advisors	2,525	2,182	147	196	307	50	163	57	3,278
Total other lending	167,929	165,708	1,672	549	18	3	76	4	4,293
Total[1]	**388,196**	**369,744**	**16,069**	**2,383**	**22**	**4**	**103**	**8**	**2,373**
	Gross exposure (USD m)				**ECL coverage (bps)**				
Off-balance sheet	Total	Stage 1	Stage 2	Stage 3	Total	Stage 1	Stage 2	Stage 1&2	Stage 3
Private clients with mortgages	6,860	6,658	199	3	4	3	9	3	786
Real estate financing	10,336	10,126	210	0	11	6	232	11	0
Total real estate lending	17,196	16,784	409	3	8	5	123	8	786
Large corporate clients	30,750	27,581	3,062	107	36	23	136	35	368
SME clients	7,301	6,603	589	109	45	23	178	36	649
Total corporate lending	38,051	34,184	3,651	216	37	23	143	35	510
Lombard	12,931	12,927	0	4	1	0	0	0	0
Credit cards	9,162	8,725	433	3	7	5	36	7	0
Commodity trade finance	2,615	2,615	0	0	4	4	0	4	0
Financial intermediaries and hedge funds	18,527	18,010	517	0	10	7	129	10	0
Other off-balance sheet commitments	8,548	7,845	701	2	11	8	5	8	0
Total other lending	51,783	50,123	1,651	9	7	5	52	6	0
Total[2]	**107,030**	**101,091**	**5,712**	**228**	**18**	**11**	**115**	**17**	**644**
Total on- and off-balance sheet[3]	**495,226**	**470,835**	**21,781**	**2,611**	**21**	**5**	**106**	**10**	**2,222**

1 Includes Loans and advances to customers of USD 385,671m and Loans to financial advisors of USD 2,525m, which are presented on the balance sheet line Other financial assets measured at amortized cost. 2 Excludes Forward starting reverse repurchase and securities borrowing agreements. 3 Includes on-balance-sheet exposure, gross, and off-balance-sheet exposure (notional), and the related ECL coverage ratio (bps).

Coverage ratios for core loan portfolio — 31.12.21

	Gross carrying amount (USD m)				ECL coverage (bps)				
On-balance sheet	Total	Stage 1	Stage 2	Stage 3	Total	Stage 1	Stage 2	Stage 1&2	Stage 3
Private clients with mortgages	152,610	143,533	8,333	744	9	2	85	6	446
Real estate financing	44,004	40,483	3,512	10	14	5	114	14	231
Total real estate lending	196,615	184,016	11,845	754	10	3	94	8	443
Large corporate clients	14,161	12,665	1,053	443	120	18	148	28	2,997
SME clients	14,263	12,095	1,507	661	182	16	103	25	3,402
Total corporate lending	28,424	24,760	2,560	1,104	151	17	121	26	3,240
Lombard	149,316	149,261	0	55	2	0	0	0	5,026
Credit cards	1,752	1,355	351	46	204	72	255	109	3,735
Commodity trade finance	3,927	3,805	7	115	290	15	3	15	9,388
Other loans and advances to customers	19,510	18,425	1,010	75	23	9	15	9	3,730
Loans to financial advisors	2,539	2,203	109	226	338	88	303	99	2,791
Total other lending	177,043	175,049	1,477	517	18	3	93	4	4,718
Total[1]	**402,081**	**383,825**	**15,882**	**2,374**	**23**	**4**	**98**	**8**	**2,673**
	Gross exposure (USD m)				**ECL coverage (bps)**				
Off-balance sheet	Total	Stage 1	Stage 2	Stage 3	Total	Stage 1	Stage 2	Stage 1&2	Stage 3
Private clients with mortgages	9,123	8,798	276	49	3	3	9	3	15
Real estate financing	8,766	8,481	285	0	9	7	88	9	0
Total real estate lending	17,889	17,278	562	49	6	5	49	6	15
Large corporate clients	32,748	28,981	3,630	136	34	25	110	35	1
SME clients	8,077	7,276	688	114	38	19	151	30	585
Total corporate lending	40,826	36,258	4,318	250	35	24	117	34	266
Lombard	14,438	14,438	0	0	1	0	0	0	0
Credit cards	9,466	9,000	462	4	7	5	34	7	0
Commodity trade finance	3,262	3,262	0	0	4	4	0	4	0
Financial intermediaries and hedge funds	13,747	13,379	369	0	13	10	120	13	0
Other off-balance sheet commitments	8,806	8,507	296	4	15	6	30	7	0
Total other lending	49,720	48,585	1,127	8	8	5	61	7	0
Total[2]	**108,434**	**102,121**	**6,006**	**307**	**18**	**12**	**100**	**17**	**486**
Total on- and off-balance sheet[3]	**510,516**	**485,946**	**21,888**	**2,681**	**22**	**5**	**99**	**9**	**2,423**

1 Includes Loans and advances to customers of USD 399,543m and Loans to financial advisors of USD 2,539m, which are presented on the balance sheet line Other financial assets measured at amortized cost. 2 Excludes Forward starting reverse repurchase and securities borrowing agreements. 3 Includes on-balance-sheet exposure, gross, and off-balance-sheet exposure (notional), and the related ECL coverage ratio (bps).

Note 10 Fair value measurement

a) Fair value hierarchy

The fair value hierarchy classification of financial and non-financial assets and liabilities measured at fair value is summarized in the table below.

During the first nine months of 2022, assets and liabilities that were transferred from Level 2 to Level 1, or from Level 1 to Level 2, and were held for the entire reporting period were not material.

Determination of fair values from quoted market prices or valuation techniques[1]

	30.9.22				30.6.22				31.12.21			
USD m	Level 1	Level 2	Level 3	Total	Level 1	Level 2	Level 3	Total	Level 1	Level 2	Level 3	Total
Financial assets measured at fair value on a recurring basis												
Financial assets at fair value held for trading	71,474	12,093	1,267	84,833	85,292	12,515	1,923	99,730	113,722	15,012	2,299	131,033
of which: Equity instruments	*59,135*	*938*	*114*	*60,187*	*70,306*	*982*	*85*	*71,373*	*97,983*	*1,090*	*149*	*99,222*
of which: Government bills / bonds	*6,580*	*1,235*	*9*	*7,824*	*8,633*	*1,409*	*9*	*10,052*	*7,135*	*1,351*	*10*	*8,496*
of which: Investment fund units	*5,067*	*1,231*	*68*	*6,365*	*5,728*	*1,040*	*18*	*6,786*	*7,843*	*1,364*	*21*	*9,229*
of which: Corporate and municipal bonds	*688*	*7,296*	*481*	*8,465*	*619*	*7,258*	*673*	*8,550*	*708*	*7,791*	*556*	*9,055*
of which: Loans	*0*	*1,073*	*472*	*1,545*	*0*	*1,553*	*1,010*	*2,563*	*0*	*3,099*	*1,443*	*4,542*
of which: Asset-backed securities	*4*	*320*	*123*	*447*	*5*	*274*	*128*	*407*	*53*	*317*	*120*	*489*
Derivative financial instruments	2,121	191,420	1,667	195,208	1,185	157,586	1,753	160,524	522	116,482	1,140	118,145
of which: Foreign exchange	*1,496*	*114,350*	*2*	*115,848*	*527*	*82,845*	*3*	*83,375*	*255*	*53,046*	*7*	*53,307*
of which: Interest rate	*0*	*40,826*	*488*	*41,314*	*0*	*37,930*	*351*	*38,281*	*0*	*32,747*	*494*	*33,241*
of which: Equity / index	*0*	*32,742*	*710*	*33,452*	*0*	*33,266*	*680*	*33,946*	*0*	*27,861*	*384*	*28,245*
of which: Credit derivatives	*0*	*1,351*	*391*	*1,743*	*0*	*1,446*	*640*	*2,087*	*0*	*1,179*	*236*	*1,414*
of which: Commodities	*0*	*1,975*	*73*	*2,048*	*0*	*1,936*	*76*	*2,013*	*0*	*1,590*	*16*	*1,606*
Brokerage receivables	0	22,510	0	22,510	0	19,289	0	19,289	0	21,839	0	21,839
Financial assets at fair value not held for trading	17,385	32,151	3,881	53,418	20,844	32,226	4,171	57,240	27,278	28,185	4,180	59,642
of which: Financial assets for unit-linked investment contracts	*12,166*	*0*	*7*	*12,173*	*14,341*	*0*	*8*	*14,348*	*21,110*	*187*	*6*	*21,303*
of which: Corporate and municipal bonds	*65*	*12,715*	*221*	*13,000*	*131*	*14,361*	*249*	*14,741*	*123*	*13,937*	*306*	*14,366*
of which: Government bills / bonds	*4,811*	*6,266*	*0*	*11,077*	*5,954*	*4,607*	*0*	*10,561*	*5,624*	*3,236*	*0*	*8,860*
of which: Loans	*0*	*3,338*	*654*	*3,992*	*0*	*3,301*	*976*	*4,277*	*0*	*4,982*	*892*	*5,874*
of which: Securities financing transactions	*0*	*9,686*	*114*	*9,799*	*0*	*9,881*	*108*	*9,989*	*0*	*5,704*	*100*	*5,804*
of which: Auction rate securities	*0*	*0*	*1,651*	*1,651*	*0*	*0*	*1,644*	*1,644*	*0*	*0*	*1,585*	*1,585*
of which: Investment fund units	*272*	*146*	*117*	*535*	*317*	*74*	*112*	*504*	*338*	*137*	*117*	*591*
of which: Equity instruments	*72*	*0*	*751*	*823*	*101*	*0*	*721*	*822*	*83*	*2*	*681*	*765*
Financial assets measured at fair value through other comprehensive income on a recurring basis												
Financial assets measured at fair value through other comprehensive income	55	2,188	0	2,243	55	2,196	0	2,251	2,704	6,140	0	8,844
of which: Asset-backed securities[2]	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*4,849*	*0*	*4,849*
of which: Government bills / bonds[2]	*0*	*25*	*0*	*25*	*0*	*18*	*0*	*18*	*2,658*	*27*	*0*	*2,686*
of which: Corporate and municipal bonds	*55*	*2,162*	*0*	*2,217*	*55*	*2,178*	*0*	*2,233*	*45*	*1,265*	*0*	*1,310*
Non-financial assets measured at fair value on a recurring basis												
Precious metals and other physical commodities	4,133	0	0	4,133	4,377	0	0	4,377	5,258	0	0	5,258
Non-financial assets measured at fair value on a non-recurring basis												
Other non-financial assets[3]	0	0	14	14	0	0	22	22	0	0	26	26
Total assets measured at fair value	**95,168**	**260,361**	**6,830**	**362,359**	**111,753**	**223,812**	**7,868**	**343,434**	**149,484**	**187,658**	**7,645**	**344,787**

Note 10 Fair value measurement (continued)

Determination of fair values from quoted market prices or valuation techniques (continued)[1]

	30.9.22				30.6.22				31.12.21			
USD m	Level 1	Level 2	Level 3	Total	Level 1	Level 2	Level 3	Total	Level 1	Level 2	Level 3	Total
Financial liabilities measured at fair value on a recurring basis												
Financial liabilities at fair value held for trading	25,449	5,199	93	30,741	24,393	5,932	125	30,450	25,413	6,170	105	31,688
of which: Equity instruments	*16,695*	*366*	*69*	*17,130*	*16,323*	*440*	*89*	*16,852*	*18,328*	*513*	*83*	*18,924*
of which: Corporate and municipal bonds	*33*	*4,008*	*22*	*4,062*	*39*	*4,159*	*33*	*4,231*	*30*	*4,219*	*17*	*4,266*
of which: Government bills / bonds	*7,358*	*714*	*0*	*8,073*	*6,979*	*1,049*	*0*	*8,028*	*5,883*	*826*	*0*	*6,709*
of which: Investment fund units	*1,363*	*85*	*1*	*1,449*	*1,051*	*261*	*2*	*1,314*	*1,172*	*555*	*6*	*1,733*
Derivative financial instruments	2,311	188,331	1,658	192,300	1,294	153,887	1,711	156,892	509	118,558	2,242	121,309
of which: Foreign exchange	*1,615*	*112,931*	*25*	*114,571*	*486*	*81,985*	*26*	*82,497*	*258*	*53,800*	*21*	*54,078*
of which: Interest rate	*0*	*38,698*	*108*	*38,806*	*0*	*34,585*	*96*	*34,681*	*0*	*28,398*	*278*	*28,675*
of which: Equity / index	*0*	*33,078*	*1,150*	*34,228*	*0*	*33,561*	*1,076*	*34,638*	*0*	*33,438*	*1,511*	*34,949*
of which: Credit derivatives	*0*	*1,260*	*285*	*1,544*	*0*	*1,448*	*373*	*1,820*	*0*	*1,412*	*341*	*1,753*
of which: Commodities	*0*	*2,186*	*57*	*2,243*	*0*	*2,107*	*76*	*2,183*	*0*	*1,503*	*63*	*1,566*
Financial liabilities designated at fair value on a recurring basis												
Brokerage payables designated at fair value	0	48,093	0	48,093	0	49,798	0	49,798	0	44,045	0	44,045
Debt issued designated at fair value	0	59,051	8,645	67,696	0	59,973	10,484	70,457	0	59,606	11,854	71,460
Other financial liabilities designated at fair value	0	25,200	1,916	27,116	0	27,980	2,393	30,373	0	29,258	3,156	32,414
of which: Financial liabilities related to unit-linked investment contracts	*0*	*12,321*	*0*	*12,321*	*0*	*14,503*	*0*	*14,503*	*0*	*21,466*	*0*	*21,466*
of which: Securities financing transactions	*0*	*11,376*	*0*	*11,376*	*0*	*12,024*	*2*	*12,026*	*0*	*6,375*	*2*	*6,377*
of which: Over-the-counter debt instruments	*0*	*1,041*	*699*	*1,740*	*0*	*1,157*	*879*	*2,036*	*0*	*1,334*	*794*	*2,128*
Total liabilities measured at fair value	27,760	325,875	12,311	365,946	25,687	297,570	14,713	337,970	25,922	257,637	17,357	300,916

1 Bifurcated embedded derivatives are presented on the same balance sheet lines as their host contracts and are not included in this table. The fair value of these derivatives was not material for any of the periods presented. 2 Effective 1 April 2022, a portfolio of assets previously classified as Financial assets measured at fair value through other comprehensive income was reclassified to Other financial assets measured at amortized cost. Refer to Note 1 for more information. 3 Other non-financial assets primarily consist of properties and other non-current assets held for sale, which are measured at the lower of their net carrying amount or fair value less costs to sell.

b) Valuation adjustments

The table below summarizes the changes in deferred day-1 profit or loss reserves during the relevant period.

Deferred day-1 profit or loss is generally released into *Other net income from financial instruments measured at fair value through profit or loss* when the pricing of equivalent products or the underlying parameters become observable or when the transaction is closed out.

Deferred day-1 profit or loss reserves

	For the quarter ended			Year-to-date	
USD m	30.9.22	30.6.22	30.9.21	30.9.22	30.9.21
Reserve balance at the beginning of the period	451	425	405	418	269
Profit / (loss) deferred on new transactions	84	86	102	245	380
(Profit) / loss recognized in the income statement	(108)	(58)	(78)	(235)	(220)
Foreign currency translation	(1)	(1)	(1)	(2)	(1)
Reserve balance at the end of the period	426	451	429	426	429

The table below summarizes other valuation adjustment reserves recognized on the balance sheet.

Other valuation adjustment reserves on the balance sheet

	As of		
Life-to-date gain / (loss), USD m	30.9.22	30.6.22	31.12.21
Own credit adjustments on financial liabilities designated at fair value	848	406	(315)
of which: debt issued designated at fair value	*449*	*251*	*(144)*
of which: other financial liabilities designated at fair value	*398*	*154*	*(172)*
Credit valuation adjustments[1]	(40)	(36)	(44)
Funding valuation adjustments	(50)	(8)	(49)
Debit valuation adjustments	6	5	2
Other valuation adjustments	(824)	(869)	(913)
of which: liquidity	*(293)*	*(326)*	*(341)*
of which: model uncertainty	*(531)*	*(543)*	*(571)*

1 Amount does not include reserves against defaulted counterparties.

c) Level 3 instruments: valuation techniques and inputs

The table below presents material Level 3 assets and liabilities, together with the valuation techniques used to measure fair value, as well as the inputs used in a given valuation technique that are considered significant as of 30 September 2022 and unobservable, and a range of values for those unobservable inputs.

The range of values represents the highest- and lowest-level inputs used in the valuation techniques. Therefore the range does not reflect the level of uncertainty regarding a particular input or an assessment of the reasonableness of UBS AG's estimates and assumptions, but rather the different underlying characteristics of the relevant assets and liabilities held by UBS AG.

The significant unobservable inputs disclosed in the table below are consistent with those included in "Note 21 Fair value measurement" in the "Consolidated financial statements" section of the Annual Report 2021.

Valuation techniques and inputs used in the fair value measurement of Level 3 assets and liabilities

	Fair value						Range of inputs						
	Assets		Liabilities				30.9.22			31.12.21			
USD bn	30.9.22	31.12.21	30.9.22	31.12.21	Valuation technique(s)	Significant unobservable input(s)[1]	low	high	weighted average[2]	low	high	weighted average[2]	unit[1]
Financial assets and liabilities at fair value held for trading and Financial assets at fair value not held for trading													
Corporate and municipal bonds	*0.7*	*0.9*	*0.0*	*0.0*	Relative value to market comparable	Bond price equivalent	9	107	84	16	143	98	points
					Discounted expected cash flows	Discount margin	447	447		434	434		basis points
Traded loans, loans measured at fair value, loan commitments and guarantees	*1.5*	*2.8*	*0.0*	*0.0*	Relative value to market comparable	Loan price equivalent	20	100	97	0	101	99	points
					Discounted expected cash flows	Credit spread	200	350	287	175	800	436	basis points
					Market comparable and securitization model	Credit spread	125	1,343	301	28	1,544	241	basis points
Auction rate securities	*1.7*	*1.6*			Discounted expected cash flows	Credit spread	115	192	152	115	197	153	basis points
Investment fund units[3]	*0.2*	*0.1*	*0.0*	*0.0*	Relative value to market comparable	Net asset value							
Equity instruments[3]	*0.9*	*0.8*	*0.1*	*0.1*	Relative value to market comparable	Price							
Debt issued designated at fair value[4]			8.6	11.9									
Other financial liabilities designated at fair value			1.9	3.2	Discounted expected cash flows	Funding spread	25	175		24	175		basis points
Derivative financial instruments													
Interest rate	*0.5*	*0.5*	*0.1*	*0.3*	Option model	Volatility of interest rates	74	153		65	81		basis points
Credit derivatives	*0.4*	*0.2*	*0.3*	*0.3*	Discounted expected cash flows	Credit spreads	10	410		1	583		basis points
						Bond price equivalent	3	232		2	136		points
Equity / index	*0.7*	*0.4*	*1.2*	*1.5*	Option model	Equity dividend yields	0	20		0	11		%
						Volatility of equity stocks, equity and other indices	2	118		4	98		%
						Equity-to-FX correlation	(29)	84		(29)	76		%
						Equity-to-equity correlation	(25)	100		(25)	100		%

1 The ranges of significant unobservable inputs are represented in points, percentages and basis points. Points are a percentage of par (e.g., 100 points would be 100% of par). 2 Weighted averages are provided for most non-derivative financial instruments and were calculated by weighting inputs based on the fair values of the respective instruments. Weighted averages are not provided for inputs related to Other financial liabilities designated at fair value and Derivative financial instruments, as this would not be meaningful. 3 The range of inputs is not disclosed, as there is a dispersion of values given the diverse nature of the investments. 4 Debt issued designated at fair value primarily consists of structured notes, which include variable maturity notes with various equity and foreign exchange underlying risks, rates-linked and credit-linked notes, all of which have embedded derivative parameters that are considered to be unobservable. The equivalent derivative instrument parameters are presented in the respective derivative financial instruments lines in this table.

d) Level 3 instruments: sensitivity to changes in unobservable input assumptions

The table below summarizes those financial assets and liabilities classified as Level 3 for which a change in one or more of the unobservable inputs to reflect reasonably possible alternative assumptions would change fair value significantly, and the estimated effect thereof.

The sensitivity data shown below presents an estimation of valuation uncertainty based on reasonably possible alternative values for Level 3 inputs at the balance sheet date and does not represent the estimated effect of stress scenarios. Typically, these financial assets and liabilities are sensitive to a combination of inputs from Levels 1–3. Although well-defined interdependencies may exist between Level 1 / 2 parameters and Level 3 parameters (e.g., between interest rates, which are generally Level 1 or Level 2, and prepayments, which are generally Level 3), these have not been incorporated in the table. Furthermore, direct interrelationships between the Level 3 parameters are not a significant element of the valuation uncertainty.

Sensitivity of fair value measurements to changes in unobservable input assumptions[1]

	30.9.22		30.6.22		31.12.21	
USD m	Favorable changes	Unfavorable changes	Favorable changes	Unfavorable changes	Favorable changes	Unfavorable changes
Traded loans, loans measured at fair value, loan commitments and guarantees	22	(19)	25	(32)	19	(13)
Securities financing transactions	41	(43)	53	(55)	41	(53)
Auction rate securities	55[2]	(55)[2]	79	(79)	66	(66)
Asset-backed securities	31	(24)	25	(19)	20	(20)
Equity instruments	181	(161)	177	(152)	173	(146)
Interest rate derivatives, net	16[2]	(23)[2]	41	(54)	29	(19)
Credit derivatives, net	3	(5)	7	(6)	5	(8)
Foreign exchange derivatives, net	10	(5)	11	(7)	19	(11)
Equity / index derivatives, net	326	(314)	382	(374)	368	(335)
Other	36[2]	(80)[2]	63	(90)	50	(73)
Total	721	(728)	861	(868)	790	(744)

1 Sensitivity of issued and over-the-counter debt instruments is reported with the equivalent derivative or securities financing instrument. 2 Includes refinements applied in estimating valuation uncertainty across various parameters.

e) Level 3 instruments: movements during the period

The table on the following page presents additional information about material Level 3 assets and liabilities measured at fair value on a recurring basis. Level 3 assets and liabilities may be hedged with instruments classified as Level 1 or Level 2 in the fair value hierarchy and, as a result, realized and unrealized gains and losses included in the table may not include the effect of related hedging activity. Furthermore, the realized and unrealized gains and losses presented in the table are not limited solely to those arising from Level 3 inputs, as valuations are generally derived from both observable and unobservable parameters.

Assets and liabilities transferred into or out of Level 3 are presented as if those assets or liabilities had been transferred at the beginning of the year.

Note 10 Fair value measurement (continued)

Movements of Level 3 instruments

USD bn	Balance at the beginning of the period	Net gains / losses included in comprehensive income[1]	*of which: related to instruments held at the end of the period*	Purchases	Sales	Issuances	Settlements	Transfers into Level 3	Transfers out of Level 3	Foreign currency translation	Balance at the end of the period
For the nine months ended 30 September 2022[2]											
Financial assets at fair value held for trading	2.3	(0.2)	*(0.2)*	0.3	(1.4)	0.3	0.0	0.3	(0.3)	(0.0)	1.3
of which: Investment fund units	*0.0*	*0.0*	*0.0*	*0.0*	*(0.0)*	*0.0*	*0.0*	*0.1*	*(0.0)*	*(0.0)*	*0.1*
of which: Corporate and municipal bonds	*0.6*	*(0.0)*	*(0.0)*	*0.2*	*(0.2)*	*0.0*	*0.0*	*0.0*	*(0.0)*	*(0.0)*	*0.5*
of which: Loans	*1.4*	*(0.1)*	*(0.1)*	*0.0*	*(1.1)*	*0.3*	*0.0*	*0.0*	*(0.2)*	*(0.0)*	*0.5*
Derivative financial instruments – assets	1.1	0.8	*0.5*	0.0	0.0	0.6	(0.7)	0.1	(0.1)	(0.1)	1.7
of which: Interest rate	*0.5*	*0.2*	*0.2*	*0.0*	*0.0*	*0.0*	*(0.1)*	*0.1*	*(0.1)*	*(0.1)*	*0.5*
of which: Equity / index	*0.4*	*0.4*	*0.3*	*0.0*	*0.0*	*0.2*	*(0.3)*	*0.0*	*(0.0)*	*(0.0)*	*0.7*
of which: Credit derivatives	*0.2*	*0.1*	*(0.1)*	*0.0*	*0.0*	*0.2*	*(0.2)*	*0.0*	*0.0*	*0.0*	*0.4*
Financial assets at fair value not held for trading	4.2	0.1	*0.1*	0.6	(0.8)	0.1	(0.0)	0.1	(0.3)	(0.1)	3.9
of which: Loans	*0.9*	*(0.0)*	*(0.1)*	*0.4*	*(0.4)*	*0.1*	*0.0*	*0.0*	*(0.3)*	*(0.0)*	*0.7*
of which: Auction rate securities	*1.6*	*0.1*	*0.1*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*1.7*
of which: Equity instruments	*0.7*	*0.0*	*0.0*	*0.1*	*(0.1)*	*0.0*	*0.0*	*0.1*	*0.0*	*(0.0)*	*0.8*
Derivative financial instruments – liabilities	2.2	(0.8)	*(0.6)*	0.0	0.0	1.3	(0.8)	0.1	(0.2)	(0.2)	1.7
of which: Interest rate	*0.3*	*(0.2)*	*(0.1)*	*0.0*	*0.0*	*0.1*	*(0.0)*	*0.0*	*0.0*	*(0.1)*	*0.1*
of which: Equity / index	*1.5*	*(0.5)*	*(0.5)*	*0.0*	*0.0*	*1.0*	*(0.7)*	*0.0*	*(0.2)*	*(0.1)*	*1.2*
of which: Credit derivatives	*0.3*	*(0.1)*	*(0.1)*	*0.0*	*0.0*	*0.1*	*(0.0)*	*0.1*	*(0.0)*	*(0.0)*	*0.3*
Debt issued designated at fair value	11.9	(1.7)	*(1.4)*	0.0	0.0	4.4	(3.0)	0.5	(2.8)	(0.5)	8.6
Other financial liabilities designated at fair value	3.2	(1.0)	*(1.0)*	0.0	0.0	0.2	(0.3)	0.1	(0.2)	(0.1)	1.9
For the nine months ended 30 September 2021											
Financial assets at fair value held for trading	2.3	0.0	*(0.0)*	0.3	(1.0)	0.2	0.0	0.2	(0.2)	(0.0)	1.8
of which: Investment fund units	*0.0*	*(0.0)*	*(0.0)*	*0.0*	*(0.0)*	*0.0*	*0.0*	*0.0*	*(0.0)*	*(0.0)*	*0.0*
of which: Corporate and municipal bonds	*0.8*	*0.0*	*0.0*	*0.2*	*(0.2)*	*0.0*	*0.0*	*0.0*	*(0.1)*	*(0.0)*	*0.8*
of which: Loans	*1.1*	*0.0*	*0.0*	*0.0*	*(0.6)*	*0.2*	*0.0*	*0.0*	*(0.2)*	*0.0*	*0.7*
Derivative financial instruments – assets	1.8	(0.2)	*(0.2)*	0.0	0.0	0.5	(0.5)	0.1	(0.1)	(0.0)	1.4
of which: Interest rate	*0.5*	*(0.1)*	*(0.1)*	*0.0*	*0.0*	*0.0*	*(0.1)*	*0.0*	*(0.0)*	*(0.0)*	*0.3*
of which: Equity / index	*0.9*	*0.0*	*0.0*	*0.0*	*0.0*	*0.3*	*(0.4)*	*0.0*	*(0.1)*	*(0.0)*	*0.7*
of which: Credit derivatives	*0.3*	*(0.1)*	*(0.1)*	*0.0*	*0.0*	*0.1*	*(0.0)*	*0.1*	*(0.0)*	*0.0*	*0.3*
Financial assets at fair value not held for trading	3.9	0.1	*0.1*	0.8	(0.4)	0.0	0.0	0.1	(0.3)	(0.0)	4.3
of which: Loans	*0.9*	*0.0*	*0.0*	*0.4*	*(0.2)*	*0.0*	*0.0*	*0.0*	*(0.3)*	*(0.0)*	*0.9*
of which: Auction rate securities	*1.5*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*1.6*
of which: Equity instruments	*0.5*	*0.1*	*0.1*	*0.1*	*(0.1)*	*0.0*	*0.0*	*0.0*	*(0.0)*	*(0.0)*	*0.6*
Derivative financial instruments – liabilities	3.5	0.2	*(0.0)*	0.0	0.0	0.8	(1.6)	0.0	(0.3)	(0.0)	2.5
of which: Interest rate	*0.5*	*(0.0)*	*(0.0)*	*0.0*	*0.0*	*0.1*	*(0.1)*	*0.0*	*(0.0)*	*(0.0)*	*0.5*
of which: Equity / index	*2.3*	*0.4*	*0.1*	*0.0*	*0.0*	*0.6*	*(1.4)*	*0.0*	*(0.2)*	*(0.0)*	*1.6*
of which: Credit derivatives	*0.5*	*(0.2)*	*(0.2)*	*0.0*	*0.0*	*0.1*	*(0.0)*	*0.0*	*(0.1)*	*(0.0)*	*0.3*
Debt issued designated at fair value	9.6	0.2	*0.2*	0.0	0.0	7.7	(3.4)	0.2	(0.9)	(0.2)	13.2
Other financial liabilities designated at fair value	2.1	(0.0)	*(0.0)*	0.0	0.0	1.2	(0.3)	0.0	(0.0)	(0.0)	3.0

1 Net gains / losses included in comprehensive income are recognized in Net interest income and Other net income from financial instruments measured at fair value through profit or loss in the Income statement, and also in Gains / (losses) from own credit on financial liabilities designated at fair value, before tax in the Statement of comprehensive income. 2 Total Level 3 assets as of 30 September 2022 were USD 6.8bn (31 December 2021: USD 7.6bn). Total Level 3 liabilities as of 30 September 2022 were USD 12.3bn (31 December 2021: USD 17.4bn).

f) Financial instruments not measured at fair value

The table below reflects the estimated fair values of financial instruments not measured at fair value. Valuation principles applied when determining fair value estimates for financial instruments not measured at fair value are consistent with those described in "Note 21 Fair value measurement" in the "Consolidated financial statements" section of the Annual Report 2021.

Financial instruments not measured at fair value

	30.9.22		30.6.22		31.12.21	
USD bn	Carrying amount	Fair value	Carrying amount	Fair value	Carrying amount	Fair value
Assets						
Cash and balances at central banks	166.4	166.4	190.4	190.4	192.8	192.8
Loans and advances to banks	14.4	14.4	16.4	16.4	15.4	15.3
Receivables from securities financing transactions	66.9	66.9	63.3	63.3	75.0	75.0
Cash collateral receivables on derivative instruments	48.2	48.2	43.8	43.8	30.5	30.5
Loans and advances to customers	374.7	363.0	384.9	374.6	398.7	397.9
Other financial assets measured at amortized cost[1]	47.0	44.6	37.6	36.1	26.2	26.5
Liabilities						
Amounts due to banks	13.9	13.9	15.2	15.2	13.1	13.1
Payables from securities financing transactions	4.5	4.5	6.0	6.0	5.5	5.5
Cash collateral payables on derivative instruments	44.3	44.3	40.5	40.5	31.8	31.8
Customer deposits	498.2	497.9	514.3	514.3	544.8	544.8
Funding from UBS Group AG measured at amortized cost	55.7	54.4	57.1	56.2	57.3	58.8
Debt issued measured at amortized cost	55.4	54.8	65.8	65.1	82.4	82.8
Other financial liabilities measured at amortized cost[2]	7.0	7.0	7.4	7.4	6.3	6.3

1 Effective 1 April 2022, a portfolio of assets previously classified as Financial assets measured at fair value through other comprehensive income was reclassified to Other financial assets measured at amortized cost. Refer to Note 1 for more information. 2 Excludes lease liabilities.

Note 11 Derivative instruments

a) Derivative instruments

As of 30.9.22, USD bn	Derivative financial assets	Notional values related to derivative financial assets[1]	Derivative financial liabilities	Notional values related to derivative financial liabilities[1]	Other notional values[2]
Derivative financial instruments					
Interest rate	41.3	975	38.8	970	10,300
Credit derivatives	1.7	48	1.5	48	0
Foreign exchange	115.8	3,299	114.6	3,108	45
Equity / index	33.5	367	34.2	418	68
Commodities	2.0	73	2.2	65	17
Loan commitments measured at FVTPL	0.0	1	0.1	5	
Unsettled purchases of non-derivative financial instruments[3]	0.4	28	0.5	22	
Unsettled sales of non-derivative financial instruments[3]	0.4	28	0.4	18	
Total derivative financial instruments, based on IFRS netting[4]	195.2	4,819	192.3	4,655	10,430
Further netting potential not recognized on the balance sheet[5]	(177.7)		(176.1)		
of which: netting of recognized financial liabilities / assets	*(142.8)*		*(142.8)*		
of which: netting with collateral received / pledged	*(35.0)*		*(33.3)*		
Total derivative financial instruments, after consideration of further netting potential	17.5		16.2		

As of 30.6.22, USD bn	Derivative financial assets	Notional values related to derivative financial assets[1]	Derivative financial liabilities	Notional values related to derivative financial liabilities[1]	Other notional values[2]
Derivative financial instruments					
Interest rate	38.3	1,083	34.7	1,051	9,799
Credit derivatives	2.1	48	1.8	47	0
Foreign exchange	83.4	3,252	82.5	3,092	33
Equity / index	33.9	388	34.6	457	69
Commodities	2.0	78	2.2	70	16
Loan commitments measured at FVTPL	0.0	1	0.0	7	
Unsettled purchases of non-derivative financial instruments[3]	0.3	29	0.5	22	
Unsettled sales of non-derivative financial instruments[3]	0.5	30	0.5	24	
Total derivative financial instruments, based on IFRS netting[4]	160.5	4,910	156.9	4,771	9,916
Further netting potential not recognized on the balance sheet[5]	(146.5)		(141.0)		
of which: netting of recognized financial liabilities / assets	*(116.0)*		*(116.0)*		
of which: netting with collateral received / pledged	*(30.5)*		*(24.9)*		
Total derivative financial instruments, after consideration of further netting potential	14.0		15.9		

As of 31.12.21, USD bn	Derivative financial assets	Notional values related to derivative financial assets[1]	Derivative financial liabilities	Notional values related to derivative financial liabilities[1]	Other notional values[2]
Derivative financial instruments					
Interest rate	33.2	991	28.7	943	8,675
Credit derivatives	1.4	45	1.8	46	0
Foreign exchange	53.3	3,031	54.1	2,939	1
Equity / index	28.2	457	34.9	604	80
Commodities	1.6	58	1.6	56	15
Loan commitments measured at FVTPL	0.0	1	0.0	8	
Unsettled purchases of non-derivative financial instruments[3]	0.1	13	0.2	11	
Unsettled sales of non-derivative financial instruments[3]	0.2	18	0.1	9	
Total derivative financial instruments, based on IFRS netting[4]	118.1	4,614	121.3	4,617	8,771
Further netting potential not recognized on the balance sheet[5]	(107.4)		(107.0)		
of which: netting of recognized financial liabilities / assets	*(88.9)*		*(88.9)*		
of which: netting with collateral received / pledged	*(18.5)*		*(18.1)*		
Total derivative financial instruments, after consideration of further netting potential	10.7		14.3		

1 In cases where derivative financial instruments are presented on a net basis on the balance sheet, the respective notional values of the netted derivative financial instruments are still presented on a gross basis. Notional amounts of client-cleared ETD and OTC transactions through central clearing counterparties are not disclosed, as they have a significantly different risk profile. 2 Other notional values relate to derivatives that are cleared through either a central counterparty or an exchange. The fair value of these derivatives is presented on the balance sheet net of the corresponding cash margin under Cash collateral receivables on derivative instruments and Cash collateral payables on derivative instruments and was not material for any of the periods presented. 3 Changes in the fair value of purchased and sold non-derivative financial instruments between trade date and settlement date are recognized as derivative financial instruments. 4 Financial assets and liabilities are presented net on the balance sheet if UBS AG has the unconditional and legally enforceable right to offset the recognized amounts, both in the normal course of business and in the event of default, bankruptcy or insolvency of UBS AG or its counterparties, and intends either to settle on a net basis or to realize the asset and settle the liability simultaneously. 5 Reflects the netting potential in accordance with enforceable master netting and similar arrangements where not all criteria for a net presentation on the balance sheet have been met. Refer to "Note 22 Offsetting financial assets and financial liabilities" in the "Consolidated financial statements" section of the Annual Report 2021 for more information.

Note 11 Derivative instruments (continued)

b) Cash collateral on derivative instruments

USD bn	Receivables 30.9.22	Payables 30.9.22	Receivables 30.6.22	Payables 30.6.22	Receivables 31.12.21	Payables 31.12.21
Cash collateral on derivative instruments, based on IFRS netting[1]	48.2	44.3	43.8	40.5	30.5	31.8
Further netting potential not recognized on the balance sheet[2]	(30.2)	(25.6)	(23.2)	(22.6)	(18.4)	(16.4)
of which: netting of recognized financial liabilities / assets	*(28.2)*	*(23.6)*	*(20.4)*	*(19.9)*	*(15.2)*	*(13.1)*
of which: netting with collateral received / pledged	*(2.1)*	*(2.1)*	*(2.8)*	*(2.8)*	*(3.3)*	*(3.3)*
Cash collateral on derivative instruments, after consideration of further netting potential	18.0	18.7	20.6	17.9	12.1	15.4

1 Financial assets and liabilities are presented net on the balance sheet if UBS AG has the unconditional and legally enforceable right to offset the recognized amounts, both in the normal course of business and in the event of default, bankruptcy or insolvency of UBS AG or its counterparties, and intends either to settle on a net basis or to realize the asset and settle the liability simultaneously. 2 Reflects the netting potential in accordance with enforceable master netting and similar arrangements where not all criteria for a net presentation on the balance sheet have been met. Refer to "Note 22 Offsetting financial assets and financial liabilities" in the "Consolidated financial statements" section of the Annual Report 2021 for more information.

Note 12 Other assets and liabilities

a) Other financial assets measured at amortized cost

USD m	30.9.22	30.6.22	31.12.21
Debt securities[1]	39,259	29,812	18,858
Loans to financial advisors	2,505	2,447	2,453
Fee- and commission-related receivables	1,867	1,965	1,966
Finance lease receivables	1,270	1,283	1,356
Settlement and clearing accounts	611	500	455
Accrued interest income	854	681	521
Other	680	863	627
Total other financial assets measured at amortized cost	47,045	37,551	26,236

1 Effective 1 April 2022, a portfolio of assets previously classified as Financial assets measured at fair value through other comprehensive income was reclassified to Other financial assets measured at amortized cost. Refer to Note 1 for more information.

b) Other non-financial assets

USD m	30.9.22	30.6.22	31.12.21
Precious metals and other physical commodities	4,133	4,377	5,258
Deposits and collateral provided in connection with litigation, regulatory and similar matters[1]	2,018	2,150	1,526
Prepaid expenses	785	731	717
VAT and other tax receivables	445	410	591
Properties and other non-current assets held for sale	239	257	32
Assets of disposal groups held for sale[2]		823	1,093
Other	899	819	618
Total other non-financial assets	8,519	9,567	9,836

1 Refer to Note 16 for more information. 2 In the third quarter of 2022, UBS AG completed the sale of its domestic wealth management business in Spain and the sale of UBS Swiss Financial Advisers AG.

c) Other financial liabilities measured at amortized cost

USD m	30.9.22	30.6.22	31.12.21
Other accrued expenses	1,561	1,500	1,642
Accrued interest expenses	1,186	1,238	1,134
Settlement and clearing accounts	1,528	1,866	1,282
Lease liabilities	3,014	3,140	3,438
Other	2,701	2,773	2,269
Total other financial liabilities measured at amortized cost	9,990	10,516	9,765

d) Other financial liabilities designated at fair value

USD m	30.9.22	30.6.22	31.12.21
Financial liabilities related to unit-linked investment contracts	12,321	14,503	21,466
Securities financing transactions	11,376	12,026	6,377
Over-the-counter debt instruments	1,740	2,036	2,128
Funding from UBS Group AG	1,679	1,807	2,340
Other			103
Total other financial liabilities designated at fair value	27,116	30,373	32,414

e) Other non-financial liabilities

USD m	30.9.22	30.6.22	31.12.21
Compensation-related liabilities	3,844	3,338	4,795
of which: net defined benefit liability	*412*	*462*	*617*
Deferred tax liabilities	293	201	297
Current tax liabilities	898	935	1,365
VAT and other tax payables	444	490	524
Deferred income	248	233	225
Liabilities of disposal groups held for sale[1]		1,351	1,298
Other	29	70	68
Total other non-financial liabilities	5,757	6,618	8,572

1 In the third quarter of 2022, UBS AG completed the sale of its domestic wealth management business in Spain and the sale of UBS Swiss Financial Advisers AG.

Note 13 Debt issued designated at fair value

USD m	30.9.22	30.6.22	31.12.21
Equity-linked[1]	37,785	39,629	47,059
Rates-linked	16,559	16,916	16,369
Credit-linked	2,330	2,147	1,723
Fixed-rate	5,887	5,411	2,868
Commodity-linked	4,350	4,640	2,911
Other	784	1,715	529
Total debt issued designated at fair value	67,696	70,457	71,460

1 Includes investment fund unit-linked instruments issued.

Note 14 Debt issued measured at amortized cost

USD m	30.9.22	30.6.22	31.12.21
Short-term debt[1]	24,849	31,525	43,098
Senior unsecured debt other than TLAC	19,050	20,109	23,328
Covered bonds			1,389
Subordinated debt	2,959	5,008	5,163
of which: low-trigger loss-absorbing tier 2 capital instruments	*2,427*	*2,471*	*2,596*
of which: non-Basel III-compliant tier 2 capital instruments	*531*	*538*	*547*
Debt issued through the Swiss central mortgage institutions	8,567	9,177	9,454
Long-term debt[2]	30,576	34,294	39,334
Total debt issued measured at amortized cost[3]	55,425	65,820	82,432

1 Debt with an original contractual maturity of less than one year, mainly consisting of certificates of deposit and commercial paper. 2 Debt with an original contractual maturity greater than or equal to one year. The classification of debt issued into short-term and long-term does not consider any early redemption features. 3 Net of bifurcated embedded derivatives, the fair value of which was not material for any of the periods presented.

Note 15 Interest rate benchmark reform

During 2022, UBS AG has continued to manage the transition to alternative reference rates (ARRs). The transition of non-USD interbank offered rates (IBORs) is substantially complete, with efforts now focused on managing the transition of the remaining USD London Interbank Offered Rate (LIBOR) exposures.

On 15 March 2022, the US enacted federal legislation, the Adjustable Interest Rate (LIBOR) Act, which is substantially based on, and supersedes, the New York State LIBOR legislation. The Adjustable Interest Rate (LIBOR) Act provides a legislative solution for USD LIBOR legacy products governed by any US state law should such products fail to transition prior to the USD LIBOR cessation date of 30 June 2023.

In January 2022, UBS AG completed the transition of USD LIBOR-linked balances related to brokerage accounts. Substantially all US securities-based lending that was outstanding as of 31 December 2021 has been transitioned to the Secured Overnight Financing Rate (SOFR) and UBS AG continues to make good progress on the transition of the remaining USD LIBOR non-derivative assets and liabilities.

In August 2022, to facilitate the transition of derivatives linked to the USD LIBOR Swap Rate, UBS AG adhered to the June 2022 Benchmark Module of the ISDA 2021 Fallbacks Protocol on the USD LIBOR Swap Rate. The transition of USD LIBOR-cleared derivatives is planned to commence in the second quarter of 2023.

Note 16 Provisions and contingent liabilities

a) Provisions

The table below presents an overview of total provisions.

USD m	30.9.22	30.6.22	31.12.21
Provisions other than provisions for expected credit losses	3,053	3,215	3,256
Provisions for expected credit losses[1]	182	192	196
Total provisions	3,235	3,407	3,452

1 Refer to Note 9c for more information.

The following table presents additional information for provisions other than provisions for expected credit losses.

USD m	Litigation, regulatory and similar matters[1]	Restructuring[2]	Other[3]	Total
Balance as of 31 December 2021	2,798	137	321	3,256
Balance as of 30 June 2022	2,798	114	302	3,215
Increase in provisions recognized in the income statement	25	25	10	60
Release of provisions recognized in the income statement	(4)	(5)	(5)	(15)
Provisions used in conformity with designated purpose	(52)	(40)	(10)	(102)
Foreign currency translation / unwind of discount	(90)	(4)	(12)	(105)
Balance as of 30 September 2022	2,677	90	285	3,053

1 Consists of provisions for losses resulting from legal, liability and compliance risks. 2 Consists of personnel-related restructuring provisions of USD 56m as of 30 September 2022 (30 June 2022: USD 75m; 31 December 2021: USD 90m) and provisions for onerous contracts of USD 34m as of 30 September 2022 (30 June 2022: USD 40m; 31 December 2021: USD 47m). 3 Mainly includes provisions related to real estate, employee benefits and operational risks.

Restructuring provisions relate to personnel-related provisions and onerous contracts. Personnel-related restructuring provisions are generally used within a short period of time. The level of personnel-related provisions can change when natural staff attrition reduces the number of people affected by a restructuring event, and therefore results in lower estimated costs. Onerous contracts for property are recognized when UBS is committed to pay for non-lease components, such as utilities, service charges, taxes and maintenance, when a property is vacated or not fully recovered from sub-tenants.

Information about provisions and contingent liabilities in respect of litigation, regulatory and similar matters, as a class, is included in Note 16b. There are no material contingent liabilities associated with the other classes of provisions.

b) Litigation, regulatory and similar matters

UBS operates in a legal and regulatory environment that exposes it to significant litigation and similar risks arising from disputes and regulatory proceedings. As a result, UBS is involved in various disputes and legal proceedings, including litigation, arbitration, and regulatory and criminal investigations. "UBS," "we" and "our" may, for purposes of this Note, refer to UBS AG and / or one or more of its subsidiaries, as applicable.

Such matters are subject to many uncertainties, and the outcome and the timing of resolution are often difficult to predict, particularly in the earlier stages of a case. There are also situations where UBS may enter into a settlement agreement. This may occur in order to avoid the expense, management distraction or reputational implications of continuing to contest liability, even for those matters for which UBS believes it should be exonerated. The uncertainties inherent in all such matters affect the amount and timing of any potential outflows for both matters with respect to which provisions have been established and other contingent liabilities. UBS makes provisions for such matters brought against it when, in the opinion of management after seeking legal advice, it is more likely than not that UBS has a present legal or constructive obligation as a result of past events, it is probable that an outflow of resources will be required, and the amount can be reliably estimated. Where these factors are otherwise satisfied, a provision may be established for claims that have not yet been asserted against UBS, but are nevertheless expected to be, based on UBS's experience with similar asserted claims. If any of those conditions is not met, such matters result in contingent liabilities. If the amount of an obligation cannot be reliably estimated, a liability exists that is not recognized even if an outflow of resources is probable. Accordingly, no provision is established even if the potential outflow of resources with respect to such matters could be significant. Developments relating to a matter that occur after the relevant reporting period, but prior to the issuance of financial statements, which affect management's assessment of the provision for such matter (because, for example, the developments provide evidence of conditions that existed at the end of the reporting period), are adjusting events after the reporting period under IAS 10 and must be recognized in the financial statements for the reporting period.

Specific litigation, regulatory and other matters are described below, including all such matters that management considers to be material and others that management believes to be of significance due to potential financial, reputational and other effects. The amount of damages claimed, the size of a transaction or other information is provided where available and appropriate in order to assist users in considering the magnitude of potential exposures.

In the case of certain matters below, we state that we have established a provision, and for the other matters, we make no such statement. When we make this statement and we expect disclosure of the amount of a provision to prejudice seriously our position with other parties in the matter because it would reveal what UBS believes to be the probable and reliably estimable outflow, we do not disclose that amount. In some cases we are subject to confidentiality obligations that preclude such disclosure. With respect to the matters for which we do not state whether we have established a provision, either: (a) we have not established a provision, in which case the matter is treated as a contingent liability under the applicable accounting standard; or (b) we have established a provision but expect disclosure of that fact to prejudice seriously our position with other parties in the matter because it would reveal the fact that UBS believes an outflow of resources to be probable and reliably estimable.

With respect to certain litigation, regulatory and similar matters for which we have established provisions, we are able to estimate the expected timing of outflows. However, the aggregate amount of the expected outflows for those matters for which we are able to estimate expected timing is immaterial relative to our current and expected levels of liquidity over the relevant time periods.

The aggregate amount provisioned for litigation, regulatory and similar matters as a class is disclosed in the "Provisions" table in Note 16a above. It is not practicable to provide an aggregate estimate of liability for our litigation, regulatory and similar matters as a class of contingent liabilities. Doing so would require UBS to provide speculative legal assessments as to claims and proceedings that involve unique fact patterns or novel legal theories, that have not yet been initiated or are at early stages of adjudication, or as to which alleged damages have not been quantified by the claimants. Although UBS therefore cannot provide a numerical estimate of the future losses that could arise from litigation, regulatory and similar matters, UBS believes that the aggregate amount of possible future losses from this class that are more than remote substantially exceeds the level of current provisions.

Note 16 Provisions and contingent liabilities (continued)

Litigation, regulatory and similar matters may also result in non-monetary penalties and consequences. A guilty plea to, or conviction of, a crime could have material consequences for UBS. Resolution of regulatory proceedings may require UBS to obtain waivers of regulatory disqualifications to maintain certain operations, may entitle regulatory authorities to limit, suspend or terminate licenses and regulatory authorizations, and may permit financial market utilities to limit, suspend or terminate UBS's participation in such utilities. Failure to obtain such waivers, or any limitation, suspension or termination of licenses, authorizations or participations, could have material consequences for UBS.

The risk of loss associated with litigation, regulatory and similar matters is a component of operational risk for purposes of determining capital requirements. Information concerning our capital requirements and the calculation of operational risk for this purpose is included in the "Capital management" section of the UBS Group third quarter 2022 report.

Provisions for litigation, regulatory and similar matters by business division and in Group Functions[1]

USD m	Global Wealth Management	Personal & Corporate Banking	Asset Management	Investment Bank	Group Functions	Total
Balance as of 31 December 2021	1,338	181	8	310	962	2,798
Balance as of 30 June 2022	1,289	168	8	387	946	2,798
Increase in provisions recognized in the income statement	22	0	0	3	0	25
Release of provisions recognized in the income statement	(4)	0	0	0	0	(4)
Provisions used in conformity with designated purpose	(44)	0	0	0	(8)	(52)
Foreign currency translation / unwind of discount	(68)	(10)	0	(11)	(1)	(90)
Balance as of 30 September 2022	1,195	158	8	378	937	2,677

1 Provisions, if any, for the matters described in items 3 and 4 of this Note are recorded in Global Wealth Management, and provisions, if any, for the matters described in item 2 are recorded in Group Functions. Provisions, if any, for the matters described in items 1 and 6 of this Note are allocated between Global Wealth Management and Personal & Corporate Banking, provisions, if any, for the matters described in item 5 are allocated between the Investment Bank and Group Functions, and provisions, if any, for the matters described in item 7 are allocated between Global Wealth Management and the Investment Bank.

1. Inquiries regarding cross-border wealth management businesses

Tax and regulatory authorities in a number of countries have made inquiries, served requests for information or examined employees located in their respective jurisdictions relating to the cross-border wealth management services provided by UBS and other financial institutions. It is possible that the implementation of automatic tax information exchange and other measures relating to cross-border provision of financial services could give rise to further inquiries in the future. UBS has received disclosure orders from the Swiss Federal Tax Administration (FTA) to transfer information based on requests for international administrative assistance in tax matters. The requests concern a number of UBS account numbers pertaining to current and former clients and are based on data from 2006 and 2008. UBS has taken steps to inform affected clients about the administrative assistance proceedings and their procedural rights, including the right to appeal. The requests are based on data received from the German authorities, who seized certain data related to UBS clients booked in Switzerland during their investigations and have apparently shared this data with other European countries. UBS expects additional countries to file similar requests.

Since 2013, UBS (France) S.A., UBS AG and certain former employees have been under investigation in France in relation to UBS's cross-border business with French clients. In connection with this investigation, the investigating judges ordered UBS AG to provide bail ("*caution*") of EUR 1.1bn.

On 20 February 2019, the court of first instance returned a verdict finding UBS AG guilty of unlawful solicitation of clients on French territory and aggravated laundering of the proceeds of tax fraud, and UBS (France) S.A. guilty of aiding and abetting unlawful solicitation and of laundering the proceeds of tax fraud. The court imposed fines aggregating EUR 3.7bn on UBS AG and UBS (France) S.A. and awarded EUR 800m of civil damages to the French state. A trial in the French Court of Appeal took place in March 2021. On 13 December 2021, the Court of Appeal found UBS AG guilty of unlawful solicitation and aggravated laundering of the proceeds of tax fraud. The court ordered a fine of EUR 3.75m, the confiscation of EUR 1bn, and awarded civil damages to the French state of EUR 800m. The court also found UBS (France) SA guilty of the aiding and abetting of unlawful solicitation and ordered it to pay a fine of EUR 1.875m. UBS AG has filed an appeal with the French Supreme Court to preserve its rights. The notice of appeal enables UBS AG to thoroughly assess the verdict of the Court of Appeal and to determine next steps in the best interest of its stakeholders. The fine and confiscation imposed by the Court of Appeal are suspended during the appeal. The civil damages award has been paid to the French state (EUR 99m of which was deducted from the bail), subject to the result of UBS's appeal.

Our balance sheet at 30 September 2022 reflected provisions with respect to this matter in an amount of EUR 1.1bn (USD 1.1bn). The wide range of possible outcomes in this case contributes to a high degree of estimation uncertainty and the provision reflects our best estimate of possible financial implications, although actual penalties and civil damages could exceed (or may be less than) the provision amount.

Our balance sheet at 30 September 2022 reflected provisions with respect to matters described in this item 1 in an amount that UBS believes to be appropriate under the applicable accounting standard. As in the case of other matters for which we have established provisions, the future outflow of resources in respect of such matters cannot be determined with certainty based on currently available information and accordingly may ultimately prove to be substantially greater (or may be less) than the provision that we have recognized.

2. Claims related to sales of residential mortgage-backed securities and mortgages

From 2002 through 2007, prior to the crisis in the US residential loan market, UBS was a substantial issuer and underwriter of US residential mortgage-backed securities (RMBS) and was a purchaser and seller of US residential mortgages.

In November 2018, the DOJ filed a civil complaint in the District Court for the Eastern District of New York. The complaint seeks unspecified civil monetary penalties under the Financial Institutions Reform, Recovery and Enforcement Act of 1989 related to UBS's issuance, underwriting and sale of 40 RMBS transactions in 2006 and 2007. UBS moved to dismiss the civil complaint on 6 February 2019. On 10 December 2019, the district court denied UBS's motion to dismiss.

Our balance sheet at 30 September 2022 reflected a provision with respect to matters described in this item 2 in an amount that UBS believes to be appropriate under the applicable accounting standard. As in the case of other matters for which we have established provisions, the future outflow of resources in respect of this matter cannot be determined with certainty based on currently available information and accordingly may ultimately prove to be substantially greater (or may be less) than the provision that we have recognized.

3. Madoff

In relation to the Bernard L. Madoff Investment Securities LLC (BMIS) investment fraud, UBS AG, UBS (Luxembourg) S.A. (now UBS Europe SE, Luxembourg branch) and certain other UBS subsidiaries have been subject to inquiries by a number of regulators, including the Swiss Financial Market Supervisory Authority (FINMA) and the Luxembourg Commission de Surveillance du Secteur Financier. Those inquiries concerned two third-party funds established under Luxembourg law, substantially all assets of which were with BMIS, as well as certain funds established in offshore jurisdictions with either direct or indirect exposure to BMIS. These funds faced severe losses, and the Luxembourg funds are in liquidation. The documentation establishing both funds identifies UBS entities in various roles, including custodian, administrator, manager, distributor and promoter, and indicates that UBS employees serve as board members.

In 2009 and 2010, the liquidators of the two Luxembourg funds filed claims against UBS entities, non-UBS entities and certain individuals, including current and former UBS employees, seeking amounts totaling approximately EUR 2.1bn, which includes amounts that the funds may be held liable to pay the trustee for the liquidation of BMIS (BMIS Trustee).

A large number of alleged beneficiaries have filed claims against UBS entities (and non-UBS entities) for purported losses relating to the Madoff fraud. The majority of these cases have been filed in Luxembourg, where decisions that the claims in eight test cases were inadmissible have been affirmed by the Luxembourg Court of Appeal, and the Luxembourg Supreme Court has dismissed a further appeal in one of the test cases.

In the US, the BMIS Trustee filed claims against UBS entities, among others, in relation to the two Luxembourg funds and one of the offshore funds. The total amount claimed against all defendants in these actions was not less than USD 2bn. In 2014, the US Supreme Court rejected the BMIS Trustee's motion for leave to appeal decisions dismissing all claims except those for the recovery of approximately USD 125m of payments alleged to be fraudulent conveyances and preference payments. In 2016, the bankruptcy court dismissed these claims against the UBS entities. In February 2019, the Court of Appeals reversed the dismissal of the BMIS Trustee's remaining claims, and the US Supreme Court subsequently denied a petition seeking review of the Court of Appeals' decision. The case has been remanded to the Bankruptcy Court for further proceedings.

4. Puerto Rico

Declines since 2013 in the market prices of Puerto Rico municipal bonds and of closed-end funds (funds) that are sole-managed and co-managed by UBS Trust Company of Puerto Rico and distributed by UBS Financial Services Incorporated of Puerto Rico (UBS PR) led to multiple regulatory inquiries, which in 2014 and 2015, led to settlements with the Office of the Commissioner of Financial Institutions for the Commonwealth of Puerto Rico, the US Securities and Exchange Commission (SEC) and the Financial Industry Regulatory Authority.

Since then, UBS clients in Puerto Rico who own the funds or Puerto Rico municipal bonds and/or who used their UBS account assets as collateral for UBS non-purpose loans filed customer complaints and arbitration demands seeking aggregate damages of USD 3.4bn, of which USD 3.3bn have been resolved through settlements, arbitration or withdrawal of claims. Allegations include fraud, misrepresentation and unsuitability of the funds and of the loans.

A shareholder derivative action was filed in 2014 against various UBS entities and current and certain former directors of the funds, alleging hundreds of millions of US dollars in losses in the funds. In 2021, the parties reached an agreement to settle this matter for USD 15m, subject to court approval.

In 2011, a purported derivative action was filed on behalf of the Employee Retirement System of the Commonwealth of Puerto Rico (System) against over 40 defendants, including UBS PR, which was named in connection with its underwriting and consulting services. Plaintiffs alleged that defendants violated their purported fiduciary duties and contractual obligations in connection with the issuance and underwriting of USD 3bn of bonds by the System in 2008 and sought damages of over USD 800m. In 2016, the court granted the System's request to join the action as a plaintiff. In 2017, the court denied defendants' motion to dismiss the complaint. In 2020, the court denied plaintiffs' motion for summary judgment. In 2022, UBS filed a motion to dismiss in the bankruptcy proceeding.

Beginning in 2015, certain agencies and public corporations of the Commonwealth of Puerto Rico (Commonwealth) defaulted on certain interest payments on Puerto Rico bonds. In 2016, US federal legislation created an oversight board with power to oversee Puerto Rico's finances and to restructure its debt. The oversight board has imposed a stay on the exercise of certain creditors' rights. In 2017, the oversight board placed certain of the bonds into a bankruptcy-like proceeding under the supervision of a Federal District Judge.

In May 2019, the oversight board filed complaints in Puerto Rico federal district court bringing claims against financial, legal and accounting firms that had participated in Puerto Rico municipal bond offerings, including UBS, seeking a return of underwriting and swap fees paid in connection with those offerings. UBS estimates that it received approximately USD 125m in fees in the relevant offerings.

In August 2019, and February and November 2020, four US insurance companies that insured issues of Puerto Rico municipal bonds sued UBS and several other underwriters of Puerto Rico municipal bonds in three separate cases. The actions collectively seek recovery of an aggregate of USD 955m in damages from the defendants. The plaintiffs in these cases claim that defendants failed to reasonably investigate financial statements in the offering materials for the insured Puerto Rico bonds issued between 2002 and 2007, which plaintiffs argue they relied upon in agreeing to insure the bonds notwithstanding that they had no contractual relationship with the underwriters. Defendants' motions to dismiss have been granted in all three cases; those decisions are being appealed by the plaintiffs.

Our balance sheet at 30 September 2022 reflected provisions with respect to matters described in this item 4 in amounts that UBS believes to be appropriate under the applicable accounting standard. As in the case of other matters for which we have established provisions, the future outflow of resources in respect of such matters cannot be determined with certainty based on currently available information and accordingly may ultimately prove to be substantially greater (or may be less) than the provisions that we have recognized.

5. Foreign exchange, LIBOR and benchmark rates, and other trading practices

Foreign exchange-related regulatory matters: Beginning in 2013, numerous authorities commenced investigations concerning possible manipulation of foreign exchange markets and precious metals prices. As a result of these investigations, UBS entered into resolutions with Swiss, US and United Kingdom regulators and the European Commission. UBS was granted conditional immunity by the Antitrust Division of the DOJ and by authorities in other jurisdictions in connection with potential competition law violations relating to foreign exchange and precious metals businesses.

Foreign exchange-related civil litigation: Putative class actions have been filed since 2013 in US federal courts and in other jurisdictions against UBS and other banks on behalf of putative classes of persons who engaged in foreign currency transactions with any of the defendant banks. UBS has resolved US federal court class actions relating to foreign currency transactions with the defendant banks and persons who transacted in foreign exchange futures contracts and options on such futures under a settlement agreement that provides for UBS to pay an aggregate of USD 141m and provide cooperation to the settlement classes. Certain class members have excluded themselves from that settlement and have filed individual actions in US and English courts against UBS and other banks, alleging violations of US and European competition laws and unjust enrichment.

In 2015, a putative class action was filed in federal court against UBS and numerous other banks on behalf of persons and businesses in the US who directly purchased foreign currency from the defendants and alleged co-conspirators for their own end use. In March 2017, the court granted UBS's (and the other banks') motions to dismiss the complaint. The plaintiffs filed an amended complaint in August 2017. In March 2018, the court denied the defendants' motions to dismiss the amended complaint. In March 2022, the court denied plaintiffs' motion for class certification.

LIBOR and other benchmark-related regulatory matters: Numerous government agencies conducted investigations regarding potential improper attempts by UBS, among others, to manipulate LIBOR and other benchmark rates at certain times. UBS reached settlements or otherwise concluded investigations relating to benchmark interest rates with the investigating authorities. UBS was granted conditional leniency or conditional immunity from authorities in certain jurisdictions, including the Antitrust Division of the DOJ and the Swiss Competition Commission (WEKO), in connection with potential antitrust or competition law violations related to certain rates. However, UBS has not reached a final settlement with WEKO, as the Secretariat of WEKO has asserted that UBS does not qualify for full immunity.

LIBOR and other benchmark-related civil litigation: A number of putative class actions and other actions are pending in the federal courts in New York against UBS and numerous other banks on behalf of parties who transacted in certain interest rate benchmark-based derivatives. Also pending in the US and in other jurisdictions are a number of other actions asserting losses related to various products whose interest rates were linked to LIBOR and other benchmarks, including adjustable rate mortgages, preferred and debt securities, bonds pledged as collateral, loans, depository accounts, investments and other interest-bearing instruments. The complaints allege manipulation, through various means, of certain benchmark interest rates, including USD LIBOR, Euroyen TIBOR, Yen LIBOR, EURIBOR, CHF LIBOR, GBP LIBOR, SGD SIBOR and SOR and Australian BBSW, and seek unspecified compensatory and other damages under varying legal theories.

USD LIBOR class and individual actions in the US: In 2013 and 2015, the district court in the USD LIBOR actions dismissed, in whole or in part, certain plaintiffs' antitrust claims, federal racketeering claims, CEA claims, and state common law claims, and again dismissed the antitrust claims in 2016 following an appeal. In December 2021, the Second Circuit affirmed the district court's dismissal in part and reversed in part and remanded to the district court for further proceedings. The Second Circuit, among other things, held that there was personal jurisdiction over UBS and other foreign defendants based on allegations that at least one alleged co-conspirator undertook an overt act in the United States. Separately, in 2018, the Second Circuit reversed in part the district court's 2015 decision dismissing certain individual plaintiffs' claims and certain of these actions are now proceeding. In 2018, the district court denied plaintiffs' motions for class certification in the USD class actions for claims pending against UBS, and plaintiffs sought permission to appeal that ruling to the Second Circuit. In July 2018, the Second Circuit denied the petition to appeal of the class of USD lenders and in November 2018 denied the petition of the USD exchange class. In January 2019, a putative class action was filed in the District Court for the Southern District of New York against UBS and numerous other banks on behalf of US residents who, since 1 February 2014, directly transacted with a defendant bank in USD LIBOR instruments. The complaint asserts antitrust claims. The defendants moved to dismiss the complaint in August 2019. In March 2020 the court granted defendants' motion to dismiss the complaint in its entirety. Plaintiffs have appealed the dismissal. In March 2022, the Second Circuit dismissed the appeal because appellants, who had been substituted in to replace the original plaintiffs who had withdrawn, lacked standing to pursue the appeal. In August 2020, an individual action was filed in the Northern District of California against UBS and numerous other banks alleging that the defendants conspired to fix the interest rate used as the basis for loans to consumers by jointly setting the USD LIBOR rate and monopolized the market for LIBOR-based consumer loans and credit cards. Defendants moved to dismiss the complaint in September 2021. In September 2022, the court granted defendants' motion to dismiss the complaint in its entirety, while allowing plaintiffs the opportunity to file an amended complaint. Plaintiffs filed an amended complaint in October 2022.

Other benchmark class actions in the US:
Yen LIBOR / Euroyen TIBOR – In 2014, 2015 and 2017, the court in one of the Yen LIBOR / Euroyen TIBOR lawsuits dismissed certain of the plaintiffs' claims, including the plaintiffs' federal antitrust and racketeering claims. In August 2020, the court granted defendants' motion for judgment on the pleadings and dismissed the lone remaining claim in the action as impermissibly extraterritorial. In October 2022, the appeals court affirmed the dismissal on multiple grounds. In 2017, the court dismissed the other Yen LIBOR / Euroyen TIBOR action in its entirety on standing grounds. In April 2020, the appeals court reversed the dismissal and in August 2020 plaintiffs in that action filed an amended complaint focused on Yen LIBOR. The court granted in part and denied in part defendants' motion to dismiss the amended complaint in September 2021. In August 2022, the court granted UBS's motion for reconsideration and dismissed the case against UBS.

CHF LIBOR – In 2017, the court dismissed the CHF LIBOR action on standing grounds and failure to state a claim. Plaintiffs filed an amended complaint, and the court granted a renewed motion to dismiss in September 2019. Plaintiffs appealed. In September 2021, the Second Circuit granted the parties' joint motion to vacate the dismissal and remand the case for further proceedings.

EURIBOR – In 2017, the court in the EURIBOR lawsuit dismissed the case as to UBS and certain other foreign defendants for lack of personal jurisdiction. Plaintiffs have appealed.

SIBOR / SOR – In October 2018, the court in the SIBOR / SOR action dismissed all but one of plaintiffs' claims against UBS. Plaintiffs filed an amended complaint, and the court granted a renewed motion to dismiss in July 2019. Plaintiffs appealed. In March 2021, the Second Circuit reversed the dismissal. Plaintiffs filed an amended complaint in October 2021, which defendants have moved to dismiss. In March 2022, plaintiffs reached a settlement in principle with the remaining defendants, including UBS. The court granted preliminary approval of the settlement in June 2022.

BBSW – In November 2018, the court dismissed the BBSW lawsuit as to UBS and certain other foreign defendants for lack of personal jurisdiction. Plaintiffs filed an amended complaint in April 2019, which UBS and other defendants moved to dismiss. In February 2020, the court granted in part and denied in part defendants' motions to dismiss the amended complaint. In August 2020, UBS and other BBSW defendants joined a motion for judgment on the pleadings, which the court denied in May 2021. In February 2022, plaintiffs reached a settlement in principle with the remaining defendants, including UBS. The court granted preliminary approval of the settlement in May 2022.

GBP LIBOR – The court dismissed the GBP LIBOR action in August 2019. Plaintiffs have appealed.

Government bonds: Putative class actions have been filed since 2015 in US federal courts against UBS and other banks on behalf of persons who participated in markets for US Treasury securities since 2007. A consolidated complaint was filed in 2017 in the US District Court for the Southern District of New York alleging that the banks colluded with respect to, and manipulated prices of, US Treasury securities sold at auction and in the secondary market and asserting claims under the antitrust laws and for unjust enrichment. Defendants' motions to dismiss the consolidated complaint were granted in March 2021. Plaintiffs filed an amended complaint, which defendants moved to dismiss in June 2021. In March 2022, the court granted defendants' motion to dismiss that complaint. Plaintiffs have appealed the dismissal. Similar class actions have been filed concerning European government bonds and other government bonds.

In May 2021, the European Commission issued a decision finding that UBS and six other banks breached European Union antitrust rules in 2007–2011 relating to European government bonds. The European Commission fined UBS EUR 172m. UBS is appealing the amount of the fine.

With respect to additional matters and jurisdictions not encompassed by the settlements and orders referred to above, our balance sheet at 30 September 2022 reflected a provision in an amount that UBS believes to be appropriate under the applicable accounting standard. As in the case of other matters for which we have established provisions, the future outflow of resources in respect of such matters cannot be determined with certainty based on currently available information and accordingly may ultimately prove to be substantially greater (or may be less) than the provision that we have recognized.

6. Swiss retrocessions

The Federal Supreme Court of Switzerland ruled in 2012, in a test case against UBS, that distribution fees paid to a firm for distributing third-party and intra-group investment funds and structured products must be disclosed and surrendered to clients who have entered into a discretionary mandate agreement with the firm, absent a valid waiver. FINMA issued a supervisory note to all Swiss banks in response to the Supreme Court decision. UBS has met the FINMA requirements and has notified all potentially affected clients.

The Supreme Court decision has resulted, and continues to result, in a number of client requests for UBS to disclose and potentially surrender retrocessions. Client requests are assessed on a case-by-case basis. Considerations taken into account when assessing these cases include, among other things, the existence of a discretionary mandate and whether or not the client documentation contained a valid waiver with respect to distribution fees.

Our balance sheet at 30 September 2022 reflected a provision with respect to matters described in this item 6 in an amount that UBS believes to be appropriate under the applicable accounting standard. The ultimate exposure will depend on client requests and the resolution thereof, factors that are difficult to predict and assess. Hence, as in the case of other matters for which we have established provisions, the future outflow of resources in respect of such matters cannot be determined with certainty based on currently available information and accordingly may ultimately prove to be substantially greater (or may be less) than the provision that we have recognized.

7. Communications recordkeeping

The SEC and CFTC conducted investigations of UBS and other financial institutions regarding compliance with records preservation requirements relating to business communications sent over unapproved electronic messaging channels. UBS cooperated with the investigations, and, in September 2022, UBS agreed to pay civil monetary penalties of USD 125m to the SEC and USD 75m to the CFTC to resolve these matters.

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