

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).

**10,000,000 European Style Cash Settled Short Certificates relating to
the ordinary shares of Hong Kong Exchanges and Clearing Limited
with a Daily Leverage of -5x**

**UBS AG
(Incorporated with limited liability in Switzerland)
acting through its London Branch**

Issue Price: S\$1.00 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 an inverse 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 products¹ 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 risen 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 Inverse Strategy (as described below) including the Stock Borrowing 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 an inverse 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 inverse performance of the Underlying Stock over a

period longer than one day. This difference may be amplified in a volatile market with a sideways 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 Inverse Strategy if the Underlying Stock rises further, but will also maintain a reduced exposure to the Underlying Stock in the event the Underlying Stock starts to fall 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 rise 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 rise 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 Inverse Strategy performance built in the Certificate. The Calculation Agent will make the Leverage Inverse 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 likelihood 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 Inverse 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:	10,000,000 European Style Cash Settled Short Certificates relating to the ordinary shares of Hong Kong Exchanges and Clearing Limited (the “ Underlying Stock ” or the “ Underlying ”)
ISIN:	CH1227876229
Company:	Hong Kong Exchanges and Clearing Limited (RIC: 0388.HK)
Underlying Price ³ and Source:	HK\$361.4 (Bloomberg)
Calculation Agent:	UBS AG acting through its London Branch
Strike Level:	Zero
Daily Leverage:	-5x (within the Leverage Inverse Strategy as described below)
Notional Amount per Certificate:	SGD 1.00
Management Fee (p.a.) ⁴ :	0.40%
Gap Premium (p.a.) ⁵ :	4.60%, is a hedging cost against extreme market movements overnight.
Stock Borrowing Cost ⁶ :	The annualised costs for borrowing stocks in order to take an inverse exposure on the Underlying Stock.
Rebalancing Cost ⁶ :	The transaction costs (if applicable), computed as a function of leverage and daily inverse 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 Inverse Strategy. Please note that the Stock Borrowing Cost may be changed on giving 5 Business Days’ notice to investors. Any change in the Stock Borrowing Cost will be announced on the SGXNET.

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 Short 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 $(1 - \text{Management Fee} \times (\text{ACT}(t-1;t) \div 360)) \times (1 - \text{Gap Premium}(t-1) \times (\text{ACT}(t-1;t) \div 360))$, 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 Short 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 Inverse Strategy (as described below) on the Valuation Date

The calculation of the closing level of the Leverage Inverse Strategy is set out in the “Specific Definitions relating to the Leverage Inverse Strategy” section on pages 15 to 19 below.

Initial Exchange Rate³: 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 Inverse Strategy and which is designed to reduce the Leverage Inverse Strategy exposure to the Underlying Stock during extreme market conditions. If the Underlying Stock rises by 15% or more (“**Air Bag Trigger Price**”) during the trading day (which represents approximately 75% loss after a 5 times inverse leverage), the Air Bag Mechanism is triggered and the Leverage Inverse Strategy is adjusted intra-day. The Air Bag Mechanism reduces the

impact on the Leverage Inverse Strategy if the Underlying Stock rises further, but will also maintain a reduced exposure to the Underlying Stock in the event the Underlying Stock starts to fall 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 Inverse 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 Inverse Strategy including the Stock Borrowing 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.
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Specific Definitions relating to the Leverage Inverse Strategy

Description of the Leverage Inverse Strategy

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

At the end of each trading day of the Underlying Stock, the exposure of the Leverage Inverse Strategy to the Underlying Stock is reset within the Leverage Inverse Strategy in order to retain a daily leverage of 5 times the inverse 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 Inverse 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 Inverse Strategy Formula

LSL_t means the Leverage Inverse Strategy Level as of the Leverage Reset Time (t), calculated in accordance with the following formulae:

On Leverage Reset Time(1):

$$LSL_1 = 1000$$

On each subsequent Leverage Reset Time(t):

$$LSL_t = \text{Max}[LSL_{r(t)} \times (1 + LR_{r(t),t} - FC_{r(t),t} - SB_{r(t),t} - RC_{r(t),t}), 0]$$

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).

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:

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

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,

$$FC_{r(t),t} = (\text{Leverage} - 1) \times \frac{\text{Rate}_{r(t)} \times \text{ACT}(r(t), t)}{\text{DayCountBasisRate}}$$

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

SB_{r(t),t} means the Stock Borrowing 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,

$$SB_{r(t),t} = -\text{Leverage} \times \frac{\text{CB} \times \text{ACT}(r(t), t)}{\text{DayCountBasisRate}}$$

Otherwise, $SB_{r(t),t} = 0$

CB means the Cost of Borrowing applicable that is equal to: 2.00%

RC_{r(t),t} means the Rebalancing Cost of the Leverage Inverse Strategy as at Leverage Reset Time (t), calculated as follows :

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

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

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 highest price of the Underlying Stock during the respective Intraday Restrike Observation Period.

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,

$$Rfactor_t = 1 - \frac{Div_t}{S_{r(t)}}$$

Otherwise,

$$Rfactor_t = 1$$

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 gross of any applicable withholding taxes.

Rate_t means, in respect of the Observation Date of Leverage Reset Time (t), the Overnight HKD Hong Kong Interbank Offered Rate (HIBOR) Fixing,

as published on Reuters RIC HHHKDON= or any successor page, being the rate as of day (t), provided that if such rate is not available, then the 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.

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 increase at any Calculation Time of the Underlying Stock price by 15% or more compared with the amount of $S_{r(t)} \times Rfactor_t$ 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 Inverse 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:

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

If the Issuer determines, in its sole discretion, that on the Valuation Date 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:	Hong Kong Exchanges and Clearing Limited
The Certificates:	European Style Cash Settled Short Certificates relating to the Underlying Stock
Number:	10,000,000 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 SHORT CERTIFICATES ON SINGLE EQUITIES**

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

European style cash settled short 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 Inverse 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 decrease and are seeking short-term leveraged inverse exposure to the Underlying Stock.

B) Trading the Certificates before Expiry

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

- (i) For Certificate Holders who trade the Certificates intraday: shall pay normal transaction and brokerage fees for the trading of the Certificates on the SGX-ST, and may be required to pay stamp taxes or other documentary charges in accordance with the laws and practices of the country where the Certificates are transferred; and
- (ii) For Certificate Holders who hold the Certificates overnight: in addition to the normal transaction and brokerage fees and applicable stamp taxes, would also be required to bear the Management Fee and Gap Premium as well as certain costs embedded within the Leverage Inverse Strategy including the Stock Borrowing Cost and the Rebalancing Cost.

Illustration of the Calculation of Hedging Fee Factor

Hedging Fee Factor	=	Product of the Daily Fees
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Daily Fees	=	<table border="1" style="width: 100%;"> <tr> <td style="text-align: center;">Daily Management Fee Adjustment</td> </tr> <tr> <td style="text-align: center;">1 – Management Fee x ACT (t-1;t) / 360</td> </tr> </table>	Daily Management Fee Adjustment	1 – Management Fee x ACT (t-1;t) / 360
		Daily Management Fee Adjustment		
1 – Management Fee x ACT (t-1;t) / 360				
x	<table border="1" style="width: 100%;"> <tr> <td style="text-align: center;">Daily Gap Premium Adjustment</td> </tr> <tr> <td style="text-align: center;">1 – Gap Premium (t-1) x ACT (t-1;t) / 360</td> </tr> </table>	Daily Gap Premium Adjustment	1 – Gap Premium (t-1) x ACT (t-1;t) / 360	
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)

Value of Certificates	=	<table border="1" style="width: 100%;"> <tr> <td style="text-align: center;">t=0</td> </tr> <tr> <td style="text-align: center;">Notional Amount</td> </tr> </table>	t=0	Notional Amount	x	<table border="1" style="width: 100%;"> <tr> <td style="text-align: center;">t=1</td> </tr> <tr> <td style="text-align: center;">Leverage Inverse Strategy daily performance⁸</td> </tr> </table>	t=1	Leverage Inverse Strategy daily performance ⁸	x	<table border="1" style="width: 100%;"> <tr> <td style="text-align: center;">t=2</td> </tr> <tr> <td style="text-align: center;">Leverage Inverse Strategy daily performance</td> </tr> </table>	t=2	Leverage Inverse Strategy daily performance	x ...	<table border="1" style="width: 100%;"> <tr> <td style="text-align: center;">t=i</td> </tr> <tr> <td style="text-align: center;">Leverage Inverse Strategy Daily performance</td> </tr> </table>	t=i	Leverage Inverse Strategy Daily performance
		t=0														
Notional Amount																
t=1																
Leverage Inverse Strategy daily performance ⁸																
t=2																
Leverage Inverse Strategy daily performance																
t=i																
Leverage Inverse Strategy Daily performance																
x	x	x	x	x												

Value of Certificates	=	<table border="1" style="width: 100%;"> <tr> <td style="text-align: center;">t=0</td> </tr> <tr> <td style="text-align: center;">Notional Amount</td> </tr> </table>	t=0	Notional Amount	x	<table border="1" style="width: 100%;"> <tr> <td style="text-align: center;">Product of the daily Leverage Inverse Strategy Performance</td> </tr> <tr> <td style="text-align: center;">Leverage Inverse Strategy daily performance x Leverage Inverse Strategy daily performance</td> </tr> </table>	Product of the daily Leverage Inverse Strategy Performance	Leverage Inverse Strategy daily performance x Leverage Inverse Strategy daily performance	x	<table border="1" style="width: 100%;"> <tr> <td style="text-align: center;">Product of the Daily Fees (Hedging Fee Factor)</td> </tr> <tr> <td style="text-align: center;">Daily Fees x Daily Fees</td> </tr> </table>	Product of the Daily Fees (Hedging Fee Factor)	Daily Fees x Daily Fees
		t=0										
Notional Amount												
Product of the daily Leverage Inverse Strategy Performance												
Leverage Inverse Strategy daily performance x Leverage Inverse Strategy daily performance												
Product of the Daily Fees (Hedging Fee Factor)												
Daily Fees x Daily Fees												
x	x	x										

Final Value of Certificates	=	<table border="1" style="width: 100%;"> <tr> <td style="text-align: center;">t=0</td> </tr> <tr> <td style="text-align: center;">Notional Amount</td> </tr> </table>	t=0	Notional Amount	x	<table border="1" style="width: 100%;"> <tr> <td style="text-align: center;">Final Reference Level x Final Exchange Rate</td> </tr> <tr> <td style="text-align: center;">÷</td> </tr> <tr> <td style="text-align: center;">Initial Reference Level x Initial Exchange Rate</td> </tr> </table>	Final Reference Level x Final Exchange Rate	÷	Initial Reference Level x Initial Exchange Rate	x	<table border="1" style="width: 100%;"> <tr> <td style="text-align: center;">Hedging Fee Factor</td> </tr> </table>	Hedging Fee Factor
		t=0										
Notional Amount												
Final Reference Level x Final Exchange Rate												
÷												
Initial Reference Level x Initial Exchange Rate												
Hedging Fee Factor												
x	x											

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

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

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

⁷ "t" refers to "Observation Date" which means each Underlying Stock Business Day (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 Inverse Strategy daily performance is computed as the Leverage Inverse Strategy Level on Business Day (t) divided by the Leverage Inverse 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 Hong Kong Exchanges and Clearing Limited
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:	1.00 SGD
Notional Amount per Certificate:	1.00 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:

$$\text{HFF}(0) = 100\%$$

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

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

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

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

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

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

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

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

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

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

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

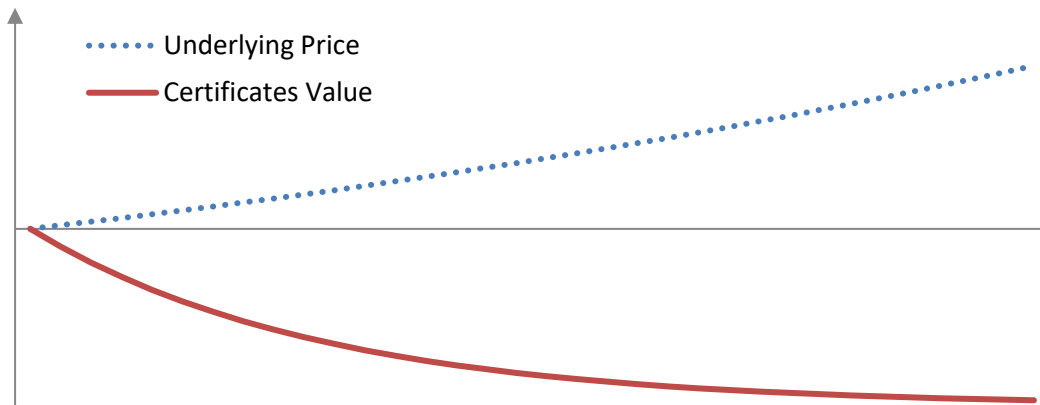
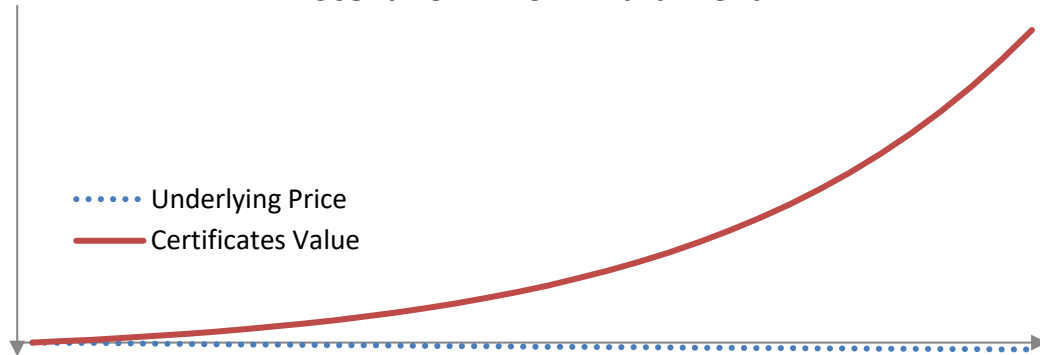
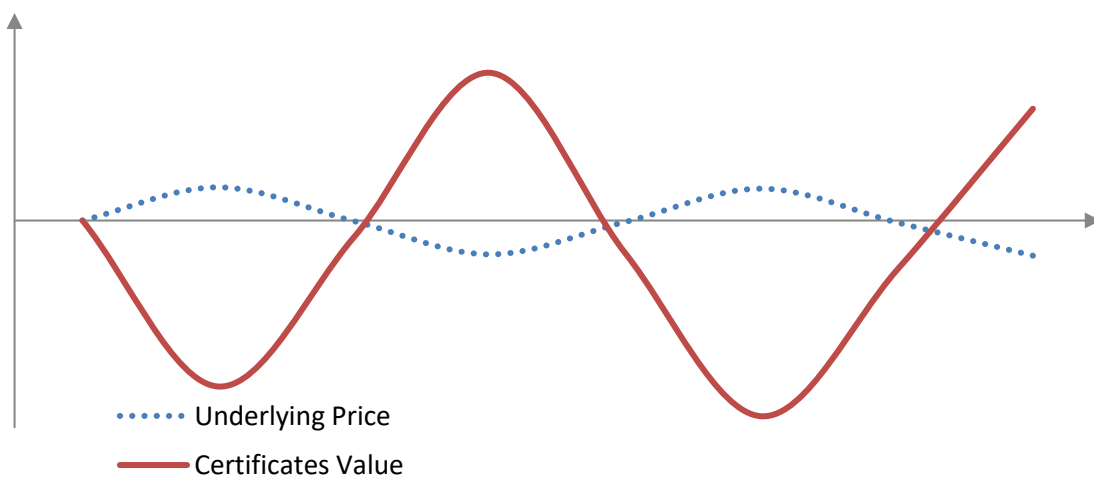
In this example, the Closing Level and the Cash Settlement Amount would be computed as follows:

$$\begin{aligned} \text{Closing Level} &= [(\text{Final Reference Level} \times \text{Final Exchange Rate}) / (\text{Initial Reference Level} \times \text{Initial Exchange Rate}) - \text{Strike Level}] \times \text{Hedging Fee Factor} \\ &= [(1200 \times 1) / (1000 \times 1) - 0] \times 99.7919\% \\ &= 119.75\% \end{aligned}$$

$$\begin{aligned} \text{Cash Settlement Amount} &= \text{Closing Level} \times \text{Notional Amount per Certificate} \\ &= 119.75\% \times 1.00 \text{ SGD} \\ &= \mathbf{1.198 \text{ SGD}} \end{aligned}$$

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**Scenario 1 - Upward Trend****Scenario 2 - Downward Trend****Scenario 3 - Volatile Market**

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	1.00	0.90	0.81	0.73	0.66	0.59
Accumulated Return		-10.00%	-19.00%	-27.10%	-34.39%	-40.95%

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	1.00	1.10	1.21	1.33	1.46	1.61
Accumulated Return		10.00%	21.00%	33.10%	46.41%	61.05%

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	1.00	0.90	0.99	1.09	0.98	0.88
Accumulated Return		-10.00%	-1.00%	8.90%	-1.99%	-11.79%

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 maximum 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 Inverse Strategy is reset using the maximum 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 Inverse 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.

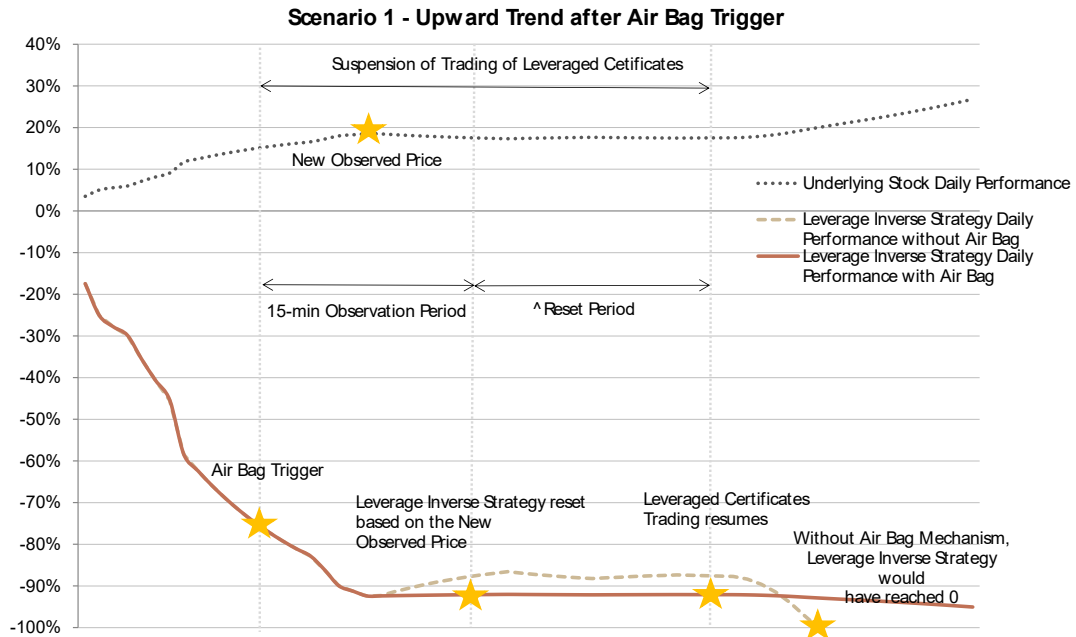
The performance of the Leverage Inverse Strategy will be the inverse of the Underlying Stock.

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.

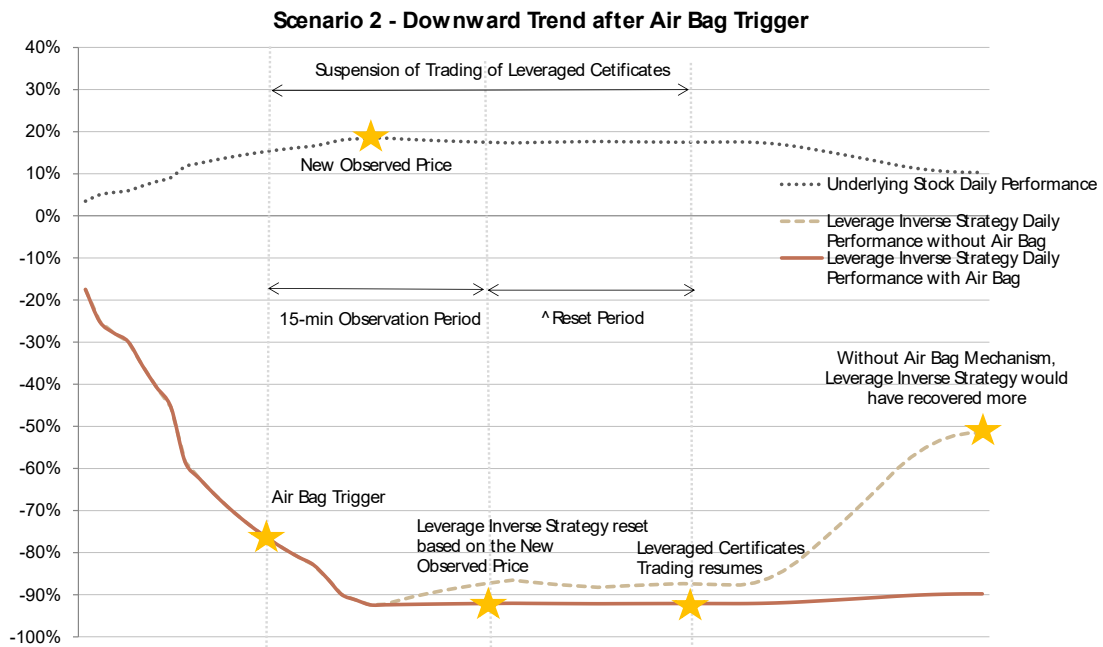
With **Market Close** defined as:

- 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 Mechanism⁹



^ 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.



^ 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.

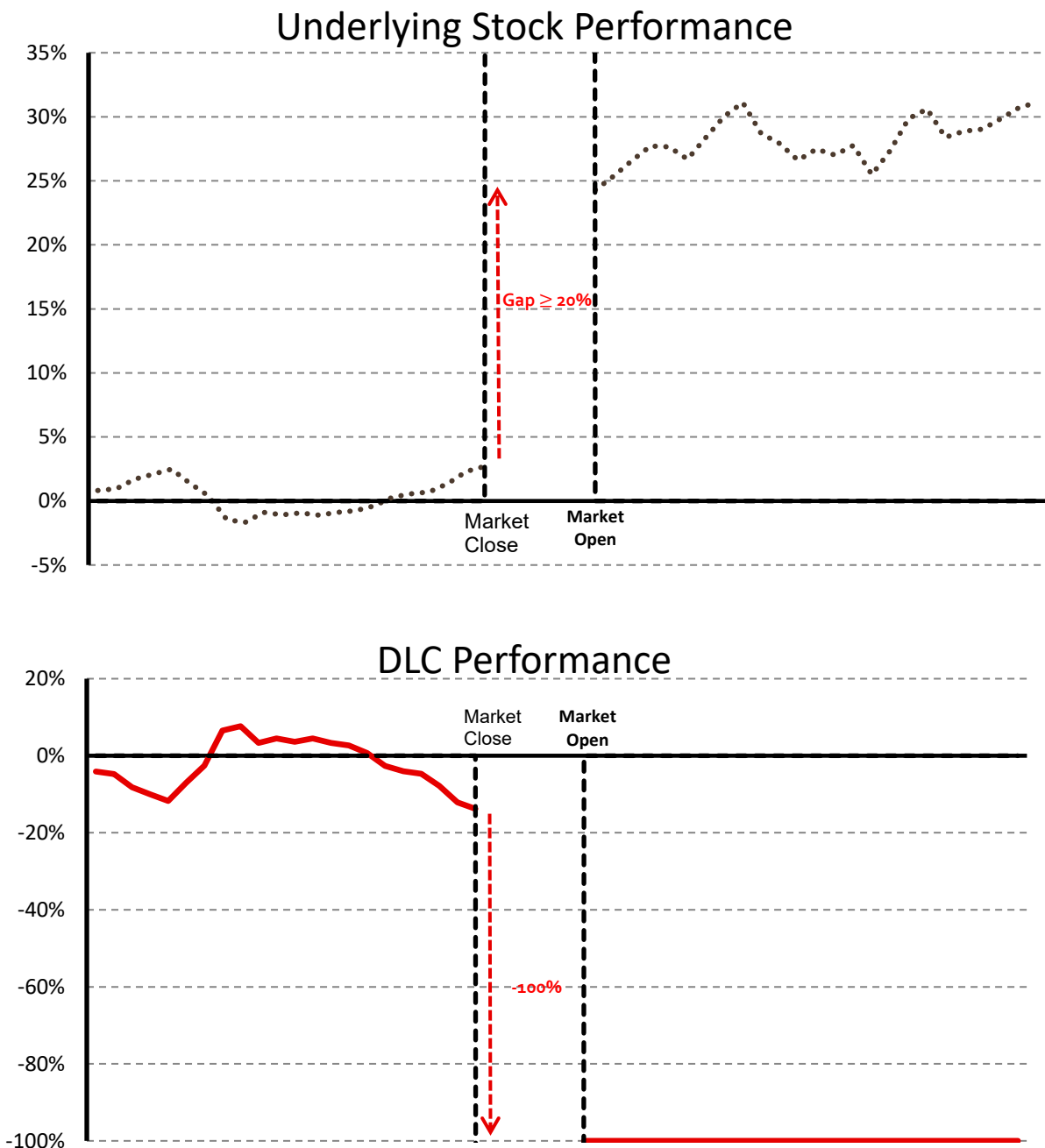
⁹ The illustrative examples are not exhaustive.

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.

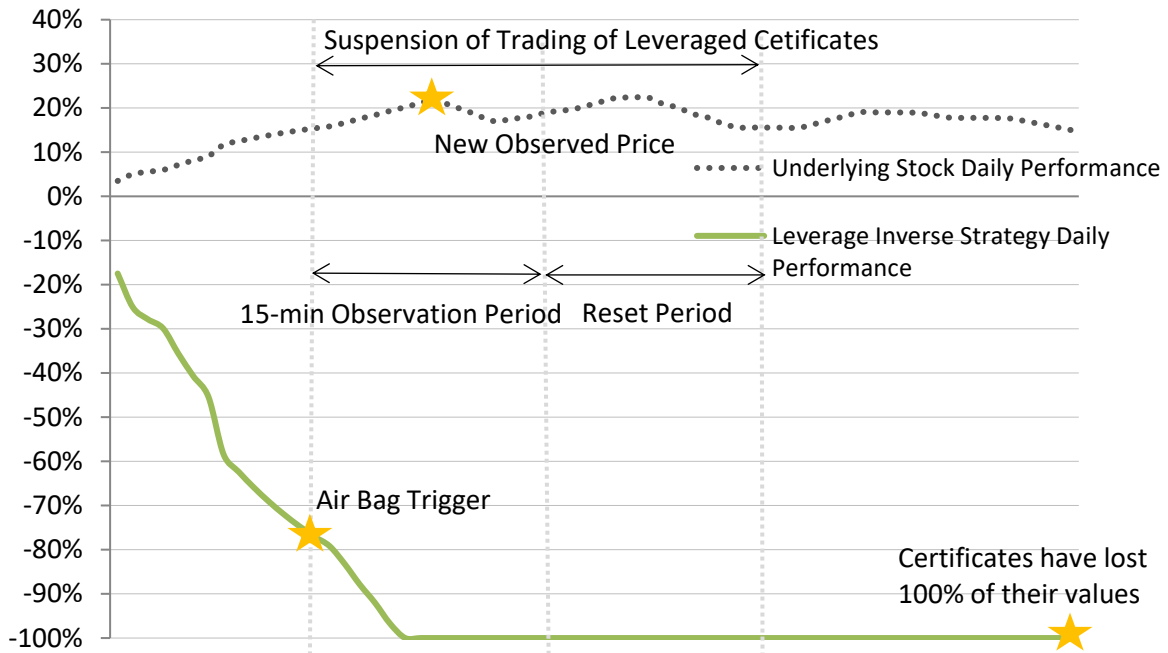
Scenario 1 – Overnight rise of the Underlying Stock

On any business day, the opening price of the Underlying Stock may be higher or lower than the closing price on the previous day. The difference between the previous closing price and the opening price of the Underlying Stock is termed a “gap”. If the opening price of the Underlying Stock is 20% or more above 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 rise 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 rises 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 :

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

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 rises by 15% exclusively because of the dilutive effect of a corporate action.

Where:

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

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

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

1. Stock split

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

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

$$S_t = \$51$$

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

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

$M = 1$ (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:

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

$S_{r(t)}$	$S_{r(t)} \times Rfactor_t$	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)
1.00	0.90	-10%

In such case an Intraday Restrike Event would occur if the Underlying Stock price rises to \$57.5, which is 15% above \$50, the Underlying Stock Reference Price.

2. Share Consolidation

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

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

$$S_t = \$202$$

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

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

$M = -0.5$ (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:

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

$S_{r(t)}$	$S_{r(t)} \times Rfactor_t$	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)
1.00	0.95	-5%

In such case an Intraday Restrike Event would occur if the Underlying Stock price rises to \$230, which is 15% above \$200, the Underlying Stock Reference Price.

3. Rights Issues

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

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

$$S_t = \$84$$

$$Div_t = \$0$$

$$DivExc_t = \$0$$

$$R = \$40 \text{ (i.e. subscription price of \$40)}$$

$$M = 0.5 \text{ (i.e. 1 new share for every 2 existing shares)}$$

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

As a consequence:

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

$S_{r(t)}$	$S_{r(t)} \times Rfactor_t$	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)
1.00	0.75	-25%

In such case an Intraday Restrike Event would occur if the Underlying Stock price rises to \$92, which is 15% above \$80, the Underlying Stock Reference Price.

4. Bonus Issues

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

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

$$S_t = \$85$$

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

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

$$R = \$0$$

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

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

As a consequence:

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

$S_{r(t)}$	$S_{r(t)} \times Rfactor_t$	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)
1.00	0.90	-10%

In such case an Intraday Restrike Event would occur if the Underlying Stock price rises to \$95.83, which is 15% above \$83.33, the Underlying Stock Reference Price.

5. Extraordinary Dividend

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

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

$$S_t = \$84$$

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

$$\text{DivExc}_t = \$20$$

$$R = \$0$$

$M = 0$

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

As a consequence:

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

$S_{r(t)}$	$S_{r(t)} \times Rfactor_t$	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)
1.00	0.75	-25%

In such case an Intraday Restrike Event would occur if the Underlying Stock price rises to \$92, which is 15% above \$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>. The Issuer has not independently verified any of such information.

Hong Kong Exchanges and Clearing Limited (the “**Company**”) is principally engaged in the operation of stock exchanges. The Company operates through five business segments. The Cash segment includes various equity products traded on the Cash Market platforms, the Shanghai Stock Exchange and the Shenzhen Stock Exchange. The Equity and Financial Derivatives segment includes derivatives products traded on Hong Kong Futures Exchange Limited (HKFE) and the Stock Exchange of Hong Kong Limited (SEHK) and other related activities. The Commodities segment includes the operations of the London Metal Exchange (LME). The Clearing segment includes the operations of various clearing houses, such as Hong Kong Securities Clearing Company Limited, the SEHK Options Clearing House Limited, HKFE Clearing Corporation Limited, over the counter (OTC) Clearing Hong Kong Limited and LME Clear Limited. The Platform and Infrastructure segment provides users with access to the platform and infrastructure of the Company.

The information set out in Appendix I of this document relates to the unaudited quarterly results of the Company and its subsidiaries for the nine months ended 30 September 2022 and has been extracted and reproduced from an announcement by the Company dated 19 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 UNAUDITED QUARTERLY RESULTS
FOR THE NINE MONTHS ENDED 30 SEPTEMBER 2022 OF
HONG KONG EXCHANGES AND CLEARING LIMITED AND ITS SUBSIDIARIES**

Pursuant to Chapter 38 of the Rules Governing the Listing of Securities on The Stock Exchange of Hong Kong Limited, the Securities and Futures Commission regulates Hong Kong Exchanges and Clearing Limited in relation to the listing of its shares on The Stock Exchange of Hong Kong Limited. The Securities and Futures Commission takes no responsibility for the contents of this announcement, 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 announcement.



香港交易及結算所有限公司
HONG KONG EXCHANGES AND CLEARING LIMITED

(Incorporated in Hong Kong with limited liability)
(Stock Code: 388)

(Financial figures in this announcement are expressed in Hong Kong dollar (HKD) unless otherwise stated)

QUARTERLY RESULTS FOR THE NINE MONTHS ENDED 30 SEPTEMBER 2022

HIGHLIGHTS

Nicolas Aguzin, Chief Executive Officer said:

“This has been a productive quarter for HKEX with a number of potentially significant strategic initiatives announced or going live. These include the addition of ETFs in Stock Connect, the announcement of the next phase in the Connect franchise – Swap Connect, the establishment of the Hong Kong International Carbon Market Council and a number of new product launches and market enhancements. These are all further exciting building blocks, as we shape the long term sustainable and successful future of our business and our markets.

Despite continued global market fragility, a rising interest rate environment, inflationary pressures and ongoing geopolitical tensions, we are also today pleased to report a resilient set of quarterly results. Our numbers are down on record comparables and we continue to see softness in our Cash Market. However, there are early signs of renewed momentum in the IPO market, a buoyant Derivatives Market and continued strength in both Stock Connect and Bond Connect. We are positioned well for when market sentiment recovers. Looking forward we will continue to invest in talent and technology, whilst still actively and prudently managing our cost base; and we will drive both excellence in execution and delivery as we remain fully focused on our vision to build the Marketplace of the Future.”

Strategic Highlights

- ADV of derivatives contracts traded on HKFE and during After-Hours Trading both reached record nine-month highs
- Bond Connect Northbound ADT reached a record nine-month high
- ETFs were included into Stock Connect, initially with four eligible Southbound ETFs and 83 eligible Northbound ETFs
- Stock Connect trading calendar enhancements announced, facilitating trading on all days where both the Hong Kong and Mainland markets are open
- IR Connect launched
- Hong Kong International Carbon Market Council launched
- Swap Connect, a new mutual access programme between Hong Kong and Mainland China’s interbank interest rate swap markets, was announced
- IPO market showed signs of recovery in Q3 2022, with IPO funds raised more than double that from 1H 2022; IPO pipeline remained strong, with 144 active applications including three special purpose acquisition companies (SPACs) as at 30 September 2022
- Introduced seven new ETPs, including the first green bond ETF
- MSCI A 50 Connect Index Derivative Warrants listed, Hong Kong’s first A-share structured products
- Weekly OTC position reporting framework introduced by LME for all physically delivered metals; accountability levels extended to all reportable OTC positions
- HKEX ESG Academy updated on the Corporate Governance Code; HKEX Biotech Summit 2022 explored latest developments shaping the global healthcare industry

Comparison of Q3 2022 with Q3 2021

Financial Highlights

- Q3 2022 revenue and other income of \$4,318 million was 19 per cent lower than Q3 2021
 - Core business revenue was down 17 per cent against Q3 2021, reflecting lower trading and clearing fees from lower Headline ADT; and lower ADT of Northbound Trading of Stock Connect. This was partly offset by the increase in net investment income from Margin Funds
 - Net investment loss on Corporate Funds was \$46 million (Q3 2021: income of \$32 million), as the externally-managed investment funds (External Portfolio) had net fair value losses of \$148 million in Q3 2022 (Q3 2021: losses of \$23 million), partly offset by investment income from internally-managed Corporate Funds
- Operating expenses were 17 per cent higher than Q3 2021. Excluding HKEX Foundation charitable donations, operating expenses were up 13 per cent, attributable to higher staff costs and professional fees
- EBITDA margin¹ was 70 per cent, 9 per cent lower than Q3 2021
- Profit attributable to shareholders was \$2,263 million, 30 per cent lower than Q3 2021

Key Financials

	Q3 2022 \$m	Q3 2021 \$m	Change
Revenue and other income			
Core business revenue	4,324	5,238	(17%)
HKEX Foundation donation income	40	39	3%
Net investment (loss)/income of Corporate Funds	(46)	32	N/A
	4,318	5,309	(19%)
Operating expenses	1,291	1,108	17%
EBITDA ¹	2,984	4,164	(28%)
Profit attributable to shareholders	2,263	3,251	(30%)
Capital expenditure	295	187	58%
Basic earnings per share	\$1.79	\$2.57	(30%)

Key Market Statistics

	Q3 2022	Q3 2021	Change
ADT of equity products traded on the Stock Exchange ² (\$bn)	84.0	147.7	(43%)
ADT of DWs, CBBCs and warrants traded on the Stock Exchange (\$bn)	13.6	17.6	(23%)
ADT traded on the Stock Exchange ^{2,3} (Headline ADT) (\$bn)	97.6	165.3	(41%)
ADT of Northbound Trading of Stock Connect ² (RMBbn)	96.7	139.3	(31%)
ADT of Southbound Trading of Stock Connect ² (\$bn)	22.0	42.5	(48%)
ADV of derivatives contracts traded on the Futures Exchange ('000 contracts)	610	558	9%
ADV of stock options contracts traded on the Stock Exchange ('000 contracts)	505	667	(24%)
Chargeable ADV ⁴ of metals contracts traded on the LME ('000 lots)	469	546	(14%)
ADT of Northbound Bond Connect (RMBbn)	33.8	25.6	32%

¹ For the purposes of this announcement, EBITDA is defined as earnings before interest expenses and other finance costs, taxation, depreciation and amortisation. It excludes the Group's share of results of the joint ventures. EBITDA margin is calculated based on EBITDA divided by revenue and other income less transaction-related expenses.

² Includes buy and sell trades under Stock Connect

³ ADT of Southbound Trading is included within Headline ADT.

⁴ Chargeable ADV excludes administrative trades (Admin Trades) and other non-chargeable trades.

Comparison of YTD Q3 2022 with YTD Q3 2021

Financial Highlights

- YTD Q3 2022 revenue and other income of \$13,255 million was 18 per cent lower than record YTD Q3 2021
 - Core business revenue was down 13 per cent against YTD Q3 2021, reflecting lower trading and clearing fees from lower Headline ADT, and lower depository fees from electronic-IPO (e-IPO) applications. This was partly offset by the increase in net investment income from Margin Funds
 - Net investment loss on Corporate Funds was \$424 million (YTD Q3 2021: income of \$460 million), due to net fair value losses on the External Portfolio of \$659 million (YTD Q3 2021: gains of \$298 million), reflecting lower valuations in global equity and fixed income markets
- Operating expenses were 13 per cent higher than YTD Q3 2021, attributable to higher staff costs and professional fees, reflecting continued investment in talent, operational and strategic initiatives
- EBITDA margin was 71 per cent, 8 per cent lower than record YTD Q3 2021, and 4 per cent lower than the 5-year average
- Profit attributable to shareholders was \$7,099 million, 28 per cent lower than YTD Q3 2021

Key Financials

	YTD Q3 2022 \$m	YTD Q3 2021 \$m	Change
Revenue and other income			
Core business revenue	13,602	15,645	(13%)
HKEX Foundation donation income	77	113	(32%)
Net investment (loss)/income of Corporate Funds	(424)	460	N/A
	13,255	16,218	(18%)
Operating expenses	3,747	3,329	13%
EBITDA	9,378	12,771	(27%)
Profit attributable to shareholders	7,099	9,861	(28%)
Capital expenditure	773	723	7%
Basic earnings per share	\$5.61	\$7.79	(28%)

Key Market Statistics

	YTD Q3 2022	YTD Q3 2021	Change
ADT of equity products traded on the Stock Exchange ² (\$bn)	107.4	159.6	(33%)
ADT of DWs, CBBCs and warrants traded on the Stock Exchange (\$bn)	16.7	20.7	(19%)
ADT traded on the Stock Exchange ^{2,3} (Headline ADT) (\$bn)	124.1	180.3	(31%)
ADT of Northbound Trading of Stock Connect ² (RMBbn)	101.3	123.2	(18%)
ADT of Southbound Trading of Stock Connect ² (\$bn)	29.1	46.2	(37%)
ADV of derivatives contracts traded on the Futures Exchange ('000 contracts)	672*	534	26%
ADV of stock options contracts traded on the Stock Exchange ('000 contracts)	570	681	(16%)
Chargeable ADV ⁴ of metals contracts traded on the LME ('000 lots)	515	545	(6%)
ADT of Northbound Bond Connect (RMBbn)	32.1*	26.2	23%

* New record high for YTD Q3

BUSINESS REVIEW

Overview

Quarterly Results, Q1 2021 – Q3 2022

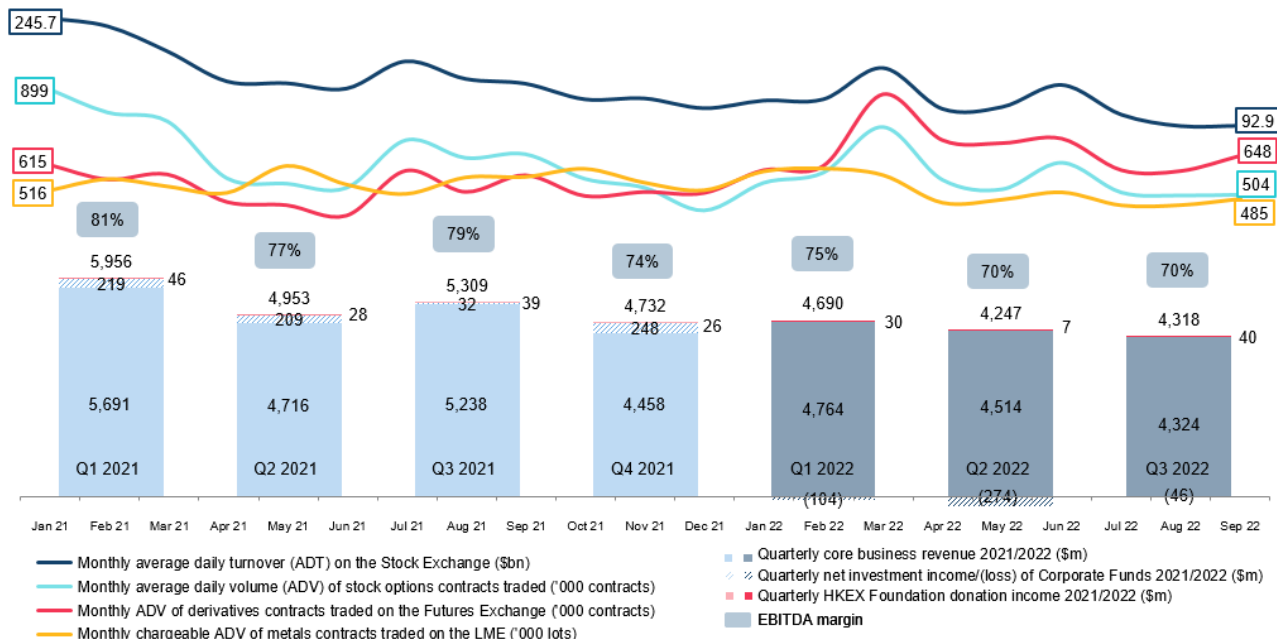


Fig. 1 – Market activity and Group's⁵ revenue and other income/loss

HKEX demonstrated financial and operational resiliency in the first nine months of 2022, despite global market volatility and geopolitical fragility. Concerns over inflation and slowing global growth adversely affected global market sentiment, impacting Headline ADT, which fell 31 per cent from the record YTD Q3 2021, to \$124.1 billion in YTD Q3 2022. Despite this backdrop, the HKEX Derivatives Market performed well and the number of derivatives contracts traded on HKFE reached a record high in YTD Q3 2022, with ADV 26 per cent higher than YTD Q3 2021, attributable to both customers' increased hedging needs in a volatile market environment; and absolute increased demand for HKEX's newly launched derivatives products. The IPO market showed encouraging signs of recovery in Q3 2022, and a total of 56 IPOs were listed on our market during YTD Q3 2022. This helped to put Asia at the top of the IPO fundraising tables for the first nine months of the year. The IPO pipeline remained very strong, with 144 active applications as at 30 September 2022.

Core business revenue for YTD Q3 2022 was \$13,602 million, 13 per cent lower than the record YTD Q3 2021, due to lower trading and clearing fees from lower Headline ADT, lower Stock Connect Northbound ADT and lower depository fees from e-IPO applications; this was partly offset by higher net investment income from Margin Funds. HKEX's External Portfolio was affected by the broader weak performance of the global equities and fixed income markets, recording net fair value losses of \$659 million during YTD Q3 2022 (YTD Q3 2021: gains of \$298 million). As a result, total revenue and other income for YTD Q3 2022 dropped by 18 per cent against YTD Q3 2021. Operating expenses increased by 13 per cent against YTD Q3 2021, mainly due to higher staff costs and professional fees, as well as investments in technology and other operational and strategic initiatives.

Looking at the quarter on quarter comparison, core business revenue for Q3 2022 was 4 per cent lower than Q2 2022, as a result of lower trading and clearing fees from lower Cash Market trading volume; which was partly offset by the increase in net interest income from Margin Funds. Total revenue and other income for Q3 2022, however, was 2 per cent higher than Q2 2022, as the decrease in core business revenue was more than offset by the lower fair value losses of the External Portfolio (Q3 2022: \$148 million; Q2 2022: \$322 million). As operating expenses remained broadly flat, profit attributable to shareholders for Q3 2022 was up 4 per cent against Q2 2022, to \$2,263 million.

⁵ HKEX and its subsidiaries, which include The Stock Exchange of Hong Kong Limited (SEHK or the Stock Exchange), Hong Kong Futures Exchange Limited (HKFE or the Futures Exchange), Hong Kong Securities Clearing Company Limited (HKSCC), HKFE Clearing Corporation Limited (HKCC), The SEHK Options Clearing House Limited (SEOH), OTC Clearing Hong Kong Limited (OTC Clear), The London Metal Exchange (LME), LME Clear Limited (LME Clear), Qianhai Mercantile Exchange Co., Ltd. (QME), BayConnect Technology Company Limited (BayConnect) and other subsidiaries

Analysis of Results and Business Update by Operating Segment

	YTD Q3 2022				YTD Q3 2021			
	Revenue and other income \$m	Transaction-related expenses \$m	Revenue and other income less transaction-related expenses \$m	EBITDA \$m	Revenue and other income \$m	Transaction-related expenses \$m	Revenue and other income less transaction-related expenses \$m	EBITDA \$m
Results by segment:								
Cash	3,764	-	3,764	3,232	4,815	-	4,815	4,357
Equity and Financial								
Derivatives	2,368	(122)	2,246	1,737	2,627	(95)	2,532	2,027
Commodities	1,019	-	1,019	494	1,099	-	1,099	614
Post Trade	5,612	(8)	5,604	4,896	6,315	(23)	6,292	5,633
Technology	830	-	830	605	781	-	781	553
Corporate Items	(338)	-	(338)	(1,586)	581	-	581	(413)
	13,255	(130)	13,125	9,378	16,218	(118)	16,100	12,771

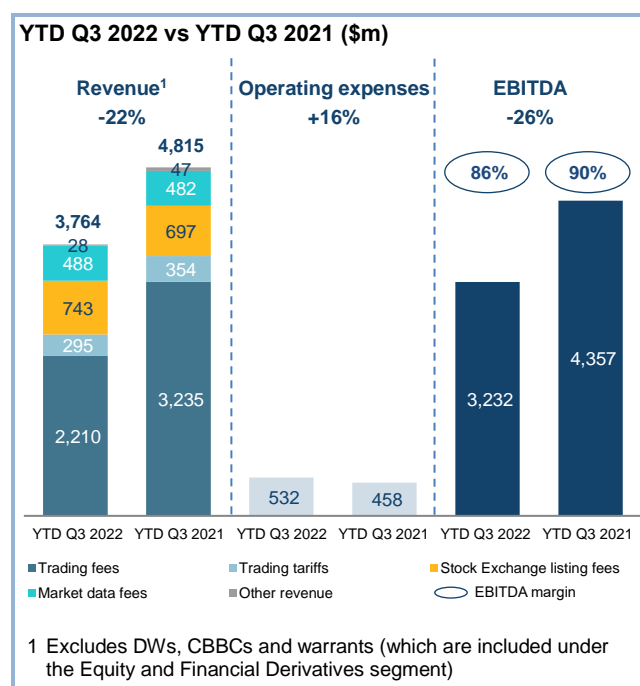
Cash Segment

Analysis of Results

Revenue was down 22 per cent and EBITDA was down 26 per cent compared with YTD Q3 2021.

Trading fees decreased by \$1,025 million, or 32 per cent compared with YTD Q3 2021, attributable to the 33 per cent decrease in ADT of equity products traded on the Stock Exchange and the 18 per cent decrease in ADT of Northbound Stock Connect. Included in trading fees were Northbound Stock Connect trading fees of \$406 million (YTD Q3 2021: \$493 million) and Southbound Stock Connect trading fees of \$117 million (YTD Q3 2021: \$182 million). Trading tariffs dropped by 17 per cent, due to the decrease in equity products traded.

Despite the drop in number of new IPOs during the period, Stock Exchange listing fees increased by \$46 million, mainly due to an increase in forfeitures.



Operating expenses increased by 16 per cent due to higher Listing Division allocated costs, reflecting higher listing fees from IPO forfeitures and lower listing fees from newly listed derivative warrants (DWs) and callable bull/bear contracts (CBBCs).

Business Update

Increased uncertainty in the global economic environment impacted trading activities on the Hong Kong securities market, with Headline ADT down by 31 per cent in YTD Q3 2022 against the same period last year.

Stock Connect operated smoothly and resiliently in YTD Q3 2022, with Northbound and Southbound ADT at RMB101.3 billion and \$29.1 billion respectively. During YTD Q3 2022, Stock Connect generated revenue and other income of \$1,726 million (YTD Q3 2021: \$2,094 million), of which \$1,284 million (YTD Q3 2021: \$1,650 million) arose from trading and clearing activities.

Effective 4 July 2022, eligible ETFs were included into Stock Connect, continuing the expansion of the existing Stock Connect Programme. Initially, eligible ETFs include four Southbound ETFs and 83 Northbound ETFs. The inclusion of ETFs in Stock Connect supports the development of the ETF ecosystem in both Hong Kong and Mainland China, meets growing investor demand for a broader range of products and further facilitates the continued connectivity in regional capital markets.

On 8 August 2022, HKEX successfully migrated Northbound Trading under the Shanghai-Hong Kong Stock Connect to a new trading gateway, introduced by the Shanghai Stock Exchange. This provided for significantly improved latency.

The China Securities Regulatory Commission (CSRC) and the Securities and Futures Commission (SFC) announced on 12 August 2022 that adjustments to the trading calendar between Hong Kong and Mainland China in relation to Stock Connect would be made to facilitate trading on all days where both the Hong Kong and Mainland markets are open, subject to regulatory approval. This enhancement to the trading calendar will further deepen cross-border market accessibility of the Stock Connect programme.

The Hong Kong IPO market showed signs of recovery in Q3 2022, with 29 IPOs raising a total of \$53.5 billion (including China Tourism⁶, the largest IPO of the year), more than double the proceeds raised during 1H 2022, bringing the total number of listings to 56 in YTD Q3 2022, raising \$73.2 billion. Homecoming listings remained strong, with Noah⁶, NIO⁶ and Tencent Music⁶ completed secondary listings and Zhihu⁶, Beike⁶, OneConnect⁶, Tuya⁶ and MINISO⁶ completed dual primary listings in YTD Q3 2022. HKEX also welcomed Zai Lab⁶ and Bilibili⁶ as the first two companies to convert from a secondary listing to a primary listing on the Main Board in June and October 2022 respectively. Alibaba⁶, Yum China⁶ and Noah also announced their plans for conversion. The increasing trend of conversion from secondary listing to dual primary listing solidifies Hong Kong's role as the preferred market for homecoming issuers. HKEX welcomed four new SPAC listings in YTD Q3 2022, raising a total of \$4.0 billion. HKEX's IPO pipeline remained very strong, with 144 active applications including three outstanding SPAC applications as at 30 September 2022.

Key Market Indicators	YTD Q3	
	2022	2021
ADT of equity products traded on the Stock Exchange ^{1,2} (\$bn)	107.4	159.6
ADT of Northbound Trading – Shanghai-Hong Kong Stock Connect ² (RMBbn)	46.5	56.8
ADT of Northbound Trading – Shenzhen-Hong Kong Stock Connect ² (RMBbn)	54.8	66.4
ADT of Southbound Trading – Shanghai-Hong Kong Stock Connect ² (\$bn)	14.6	22.2
ADT of Southbound Trading – Shenzhen-Hong Kong Stock Connect ² (\$bn)	14.5	24.0
ADT of Northbound Bond Connect (RMBbn)	32.1 ⁴	26.2
Average daily number of trades of equity products traded on the Stock Exchange ^{1,2} ('000)	1,741	2,051
Number of newly listed companies on the Main Board ³	56	72
Number of newly listed companies on GEM	-	1
Total equity funds raised		
- IPOs (\$bn)	73.2	285.9
- Post-IPO (\$bn)	119.4	318.8
Number of companies listed on the Main Board at 30 Sept	2,238	2,201
Number of companies listed on GEM at 30 Sept	343	358
Number of trading days	184	185
1 Excludes \$16.7 billion (YTD Q3 2021: \$20.7 billion) of ADT of DWs, CBBCs and warrants (which are included under the Equity and Financial Derivatives segment) and includes ADT of Southbound Trading under Stock Connect		
2 Includes buy and sell trades under Stock Connect		
3 Includes 1 transfer from GEM (YTD Q3 2021: 1)		
4 New record high for YTD Q3		

⁶ China Tourism Group Duty Free Corporation Limited (China Tourism); Noah Holdings Private Wealth and Asset Management Limited (Noah); NIO Inc. (NIO); Tencent Music Entertainment Group (Tencent Music); Zhihu Inc. (Zhihu); KE Holdings Inc. (Beike); OneConnect Financial Technology Co., Ltd. (OneConnect); Tuya Inc. (Tuya); MINISO Group Holding Limited (MINISO); Zai Lab Limited (Zai Lab); Bilibili Inc. (Bilibili); Alibaba Group Holding Limited (Alibaba); Yum China Holdings, Inc. (Yum China)

ADT of Exchange Traded Products (ETPs), which include ETFs and Leveraged and Inverse Products (L&I Products), surged to \$11.1 billion in YTD Q3 2022 (YTD Q3 2021: \$7.8 billion). Seven new ETPs were introduced to the market during Q3 2022, including the first green bond ETF.

On 7 July 2022, HKEX launched a new digital investor relations platform, IR Connect. The new portal enables Hong Kong listed issuers to build connectivity and facilitate regular dialogue with the global investor and analyst community. The first phase of IR Connect provides listed issuers with free access to shareholder analysis and market data, key stock statistics and research ratings.

During the quarter, Hong Kong's listed bond market continued to grow. During YTD Q3 2022, the Stock Exchange welcomed 317 newly listed bonds, with total funds raised exceeding \$672 billion. As at 30 September 2022, there were a total of 1,787 listed bonds, with total amount outstanding of over \$6 trillion.

HKEX's Sustainable and Green Exchange (STAGE) continued to gain support from the market. As at 30 September 2022, there were a total of 110 sustainable-focused products from leading issuers displayed on STAGE, including green, social, sustainable or similar bonds from issuers across different sectors, as well as Environmental, Social and Governance (ESG) related ETPs.

In Q3 2022, HKEX partnered with a number of leading regional corporates and financial institutions to launch The Hong Kong International Carbon Market Council (Council). The principal focus of this collaboration is to develop an international carbon market that leverages Hong Kong's position as a leading global financial centre, contributing to the realisation of carbon neutrality goals and the development of the green and sustainable finance ecosystem in Hong Kong, Mainland China and beyond. The Council is focused on the development of an efficient and effective Hong Kong-based international carbon market, with best-in-class market infrastructure, products and services.

In September 2022, HKEX hosted its fifth HKEX Biotech Summit, bringing together industry experts, scientists, executives and investors from across the world to discuss the latest developments shaping the global healthcare industry, with a particular focus on Asia. It attracted more than 10,000 audience watching live through various online media and gained widely positive feedbacks. The event reinforced HKEX's leading position as a biotech and healthcare fundraising hub, and also boosted market confidence over the industry's long-term prospects.

In Q3 2022, HKEX continued to modernise its operating model following a thorough diagnostic review conducted earlier in the year. An integrated planning and performance management process was also introduced throughout the business; and an internal Digital Governance Forum was formed to improve firm-wide alignment on the adoption and management of digital initiatives and productivity tools around the firm.

On 29 July 2022, the Stock Exchange published consultation conclusions on Proposed Amendments to Listing Rules relating to Share Schemes of Listed Issuers and Housekeeping Rule Amendment to enhance share schemes regulation to manage dilution of listed shares and provide informative disclosure to maintain high levels of shareholder protection. The Rule amendments will come into effect on 1 January 2023.

In addition, the Stock Exchange published the following guidance materials during Q3 2022:

Guidance materials

- Semi-annual Enforcement Bulletin, focusing on the importance of good record-keeping by issuers and company directors
 - New listing decision on the suitability of listing with a Weighted Voting Rights structure
 - Frequently asked questions on (i) share schemes of listed issuers; and (ii) special purpose acquisition companies
-

Equity and Financial Derivatives Segment

Analysis of Results

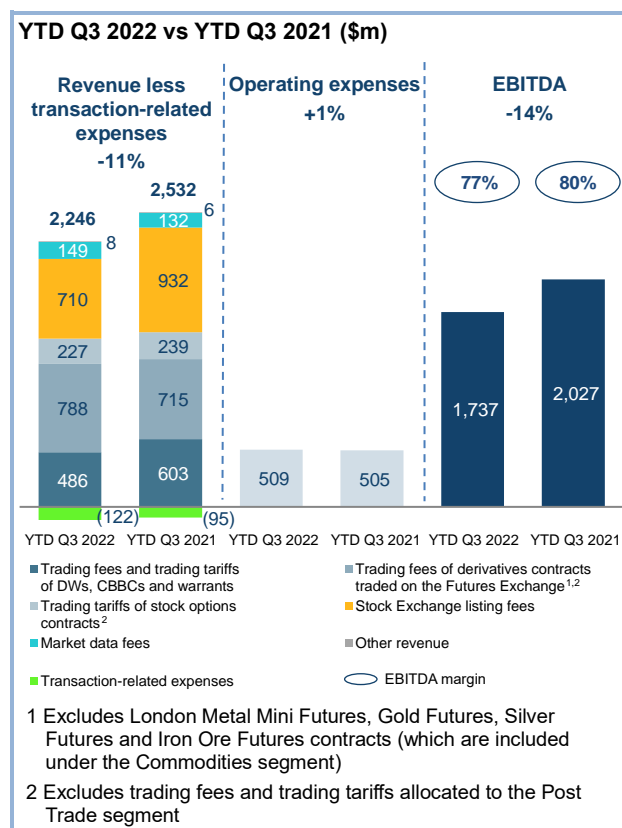
Revenue, less transaction-related expenses, was down 11 per cent; and EBITDA was down 14 per cent compared with YTD Q3 2021.

Trading fees and trading tariffs of DWs, CBBCs and warrants were down 19 per cent compared with YTD Q3 2021, in line with the decrease in ADT.

Futures Exchange derivatives trading fees⁷ increased by \$73 million or 10 per cent as the number of derivatives contracts traded reached record high in YTD Q3 2022. This was partly offset by lower fees per contract, attributable to fee waivers or discounts granted to certain newly launched products; and a lower proportion of higher fee contracts (including Hang Seng Index (HSI) futures and options) being traded in YTD Q3 2022.

Stock Exchange listing fees decreased by 24 per cent due to a decrease in the number of newly listed DWs and CBBCs compared with the record YTD Q3 2021.

Operating expenses remained broadly flat compared with YTD Q3 2021, as higher cash incentives relating to new products were mostly offset by lower Listing Division allocated costs.



⁷ Excludes London Metal Mini Futures, Gold Futures, Silver Futures and Iron Ore Futures contracts (which are included under the Commodities segment)

Business Update

Driven by increased popularity of the newly launched products and increase in cross product trading activities, ADV of derivatives contracts⁷ traded in YTD Q3 2022 reached a record nine-month high of 668,729 contracts, 26 per cent higher than YTD Q3 2021. In addition, the ADV of contracts⁷ traded during AHT reached a record nine-month high of 107,403 contracts in YTD Q3 2022.

Several single-day records in volumes and open interest (OI) were achieved during Q3 2022:

Single-day trading volume		
	Date (2022)	Number of contracts
Hang Seng TECH Index Futures	26 Sept	251,971
Hang Seng China Enterprises Index (HSCEI) Futures Options	30 Sept	47,991

Open interest		
	Date (2022)	Number of contracts
HSCEI Futures Options	15 Sept	631,628
Hang Seng TECH Index Futures	27 Sept	164,394
HSI Futures Options	30 Sept	85,664
Mini HSCEI Options	28 Sept	48,107
Hang Seng TECH Index Options	28 Sept	33,462
Mini HSI Futures	29 Sept	31,150
Weekly HSI Options	9 Sept	16,283

Key Market Indicators	YTD Q3	
	2022	2021
ADT of DWs, CBBCs and warrants traded on the Stock Exchange (\$bn)	16.7	20.7
Average daily number of trades of DWs, CBBCs and warrants traded on the Stock Exchange ('000)	358	431
ADV of derivatives contracts traded on the Futures Exchange ¹ ('000 contracts)	669³	532
ADV of stock options contracts traded on the Stock Exchange ('000 contracts)	570	681
Number of newly listed DWs	9,125	12,644
Number of newly listed CBBCs	26,415	32,733
ADV of contracts traded during After-Hours Trading (AHT) ¹ ('000 contracts)	107³	66
Number of trading days ²	184	185
	At	At
	30 Sept 2022	30 Sept 2021
Open interest of futures and options contracts ¹ ('000 contracts)	11,044	12,317

1 Excludes London Metal Mini Futures, Gold Futures, Silver Futures and Iron Ore Futures contracts (which are included under the Commodities segment)
2 Excludes 4 holiday trading days (YTD Q3 2021: nil)
3 New record high for YTD Q3

Hang Seng TECH Index Futures posted record high single-day trading volume and OI on 26 September 2022 and 27 September 2022 respectively. Although Q3 2022 ADV decreased by 15 per cent compared with Q2 2022 to 65,657 contracts, reflecting lower summer trading volumes, the ADV in YTD Q3 2022 was fivefold the ADV in YTD Q3 2021, reaching 65,182 contracts, reflecting the popularity in this still relatively new derivative product.

The trading fee waiver on the MSCI China A 50 Connect (USD) Index Futures has been replaced by a 50 per cent market-wide trading fee discount effective 1 July 2022. In Q3 2022, ADV decreased by 11 per cent compared with last quarter, reaching 16,163 contracts, again affected by lower summer trading volumes. Despite that, ADV reached 18,564 contracts in YTD Q3 2022, a 61 per cent increase against ADV during the period since launch (18 October 2021) to 31 December 2021.

The two physically-settled Options on Futures Contracts celebrated their first anniversary on 23 August 2022, and since then have continued to gain traction. The aggregate OI for the two products was 702,791 contracts as at 30 September 2022, an increase of over six times compared with their open interest of 90,201 contracts as at the end of 2021; with HSI Futures Options achieving a record high of 85,664 contracts on 30 September 2022 and HSCEI Futures Options achieving 631,628 contracts on 15 September 2022. The aggregate ADV of the two products was 16,647 contracts in YTD Q3 2022, more than quadrupled compared with ADV during the period since launch on 23 August 2021 to 31 December 2021. The addition of the new contracts further enhances HKEX's derivatives product suite and adds to the breadth and depth of Hong Kong's markets.

September 2022 marks the 10 year anniversary of USD/CNH Futures, the world's first deliverable RMB currency futures. The trading volume and OI of RMB currency derivatives, especially

USD/CNH futures and cash-settled Mini USD/CNH Futures, continued to grow in Q3 2022 due to stronger demand for currency risk management tools amid the volatile currency market. The number of USD/CNH Futures contracts traded in YTD Q3 2022 exceeded two million contracts, the first time ever for the first nine months of a year; and ADV of the contract reached 12,438 contracts during YTD Q3 2022, up 95 per cent compared with YTD Q3 2021.

On 2 September 2022, HKEX announced plans to revise the T Session closing hour and T+1 Session opening hour for selected MSCI Price Return, MSCI Net Total Return and Currency Futures and Options. The initiative aims to support investors as they look to capture the changes in the underlying market movements in the same trading session without interruption, so as to better manage their exposures. The scheduled launch date is in Q4 2022, subject to regulatory approval.

In view of the increasing liquidity and volatility of the Hang Seng TECH Index Futures market, the Futures Exchange applied Volatility Control Mechanism and Dynamic Price Banding Mechanism to the market effective from 17 October 2022. These mechanisms are designed to protect the market from extreme volatility and prevent potential market disruption caused by error orders with prices significantly deviated from prevailing market.

With the recent inclusion of the MSCI China A 50 Connect Index in the eligible list for DW issuance, HKEX welcomed the listing of Hong Kong’s first A-share structured products, MSCI China A 50 Connect Index Derivative Warrants, in August 2022. The product offers investors a capital efficient China A-share risk management tool, marking a significant milestone in the development of Hong Kong’s A-share ecosystem. In Q3 2022, six issuers participated in the issuance and issued 54 MSCI China A 50 Connect Index DWs, with ADT of \$1.5 million.

Issuers have also started to diversify their product offering by issuing CBBCs on US indices, with 39 US Index CBBCs listed in Q3 2022. US underlying structured products have seen tremendous growth, with 282 newly listed during YTD Q3 2022 (YTD Q3 2021: 60).

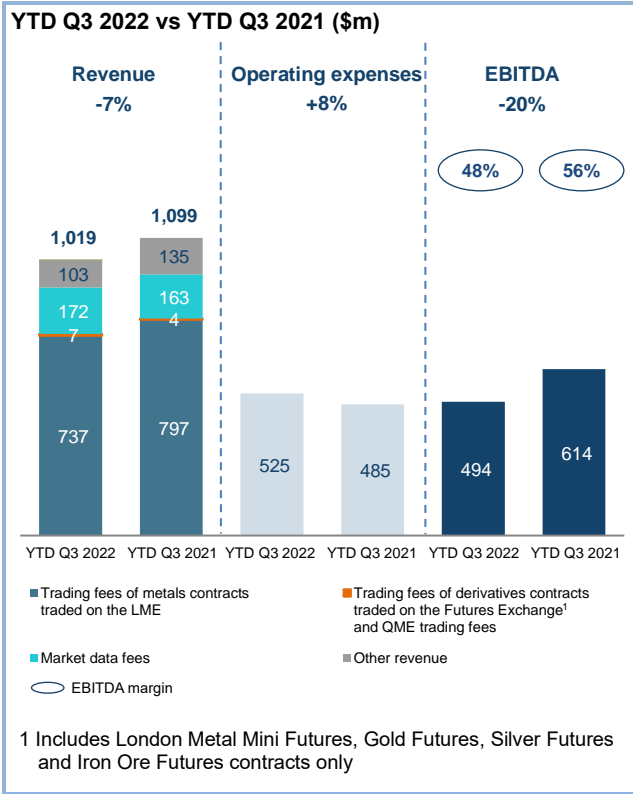
Commodities Segment

Analysis of Results

Revenue was down 7 per cent and EBITDA was down 20 per cent compared with YTD Q3 2021.

LME trading fees decreased by \$60 million (8 per cent) due to the 6 per cent decrease in chargeable ADV of metals contracts traded in YTD Q3 2022, and lower average fee per contract.

Operating expenses increased by 8 per cent, primarily due to legal and professional fees associated with claims and independent reviews relating to the nickel market.



Business Update

On 19 September 2022, the LME's first Ring trading session did not take place during the funeral of Her Majesty Queen Elizabeth II, as a mark of respect. The LME's market remained open for the remainder of this day, reflecting the international nature of its market and alignment with other markets around the world. The LME was honoured to donate all trading fees received on 19 September to charities of which Her Majesty was a patron.

Since the unprecedented events in the nickel market on 8 March 2022, the LME has put in place several measures to ensure the orderly resumption of nickel trading. These include the application of daily upper and lower price limits for outright nickel contracts (as well as in all base metals contracts); improved visibility of both on-exchange and over-the-counter (OTC) client positions in nickel; and additional reporting in relation to aggregate on-exchange and OTC nickel positions. The LME has separately commissioned an independent review by Oliver Wyman, the findings of which are expected to be published in Q4 2022.

Following a consultation with market users, the LME has introduced a weekly OTC position reporting framework for all LME physically delivered metals, and the extension of accountability levels to all reportable OTC positions. Both of these changes were effective from 5 September 2022.

Growth of sustainability metrics disclosed on the LMEpassport platform, the LME's digital credential register, has continued throughout the year. In addition, the scope of sustainability metrics supported by the platform expanded to over 25 approved disclosures. Further functionality enhancements related to increasing the platform's sustainability reporting capabilities will be completed in Q4 2022. Disclosure of Certificate of Analysis (CoA) information on the LMEpassport platform also continued to grow, with 77 entities now registered, and more than 1.7 million CoA records created in the system.

As of 30 September 2022, over 96 per cent of LME listed brands complied with the first reporting deadline for the LME's responsible sourcing rules – a set of requirements that aims to ensure that all LME-listed brands (those listed for good delivery) meet globally accepted standards for responsible sourcing across all the LME's physically settled contracts. Those not complying would be suspended or delisted depending on their situation.

In Hong Kong, USD Gold Futures volumes grew substantially, with 295,752 contracts traded in YTD Q3 2022, compared with 14,908 contracts traded in YTD Q3 2021. On 5 August 2022, there was a further enhancement to the Maximum Fluctuation Price Band Mechanism for the USD/CNH London Metal Mini Futures Contracts to facilitate a better price discovery process with minimal disruption to participants' operations. If the deviation between the T Session closing price at HKEX and the latest LME closing price exceeds 5 per cent, HKEX will use the LME closing price as the reference price to determine the next day's price band range. The enhancement is especially useful when there is significant price movement on the London Metal Mini Futures during Hong Kong public holidays.

Key Market Indicators	YTD Q3	
	2022	2021
ADV of metals contracts traded on the LME ('000 lots)		
Aluminium	214	228
Copper	118	123
Zinc	87	84
Nickel	52	64
Lead	38	41
Others	6	5
Total chargeable ADV excluding Admin Trades ¹	515	545
Chargeable Admin Trades ¹	29	25
Other non-chargeable trades	-	1
Total ADV	544	571
Number of trading days	188	189
	At	At
	30 Sept 2022	30 Sept 2021
Total futures market open interest ('000 lots)	1,524	1,789
1 Admin Trades are chargeable at a lower fee rate of US\$0.04 per contract.		

Post Trade Segment

Analysis of Results

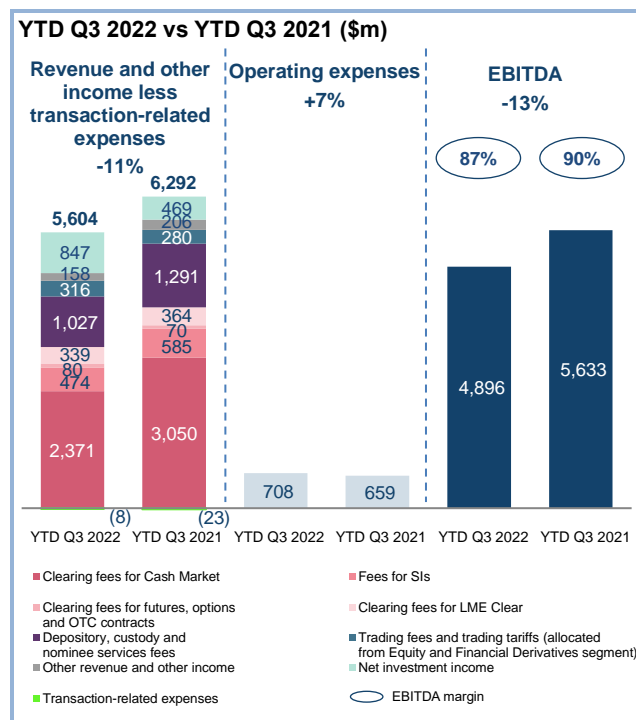
Revenue and other income, less transaction-related expenses, was down 11 per cent; and EBITDA was down 13 per cent compared with YTD Q3 2021.

Clearing and settlement fees for the Cash Market and for Settlement Instructions (SIs) decreased by 22 per cent and 19 per cent respectively. The decreases were primarily due to the lower number of transactions during the period, and lower clearing fees from Stock Connect Northbound Trading of \$632 million (YTD Q3 2021: \$827 million).

Depository, custody and nominee services fees decreased from \$1,291 million in YTD Q3 2021 to \$1,027 million in YTD Q3 2022, mainly due to a decrease in e-IPO service fees from a lower number of e-IPO applications.

Net investment income increased by \$378 million (81 per cent) compared with YTD Q3 2021. This reflected the higher average Margin Fund sizes, and the higher HKD and USD deposit rates in YTD Q3 2022; this was partly offset by the increase in interest rebates paid to the Participants.

The analysis of net investment income is as follows:



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The analysis of net investment income is as follows:

	YTD Q3 2022				Total \$m
	HK Clearing Houses		LME Clear		
	Margin Funds \$m	Clearing House Funds \$m	Margin Funds \$m	Clearing House Funds \$m	
Net investment income from:					
- Cash and bank deposits	592	17	104	16	729
- Debt securities	72	13	31	-	116
- Exchange gains	2	-	-	-	2
Total net investment income	666	30	135	16	847
Average fund size (\$bn)	114.2	10.3	119.2	13.7	257.4
Annualised net investment return	0.78%	0.39%	0.15%	0.16%	0.44%

	YTD Q3 2021				Total \$m
	HK Clearing Houses		LME Clear		
	Margin Funds \$m	Clearing House Funds \$m	Margin Funds \$m	Clearing House Funds \$m	
Net investment income from:					
- Cash and bank deposits	365	4	59	9	437
- Debt securities	27	1	4	-	32
Total net investment income	392	5	63	9	469
Average fund size (\$bn)	105.7	10.8	84.1	11.8	212.4
Annualised net investment return	0.49%	0.06%	0.10%	0.10%	0.29%

Operating expenses increased by 7 per cent, due to higher investment and custodian fees charged for LME Clear Margin Funds; and higher legal and professional fees incurred for claims and independent reviews relating to the nickel market.

Business Update

A joint announcement was made on 4 July 2022 by the People's Bank of China (PBoC), the SFC and the Hong Kong Monetary Authority (HKMA) on the collaboration between HKEX, China Foreign Exchange Trade System (CFETS) and Shanghai Clearing House (SHCH) to develop Swap Connect, a new mutual access programme between Hong Kong and Mainland China's interbank interest rate swap markets. Swap Connect is the next significant milestone in progressing the further development and connectivity between Hong Kong and Mainland China's financial markets, promoting the sustainable growth of both markets, and further enhancing Hong Kong's status as an international financial centre.

OTC Clear's USD/CNH Cross Currency Swaps (CCS) clearing volume in YTD Q3 2022 remained strong, with clearing volume of US\$88.9 billion, an increase of 123 per cent compared with YTD Q3 2021. With increased demand for Deliverable FX (DFX) clearing, DFX clearing volume grew significantly and reached US\$12.3 billion in YTD Q3 2022, compared with US\$2.7 billion cleared in YTD Q3 2021.

Key Market Indicators	YTD Q3	
	2022	2021
ADT traded on the Stock Exchange ¹ (\$bn)	124.1	180.3
Average daily number of Stock Exchange trades ('000)	2,099	2,482
Average daily value of SIs for Stock Exchange trades (\$bn)	300.7	427.0
Average daily number of SIs for Stock Exchange trades ('000)	113	131
ADT of Northbound Trading of Stock Connect ¹ (RMBbn)	101.3	123.2
Average daily value of SIs for Northbound Trading of Stock Connect (RMBbn)	27.4	32.3
Chargeable ADV ² of metals contracts traded on the LME ('000 lots)	515	545

1 Includes buy and sell trades under Stock Connect
2 Chargeable ADV excludes Admin Trades (which are chargeable at a lower clearing fee rate of US\$0.02 per contract) and other non-chargeable trades.

Technology Segment

Analysis of Results

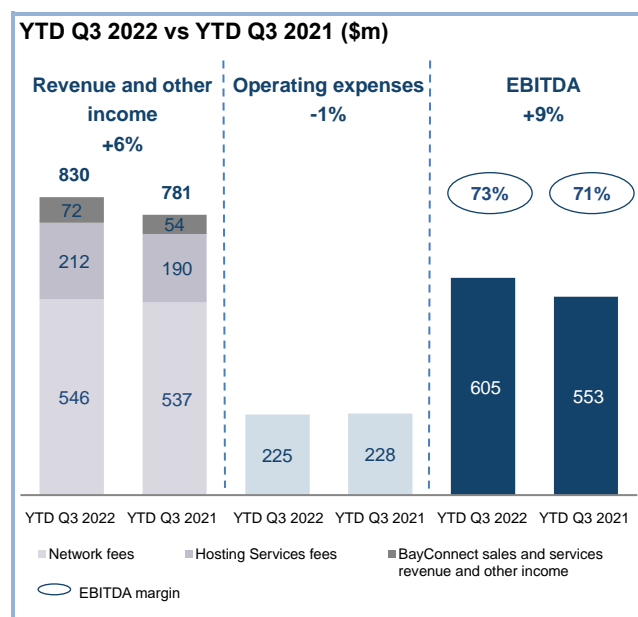
Revenue and other income was up 6 per cent and EBITDA was up 9 per cent compared with YTD Q3 2021.

During YTD Q3 2022, network fees rose by 2 per cent, as increased usage of the Orion Central Gateway and China Connect Central Gateway by Exchange Participants mostly offset the lower fees from the sale of new throttles.

Hosting Services fees rose by 12 per cent due to growth in both new customer subscriptions and increased usage by existing customers.

Business Update

During Q3 2022, despite market volatility and challenges posed by the pandemic on work arrangements, all of HKEX's major trading, clearing, settlement and market data dissemination systems for the Cash, Derivatives and Commodities Markets continued to perform well.



To support the new Hong Kong Investor Identification Regime (HKIDR), HKEX is enhancing the Electronic Communication Platform (ECP) and Orion Trading Platform – Securities Market (OTP-C) to facilitate the submission of investor information required for securities trading under HKIDR. Related system development and end-to-end testing with market participants have been completed successfully. Market rehearsals will be conducted in Q4 2022.

Hosting Services is fitting out a new data hall to meet customer demand and enrich HKEX's hosting product portfolio. The new data hall will be ready for service in Q4 2022.

Corporate Items

"Corporate Items" is not a business segment but comprises central income (including net investment income of Corporate Funds and HKEX Foundation donation income), the cost of central support functions that provide services to all operating segments, HKEX Foundation charitable donations and other costs not directly related to any operating segments.

Analysis of Results

	YTD Q3 2022 \$m	YTD Q3 2021 \$m
Net investment (loss)/income	(424)	460
HKEX Foundation donation income	77	113
Others	9	8
Total revenue and other income	(338)	581
Operating expenses:		
- HKEX Foundation charitable donations	(119)	(89)
- Others	(1,129)	(905)
EBITDA	(1,586)	(413)

The analysis of net investment (loss)/income of Corporate Funds is as follows:

	YTD Q3 2022 \$m	YTD Q3 2021 \$m
Net investment (loss)/income from:		
- External Portfolio	(659)	298
- Cash and bank deposits	236	129
- Equity securities ¹	(26)	5
- Debt securities	9	-
- Exchange gains	16	28
Total net investment (loss)/income	(424)	460
Average fund size (\$bn)	34.3	34.6
Annualised net investment return	(1.65%)	1.77%

¹ Investments in minority stakes of unlisted companies

Net investment loss on Corporate Funds was \$424 million, compared with net investment income of \$460 million in YTD Q3 2021. This was attributable to net fair value losses on the External Portfolio, partly offset by the higher interest income from internally-managed Corporate Funds, reflecting higher deposit rates in YTD Q3 2022.

Inflation, interest rate hike expectations and slowing global growth, together with continued geopolitical fragility triggered a sharp repricing in global assets in 2022. As a result, the External Portfolio had net fair value losses of \$659 million in YTD Q3 2022, as opposed to the net fair value gains of \$298 million in YTD Q3 2021.

Strategy	YTD Q3 2022	YTD Q3 2021
	\$m	\$m
Public Equities	(410)	144
Diversifiers	(43)	145
Government Bonds and Mortgage-backed Securities	(206)	9
Total	(659)	298

As at 30 September 2022, the amounts invested in the External Portfolio amounted to \$6.4 billion, a decrease of 27 per cent against 31 December 2021, reflecting net redemptions made during YTD Q3 2022, as well as fair value losses of \$659 million:

Strategy	At	At	Change
	30 Sept 2022	31 Dec 2021	
	\$m	\$m	
Public Equities	944	1,774	(47%)
Diversifiers	4,141	4,949	(16%)
Government Bonds and Mortgage-backed Securities	1,332	2,020	(34%)
Total	6,417	8,743	(27%)

In Q3 2022, as part of HKEX's External Portfolio de-risking commitments, \$1.8 billion was redeemed from the External Portfolio. A further \$0.2 billion will be redeemed in Q4 2022. The redemption proceeds will be invested internally with the rest of the Corporate Funds and will reduce the impact of market volatility of HKEX quarterly earnings.

Excluding HKEX Foundation charitable donation expenses (funded by HKEX Foundation income), operating expenses increased by 25 per cent against YTD Q3 2021 due to increased staff costs from increased headcount for strategic projects and higher recruitment costs.

Business Update

In Q3 2022, HKEX continued to play an active role in shaping the long-term sustainability of global financial markets. HKEX's promotion of good corporate governance and ESG stewardship, through ongoing industry knowledge sharing and leadership on best practices, has been a cornerstone of our outreach during the quarter. In July 2022, we hosted the HKEX ESG Academy webinar series, bringing together industry experts to discuss the updated Corporate Governance Code.

As part of our commitment to facilitating the global economy's low-carbon transition, HKEX has focused on the ongoing development of sustainable and green finance offerings through HKEX's STAGE, as well as through market education and active engagement with regulators, industrial practitioners, professional bodies and other stakeholders in Q3 2022. In July 2022, HKEX launched the Hong Kong International Carbon Market Council, partnering with leading corporates and financial institutions to explore carbon opportunities in the region.

HKEX Foundation Limited (HKEX Foundation), HKEX's dedicated charitable channel, continued to support key initiatives and those in need across our communities via the HKEX Charity Partnership Programme and the HKEX Impact Funding Scheme. Focusing on four key areas: Financial Literacy, Diversity and Inclusion, Poverty Relief and Environmental Sustainability, we seek to drive meaningful change. During YTD Q3 2022, HKEX Foundation made total charitable donations of \$119 million to different charitable causes.

FINANCIAL REVIEW

Financial Assets and Financial Liabilities of Margin Funds and Clearing House Funds

Margin Fund deposits of \$203.2 billion at 30 September 2022 were broadly flat compared with 31 December 2021 (\$203.5 billion). The decrease in contributions required from Clearing Participants (CPs) of LME Clear, SEOCH and HKSCC was mostly offset by higher contributions from HKCC and OTC Clear CPs. Clearing House Fund contributions rose from \$19.2 billion at 31 December 2021 to \$24.5 billion at 30 September 2022, due to the increase in contributions required from LME Clear CPs in response to changes in risk exposures. Funds received were invested in cash and cash equivalents and financial assets.

Capital Expenditure and Commitments

During YTD Q3 2022, the Group incurred capital expenditure⁸ of \$773 million (YTD Q3 2021: \$723 million) mainly related to the development and upgrade of various trading and clearing systems (notably trading systems for Commodities Market), and the development of a new data hall for Hosting Services. The Group's capital expenditure commitments at 30 September 2022, including those authorised by the Board but not yet contracted for, amounted to \$561 million (31 December 2021: \$815 million). They were mainly related to the development and upgrade of IT systems including the cash, derivatives and commodities trading and clearing systems, and the development of a new data hall for Hosting Services.

Contingent Liabilities

At 30 September 2022, there were no significant changes in the Group's contingent liabilities compared with 31 December 2021, except the material litigation as described below.

At 30 September 2022, the LME and LME Clear have been named as defendants in two judicial review claims filed in the English High Court.

On 8 March 2022, the LME, in consultation with LME Clear, suspended trading in all nickel contracts with effect from 08:15 UK time, and cancelled all trades executed on or after 00:00 UK time on 8 March. This decision to suspend trading was taken because the nickel market had become disorderly. Cancellations were made retrospectively to take the market back to the last point in time at which the LME could be confident that the market was operating in an orderly manner. It should be stressed that the LME always acted in the interests of the market as a whole.

The claims seek to challenge the LME's decision to cancel the claimants' alleged trades in nickel contracts executed on or after 00:00 UK time on 8 March 2022. The claimants have alleged that this was unlawful on public law grounds and/or constituted a violation of their human rights. As the judicial reviews are still at an early stage, the LME does not currently have sufficient information to estimate the financial effect (if any) of the claims, the timing of the ultimate resolution of the proceedings, or what the eventual outcomes might be. However, the LME management is of the view that the claims are without merit and the LME will contest them vigorously. Accordingly, no provision has been made in these condensed consolidated financial statements.

Separately, on 8 September 2022, five applicants (not involved in the above judicial review claims) issued a claim form and application notice, seeking pre-action disclosure from LME and LME Clear. At this stage the five applicants are only seeking an order from the Court for pre-action disclosure of documents and information in relation to the decision by LME to suspend and cancel all trades executed after 00:00 UK time on 8 March 2022. LME and LME Clear intend to resist the application. No provision has been made in these condensed consolidated financial statements in respect of this claim.

⁸ Exclude right-of-use assets recognised under HKFRS 16: Leases

Pledges of Assets

LME Clear receives securities and gold bullion as non-cash collateral for margins posted by its CPs. The total fair value of this non-cash collateral was US\$588 million (HK\$4,614 million) at 30 September 2022 (31 December 2021: US\$971 million (HK\$7,570 million)). LME Clear is obliged to return this non-cash collateral upon request when the CPs' collateral obligations have been substituted with cash collateral or otherwise discharged. LME Clear is permitted to sell or pledge such collateral in the event of the default of a CP. Any non-cash collateral lodged at central securities depositories or custodians is subject to a lien or pledge for the services they provide in respect of the collateral held.

LME Clear also holds securities as collateral in respect of its investments in overnight triparty reverse repurchase agreements under which it is obliged to return equivalent securities to the counterparties at maturity of the reverse repurchase agreements. The fair value of this collateral was US\$13,871 million (HK\$108,886 million) at 30 September 2022 (31 December 2021: US\$13,513 million (HK\$105,351 million)). Such non-cash collateral, together with certain financial assets amounting to US\$622 million (HK\$4,883 million) at 30 September 2022 (31 December 2021: US\$400 million (HK\$3,117 million)), have been pledged to LME Clear's investment agent and custodian banks under security arrangements for the settlement and depository services they provide in respect of the collateral and investments held.

Non-cash collateral is not recorded on the consolidated statement of financial position of the Group.

Changes since 31 December 2021

There were no other significant changes in the Group's financial position, or from the information disclosed under Management Discussion and Analysis in the annual report for the year ended 31 December 2021.

It is the Group's practice to declare a dividend only at the half-year and year-end and no dividend will be proposed for Q3 2022 (Q3 2021: \$Nil).

Review of Financial Statements

The Audit Committee has reviewed the Group's Unaudited Condensed Consolidated Financial Statements for the nine months ended 30 September 2022.

CONDENSED CONSOLIDATED INCOME STATEMENT (UNAUDITED)

	Nine months ended 30 Sept 2022 \$m	Nine months ended 30 Sept 2021 \$m	Three months ended 30 Sept 2022 \$m	Three months ended 30 Sept 2021 \$m
Trading fees and trading tariffs	5,066	6,227	1,513	2,103
Clearing and settlement fees	3,264	4,069	973	1,397
Stock Exchange listing fees	1,453	1,629	459	562
Depository, custody and nominee services fees	1,027	1,291	380	402
Market data fees	809	777	263	265
Other revenue	1,107	1,167	350	381
Revenue	12,726	15,160	3,938	5,110
Net investment income	423	929	334	155
HKEX Foundation donation income	77	113	40	39
Sundry income	29	16	6	5
Revenue and other income	13,255	16,218	4,318	5,309
Less: Transaction-related expenses	(130)	(118)	(43)	(37)
Revenue and other income less transaction-related expenses	13,125	16,100	4,275	5,272
Operating expenses				
Staff costs and related expenses	(2,498)	(2,252)	(831)	(757)
IT and computer maintenance expenses	(539)	(504)	(176)	(166)
Premises expenses	(88)	(87)	(30)	(30)
Product marketing and promotion expenses	(79)	(64)	(29)	(28)
Professional fees	(157)	(71)	(80)	(23)
HKEX Foundation charitable donations	(119)	(89)	(63)	(20)
Other operating expenses	(267)	(262)	(82)	(84)
	(3,747)	(3,329)	(1,291)	(1,108)
EBITDA	9,378	12,771	2,984	4,164
Depreciation and amortisation	(1,072)	(1,006)	(355)	(344)
Operating profit	8,306	11,765	2,629	3,820
Finance costs	(105)	(116)	(32)	(39)
Share of profits less losses of joint ventures	56	58	14	20
Profit before taxation	8,257	11,707	2,611	3,801
Taxation	(1,160)	(1,880)	(343)	(563)
Profit for the period	7,097	9,827	2,268	3,238
Profit/(loss) attributable to:				
- Shareholders of HKEX	7,099	9,861	2,263	3,251
- Non-controlling interests	(2)	(34)	5	(13)
Profit for the period	7,097	9,827	2,268	3,238
Basic earnings per share	\$5.61	\$7.79	\$1.79	\$2.57
Diluted earnings per share	\$5.60	\$7.78	\$1.79	\$2.56

CONDENSED CONSOLIDATED STATEMENT OF COMPREHENSIVE INCOME (UNAUDITED)

	Nine months ended 30 Sept 2022 \$m	Nine months ended 30 Sept 2021 \$m	Three months ended 30 Sept 2022 \$m	Three months ended 30 Sept 2021 \$m
Profit for the period	7,097	9,827	2,268	3,238
Other comprehensive income				
Items that may be reclassified subsequently to profit or loss:				
Currency translation differences of foreign subsidiaries	24	68	(42)	39
Cash flow hedges, net of tax	(14)	(6)	3	(4)
Changes in fair value of financial assets measured at fair value through other comprehensive income, net of tax	(340)	13	(93)	3
Other comprehensive (loss)/income	(330)	75	(132)	38
Total comprehensive income	6,767	9,902	2,136	3,276
Total comprehensive income/(loss) attributable to:				
- Shareholders of HKEX	6,779	9,935	2,137	3,289
- Non-controlling interests	(12)	(33)	(1)	(13)
Total comprehensive income	6,767	9,902	2,136	3,276

CONDENSED CONSOLIDATED STATEMENT OF FINANCIAL POSITION (UNAUDITED)

	At 30 Sept 2022			At 31 Dec 2021		
	Current \$m	Non-current \$m	Total \$m	Current \$m	Non-current \$m	Total \$m
Assets						
Cash and cash equivalents	175,403	-	175,403	181,361	-	181,361
Financial assets measured at fair value through profit or loss	117,552	805	118,357	99,915	946	100,861
Financial assets measured at fair value through other comprehensive income	12,291	-	12,291	9,755	-	9,755
Financial assets measured at amortised cost	58,733	210	58,943	51,302	526	51,828
Accounts receivable, prepayments and deposits	23,146	21	23,167	32,717	21	32,738
Tax recoverable	-	-	-	19	-	19
Interests in joint ventures	-	276	276	-	244	244
Goodwill and other intangible assets	-	19,015	19,015	-	18,972	18,972
Fixed assets	-	1,582	1,582	-	1,605	1,605
Right-of-use assets	-	1,677	1,677	-	1,896	1,896
Deferred tax assets	-	88	88	-	25	25
Total assets	387,125	23,674	410,799	375,069	24,235	399,304
Liabilities and equity						
Liabilities						
Financial liabilities at fair value through profit or loss	111,297	-	111,297	91,424	-	91,424
Margin deposits, Mainland security and settlement deposits, and cash collateral from CPs	203,212	-	203,212	203,536	-	203,536
Accounts payable, accruals and other liabilities	18,283	-	18,283	28,335	-	28,335
Deferred revenue	510	341	851	1,100	354	1,454
Taxation payable	1,864	-	1,864	1,153	-	1,153
Other financial liabilities	35	-	35	513	-	513
CPs' contributions to Clearing House Funds	24,483	-	24,483	19,182	-	19,182
Lease liabilities	303	1,502	1,805	299	1,760	2,059
Borrowings	340	89	429	340	86	426
Provisions	99	95	194	82	98	180
Deferred tax liabilities	-	1,073	1,073	-	1,132	1,132
Total liabilities	360,426	3,100	363,526	345,964	3,430	349,394
Equity						
Share capital			31,896			31,896
Shares held for Share Award Scheme			(858)			(901)
Employee share-based compensation reserve			492			306
Hedging and revaluation reserves			(339)			15
Exchange reserve			(83)			(117)
Designated reserves			641			623
Reserve relating to written put options to non-controlling interests			(369)			(369)
Retained earnings			15,621			18,173
Equity attributable to shareholders of HKEX			47,001			49,626
Non-controlling interests			272			284
Total equity			47,273			49,910
Total liabilities and equity			410,799			399,304
Net current assets			26,699			29,105

NOTES TO THE CONDENSED CONSOLIDATED FINANCIAL STATEMENTS (UNAUDITED)

1. Basis of Preparation and Accounting Policies

Except as described below, the accounting policies and methods of computation used in the preparation of these unaudited condensed consolidated financial statements are consistent with those used in the annual consolidated financial statements for the year ended 31 December 2021.

Adoption of new/revised Hong Kong Financial Reporting Standards (HKFRSs)

In 2022, the Group has adopted the following amendments to HKFRSs which are pertinent to the Group's operations:

Amendments to HKAS 16	Property, Plant and Equipment: Proceeds before Intended Use ²
Amendments to HKAS 37	Provisions, Contingent Liabilities and Contingent Assets: Onerous Contracts – Cost of Fulfilling a Contract ²
Amendments to HKFRS 3	Business combinations: Reference to the Conceptual Framework ²
Amendments to HKFRS 16	Leases: COVID-19-Related Rent Concessions beyond 30 June 2021 ¹
Annual Improvements to HKFRSs 2018-2020:	
Amendments to HKFRS 9	Financial Instruments: Fees in the “10 per cent” Test for Derecognition of Financial Liabilities ²
Amendments to Illustrative Examples accompanying HKFRS 16	Leases: Lease Incentives ²

¹ Effective for accounting periods beginning on or after 1 April 2021

² Effective for accounting periods beginning on or after 1 January 2022

The adoption of these amendments did not have any financial impact on the Group.

During the nine months ended 30 September 2022, the estimated useful lives of other computer hardware and software within fixed assets were revised from “three years” to “three to five years” to better reflect the useful life of the assets. The effect of the change in accounting estimate during the period was a decrease in depreciation charge of \$24 million.

The financial information relating to the year ended 31 December 2021 that is included in this Quarterly Results Announcement as comparative information does not constitute the statutory annual consolidated financial statements of the Company for that year but is derived from those consolidated financial statements. Further information relating to these statutory financial statements required to be disclosed in accordance with section 436 of the Hong Kong Companies Ordinance (Chapter 622) is as follows:

The Company has delivered the consolidated financial statements for the year ended 31 December 2021 to the Registrar of Companies as required by section 662(3) of, and Part 3 of Schedule 6 to, the Hong Kong Companies Ordinance (Chapter 622).

The Company's auditor has reported on those consolidated financial statements. The auditor's report was unqualified; did not include a reference to any matters to which the auditor drew attention by way of emphasis without qualifying its report; and did not contain a statement under sections 406(2), 407(2) or (3) of the Hong Kong Companies Ordinance (Chapter 622).

By Order of the Board
Hong Kong Exchanges and Clearing Limited
David Fu
Group Company Secretary

Hong Kong, 19 October 2022

As at the date of this announcement, HKEX's Board of Directors comprises 12 Independent Non-executive Directors, namely Mrs Laura May-Lung CHA (Chairman), Mr Nicholas Charles ALLEN, Mr Apurv BAGRI, Mr CHEAH Cheng Hye, Ms CHEUNG Ming Ming, Anna, Mrs CHOW WOO Mo Fong, Susan, Mr Rafael GIL-TIENDA, Mr HUNG Pi Cheng, Benjamin, Ms LEUNG Nisa Bernice Wing-Yu, Mr LEUNG Pak Hon, Hugo, Mr YIU Kin Wah, Stephen and Mr ZHANG Yichen, and one Executive Director, Mr Alejandro Nicolas AGUZIN, who is also the Chief Executive of HKEX.

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

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.

published by ESMA on its website www.esma.europa.eu in accordance with the EU CRA Regulation. 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		
	30.9.22	30.9.21	31.12.21	31.12.20	31.12.19
<i>USD million, except where indicated</i>					
	<i>unaudited</i>		<i>audited, except where indicated</i>		
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
<i>of which: customer deposits</i>	498,239		544,834	527,929	450,591
<i>of which: debt issued measured at amortized cost</i>	55,425		82,432	85,351	62,835
<i>of which: subordinated debt</i>	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
<i>of which: debt issued designated at fair value</i>	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 Trelia 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.
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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.

<p>Naureen Hassan</p> <p>UBS AG, 1285 Avenue of the Americas, New York, NY 10019 USA</p>	<p>President UBS Americas</p>	<p>Member of the Group Executive Board and President UBS Americas of UBS Group AG; CEO of UBS Americas Holding LLC.</p>
<p>Robert Karofsky</p> <p>UBS AG, 1285 Avenue of the Americas, New York, NY 10019, USA</p>	<p>President Investment Bank</p>	<p>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.</p>
<p>Iqbal Khan</p> <p>UBS AG, Bahnhofstrasse 45, CH-8001 Zurich</p>	<p>President Global Wealth Management and President UBS Europe, Middle East and Africa</p>	<p>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.</p>
<p>Edmund Koh</p> <p>UBS AG, One Raffles Quay North Tower, Singapore 048583</p>	<p>President UBS Asia Pacific</p>	<p>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.</p>
<p>Barbara Levi</p> <p>UBS AG, Bahnhofstrasse 45, CH-8001 Zurich</p>	<p>General Counsel</p>	<p>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.</p>
<p>Markus Ronner</p> <p>UBS AG, Bahnhofstrasse 45, CH-8001 Zurich</p>	<p>Chief Compliance and Governance Officer</p>	<p>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.</p>
<p>Sarah Youngwood</p> <p>UBS AG, Bahnhofstrasse 45, CH-8001 Zurich</p>	<p>Chief Financial Officer</p>	<p>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.</p>

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

USD m	Note	For the quarter ended			Year-to-date	
		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

USD m	For the quarter ended			Year-to-date	
	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)
<i>of which: other comprehensive income that may be reclassified to the income statement</i>	<i>(2,257)</i>	<i>(1,370)</i>	<i>(493)</i>	<i>(6,312)</i>	<i>(1,992)</i>
<i>of which: other comprehensive income that will not be reclassified to the income statement</i>	<i>504</i>	<i>361</i>	<i>(106)</i>	<i>1,416</i>	<i>(46)</i>
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
<i>of which: assets pledged as collateral that may be sold or repledged by counterparties</i>		<i>26,810</i>	<i>33,830</i>	<i>43,397</i>
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

<i>USD m</i>	Share capital and share premium	Retained earnings	OCI recognized directly in equity, net of tax ¹	<i>of which: foreign currency translation</i>	<i>of which: cash flow hedges</i>	Total equity attributable to shareholders
Balance as of 1 January 2022²	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
<i>of which: net profit / (loss)</i>		5,566				5,566
<i>of which: OCI, net of tax</i>		1,444	(6,312)	(1,405)	(5,018)	(4,868)
Balance as of 30 September 2022²	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 2021²	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
<i>of which: net profit / (loss)</i>		5,777				5,777
<i>of which: OCI, net of tax</i>		(34)	(1,992)	(601)	(1,254)	(2,026)
Balance as of 30 September 2021²	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	
<i>USD m</i>	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 period³	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 (BUSAs).

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

<i>USD m</i>	Global Wealth Management	Personal & Corporate Banking	Asset Management	Investment Bank	Group Functions	UBS AG
For the nine months ended 30 September 2022¹						
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 2022¹						
Total assets	384,057	217,409	15,968	426,064	68,427	1,111,926
For the nine months ended 30 September 2021¹						
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 2021¹						
Total assets²	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

USD m	For the quarter ended			Year-to-date	
	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

USD m	For the quarter ended			Year-to-date	
	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 income¹	4,971	5,235	6,124	16,074	18,369
<i>of which: recurring</i>	<i>3,453</i>	<i>3,593</i>	<i>3,951</i>	<i>10,905</i>	<i>11,395</i>
<i>of which: transaction-based</i>	<i>1,504</i>	<i>1,632</i>	<i>2,139</i>	<i>5,126</i>	<i>6,803</i>
<i>of which: performance-based</i>	<i>14</i>	<i>10</i>	<i>34</i>	<i>43</i>	<i>171</i>
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

USD m	For the quarter ended			Year-to-date	
	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

USD m	For the quarter ended			Year-to-date	
	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
<i>of which: shared services costs charged by UBS Group AG or its subsidiaries</i>	<i>1,237</i>	<i>1,348</i>	<i>1,288</i>	<i>3,975</i>	<i>3,957</i>
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.

Note 9 Expected credit loss measurement

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

Key parameters	Baseline		
	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

ECL scenario	Assigned weights in %		
	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

Note 9 Expected credit loss measurement (continued)

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)
<i>of which: Private clients with mortgages</i>	148,347	140,274	7,430	643	(129)	(26)	(78)	(25)
<i>of which: Real estate financing</i>	42,647	38,981	3,658	8	(55)	(17)	(38)	0
<i>of which: Large corporate clients</i>	11,775	10,035	1,458	282	(119)	(20)	(18)	(81)
<i>of which: SME clients</i>	13,032	11,504	1,179	349	(241)	(24)	(22)	(195)
<i>of which: Lombard</i>	134,535	134,455	0	79	(34)	(8)	0	(26)
<i>of which: Credit cards</i>	1,737	1,352	358	27	(36)	(10)	(10)	(17)
<i>of which: Commodity trade finance</i>	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)
<i>of which: Loans to financial advisors</i>	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)
<i>of which: Large corporate clients</i>	3,537	2,714	748	75	(12)	(2)	(3)	(7)
<i>of which: SME clients</i>	1,201	1,015	134	52	(7)	(1)	(1)	(5)
<i>of which: Financial intermediaries and hedge funds</i>	10,950	10,882	68	0	(11)	(8)	(4)	0
<i>of which: Lombard</i>	2,273	2,272	0	1	(1)	0	0	(1)
<i>of which: Commodity trade finance</i>	2,062	2,061	0	0	(1)	(1)	0	0
Irrevocable loan commitments	37,456	34,996	2,378	82	(102)	(60)	(42)	0
<i>of which: Large corporate clients</i>	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
<i>of which: Real estate financing</i>	8,223	8,099	124	0	(5)	(5)	0	0
<i>of which: Large corporate clients</i>	3,889	3,448	436	5	(8)	(2)	(6)	0
<i>of which: SME clients</i>	4,446	4,111	306	29	(17)	(14)	(3)	0
<i>of which: Lombard</i>	6,884	6,879	0	5	0	0	0	0
<i>of which: Credit cards</i>	8,976	8,537	435	3	(6)	(4)	(2)	0
<i>of which: Commodity trade finance</i>	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	Carrying amount ¹				ECL allowances				
	Total	Stage 1	Stage 2	Stage 3	Total	Stage 1	Stage 2	Stage 3	
Financial instruments measured at amortized cost									
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)	
<i>of which: Private clients with mortgages</i>	150,884	142,050	8,064	770	(126)	(27)	(72)	(27)	
<i>of which: Real estate financing</i>	43,291	39,358	3,925	7	(59)	(17)	(42)	0	
<i>of which: Large corporate clients</i>	12,208	10,791	1,088	329	(141)	(27)	(17)	(98)	
<i>of which: SME clients</i>	13,309	11,744	1,167	397	(249)	(22)	(22)	(205)	
<i>of which: Lombard</i>	140,333	140,251	0	82	(37)	(7)	0	(29)	
<i>of which: Credit cards</i>	1,760	1,384	349	27	(36)	(10)	(9)	(17)	
<i>of which: Commodity trade finance</i>	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)	
<i>of which: Loans to financial advisors</i>	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 income²	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)
<i>of which: Large corporate clients</i>	3,539	2,710	734	95		(10)	(3)	(3)	(4)
<i>of which: SME clients</i>	1,213	1,034	128	51		(9)	(1)	(1)	(7)
<i>of which: Financial intermediaries and hedge funds</i>	12,113	12,021	92	0		(16)	(11)	(5)	0
<i>of which: Lombard</i>	2,332	2,332	0	0		(1)	0	0	(1)
<i>of which: Commodity trade finance</i>	2,388	2,387	0	0		(1)	(1)	0	0
Irrevocable loan commitments	37,703	35,308	2,359	37		(113)	(67)	(46)	0
<i>of which: Large corporate clients</i>	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
<i>of which: Real estate financing</i>	9,123	8,931	193	0		(5)	(5)	0	0
<i>of which: Large corporate clients</i>	4,354	3,662	687	5		(6)	(1)	(5)	0
<i>of which: SME clients</i>	4,660	4,240	392	29		(16)	(13)	(3)	0
<i>of which: Lombard</i>	7,697	7,693	0	4		0	0	0	0
<i>of which: Credit cards</i>	9,162	8,725	433	3		(6)	(4)	(2)	0
<i>of which: Commodity trade finance</i>	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			
	Total	Stage 1	Stage 2	Stage 3	Total	Stage 1	Stage 2	Stage 3
Financial instruments measured at amortized cost								
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)
<i>of which: Private clients with mortgages</i>	152,479	143,505	8,262	711	(132)	(28)	(71)	(33)
<i>of which: Real estate financing</i>	43,945	40,463	3,472	9	(60)	(19)	(40)	0
<i>of which: Large corporate clients</i>	13,990	12,643	1,037	310	(170)	(22)	(16)	(133)
<i>of which: SME clients</i>	14,004	12,076	1,492	436	(259)	(19)	(15)	(225)
<i>of which: Lombard</i>	149,283	149,255	0	27	(33)	(6)	0	(28)
<i>of which: Credit cards</i>	1,716	1,345	342	29	(36)	(10)	(9)	(17)
<i>of which: Commodity trade finance</i>	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)
<i>of which: Loans to financial advisors</i>	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)
<i>of which: Large corporate clients</i>	3,464	2,567	793	104	(6)	(3)	(3)	0
<i>of which: SME clients</i>	1,353	1,143	164	46	(8)	(1)	(1)	(7)
<i>of which: Financial intermediaries and hedge funds</i>	9,575	9,491	84	0	(17)	(13)	(4)	0
<i>of which: Lombard</i>	2,454	2,454	0	0	(1)	0	0	(1)
<i>of which: Commodity trade finance</i>	3,137	3,137	0	0	(1)	(1)	0	0
Irrevocable loan commitments	39,478	37,097	2,335	46	(114)	(72)	(42)	0
<i>of which: Large corporate clients</i>	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
<i>of which: Real estate financing</i>	7,328	7,046	281	0	(5)	(4)	(1)	0
<i>of which: Large corporate clients</i>	5,358	4,599	736	23	(7)	(4)	(3)	0
<i>of which: SME clients</i>	5,160	4,736	389	35	(15)	(11)	(3)	0
<i>of which: Lombard</i>	8,670	8,670	0	0	0	0	0	0
<i>of which: Credit cards</i>	9,466	9,000	462	4	(6)	(5)	(2)	0
<i>of which: Commodity trade finance</i>	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				
On-balance sheet	Gross carrying amount (USD m)				ECL coverage (bps)				
	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
Total¹	378,081	360,644	15,333	2,104	22	4	113	8	2,480
Off-balance sheet	Gross exposure (USD m)				ECL coverage (bps)				
	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
Total²	100,675	95,064	5,355	257	18	11	116	17	607
Total on- and off-balance sheet³	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		Gross carrying amount (USD m)				ECL coverage (bps)				
		Total	Stage 1	Stage 2	Stage 3	Total	Stage 1	Stage 2	Stage 1&2	Stage 3
On-balance sheet										
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	
Total¹	388,196	369,744	16,069	2,383	22	4	103	8	2,373	

Off-balance sheet		Gross exposure (USD m)				ECL coverage (bps)				
		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	
Total²	107,030	101,091	5,712	228	18	11	115	17	644	
Total on- and off-balance sheet³	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		Gross carrying amount (USD m)				ECL coverage (bps)				
		Total	Stage 1	Stage 2	Stage 3	Total	Stage 1	Stage 2	Stage 1&2	Stage 3
On-balance sheet										
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	
Total¹	402,081	383,825	15,882	2,374	23	4	98	8	2,673	
Off-balance sheet										
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	
Total²	108,434	102,121	6,006	307	18	12	100	17	486	
Total on- and off-balance sheet³	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 techniques¹

USD m	30.9.22				30.6.22				31.12.21			
	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

USD m	30.9.22				30.6.22				31.12.21			
	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

USD m	For the quarter ended			Year-to-date	
	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

Life-to-date gain / (loss), USD m	As of		
	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.

Note 10 Fair value measurement (continued)

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				Valuation technique(s)	Significant unobservable input(s) ¹	Range of inputs						unit ¹
	Assets		Liabilities				30.9.22			31.12.21			
USD bn	30.9.22	31.12.21	30.9.22	31.12.21		low	high	weighted average ²	low	high	weighted average ²		
Financial assets and liabilities at fair value held for trading and Financial assets at fair value not held for trading													
<i>Corporate and municipal bonds</i>	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
<i>Traded loans, loans measured at fair value, loan commitments and guarantees</i>	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
<i>Auction rate securities</i>	1.7	1.6			Discounted expected cash flows	Credit spread	115	192	152	115	197	153	basis points
<i>Investment fund units³</i>	0.2	0.1	0.0	0.0	Relative value to market comparable	Net asset value							
<i>Equity instruments³</i>	0.9	0.8	0.1	0.1	Relative value to market comparable	Price							
Debt issued designated at fair value⁴			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													
<i>Interest rate</i>	0.5	0.5	0.1	0.3	Option model	Volatility of interest rates	74	153		65	81		basis points
					Discounted expected cash flows	Credit spreads	10	410		1	583		basis points
<i>Credit derivatives</i>	0.4	0.2	0.3	0.3		Bond price equivalent	3	232		2	136		points
<i>Equity / index</i>	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.

Note 10 Fair value measurement (continued)

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 assumptions¹

USD m	30.9.22		30.6.22		31.12.21	
	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											
<i>USD bn</i>	Balance at the beginning of the period	Net gains / losses included in comprehensive income ¹	<i>of which: related to instruments held at the end of the period</i>	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 2022²											
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
<i>of which: Investment fund units</i>	0.0	0.0	0.0	0.0	(0.0)	0.0	0.0	0.1	(0.0)	(0.0)	0.1
<i>of which: Corporate and municipal bonds</i>	0.6	(0.0)	(0.0)	0.2	(0.2)	0.0	0.0	0.0	(0.0)	(0.0)	0.5
<i>of which: Loans</i>	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
<i>of which: Interest rate</i>	0.5	0.2	0.2	0.0	0.0	0.0	(0.1)	0.1	(0.1)	(0.1)	0.5
<i>of which: Equity / index</i>	0.4	0.4	0.3	0.0	0.0	0.2	(0.3)	0.0	(0.0)	(0.0)	0.7
<i>of which: Credit derivatives</i>	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
<i>of which: Loans</i>	0.9	(0.0)	(0.1)	0.4	(0.4)	0.1	0.0	0.0	(0.3)	(0.0)	0.7
<i>of which: Auction rate securities</i>	1.6	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.7
<i>of which: Equity instruments</i>	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
<i>of which: Interest rate</i>	0.3	(0.2)	(0.1)	0.0	0.0	0.1	(0.0)	0.0	0.0	(0.1)	0.1
<i>of which: Equity / index</i>	1.5	(0.5)	(0.5)	0.0	0.0	1.0	(0.7)	0.0	(0.2)	(0.1)	1.2
<i>of which: Credit derivatives</i>	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
<i>of which: Investment fund units</i>	0.0	(0.0)	(0.0)	0.0	(0.0)	0.0	0.0	0.0	(0.0)	(0.0)	0.0
<i>of which: Corporate and municipal bonds</i>	0.8	0.0	0.0	0.2	(0.2)	0.0	0.0	0.0	(0.1)	(0.0)	0.8
<i>of which: Loans</i>	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
<i>of which: Interest rate</i>	0.5	(0.1)	(0.1)	0.0	0.0	0.0	(0.1)	0.0	(0.0)	(0.0)	0.3
<i>of which: Equity / index</i>	0.9	0.0	0.0	0.0	0.0	0.3	(0.4)	0.0	(0.1)	(0.0)	0.7
<i>of which: Credit derivatives</i>	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
<i>of which: Loans</i>	0.9	0.0	0.0	0.4	(0.2)	0.0	0.0	0.0	(0.3)	(0.0)	0.9
<i>of which: Auction rate securities</i>	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6
<i>of which: Equity instruments</i>	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
<i>of which: Interest rate</i>	0.5	(0.0)	(0.0)	0.0	0.0	0.1	(0.1)	0.0	(0.0)	(0.0)	0.5
<i>of which: Equity / index</i>	2.3	0.4	0.1	0.0	0.0	0.6	(1.4)	0.0	(0.2)	(0.0)	1.6
<i>of which: Credit derivatives</i>	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).

Note 10 Fair value measurement (continued)

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

USD bn	30.9.22		30.6.22		31.12.21	
	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

	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
<i>As of 30.9.22, USD bn</i>					
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 netting⁴	195.2	4,819	192.3	4,655	10,430
Further netting potential not recognized on the balance sheet ⁵	(177.7)		(176.1)		
<i>of which: netting of recognized financial liabilities / assets</i>	<i>(142.8)</i>		<i>(142.8)</i>		
<i>of which: netting with collateral received / pledged</i>	<i>(35.0)</i>		<i>(33.3)</i>		
Total derivative financial instruments, after consideration of further netting potential	17.5		16.2		

	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
<i>As of 30.6.22, USD bn</i>					
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 netting⁴	160.5	4,910	156.9	4,771	9,916
Further netting potential not recognized on the balance sheet ⁵	(146.5)		(141.0)		
<i>of which: netting of recognized financial liabilities / assets</i>	<i>(116.0)</i>		<i>(116.0)</i>		
<i>of which: netting with collateral received / pledged</i>	<i>(30.5)</i>		<i>(24.9)</i>		
Total derivative financial instruments, after consideration of further netting potential	14.0		15.9		

	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
<i>As of 31.12.21, USD bn</i>					
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 netting⁴	118.1	4,614	121.3	4,617	8,771
Further netting potential not recognized on the balance sheet ⁵	(107.4)		(107.0)		
<i>of which: netting of recognized financial liabilities / assets</i>	<i>(88.9)</i>		<i>(88.9)</i>		
<i>of which: netting with collateral received / pledged</i>	<i>(18.5)</i>		<i>(18.1)</i>		
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

<i>USD bn</i>	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)
<i>of which: netting of recognized financial liabilities / assets</i>	<i>(28.2)</i>	<i>(23.6)</i>	<i>(20.4)</i>	<i>(19.9)</i>	<i>(15.2)</i>	<i>(13.1)</i>
<i>of which: netting with collateral received / pledged</i>	<i>(2.1)</i>	<i>(2.1)</i>	<i>(2.8)</i>	<i>(2.8)</i>	<i>(3.3)</i>	<i>(3.3)</i>
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

<i>USD m</i>	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

<i>USD m</i>	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

<i>USD m</i>	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

<i>USD m</i>	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

Note 12 Other assets and liabilities (continued)

e) Other non-financial liabilities

<i>USD m</i>	30.9.22	30.6.22	31.12.21
Compensation-related liabilities	3,844	3,338	4,795
<i>of which: net defined benefit liability</i>	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

<i>USD m</i>	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

<i>USD m</i>	30.9.22	30.6.22	31.12.21
Short-term debt¹	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
<i>of which: low-trigger loss-absorbing tier 2 capital instruments</i>	2,427	2,471	2,596
<i>of which: non-Basel III-compliant tier 2 capital instruments</i>	531	538	547
Debt issued through the Swiss central mortgage institutions	8,567	9,177	9,454
Long-term debt²	30,576	34,294	39,334
Total debt issued measured at amortized cost³	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.

<i>USD m</i>	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.

<i>USD m</i>	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.

Note 16 Provisions and contingent liabilities (continued)

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 Functions¹

<i>USD m</i>	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.

Note 16 Provisions and contingent liabilities (continued)

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).

Note 16 Provisions and contingent liabilities (continued)

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.

Note 16 Provisions and contingent liabilities (continued)

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.

Note 16 Provisions and contingent liabilities (continued)

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.

Note 16 Provisions and contingent liabilities (continued)

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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