BASE LISTING DOCUMENT DATED 23 MARCH 2021

If you are in any doubt about any of the contents of this document, you should obtain independent professional advice.

Hong Kong Exchanges and Clearing Limited ("**HKEX**"), The Stock Exchange of Hong Kong Limited (the "**Stock Exchange**") and Hong Kong Securities Clearing Company Limited ("**HKSCC**") take no responsibility for the contents of this document, make no representation as to its accuracy or completeness and expressly disclaim any liability whatsoever for any loss howsoever arising from or in reliance upon the whole or any part of the contents of this document.

Non-collateralised Structured Products Base Listing Document relating to Structured Products to be issued by

UBS AG

(incorporated with limited liability in Switzerland)

acting through its London Branch

Sponsor

UBS Securities Asia Limited

This document, for which we accept full responsibility, includes particulars given in compliance with the Rules Governing the Listing of Securities on The Stock Exchange of Hong Kong Limited (the "**Listing Rules**") for the purpose of giving information with regard to us and our standard warrants ("**Warrants**"), callable bull/bear contracts ("**CBBCs**") and other structured products (together, "**Structured Products**") to be listed on the Stock Exchange from time to time. This document may be updated and/or amended from time to time by way of addenda.

We, having made all reasonable enquiries, confirm that to the best of our knowledge and belief the information contained in this document is accurate and complete in all material respects and not misleading or deceptive, and there are no other matters the omission of which would make any statement herein or this document misleading.

The Structured Products involve derivatives. Do not invest in them unless you fully understand and are willing to assume the risks associated with them.

Investors are warned that the price of the Structured Products may fall in value as rapidly as it may rise and holders may sustain a total loss of their investment. Prospective purchasers should therefore ensure that they understand the nature of the Structured Products and carefully study the risk factors set out in this document and, where necessary, seek professional advice, before they invest in the Structured Products.

The Structured Products are complex products. You should exercise caution in relation to them. The Structured Products constitute our general unsecured contractual obligations and of no other person and will rank equally among themselves and with all our other unsecured obligations (save for those obligations preferred by law) upon liquidation. If you purchase the Structured Products, you are relying upon our creditworthiness, and have no rights under the Structured Products against (a) the company which has issued the underlying securities; (b) the trustee or the manager of the underlying unit trust; or (c) the index compiler of any underlying index. If we become insolvent or default on our obligations under the Structured Products, you may not be able to recover all or even part of the amount due under the Structured Products (if any).

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What is this document about?

This document is for information purposes only and does not constitute an offer, an advertisement or invitation to the public to subscribe for or to acquire any Structured Products.

What documents should you read before investing in the Structured Products?

A launch announcement and supplemental listing document will be issued before the issue date of each series of Structured Products, which will include detailed commercial terms of the relevant series. You must read this document (including any addendum to this document to be issued from time to time) together with such launch announcement and supplemental listing document (including any addendum to such launch announcement and supplemental listing document to be issued from time to time) (together, the "**Listing Documents**") before investing in any Structured Product. You should carefully study the risk factors set out in the Listing Documents. You should also consider your financial position and investment objectives before deciding to invest in the Structured Products. We cannot give you investment advice. You must decide whether the Structured Products meet your investment needs before investing in the Structured Products.

Is there any guarantee or collateral for the Structured Products?

No. Our obligations under the Structured Products are neither guaranteed by any third party, nor collateralised with any of our assets or other collaterals. When you purchase our Structured Products, you are relying on our creditworthiness only, and of no other person. If we become insolvent or default on our obligations under the Structured Products, you can only claim as our unsecured creditor. In such event, you may not be able to recover all or even part of the amount due under the Structured Products (if any).

What are our credit ratings?

Our long term debt ratings are:

Rating agency	*Rating as of 22 March 2021*
Moody's Deutschland GmbH ("**Moody's**")	Aa3 (stable outlook)
S&P Global Ratings Europe Limited ("**S&P**")	A+ (stable outlook)

Our credit ratings disclosed above are only an assessment by the rating agencies of our overall capacity to pay our long term debts.

Aa3 is among the top two major credit rating categories and is the fourth highest investment-grade ranking of the ten investment-grade ratings (including 1, 2 and 3 sub-grades) assigned by Moody's.

A+ is among the top three major credit rating categories and is the fifth highest investment-grade ranking of the ten investment-grade ratings (including + or - sub-grades) assigned by S&P.

Please refer to the brief guide in Appendix 6 to this Base Listing Document for more information about credit ratings.

Rating agencies usually receive a fee from the issuers that they rate.

When evaluating our creditworthiness, you should not solely rely on our credit ratings because:

- a credit rating is not a recommendation to buy, sell or hold the Structured Products;
- ratings of companies may involve difficult-to-quantify factors such as market competition, the success or failure of new products and markets and managerial competence;

- a high credit rating is not necessarily indicative of low risk. Our credit ratings as of the date immediately preceding the date of this document are for reference only. Any downgrading of our credit ratings could result in a reduction in the value of the Structured Products;

- a credit rating is not an indication of the liquidity or volatility of the Structured Products; and

- a credit rating may be downgraded if our credit quality declines.

The Structured Products are not rated.

Our credit ratings are subject to change or withdrawal at any time within each rating agency's sole discretion. You should conduct your own research using publicly available sources to obtain the latest information with respect to our credit ratings from time to time.

Are we regulated by the Hong Kong Monetary Authority referred to in Rule 15A.13(2) or the Securities and Futures Commission referred to in Rule 15A.13(3)?

We are a licensed bank regulated by the Hong Kong Monetary Authority. We are also authorised and regulated by the Financial Market Supervisory Authority in Switzerland, and authorised by the Prudential Regulation Authority and subject to regulation by the Financial Conduct Authority and limited regulation by the Prudential Regulation Authority in the United Kingdom.

Are we subject to any litigation?

Save as disclosed in this document, we and our subsidiaries are not aware of any litigation or claims of material importance pending or threatened against us or them.

Authorisation for the issue of the Structured Products

The issue of the Structured Products was authorised by our board of directors on 19 September 2001.

Has our financial position changed since last financial year-end?

There has been no material adverse change in our financial or trading position since 31 December 2020.

Do you need to pay any trading fees and levies?

The Stock Exchange currently charges a trading fee of 0.005 per cent. and the Securities and Futures Commission currently charges a transaction levy of 0.0027 per cent. for each transaction effected on the Stock Exchange payable by each of the seller and the buyer and calculated on the value of the consideration for the Structured Products. The levy for the investor compensation fund is currently suspended.

Do you need to pay any tax?

Taxation in Hong Kong

No tax is payable in Hong Kong by way of withholding or otherwise in respect of any capital gains arising on the sale of the Structured Products, except that Hong Kong profits tax may be chargeable on any such gains, which is considered as trading gain, in the case of certain persons carrying on a trade, profession or business in Hong Kong.

You do not need to pay any stamp duty in respect of purely cash settled Structured Products.

Taxation in Switzerland

Under present Swiss law, if you are a non-resident of Switzerland and have not engaged in trade or business through a permanent establishment within Switzerland during the taxable year, you will not be subject to any Swiss Federal, Cantonal or Municipal income or other tax on gains realised during the year on the sale or redemption of the Structured Products.

There is no tax liability in Switzerland in connection with the issue of the Structured Products. However, Structured Products subscribed, transferred or redeemed through a bank or other dealer resident in Switzerland or Liechtenstein may be subject to Swiss securities transfer tax.

Taxation in United States of America

FATCA Withholding Tax

Pursuant to sections 1471 to 1474 of the U.S. Internal Revenue Code of 1986, as amended, commonly known as FATCA, a "**foreign financial institution**" (as defined by FATCA) may be required to withhold on (i) certain payments of U.S. source income and (ii) "foreign passthru payments" paid to or in respect of persons that fail to meet certain certification, reporting or related requirements. A number of jurisdictions (including Switzerland) have entered into, or have agreed in substance to, intergovernmental agreements ("**IGAs**") with the United States to implement FATCA, which modify the way in which FATCA applies in their jurisdictions.

Under the provisions of the IGAs as currently in effect, a foreign financial institution in an IGA jurisdiction would generally not be required to withhold under FATCA or an IGA from payments that it makes. Certain aspects of the application of the FATCA provisions and IGAs to instruments such as Structured Products, including whether withholding would ever be required pursuant to FATCA or an IGA with respect to payments on instruments such as Structured Products, are uncertain and may be subject to change. Even if withholding would be required pursuant to FATCA or an IGA with respect to payments on instruments such as Structured Products, such withholding would not apply to foreign passthru payments prior to the date that is two years after the publication of the final regulations defining "foreign passthru payment" in the U.S. Federal Register and, provided that Structured Products are properly treated as debt for U.S. federal income tax purposes, Structured Products issued on or prior to the date that is six months after the date on which final regulations defining foreign passthru payments are filed with the U.S. Federal Register generally would be grandfathered for purposes of FATCA withholding on foreign passthru payments unless materially modified after such date or classified as equity for U.S. federal income tax purposes. However, if additional Structured Products that are not distinguishable from previously issued Structured Products are issued after the expiration of the grandfathering period and are subject to withholding under FATCA, then withholding agents may treat all Structured Products, including the Structured Products offered prior to the expiration of the grandfathering period, as subject to withholding under FATCA. Holders should consult their own tax advisors regarding how these rules may apply to their investment in the Structured Products. In the event any withholding would be required pursuant to FATCA or an IGA with respect to payments on the Structured Products, neither UBS nor any other person will be required under the terms of the Structured Products to pay additional amounts as a result of the withholding.

The U.S. federal income tax discussion set forth above is included for general information only and may not be applicable depending upon an investor's particular situation. Prospective investors should consult their own tax advisers with respect to the tax consequences to them of the ownership and disposition of the Structured Products and the underlying stock, including the tax consequences under state, local, non-U.S. and other tax laws and the possible effects of changes in U.S. federal or other tax laws.

The above information is of a general nature only and is not intended to be a comprehensive description of all potential relevant tax considerations. We do not provide any tax advice for the Structured Products. Tax treatment depends on the individual circumstances of each client and clients must therefore seek their own tax advice from a reputable service provider. Prior to entering into a transaction you should consult with your own legal, regulatory, tax, financial and accounting advisors to the extent you consider it necessary, and make your own investment, hedging and trading decisions (including decisions regarding the suitability of this transaction) based upon your own judgment and advice from those advisors you consider necessary.

Placing, sale and grey market dealings

No offers, sales, re-sales, transfers or deliveries of any Structured Products, or distribution of any offering material relating to the Structured Products may be made in or from any jurisdiction except in circumstances which will result in compliance with any applicable laws or regulations and which will not impose any obligation on us. See the section "Placing and Sale" for further information.

Following the launch of a series of Structured Products, we may place all or part of that series with our related party.

The Structured Products may be sold to investors in the grey market in the period between the launch date and the listing date. We will report any dealings in Structured Products by us and/or any of our subsidiaries or associated companies in the grey market to the Stock Exchange by the listing date and such report will be released on the website of HKEX.

Where can you inspect the relevant documents?

The following documents are available for inspection during usual business hours on any weekday (Saturdays, Sundays and holidays excepted) at the offices of UBS Securities Asia Limited:

(a) the Annual Report 2020 of UBS Group AG and UBS AG ("**Annual Report 2020**");

(b) consent letter of our auditors, Ernst & Young Ltd ("**Auditors**");

(c) this document and any addendum to this document;

(d) the launch announcement and supplemental listing document as long as the relevant series of Structured Products is listed on the Stock Exchange; and

(e) the instrument executed by us by way of deed poll on 10 April 2006 which constitutes the Structured Products.

Requests for photocopies of the above documents will be subject to a reasonable fee which reflects the cost of making such copies.

The Listing Documents are also available on the website of the HKEX at *www.hkexnews.hk* and our website at *http://warrants.ubs.com/en*.

各上市文件亦可於香港交易所披露易網站 *www.hkexnews.hk* 以及我們的網站 *http://warrants.ubs.com/ch* 瀏覽。

Have the Auditors consented to the inclusion of their report to the Listing Documents?

Our Auditors have given and have not withdrawn their written consent to the inclusion of their report dated 4 March 2021 and/or the references to their name in this document, in the form and context in which they are included. Their report was not prepared for incorporation into this document. The Auditors do not own any of our shares or shares in our subsidiaries, nor do they have the right (whether legally enforceable or not) to subscribe for or to nominate persons to subscribe for our securities or securities of any of our subsidiaries.

Authorised representatives

Bernard Wu and Dougal McAdam, both of 52nd Floor, Two International Finance Centre, 8 Finance Street, Central, Hong Kong, are our authorised representatives and are authorised to accept services on our behalf in Hong Kong.

How can you get further information about UBS AG or the Structured Products?

You may visit *www.ubs.com* to obtain further information about us and *http://warrants.ubs.com/en* to obtain further information about the Structured Products.

Governing law of the Structured Products

All contractual documentation for the Structured Products will be governed by, and construed in accordance with, the laws of Hong Kong.

The Listing Documents are not the sole basis for making an investment decision

The Listing Documents do not take into account your investment objectives, financial situation or particular needs. Nothing in the Listing Documents should be construed as a recommendation by us or our affiliates to invest in the Structured Products or the underlying asset of the Structured Products.

No person has been authorised to give any information or to make any representations other than those contained in this document in connection with the Structured Products, and, if given or made, such information or representations must not be relied upon as having been authorised by us.

HKEX, the Stock Exchange and HKSCC have made no assessment of, nor taken any responsibility for, our financial soundness or the merits of investing in any Structured Products, nor have they verified the accuracy or the truthfulness of statements made or opinions expressed in this document.

This document has not been reviewed by the Securities and Futures Commission. You are advised to exercise caution in relation to the offer of the Structured Products.

Capitalised terms

Unless otherwise specified, capitalised terms used in this document have the meanings set out in the terms and conditions of the relevant series of Structured Products set out in Appendix 1 and Appendix 2 (together, the "**Conditions**").

General

No action has been or will be taken by us that would permit a public offering of any series of Structured Products or possession or distribution of any offering material in relation to any Structured Products in any jurisdiction (other than Hong Kong) where action for the purpose is required.

United States of America

Each series of Structured Products has not been, and will not be, registered under the United States Securities Act of 1933, as amended (the "**Securities Act**") or the securities laws of any state or other jurisdiction of the United States. The Structured Products do not constitute, and have not been marketed as, contracts of sale of a commodity for future delivery (or options thereon) subject to the U.S. Commodity Exchange Act of 1936, as amended (the "**Commodity Exchange Act**"), and trading in the Structured Products has not been approved by the U.S. Commodity Futures Trading Commission (the "**CFTC**") under the Commodity Exchange Act.

Subject to certain exceptions, Structured Products or interests therein, may not at any time be offered, sold, resold, transferred 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, sales and transfers of Structured Products, 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 the registration requirements of the Securities Act or pursuant to an exemption therefrom. In addition, certain issues of Structured Products may not at any time be offered, sold or delivered in the United States or to, or for the account or benefit of, U.S. persons, nor may any U.S. persons at any time trade or maintain a position in such Structured Products. No person will offer, sell, re-sell, transfer or deliver any Structured Products or interests therein within the United States or to U.S. persons, except as permitted by the base placing agreement between us and the Sponsor, acting as manager. 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 national 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 CFTC pursuant to the Commodity Exchange Act, 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.

In addition, until 40 days after the commencement of the offering, an offer, sale, re-sale, transfer or delivery of Structured Products within the United States by a dealer that is not participating in the offering may violate the registration requirements of the Securities Act.

European Economic Area

Each dealer represents and agrees, and each further dealer appointed in respect of the Structured Products will be required to represent and agree, that it has not offered, sold or otherwise made available and will not offer, sell, or otherwise make available any Structured Products which are the subject of the offering as contemplated by this Base 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**"); or

  (ii) a customer within the meaning of Directive 2016/97/EU (as amended, the Insurance Distribution Directive), where that customer would not qualify as a professional client as defined in point (10) of Article 4(1) of MiFID II; or

  (iii) not a qualified investor as defined in Regulation (EU) 2017/1129 (as amended and superseded, the "**Prospectus Regulation**", the Prospectus Directive); and

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

United Kingdom

Each dealer has represented and agreed, and each further dealer appointed in respect of the Structured Products will be required to represent and agree, that it has not offered, sold or otherwise made available and will not offer, sell or otherwise make available any Structured Products which are the subject of the offering contemplated by this Base Listing Document 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 Financial Services and Markets Act, as amended (the "**FSMA**") and any rules or regulations made under the FSMA 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 Structured Products to be offered so as to enable an investor to decide to purchase or subscribe for the Structured Products.

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

(a) in respect to Structured Products 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 Structured Products other than to persons whose ordinary activities involve them in acquiring, holding, managing or disposing of investments (as principal or agent) for the purposes of their businesses or who it is reasonable to expect will acquire, hold, manage or dispose of investments (as principal or agent) for the purposes of their businesses where the issue of the Structured Products would otherwise constitute a contravention of Section 19 of FSMA by us;

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

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

Switzerland

This document does not constitute an offer and does not constitute a prospectus within the meaning of the laws of Switzerland. The Structured Products may only be offered, sold or otherwise made available to (i) professional clients as defined in article 4 para. 3 and article 5 of the Federal Financial Services Act, "**FinSA**") or (ii), if a key information document within the meaning of article 58 FinSA is available, in accordance with the exemptions as set out in article 36 FinSA.

OVERVIEW OF WARRANTS

What is a Warrant?

A Warrant is a type of derivative warrants.

A derivative warrant linked to a share, a unit, an index or other asset (each an "**Underlying Asset**") is an instrument which gives the holder a right to "buy" or "sell" the Underlying Asset at, or derives its value by reference to, a pre-set price or level called the Exercise Price/Strike Level on the Expiry Date. It usually costs a fraction of the value of the Underlying Asset.

A derivative warrant may provide leveraged return to you (but conversely, it could also magnify your losses).

How and when can you get back your investment?

Our Warrants are European style warrants. That means they can only be exercised on the Expiry Date. A warrant will, upon exercise on the Expiry Date, entitle the holder to a cash amount called the "**Cash Settlement Amount**" (if positive) according to the Conditions of that warrant.

You will receive the Cash Settlement Amount less any Exercise Expenses upon settlement at expiry. If the Cash Settlement Amount is equal to or less than the Exercise Expenses, no amount is payable to you upon expiry.

How do our warrants work?

Ordinary warrants

The potential payoff of an ordinary warrant is calculated by us by reference to the difference between:

(a) for a warrant linked to a security, the Exercise Price and the Average Price; and

(b) for a warrant linked to an index, the Strike Level and the Closing Level.

Call warrants

A call warrant is suitable for an investor holding a bullish view of the price or level of the Underlying Asset during the term of the warrant.

A call warrant will be exercised if the Average Price/Closing Level is greater than the Exercise Price/Strike Level (as the case may be). The more the Average Price/Closing Level exceeds the Exercise Price/Strike Level (as the case may be), the higher the payoff upon expiry. If the Average Price/Closing Level is at or below the Exercise Price/Strike Level (as the case may be), an investor in the call warrant will lose all of his investment.

Put warrants

A put warrant is suitable for an investor holding a bearish view of the price or level of the Underlying Asset during the term of the warrant.

A put warrant will be exercised if the Average Price/Closing Level is below the Exercise Price/Strike Level (as the case may be). The more the Average Price/Closing Level is below the Exercise Price/Strike Level (as the case may be), the higher the payoff upon expiry. If the Exercise Price/Strike Level is at or below the Average Price/Closing Level (as the case may be), an investor in the put warrant will lose all of his investment.

Other types of warrants

The launch announcement and supplemental listing document applicable to other types of warrants will specify the type of such warrants and whether such warrants are exotic warrants.

The Conditions applicable to each type of our warrants are set out in Parts A to C of Appendix 1 (as may be supplemented by any addendum or the relevant launch announcement and supplemental listing document).

What are the factors determining the price of a derivative warrant?

The price of a derivative warrant generally depends on the prevailing price or level of the Underlying Asset. However, throughout the term of a derivative warrant, its price will be influenced by a number of factors, including:

(a) the Exercise Price or Strike Level;

(b) the value and volatility of the price or level of the Underlying Asset (being a measure of the fluctuation in the price or level of the Underlying Asset over time);

(c) the time remaining to expiry: generally, the longer the remaining life of a derivative warrant, the greater its value;

(d) the interim interest rates and expected dividend payments or other distributions on the Underlying Asset or on any components comprising the underlying index;

(e) the liquidity of the Underlying Asset;

(f) the supply and demand for the derivative warrants;

(g) our related transaction costs; and

(h) our creditworthiness.

What is your maximum loss?

Your maximum loss in warrants will be your entire investment amount plus any transaction costs.

How can you get information about our warrants after issue?

You may visit the website of HKEX at *https://www.hkex.com.hk/products/securities/structured-products/overview?sc_lang=en* or our website at *http://warrants.ubs.com/home/html/warrants_e.html* to obtain information on our warrants or any notice given by us or the Stock Exchange in relation to our warrants.

OVERVIEW OF CBBCS

What are CBBCs?

CBBCs are a type of Structured Products that track the performance of an Underlying Asset. CBBCs can be issued on different types of Underlying Assets as prescribed by the Stock Exchange from time to time, including:

(a) shares listed on the Stock Exchange;

(b) Hang Seng Index, Hang Seng China Enterprises Index, Hang Seng TECH Index and Hang Seng China H-Financials Index;

(c) unit trusts listed on the Stock Exchange; and/or

(d) overseas shares, indices, currencies or commodities (such as oil, gold and platinum).

A list of eligible Underlying Assets for CBBCs is available on the website of HKEX at *https://www.hkex.com.hk/Products/Securities/Structured-Products/Eligible-Underlying-Assets?sc_lang=en*

CBBCs are issued either as bull CBBCs or bear CBBCs, allowing you to take either bullish or bearish positions on the Underlying Asset. Bull CBBCs are designed for investors who have an optimistic view on the Underlying Asset. Bear CBBCs are designed for investors who have a pessimistic view on the Underlying Asset.

Your maximum potential loss in a series of CBBCs is limited to the purchase price, which is generally a fraction of the value of the Underlying Asset, for the CBBCs plus the cost involved in your purchase.

CBBCs have a mandatory call feature (the "**Mandatory Call Event**") and, subject to the limited circumstances set out in the relevant Conditions in which a Mandatory Call Event may be reversed, we must terminate our CBBCs upon the occurrence of a Mandatory Call Event. See "What are the mandatory call features of CBBCs?" below.

There are 2 categories of CBBCs, namely:

(a) Category R CBBCs; and

(b) Category N CBBCs.

Your entitlement following the occurrence of a Mandatory Call Event will depend on the category of the CBBCs.

If no Mandatory Call Event occurs, the CBBCs will be exercised automatically on the Expiry Date by payment of a Cash Settlement Amount (if any) on the Settlement Date. The Cash Settlement Amount (if any) payable at expiry represents the difference between the Closing Price/Closing Level of the Underlying Asset on the Valuation Date and the Strike Price/Strike Level.

The Conditions applicable to CBBCs are set out in Parts A to C of Appendix 2 (as may be supplemented by any addendum or the relevant launch announcement and supplemental listing document).

What are the mandatory call features of CBBCs?

Mandatory Call Event

Subject to the limited circumstances set out in the relevant Conditions in which a Mandatory Call Event may be reversed, we must terminate the CBBCs if a Mandatory Call Event occurs. A Mandatory Call Event occurs if the Spot Price/Spot Level of the Underlying Asset is:

(a) at or below the Call Price/Call Level (in the case of a bull CBBC); or

(b) at or above the Call Price/Call Level (in the case of a bear CBBC),

at any time during the Observation Period.

The Observation Period starts from and including the Observation Commencement Date of the relevant CBBCs and ends on and including the Trading Day immediately preceding the Expiry Date.

Subject to the limited circumstances set out in the relevant Conditions in which a Mandatory Call Event may be reversed and such modification and amendment as may be prescribed by the Stock Exchange from time to time:

(a) all trades in the CBBCs concluded or recorded in the Stock Exchange's system after the time of the occurrence of a Mandatory Call Event; and

(b) where the Mandatory Call Event occurs during a pre-opening session or closing auction session (if applicable), all auction trades in the CBBCs concluded in such session,

will be invalid and will be cancelled, and will not be recognised by us or the Stock Exchange.

The time at which a Mandatory Call Event occurs will be determined by reference to:

(a) in respect of CBBCs over single equities or CBBCs over single unit trusts, the Stock Exchange's automatic order matching and execution system time at which the Spot Price is at or below the Call Price (for a series of bull CBBCs) or is at or above the Call Price (for a series of bear CBBCs); or

(b) in respect of CBBCs over index, the time the relevant Spot Level is published by the Index Compiler at which the Spot Level is at or below the Call Level (for a series of bull CBBCs) or is at or above the Call Level (for a series of bear CBBCs),

subject to the rules and requirements as prescribed by the Stock Exchange from time to time.

Category R CBBCs vs. Category N CBBCs

The launch announcement and supplemental listing document for the relevant series of CBBCs will specify whether the CBBCs are Category R CBBCs or Category N CBBCs.

"**Category N CBBCs**" refer to CBBCs for which the Call Price/Call Level is equal to their Strike Price/Strike Level. In respect of a series of Category N CBBCs, you will not receive any cash payment following the occurrence of a Mandatory Call Event.

"**Category R CBBCs**" refer to CBBCs for which the Call Price/Call Level is different from their Strike Price/Strike Level. In respect of a series of Category R CBBCs, you may receive a cash payment called the Residual Value upon the occurrence of a Mandatory Call Event. The amount of the Residual Value payable (if any) is calculated by reference to:

(a) in respect of a bull CBBC, the difference between the Minimum Trade Price/Minimum Index Level of the Underlying Asset and the Strike Price/Strike Level; and

(b) in respect of a bear CBBC, the difference between the Strike Price/Strike Level and the Maximum Trade Price/Maximum Index Level of the Underlying Asset.

You must read the relevant Conditions and the relevant launch announcement and supplemental listing document to obtain further information on the calculation formula of the Residual Value applicable to Category R CBBCs.

You may lose all of your investment in a particular series of CBBCs if:

(a) in the case of a series of bull CBBCs, the Minimum Trade Price/Minimum Index Level of the Underlying Asset is equal to or less than the Strike Price/Strike Level; or

(b) in the case of a series of bear CBBCs, the Maximum Trade Price/Maximum Index Level of the Underlying Asset is equal to or greater than the Strike Price/Strike Level.

How is the funding cost calculated?

The issue price of a CBBC represents the difference between the initial reference spot price or level of the Underlying Asset as at the launch date of the CBBC and the Strike Price/Strike Level, plus the applicable funding cost.

The initial funding cost applicable to each series of CBBCs will be specified in the relevant launch announcement and supplemental listing document for the relevant series and will fluctuate throughout the life of the CBBCs as the funding rate changes from time to time. The funding rate is a rate determined by us based on one or more of the following factors, including but not limited to the Strike Price/Strike Level, the prevailing interest rate, the expected life of the CBBCs, expected notional dividends or distributions in respect of the Underlying Asset and the margin financing provided by us.

Further details about the funding cost applicable to a series of CBBCs will be described in the relevant launch announcement and supplemental listing document.

Do you own the Underlying Asset?

CBBCs convey no interest in the Underlying Asset. We may choose not to hold the Underlying Asset or any derivatives contracts linked to the Underlying Asset. There is no restriction through the issue of the CBBCs on the ability of us and/or our affiliates to sell, pledge or otherwise convey all right, title and interest in any Underlying Asset or any derivatives products linked to the Underlying Asset.

What are the factors determining the price of a CBBC?

Although the price of a CBBC tends to follow closely the movement in the value of the Underlying Asset in dollar value (on the assumption of an entitlement ratio of one CBBC to one Underlying Asset), movement in the price of the CBBC may not always follow closely the movement in value of the Underlying Asset.

However, throughout the term of a CBBC, its price will be influenced by a number of factors, including:

(a) the Strike Price/Strike Level and the Call Price/Call Level;

(b) the likelihood of the occurrence of a Mandatory Call Event;

(c) for Category R CBBCs only, the probable range of the Residual Value (if any) payable upon the occurrence of a Mandatory Call Event;

(d) the time remaining to expiry;

(e) the interim interest rates and expected dividend payments or other distributions on the Underlying Asset or on any components comprising the underlying index;

(f) the liquidity of the Underlying Asset;

(g) the supply and demand for the CBBCs;

(h) the probable range of the Cash Settlement Amounts;

(i) the depth of the market and liquidity of the Underlying Asset or of the future contracts relating to the underlying index;

(j) our related transaction costs; and

(k) our creditworthiness.

What is your maximum loss?

Your maximum loss in CBBCs will be your entire investment amount plus any transaction costs.

How can you get information about our CBBCs after issue?

You may visit the website of HKEX at *https://www.hkex.com.hk/products/securities/structured-products/overview?sc_lang=en* or our website at *http://warrants.ubs.com/home/html/cbbc_e.html* to obtain information on our CBBCs or any notice given by us or the Stock Exchange in relation to our CBBCs.

1. Overview

UBS AG 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.

2. Information about the Issuer

2.1. Corporate Information

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

The company 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 company changed its name to UBS AG. The company 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, 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 UBS Group AG and UBS AG Annual Report 2020 published on 5 March 2021 ("**Annual Report 2020**").

3. Business Overview

3.1. Organisational Structure of UBS AG

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 subsidiaries in the United States ("**US**") 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 United Kingdom ("**UK**") headquartered subsidiary, was merged into UBS Europe SE.

UBS Group AG's interests in subsidiaries and other entities as of 31 December 2020, including interests in significant subsidiaries, are discussed in "*Note 28 Interests in subsidiaries and other entities*" to the UBS Group AG's consolidated financial statements included in the Annual Report 2020.

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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. Recent Developments

Accounting, regulatory, legal and other developments

Swiss COVID-19 loans

In March 2020, the Swiss Federal Council adopted provisional emergency legislation to support small and medium-sized Swiss companies suffering from substantial reductions in revenue due to the COVID-19 pandemic. In December 2020, the Swiss Parliament approved the COVID-19 Joint and Several Guarantee Act, which became effective on 19 December 2020. This Act codified the measures adopted under emergency legislation into ordinary law and provides for regulation of the loan programs and guarantees over their life cycle. The new Act extends the standard amortization period of loans from five to eight years.

IFRS 9 and COVID-19: accounting for expected credit losses

In March 2020, the International Accounting Standards Board (the "**IASB**") emphasized that entities should apply appropriate judgment when determining the effects of COVID-19 on expected credit losses under IFRS 9, given that significant uncertainty exists, particularly related to the assessment of future macroeconomic conditions.

Swiss Financial Market Supervisory Authority ("**FINMA**"), the European Central Bank ("**ECB**") and other banking regulators issued similar statements emphasizing the need for appropriate judgment with regard to COVID-19 effects on expected credit losses. Notwithstanding the measures taken by regulators and clarifying statements, deteriorating economic forecasts have caused an increase in credit loss expenses and hence greater volatility in the income statement.

Swiss Withholding Tax Act

In April 2020, the Swiss Federal Council launched a consultation on various suggested amendments to the Withholding Tax Act. Based on the consultation results, the Federal Council proposed in September 2020 to maintain the withholding tax on interest carried on bank accounts by natural persons with tax domicile in Switzerland and to abolish the tax on all other interest payments. As the next step, the Federal Council will submit a dispatch to Parliament in

the second quarter of 2021. Furthermore, the Swiss Federal Council has proposed to extend the current withholding tax exemption for total loss-absorbing capacity and additional tier 1 instruments from 2021 until the end of 2026. This extension will be subject to parliamentary debate in 2021.

*Climate-related risks; environmental, social and governance (“**ESG**”) matters*

In January 2021, the Swiss government officially expressed support for the Climate-related Financial Disclosures (“**TCFD**”). Since the launch of the TCFD recommendations in 2017, UBS has continuously improved and expanded its climate-related disclosures to demonstrate its active engagement for an orderly transition to a low-carbon economy.

In December 2020, the US Federal Reserve joined the Network of Central Banks and Supervisors for Greening the Financial System (the “**NGFS**”). As a result, all global systemically important banks (“**G-SIBs**”) are now supervised by members of the NGFS. The NGFS advocates for a more sustainable financial system and issued a range of prudential supervisory practices for climate- and environment-related topics in 2020.

Furthermore, the Federal Reserve has indicated that it will work closely with other agencies and authorities, including the Basel Committee on Banking Supervision (“**BCBS**”) Task Force on Climate-related Financial Risks and the Financial Stability Board (“**FSB**”), to better understand, measure and mitigate climate-related financial risks.

In Europe, the ECB has issued a guide on climate-related and environmental risks and announced plans for a 2022 climate stress test. Also, the EBA has consulted on the inclusion of ESG matters in supervisory practices, and the European Securities and Markets Authority (“**ESMA**”) has consulted on Disclosure Regulation technical standards, including adverse impact requirements. The EU (“**European Union**”) has formally adopted the Taxonomy Regulation with a legislative base for technical standards to define a green taxonomy.

NSFR implementation

In September 2020, the Swiss Federal Council adopted an amendment to the Liquidity Ordinance for the implementation of the net stable funding ratio (“**NSFR**”). The NSFR regulation was finalized in the fourth quarter of 2020 with the release of the revised FINMA liquidity circular, and will become effective on 1 July 2021. It applies to UBS Group AG at the consolidated level and to UBS AG, UBS Switzerland AG and UBS Swiss Financial Advisers AG at the standalone level. UBS is on schedule to operationalize the NSFR regulation; its overall effect on UBS is expected to be limited. In October 2020, the US banking regulators finalized the NSFR rule for supervised firms to ensure a minimum level of stable funding. The rule becomes effective as of 1 July 2021 and will require semi-annual disclosure from 1 January 2023. As a Category III firm under the Federal Reserve’s Tailoring Rule (2019), UBS’s intermediate holding company, UBS Americas Holding LLC, and its subsidiary bank, UBS Bank USA, will be subject to an NSFR requirement of 85%. In the European Union, the European Commission (the “**EC**”) adopted the updated Capital Requirements Regulation in June 2019, which will become effective from 28 June 2021. The regulation requires UBS Europe SE to provide a detailed annual NSFR disclosure and a semi-annual NSFR key metrics disclosure.

US CCAR

In June 2020, the Federal Reserve released the results of its annual Dodd—Frank Act Stress Tests (“**DFAST**”) and Comprehensive Capital Analysis and Review (“**CCAR**”).

UBS’s intermediate holding company, UBS Americas Holding LLC, exceeded minimum capital requirements under the severely adverse scenario and the Federal Reserve did not object to its capital plan. As a result, UBS Americas Holding LLC will no longer be subject to the qualitative assessment component of CCAR.

Following the completion of the annual DFAST and CCAR, UBS Americas Holding LLC was assigned a stress capital buffer (an “**SCB**”) of 6.7% under the SCB rule (based on Dodd—Frank Act stress test results and planned future dividends), which results in the imposition of restrictions if the SCB is not maintained above specified regulatory minimum capital requirements.

The Federal Reserve also conducted sensitivity analyses to model the economic effects of the COVID-19 pandemic. As a result of these supplementary analyses, the Federal Reserve determined that firms should resubmit revised capital plans based on a new stress scenario. In December 2020, the Federal Reserve released the results of this second CCAR of 2020. UBS Americas Holding LLC's projected stress capital ratios exceeded regulatory capital minima under the updated supervisory scenarios.

Brexit

Following the UK's withdrawal from the EU on 31 January 2020, a regulation granting equivalence to Switzerland's stock exchanges was approved by the UK Parliament and came into force on 3 February 2021. In response, Switzerland granted recognition for UK trading venues that allows shares issued by Swiss-incorporated companies to be admitted to trading on UK trading venues.

Also, the negotiation on the Trade and Cooperation Agreement, which governs the relationship between the EU and the UK on free trade in certain goods and mutual market access, among other matters, was finalized on 24 December 2020.

In September 2020, the EC adopted a temporary equivalence decision for UK central counterparties ("**CCPs**") for the purpose of facilitating derivatives clearing. The temporary equivalence decision, applicable from 1 January 2021 until 30 June 2022, does not require UBS Europe SE to migrate its exposures to an EU CCP before the end of the transition period.

In March 2019, UBS completed a business transfer and cross- border merger of UBS Limited and UBS Europe SE in order to continue serving European Economic Area ("**EEA**") clients following the end of the transition period. UBS continues to align its Investment Bank activities to respond to ongoing regulatory guidance.

Developments related to the transition away from LIBOR

The ICE Benchmark Administration ("**IBA**"), the FCA-regulated and authorized administrator of London Interbank Offered Rate ("**LIBOR**"), is consulting on the timing of the cessation of USD LIBOR. IBA expects that one-week and two-month USD LIBOR settings, and all GBP, JPY, EUR and CHF LIBOR settings, will cease by the end of 2021, and that the remaining USD LIBOR settings will cease by the end of June 2023. The UK Government announced that the FCA will be given additional powers to ensure a smooth wind-down of LIBOR and deal with certain legacy contracts that cannot easily transition from LIBOR.

In October 2020, the International Swaps and Derivatives Association ("**ISDA**") launched the IBOR Fallbacks Supplement and IBOR Fallbacks Protocol, amending the ISDA standard definitions for interest-rate derivatives to incorporate fallbacks for derivatives linked to certain interbank offered rates ("**IBORs**"). The changes came into effect on 25 January 2021 and, from that date, all new cleared and non-cleared derivatives between adhering parties that reference the definitions now include these fallbacks. UBS adhered to the protocol since November 2020, ahead of the effective date in January 2021.

Digitalization

In 2020, the Swiss Parliament passed a revised Swiss data protection law. The consultation on the corresponding ordinance is expected to be launched in the second quarter of 2021 and UBS anticipates both the law and the ordinance to become effective as of 1 January 2022. The revision seeks to improve data protection for individuals by enhancing the transparency and accountability rules for companies processing data, among other measures. This is intended to result in the equivalence necessary for the continued cross-border transmission of data with EU member states.

The Swiss Parliament also adopted the Federal Act on the Adaptation of Federal Law to Developments in Distributed Ledger Technology (the "**DLT Act**"), among other matters, enabling the introduction of ledger-based securities that are represented in a blockchain. Part of the DLT Act has become effective as of February 2021, the remainder is expected to enter into force in the second half of 2021.

The Swiss Parliament also passed the Federal Act on Electronic Identification Services (the "**e-ID Act**"), thereby introducing a federally recognized electronic identity. As a referendum has been

successfully called for, the law will be subject to a public vote in March 2021. In the EU, the EC has outlined its Digital Finance Package, which is focused on crypto-assets, digital identities, digital operational resilience and retail payments strategy, among other matters. Furthermore, the ECB has launched a consultation on a possible future digital euro.

Operational resilience

On the international level, in 2020, the BCBS finished its consultation on new Principles for Operational Resilience, as well as on the revisions to the existing BCBS Principles for the Sound Management of Operational Risk. Final guidelines are expected to be released in the course of 2021. In the UK, the UK Prudential Regulation Authority ("**PRA**") and FCA completed their joint consultations on the new UK operational resilience framework, with final rules expected in March 2021. US banking regulators have further issued a whitepaper on operational resilience that broadly aligns with the BCBS and UK proposals but is not applicable to foreign banks, at present. EU institutions are also considering legislative proposals in relation to digital operational resilience. Addressing the emerging requirements across jurisdictions, UBS has established a global program to enhance its capabilities on operational resilience and enable alignment with relevant regulatory requirements and legislation.

3.3. Trend Information

As indicated in the UBS Group AG fourth quarter 2020 report published on 26 January 2021, investor sentiment improved in the fourth quarter of 2020, largely on the basis of the strong rebound in economic activity seen through the third quarter, combined with greater optimism regarding the availability and effective distribution of COVID-19 vaccines, as well as continued fiscal and monetary stimulus that contributed to generally more positive views on the timing and extent of a sustainable economic recovery. However, recent developments, including economic and political situations in some large economies and geopolitical tensions, have again raised questions around the shape and pace of the recovery. The growing numbers of COVID-19 infections and hospitalizations as well as lockdowns and similar measures imposed to control the pandemic add to existing concerns about the shape of the overall recovery and the severity and duration of the effects of the pandemic in certain economic sectors. In these uncertain times, UBS's clients particularly value expert guidance and UBS remains focused on supporting them with advice and solutions. UBS expects its revenues in the first quarter of 2021 to be positively influenced by seasonal factors such as higher client activity, compared with the fourth quarter of 2020. Higher asset prices should have a positive effect on recurring fee income in UBS's asset gathering businesses. However, the continued uncertainty in the environment could affect both asset prices and client activity. While supporting market sentiment, low and persistently negative interest rates and expectations of continuing easy monetary policy will remain headwinds to net interest income sequentially. With its balance sheet for all seasons and its diversified business model, UBS remains well positioned to drive sustainable long-term value for its clients and shareholders.

Refer to the "*Our environment*" and "Risk factors" in the ""Our strategy, business model and environment" section of the Annual Report 2020 for more information.

4. Board of Directors

The Board of Directors ("**BoD**") consists of at least five and no more than twelve members. All the members of the BoD are elected individually by the Annual General Meeting of Shareholders ("**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. In addition, the UBS announced that Beatrice Weder di Mauro has decided not to

stand for re-election to the BoD, and that it intends to appoint Claudia Böckstiegel and Patrick Firmenich for election to the BoD at the next AGM.

Member	Title	Term of office	Current principal activities outside UBS AG
Axel A. Weber	Chairman	2021	Chairman of the Board of Directors of UBS Group AG; board member of the Swiss Bankers Association; Trustees Board member of Avenir Suisse; board member of the Swiss Finance Council; Chairman of the board of the Institute of International Finance; member of the European Financial Services Round Table; member of the European Banking Group; member of the International Advisory Councils of the China Banking and Insurance Regulatory Commission and the China Securities Regulatory Commission; member of the International Advisory Panel, Monetary Authority of Singapore; member of the Group of Thirty, Washington, D.C.; Chairman of the Board of Trustees of DIW Berlin; Advisory Board member of the Department of Economics, University of Zurich; member of the Trilateral Commission.
Jeremy Anderson	Vice Chairman	2021	Vice-Chairman and 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.
William C. Dudley	Member	2021	Member of the Board of Directors of UBS Group AG; senior research scholar at the Griswold Center for Economic Policy Studies at Princeton University; member of the Board of Treliant LLC; member of the Group of Thirty; member of the Council on Foreign Relations; chair of the Bretton Woods Committee's Advisory Council.
Reto Francioni	Member	2021	Member of the Board of Directors of UBS Group AG; professor at the University of Basel; board member of Coca-Cola HBC AG (Senior Independent Non-Executive Director, chair of the nomination committee); Chairman of the board of Swiss International Air Lines AG; board member of MedTech Innovation Partners AG; executive director and member of myTAMAR GmBH.
Fred Hu	Member	2021	Member of the Board of Directors of UBS Group AG; non-executive chairman of the board of Yum China Holdings (chair of the nomination and governance committee); member of the Board of Ant Group; board member of Industrial and Commercial Bank of China; board member of Hong Kong Exchanges and Clearing Ltd.; chairman of Primavera Capital Group; board member of China Asset Management; board member of Minsheng Financial Leasing Co.; trustee of the China Medical Board; Governor of the Chinese International School in Hong Kong; co-chairman of the Nature Conservancy Asia Pacific Council; director and member of the Executive Committee of China Venture Capital and Private Equity Association Ltd.; Global Advisory Board member of the Council on Foreign Relations.
Mark Hughes	Member	2021	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	2021	Member of the Board of Directors of UBS Group AG; member of the Board of Euronext N.V.; member of the Board of Veolia Environnement SA.
Julie G. Richardson	Member	2021	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 Vereit, Inc. (chair of the compensation committee); member of the board of Datalog (chair of the audit committee).
Beatrice Weder di Mauro	Member	2021	Member of the Board of Directors of UBS Group AG; professor of international economics at the Graduate Institute Geneva (IHEID); president of the Centre for Economic Policy Research in London; research professor and distinguished fellow at the Emerging Markets Institute at INSEAD in Singapore; Supervisory Board member of Robert Bosch GmbH; member of the Foundation Board of the International Center for Monetary and Banking Studies (ICMB); member of the Franco-German Council of Economic Experts; advisor to the Board of Directors of Unigestion.

Member	Title	Term of office	Current principal activities outside UBS AG
Dieter Wemmer	Member	2021	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 Holding, Malta; member of the Berlin Center of Corporate Governance.
Jeanette Wong	Member	2021	Member of the Board of Directors of UBS Group AG; board member of EssilorLuxottica; board member of Jurong Town Corporation; board member of PSA International; board member of FFMC Holdings Pte. Ltd. and of Fullerton Fund Management Company Ltd.; member of the Management Advisory Board of NUS Business School; member of the Global Advisory Board, Asia, University of Chicago Booth School of Business; member of the Securities Industry Council; member of the Board of Trustees of the National University of Singapore.

5. 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 (which for purposes of this section may refer to UBS AG and / or one or more of its subsidiaries, as applicable) 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. 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, UBS states that it has established a provision, and for the other matters, it makes no such statement. When UBS makes this statement and it expects disclosure of the amount of a provision to prejudice seriously its position with other parties in the matter because it would reveal what UBS believes to be the probable and reliably estimable outflow, UBS does not disclose that amount. In some

cases UBS is subject to confidentiality obligations that preclude such disclosure. With respect to the matters for which UBS does not state whether it has established a provision, either: (a) it has not established a provision, in which case the matter is treated as a contingent liability under the applicable accounting standard; or (b) it has established a provision but expects disclosure of that fact to prejudice seriously its 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 UBS has established provisions, UBS is able to estimate the expected timing of outflows. However, the aggregate amount of the expected outflows for those matters for which it is able to estimate expected timing is immaterial relative to its 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 "*Note 18 Provisions and contingent liabilities*" to the UBS AG audited consolidated financial statements included in the Annual Report 2020. It is not practicable to provide an aggregate estimate of liability for UBS's 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. Litigation, regulatory and similar matters may also result in non-monetary penalties and consequences. For example, the non-prosecution agreement UBS entered into with the US Department of Justice ("**DOJ**"), Criminal Division, Fraud Section in connection with submissions of benchmark interest rates, including, among others, the British Bankers' Association LIBOR, was terminated by the DOJ based on its determination that UBS had committed a US crime in relation to foreign exchange matters. As a consequence, UBS AG pleaded guilty to one count of wire fraud for conduct in the LIBOR matter, paid a fine and was subject to probation, which ended in January 2020.

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 UBS's capital requirements and the calculation of operational risk for this purpose is included in the "*Capital, liquidity and funding, and balance sheet*" section of the Annual Report 2020.

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

USD million	Global Wealth Manage-ment	Personal & Corporate Banking	Asset Manage-ment	Investment Bank	Group Functions	Total 2020	Total 2019
Balance at the beginning of the year	782	113	0	255	1,325	**2,475**	2,827
Increase in provisions recognized in the income statement	213	0	0	19	1	**233**	258
Release of provisions recognized in the income statement	(24)	(6)	0	(1)	(2)	**(33)**	(81)
Provisions used in conformity with designated purpose	(154)	(1)	0	(52)	(395)	**(603)**	(518)
Reclassifications	0	0	0	(3)	3	**0**	0
Foreign currency translation / unwind of discount	44	10	0	10	0	**64**	(12)
Balance at the end of the year	**861**	**115**	**0**	**227**	**932**	**2,135**	**2,475**

1 Provisions, if any, for matters described in this disclosure are recorded in Global Wealth Management (item C and item D) and Group Functions (item B). Provisions, if any, for the matters described in items A and F of this disclosure are allocated between Global Wealth Management and Personal & Corporate Banking, and provisions, if any, for the matters described in this disclosure in item E are allocated between the Investment Bank and Group Functions.

A. 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.

The Swiss Federal Administrative Court ruled in 2016 that, in the administrative assistance proceedings related to a French bulk request, UBS has the right to appeal all final FTA client data disclosure orders. On 30 July 2018, the Swiss Federal Administrative Court granted UBS's appeal by holding the French administrative assistance request inadmissible. The FTA filed a final appeal with the Swiss Federal Supreme Court. On 26 July 2019, the Supreme Court reversed the decision of the Federal Administrative Court. In December 2019, the court released its written decision. The decision requires the FTA to obtain confirmation from the French authorities that transmitted data will be used only for the purposes stated in their request before transmitting any data. The stated purpose of the original request was to obtain information relating to taxes owed by account holders. Accordingly, any information transferred to the French authorities must not be passed to criminal authorities or used in connection with the ongoing case against UBS discussed in this item. In February 2020, the FTA ordered that UBS would not be granted party status in the French administrative assistance proceedings. UBS appealed this decision to the Federal Administrative Court. On 15 July, the Federal Administrative Court upheld the FTA's decision, holding that UBS will no longer have party status in these proceedings. The Swiss Federal Supreme Court has determined that it will not hear UBS's appeal of this decision.

Since 2013, UBS (France) S.A., UBS AG and certain former employees have been under investigation in France for alleged complicity in unlawful solicitation of clients on French territory, regarding the laundering of proceeds of tax fraud, and banking and financial solicitation by unauthorized persons. In connection with this investigation, the investigating judges ordered UBS AG to provide bail of EUR 1.1 billion and UBS (France) S.A. to post bail of EUR 40 million, which was reduced on appeal to EUR 10 million.

A trial in the court of first instance took place from 8 October 2018 until 15 November 2018. On 20 February 2019, the court announced 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 laundering the proceeds of tax fraud. The court imposed fines aggregating EUR 3.7 billion on UBS AG and UBS (France) S.A. and awarded EUR 800 million of civil damages to the French state. UBS has appealed the decision. Under French law, the judgment is suspended while the appeal is pending. The trial originally scheduled for 2 June 2020 has been rescheduled to 8-24 March 2021. The Court of Appeal will retry the case de novo as to both the law and the facts, and the fines and penalties can be greater than or less than those imposed by the court of first instance. A subsequent appeal to the Cour de Cassation, France's highest court, is possible with respect to questions of law.

UBS believes that based on both the law and the facts the judgment of the court of first instance should be reversed. UBS believes it followed its obligations under Swiss and French law as well as the European Savings Tax Directive. Even assuming liability, which it contests, UBS believes the penalties and damage amounts awarded greatly exceed the amounts that could be supported by the law and the facts. In particular, UBS believes the court incorrectly based the penalty on the total regularized assets rather than on any unpaid taxes on those assets for which a fraud has been characterized and further incorrectly awarded damages based on costs that were not proven by the civil party. Notwithstanding that UBS believes it should be acquitted, UBS's balance sheet at 31 December 2020 reflected provisions with respect to this matter in an amount of EUR 450 million (USD 549 million at 31 December 2020). The wide range of possible outcomes in this case contributes to a high degree of estimation uncertainty. The provision reflected on UBS's balance sheet at 31 December 2020 reflects its best estimate of possible financial implications, although it is reasonably possible that actual penalties and civil damages could exceed the provision amount.

In 2016, UBS was notified by the Belgian investigating judge that it is under formal investigation regarding the laundering of proceeds of tax fraud, of banking and financial solicitation by unauthorized persons, and of serious tax fraud.

UBS's balance sheet at 31 December 2020 reflected provisions with respect to matters described in this item A in an amount that UBS believes to be appropriate under the applicable accounting standard. As in the case of other matters for which UBS has 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 UBS has recognized.

B. 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.

UBS's balance sheet at 31 December 2020 reflected a provision with respect to matters described in this item B in an amount that it believes to be appropriate under the applicable accounting standard. As in the case of other matters for which UBS has 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 UBS has recognized.

C. 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 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 totalling approximately EUR 2.1 billion, which includes amounts that the funds may be held liable to pay the trustee for the liquidation of BMIS ("**BMIS Trustee**").

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

In the US, the BMIS Trustee filed claims against UBS entities, among others, in relation to the two Luxembourg funds and one of the offshore funds. The total amount claimed against all defendants in these actions was not less than USD 2 billion. 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 125 million 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.

D. 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 in relation to their examinations of UBS's operations.

Since that time UBS has received customer complaints and arbitrations with aggregate claimed damages of USD 3.4 billion, of which claims with aggregate claimed damages of USD 2.8 billion have been resolved through settlements, arbitration or withdrawal of the claim. The claims have been filed by 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; customer complaint and arbitration 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 2015, defendants' motion to dismiss was denied and a request for permission to appeal that ruling was denied by the Puerto Rico Supreme Court.

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 3 billion of bonds by the System in 2008 and sought damages of over USD 800 million. In 2016, the court granted the System's request to join the action as a plaintiff, but ordered that plaintiffs must file an amended complaint. In 2017, the court denied defendants' motion to dismiss the amended complaint. In 2020 the court denied plaintiffs' motion for summary judgment.

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 125 million 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. The actions collectively seek recovery of an aggregate of USD 955 million 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.

UBS's balance sheet at 31 December 2020 reflected provisions with respect to matters described in this item D in amounts that it believes to be appropriate under the applicable accounting standard. As in the case of other matters for which UBS has 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 UBS has recognized.

E. 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 the UK Financial Conduct Authority ("**FCA**"), the US Commodity Futures Trading Commission ("**CFTC**"), FINMA, the Board of Governors of the Federal Reserve System and the Connecticut Department of Banking, the DOJ's Criminal Division and the EC. UBS has ongoing obligations under the Cease and Desist Order of the Federal Reserve Board and the Office of the Comptroller of the Currency (as successor to the Connecticut Department of Banking), and to cooperate with relevant authorities and to undertake certain remediation measures. UBS has also been 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. Investigations relating to foreign exchange matters by certain authorities remain ongoing notwithstanding these resolutions.

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 141 million 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 2017, two putative class actions were filed in federal court in New York against UBS and numerous other banks on behalf of persons and entities who had indirectly purchased foreign exchange instruments from a defendant or co-conspirator in the US, and a consolidated complaint was filed in June 2017. In March 2018, the court dismissed the consolidated complaint. In October 2018, the court granted plaintiffs' motion seeking leave to file an amended complaint. UBS and 11 other banks have reached an agreement with the plaintiffs to settle the class action for a total of USD 10 million. The court approved the settlement in November 2020.

LIBOR and other benchmark-related regulatory matters: Numerous government agencies, including the SEC, the CFTC, the DOJ, the FCA, the UK Serious Fraud Office, the Monetary Authority of Singapore, the Hong Kong Monetary Authority, FINMA, various state attorneys general in the US and competition authorities in various jurisdictions, have 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 has ongoing obligations to cooperate with the authorities with whom UBS has reached resolutions and to undertake certain remediation measures with respect to benchmark interest rate submissions. UBS has been granted conditional leniency or conditional immunity from authorities in certain jurisdictions, including the Antitrust Division of the DOJ and the Swiss Competition Commission ("**WEKO**"), in connection with potential antitrust or competition law violations related to certain rates. However, UBS has not reached a final settlement with WEKO, as the Secretariat of WEKO has asserted that UBS does not qualify for full immunity.

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

USD LIBOR class and individual actions in the US: In 2013 and 2015, the district court in the USD LIBOR actions dismissed, in whole or in part, certain plaintiffs' antitrust claims, federal racketeering claims, CEA claims, and state common law claims. Although the Second Circuit vacated the district court's judgment dismissing antitrust claims, the district court again dismissed antitrust claims against UBS in 2016. Certain plaintiffs have appealed that decision to the Second Circuit. 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. UBS entered into an agreement in 2016 with representatives of a class of bondholders to settle their USD LIBOR class action. The agreement has received final court approval. 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 December 2019, UBS entered into an

agreement with representatives of the class of USD lenders to settle their USD LIBOR class action. The agreement has received final court approval. 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. On 26 March 2020 the court granted defendants' motion to dismiss the complaint in its entirety. Plaintiffs have appealed the dismissal. 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.

Other benchmark class actions in the US: In 2014, 2015 and 2017, the court in one of the Euroyen TIBOR lawsuits dismissed certain of the plaintiffs' claims, including 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. Plaintiffs have appealed. 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. Defendants moved to dismiss the amended complaint in October 2020. In 2017, the court dismissed the CHF LIBOR action on standing grounds and failure to state a claim. Plaintiffs filed an amended complaint following the dismissal, and the court granted a renewed motion to dismiss in September 2019. Plaintiffs have appealed. Also 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. In October 2018, the court in the SIBOR / SOR action dismissed all but one of plaintiffs' claims against UBS. Plaintiffs filed an amended complaint following the dismissal, and the courts granted a renewed motion to dismiss in July 2019). Plaintiffs have appealed. In November 2018, the court in the BBSW lawsuit dismissed the case as to UBS and certain other foreign defendants for lack of personal jurisdiction. Following that dismissal, plaintiffs filed an amended complaint in April 2019, which UBS and other defendants named in the amended complaint moved to dismiss. In February 2020, the court in the BBSW action 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. 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 are pending. Similar class actions have been filed concerning European government bonds and other government bonds.

UBS and reportedly other banks are responding to investigations and requests for information from various authorities regarding government bond trading practices. As a result of its review to date, UBS has taken appropriate action.

With respect to additional matters and jurisdictions not encompassed by the settlements and orders referred to above, UBS's balance sheet at 31 December 2020 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 UBS has 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 UBS has recognized.

F. 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 may continue 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.

UBS's balance sheet at 31 December 2020 reflected a provision with respect to matters described in this item F in an amount that it 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 UBS has 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 UBS has recognized.

5.1. Material Contracts

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.

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

Except as otherwise disclosed in this document (including in the documents incorporated herein by reference), there has been no material adverse change in the prospects of UBS AG or UBS AG Group since 31 December 2020.

Not all of the risk factors described below will be applicable to a particular series of the Structured Products. Please consider all risks carefully prior to investing in any Structured Products and consult your professional independent financial adviser and legal, accounting, tax and other advisers with respect to any investment in the Structured Products. Please read the following section together with the risk factors set out in the relevant launch announcement and supplemental listing document.

General risks relating to us

Non-collateralised Structured Products

The Structured Products are not secured on any of our assets or any collateral.

Each series of Structured Products constitutes our general unsecured contractual obligations and of no other person and will rank equally with our other unsecured contractual obligations and unsecured and unsubordinated debt. At any given time, the number of our Structured Products outstanding may be substantial.

Our creditworthiness

If you invest in our Structured Products, you are relying on our creditworthiness and of no other person. If we become insolvent or default on our obligations under the Structured Products, you can only claim as our unsecured creditor regardless of the performance of the Underlying Asset and you may not be able to recover all or even part of the amount due under the Structured Products (if any). You have no rights under the terms of the Structured Products against:

(a) any company which issues the underlying shares;

(b) the trustee or the manager of the underlying trust; or

(c) any index compiler or any company which has issued any constituent securities of the underlying index.

We do not guarantee the repayment of your investment in any Structured Product.

Any downgrading of our credit rating by rating agencies such as Moody's or S&P, could result in a reduction in the value of the Structured Products.

Swiss resolution and recovery regime

Under the Swiss Banking Act, FINMA is able to exercise broad statutory powers with respect to Swiss banks and Swiss parent companies of financial groups, such as UBS AG, UBS Group AG and UBS Switzerland AG, if there is justified concern that the entity is overindebted, has serious liquidity problems or, after the expiration of any relevant deadline, no longer fulfils capital adequacy requirements. Such powers include ordering protective measures, instituting restructuring proceedings (and exercising any Swiss resolution powers in connection therewith), and instituting liquidation proceedings, all of which may have a material adverse effect on shareholders and creditors or may prevent UBS Group AG, UBS AG or UBS Switzerland AG from paying dividends or making payments on debt obligations.

Protective measures may include, but are not limited to, certain measures that could require or result in a moratorium on, or the deferment of, payments. UBS would have limited ability to challenge any such protective measures, and creditors would have no right under Swiss law or in Swiss courts to reject them, seek their suspension, or challenge their imposition, including measures that require or result in the deferment of payments.

If restructuring proceedings are opened with respect to UBS Group AG, UBS AG or UBS Switzerland AG, the resolution powers that FINMA may exercise include the power to (i) transfer all or some of the assets, debt and other liabilities, and contracts of the entity subject to proceedings to another entity, (ii) stay for a maximum of two business days the termination of, or the exercise of rights to terminate, netting rights, rights to enforce or dispose of certain types of collateral or rights to transfer claims, liabilities or certain collateral, under contracts to which the entity subject to proceedings is a party, and / or (iii) partially or fully write down the equity capital and, if such equity capital is fully written down, convert into equity or write down

the capital and other debt instruments of the entity subject to proceedings. Shareholders and creditors would have no right to reject, or to seek the suspension of, any restructuring plan pursuant to which such resolution powers are exercised. They would have only limited rights to challenge any decision to exercise resolution powers or to have that decision reviewed by a judicial or administrative process or otherwise.

Upon full or partial write-down of the equity and of the debt of the entity subject to restructuring proceedings, the relevant shareholders and creditors would receive no payment in respect of the equity and debt that is written down, the write-down would be permanent, and the investors would not, at such time or at any time thereafter, receive any shares or other participation rights, or be entitled to any write-up or any other compensation in the event of a potential recovery of the debtor. If FINMA orders the conversion of debt of the entity subject to restructuring proceedings into equity, the securities received by the investors may be worth significantly less than the original debt and may have a significantly different risk profile, and such conversion would also dilute the ownership of existing shareholders. In addition, creditors receiving equity would be effectively subordinated to all creditors in the event of a subsequent winding up, liquidation or dissolution of the entity subject to restructuring proceedings, which would increase the risk that investors would lose all or some of their investment.

FINMA has broad powers and significant discretion in the exercise of its powers in connection with restructuring proceedings. Furthermore, certain categories of debt obligations, such as certain types of deposits, are subject to preferential treatment. As a result, holders of obligations of an entity subject to a Swiss restructuring proceeding may have their obligations written down or converted into equity even though obligations ranking on par with or junior to such obligations are not written down or converted.

Moreover, FINMA has expressed its preference for a "single-point-of-entry" resolution strategy for global systemically important financial groups, led by the bank's home supervisory and resolution authorities and focused on the top-level group company. This would mean that, if UBS AG or one of UBS Group AG's other subsidiaries faces substantial losses, FINMA could open restructuring proceedings with respect to UBS Group AG only and order a bail-in of its liabilities if there is a justified concern that in the near future such losses could impact UBS Group AG. In that case, it is possible that the obligations of UBS AG or any other subsidiary of UBS Group AG would remain unaffected and outstanding, while the equity capital and the capital and other debt instruments of UBS Group AG would be written down and / or converted into equity of UBS Group AG in order to recapitalise UBS AG or such other subsidiary.

In any event, the exercise of any resolution power by the relevant resolution authorities in respect of UBS could materially adversely affect the value of the Structured Product, and you may not be able to recover all or even part of the amount due under the Structured Product.

Hong Kong Financial Institutions (Resolution) Ordinance

The Financial Institutions (Resolution) Ordinance (Cap. 628, the Laws of Hong Kong) (the "**FIRO**") was enacted by the Legislative Council of Hong Kong in June 2016. The FIRO (except Part 8, section 192 and Division 10 of Part 15 thereof) came into operation on 7 July 2017.

The FIRO provides a regime for the orderly resolution of financial institutions with a view to avoiding or mitigating the risks otherwise posed by their non-viability to the stability and effective working of the financial system of Hong Kong, including the continued performance of critical financial functions. The FIRO seeks to provide the relevant resolution authorities with a range of powers to bring about timely and orderly resolution in order to stabilise and secure continuity for a failing authorised institution in Hong Kong. In particular, it is envisaged that subject to certain safeguards, the relevant resolution authority would be provided with powers to affect contractual and property rights as well as payments (including in respect of any priority of payment) that creditors would receive in resolution, including but not limited to powers to write off, or convert into equity, all or a part of the liabilities of the failing financial institution.

As an authorised institution regulated by the Hong Kong Monetary Authority, we are subject to and bound by the FIRO. The exercise of any resolution power by the relevant resolution authority under the FIRO in respect of us may have a material adverse effect on the value of the Structured Products, and as a result, you may not be able to recover all or any amount due under the Structured Products.

Repurchase of our Structured Products

We, our subsidiaries and affiliates (the "**Group**") may repurchase the Structured Products from time to time in the private market or otherwise at a negotiated price or the prevailing market price at our discretion. You should not make any assumption as to the number of Structured Products in issue for any particular series at any time.

No deposit liability or debt obligation

We are obliged to deliver to you the Cash Settlement Amount under the Conditions of each series of the Structured Products upon expiry. We do not intend (expressly, implicitly or otherwise) to create a deposit liability or a debt obligation of any kind by the issue of any Structured Product.

Conflicts of interest

The Group is a diversified financial institution with relationships in countries around the world. The Group engages in a wide range of commercial and investment banking, brokerage, funds management, hedging transactions and investment and other activities for our own account or the account of others. In addition, the Group, in connection with our other business activities, may possess or acquire material information about the Underlying Assets or may issue or update research reports on the Underlying Assets. Such activities, information and/or research reports may involve or otherwise affect the Underlying Assets in a manner that may cause consequences adverse to you or otherwise create conflicts of interests in connection with the issue of Structured Products by us. Such actions and conflicts may include, without limitation, the purchase and sale of securities, financial advisory relationships and exercise of creditor rights. The Group:

(a) has no obligation to disclose such information about the Underlying Assets or such activities. The Group and our officers and directors may engage in any such activities without regard to the issue of Structured Products by us or the effect that such activities may directly or indirectly have on any Structured Product;

(b) may from time to time engage in transactions involving the Underlying Assets for our proprietary accounts and/or for accounts under our management and/or to hedge against the market risk associated with issuing the Structured Products. Such transactions may have a positive or negative effect on the price/level of the Underlying Assets and consequently upon the value of the relevant series of Structured Products;

(c) may from time to time act in other capacities with regard to the Structured Products, such as in an agency capacity and/or as the liquidity provider;

(d) may issue other derivative instruments in respect of the Underlying Assets and the introduction of such competing products into the market place may affect the value of the relevant series of Structured Products; and

(e) may also act as underwriter in connection with future offerings of shares, units or other securities or may act as financial adviser to the issuer, or sponsor, as the case may be, of any such share, unit or other security or in a commercial banking capacity for the issuer of any share, units or other security or the trustee or the manager of the trust. Such activities could present certain conflicts of interest and may affect the value of the Structured Products.

Our operating environment and strategy

Certain risks, including those as set out in Appendix 5, may impact our ability to execute our strategy and directly affect our business activities, financial condition, results of operations and prospects. As a broad-based international financial services firm, we are inherently exposed to risks that become apparent only with the benefit of hindsight, risks of which we are not presently aware or which we currently do not consider to be material could also materially affect our business activities, financial condition, results of operations and prospects.

The sequence in which the risk factors are set out in Appendix 5 is not indicative of their likelihood of occurrence or the potential magnitude of their financial consequences.

Our operating results, financial condition and ability to pay obligations in the future

UBS AG's ability to pay its obligations in the future may be affected by the level of funding, dividends and other distributions, if any, received from UBS Switzerland AG and other subsidiaries. The ability of such subsidiaries to make loans or distributions, directly or indirectly, to UBS AG may be restricted as a result of several factors, including restrictions in financing agreements and the requirements of applicable law and regulatory, fiscal or other restrictions. In particular, UBS AG's direct and indirect subsidiaries, including UBS Switzerland AG, UBS Americas Holding LLC and UBS Europe SE, are subject to laws and regulations that restrict dividend payments, authorise regulatory bodies to block or reduce the flow of funds from those subsidiaries to UBS AG, or could affect their ability to repay any loans made to, or other investments in, such subsidiary by UBS AG or another member of the Group. For example, in the early stages of the COVID-19 pandemic, the European Central Bank ordered all banks under its supervision to cease dividend distributions and the Federal Reserve Board has limited capital distributions by bank holding companies and intermediate holding companies. Restrictions and regulatory actions of this kind could impede access to funds that UBS AG may need to meet its obligations. In addition, UBS AG's right to participate in a distribution of assets upon a subsidiary's liquidation or reorganisation is subject to all prior claims of the subsidiary's creditors.

Furthermore, UBS AG may guarantee some of the payment obligations of certain of its subsidiaries from time to time. These guarantees may require UBS AG to provide substantial funds or assets to subsidiaries or their creditors or counterparties at a time when UBS AG is in need of liquidity to fund its own obligations.

General risks relating to Structured Products

You may lose all your investment in the Structured Products

Structured Products involve a high degree of risk, and are subject to a number of risks which may include interest, foreign exchange, time value, market and/or political risks. Structured Products may expire worthless.

Options, warrants and asset linked instruments are priced primarily on the basis of the price/level of the Underlying Asset, the volatility of the Underlying Asset's price/level and the time remaining to expiry of the Structured Product.

The price of Structured Products generally may fall in value as rapidly as they may rise and you should be prepared to sustain a significant or total loss of the purchase price of the Structured Products. Assuming all other factors are held constant, the more the underlying share price, unit price or index level of a Structured Product moves in a direction against you and the shorter its remaining term to expiration, the greater the risk that you will lose all or a significant part of your investment.

The Structured Products are only exercisable on their respective Expiry Dates and may not be exercised by you prior to the relevant Expiry Date. Accordingly, if on such Expiry Date the Cash Settlement Amount is zero or negative, you will lose the value of your investment.

The risk of losing all or any part of the purchase price of a Structured Product means that, in order to recover and realise a return on investment, you must generally anticipate correctly the direction, timing and magnitude of any change in the price/level of the Underlying Asset as may be specified in the relevant launch announcement and supplemental listing document.

Changes in the price/level of an Underlying Asset can be unpredictable, sudden and large and such changes may result in the price/level of the Underlying Asset moving in a direction which will negatively impact upon the return on your investment. You therefore risk losing your entire investment if the price/level of the relevant Underlying Asset does not move in the anticipated direction.

The value of the Structured Products may be disproportionate or opposite to movement in price/level of the Underlying Assets

An investment in Structured Products is not the same as owning the Underlying Assets or having a direct investment in the Underlying Asset. The market values of Structured Products are linked to the relevant Underlying Assets and will be influenced (positively or negatively) by it or them but any change may not be comparable and may be disproportionate. It is possible that while the price/level of the Underlying Assets is increasing, the value of the Structured Product is falling.

If you intend to purchase any series of Structured Products to hedge against the market risk associated with investing in the Underlying Asset specified in the relevant launch announcement and supplemental listing document, you should recognise the complexities of utilizing Structured Products in this manner. For example, the value of the Structured Products may not exactly correlate with the price/level of the Underlying Asset. Due to fluctuations in supply and demand for Structured Products, there is no assurance that their value will correlate with movements of the Underlying Asset. The Structured Products may not be a perfect hedge to the Underlying Asset or portfolio of which the Underlying Asset forms a part.

It may not be possible to liquidate the Structured Products at a level which directly reflects the price/level of the Underlying Asset or portfolio of which the Underlying Asset forms a part. Therefore, it is possible that you could suffer substantial losses in the Structured Products in addition to any losses suffered with respect to investments in or exposures to the Underlying Asset.

Possible illiquidity of secondary market

It is not possible to predict if and to what extent a secondary market may develop in any series of Structured Products and at what price such series of Structured Products will trade in the secondary market and whether such market will be liquid or illiquid. The fact that the Structured Products are listed does not necessarily lead to greater liquidity than if they were not listed.

If any series of Structured Products are not listed or traded on any exchange, pricing information for such series of Structured Products may be difficult to obtain and the liquidity of that series of Structured Products may be adversely affected.

The liquidity of any series of Structured Products may also be affected by restrictions on offers and sales of the Structured Products in some jurisdictions. Transactions in off-exchange Structured Products may be subject to greater risks than dealing in exchange-traded Structured Products. To the extent that any Structured Products of a series is closed out, the number of Structured Products outstanding in that series will decrease, which may result in a lessening of the liquidity of Structured Products. A lessening of the liquidity of the affected series of Structured Products may cause, in turn, an increase in the volatility associated with the price of such Structured Products.

While we have, or will appoint, a liquidity provider for the purposes of making a market for each series of Structured Products, there may be circumstances outside our control or the appointed liquidity provider's control where the appointed liquidity provider's ability to make a market in some or all series of Structured Products is limited, restricted, and/or without limitation, frustrated. In such circumstances we will use our best endeavours to appoint an alternative liquidity provider.

Interest rates

Investments in the Structured Products may involve interest rate risk with respect to the currency of denomination of the Underlying Assets and/or the Structured Products. A variety of factors influence interest rates such as macro economic, governmental, speculative and market sentiment factors. Such fluctuations may have an impact on the value of the Structured Products at any time prior to valuation of the Underlying Assets relating to the Structured Products.

Time decay

The settlement amount of certain series of Structured Products at any time prior to expiration may be less than the trading price of such Structured Products at that time. The difference between the trading price and the settlement amount will reflect, among other things, a "time value" of the Structured Products.

The "time value" of the Structured Products will depend upon, among others, the length of the period remaining to expiration and expectations concerning the range of possible future price/level of the Underlying Assets. The value of a Structured Product will decrease over time as the length of the period remaining to expiration becomes shorter. Therefore, the Structured Products should not be viewed as products for long term investments.

Exchange rate risk

There may be an exchange rate risk in the case of Structured Products where the Cash Settlement Amount will be converted from a foreign currency into Hong Kong 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 Structured Products. Fluctuations in the exchange rate of any one currency may be offset by fluctuations in the exchange rate of other relevant currencies. There can be no assurance that rates of exchange between any relevant currencies which are current rates at the date of issue of any Structured Products will be representative of the relevant rates of exchange used in computing the value of the relevant Structured Products at any time thereafter.

Where Structured Products are described as being "quantoed", the value of the Underlying Assets will be converted from one currency (the "**Original Currency**") into a new currency (the "**New Currency**") on the date and in the manner specified in, or implied by, the Conditions using a fixed exchange rate. The cost to us of maintaining such a fixing between the Original Currency and the New Currency will have an implication on the value of the Structured Products, which will vary during the term of the Structured Products. No assurance can be given as to whether or not, taking into account relative exchange rate and interest rate fluctuations between the Original Currency and the New Currency, a quanto feature in a Structured Product would at any time enhance the return on the Structured Product over a level of a similar Structured Product issued without such a quanto feature.

Taxes

You may be required to pay stamp duty or other taxes or other documentary charges. If you are in doubt as to your tax position, you should consult your own independent tax advisers. In addition, you 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. See "Do you need to pay any tax?" in the section headed "Important Information" on pages 4 to 5 for further information.

Modification to the Conditions

Under the Conditions, we may, without your consent, effect any modification of the terms and conditions of the Structured Products or the Instrument which, in our opinion, is:

(a) not materially prejudicial to the interest of the Structured Products holders generally (without considering your individual circumstances or the tax or other consequences of such modification in any particular jurisdiction);

(b) of a formal, minor or technical nature;

(c) made to correct a manifest error; or

(d) necessary in order to comply with mandatory provisions of the laws or regulations of Hong Kong.

Possible early termination for illegality or impracticability

If we determine in good faith and in a commercially reasonable manner that, for reasons beyond our control, the performance of our obligations under the Structured Products has become illegal or impracticable (or in the case of CBBCs only, it is no longer desirable or practical for us to maintain our hedging arrangement with

respect to the CBBCs), we may terminate early such Structured Products. If we terminate early the Structured Products, we will, if and to the extent permitted by applicable law, pay an amount determined by us in good faith and in a commercially reasonable manner to be their fair market value notwithstanding the illegality or impracticability (or hedging disruption) less the cost to us of unwinding any related hedging arrangements, which may be substantially less than your initial investment and may be zero.

Risks relating to the Underlying Asset

You have no right to the Underlying Asset

Unless specifically indicated in the Conditions, you will not be entitled to:

(i) voting rights or rights to receive dividends or other distributions or any other rights that a holder of the Underlying Asset would normally be entitled to; or

(ii) voting rights or rights to receive dividends or other distributions or any other rights with respect to any company constituting any underlying index.

Valuation risk

An investment in Structured Products may involve valuation risk as regards the Underlying Assets to which the particular series of Structured Products relate. The price/level of the Underlying Asset may vary over time and may increase or decrease by reference to a variety of factors which may include corporate actions, macro economic factors, speculation and (where the Underlying Asset is an index) changes in the formula for or the method of calculating the index.

You must be experienced with dealing in these types of Structured Products and must understand the risks associated with dealing in such products. You should reach an investment decision only after careful consideration, with your advisers, of the suitability of any Structured Product in light of your particular financial circumstances, the information regarding the relevant Structured Product and the particular Underlying Asset to which the value of the relevant Structured Product relates.

Adjustment related risk

In the case of Structured Products relating to a single equity or a unit trust ("**Security**"), certain corporate events relating to the Security require or, as the case may be, permit us to make certain adjustments or amendments to the Conditions. You have limited anti-dilution protection under the Conditions of the Structured Products. We may, in our sole discretion adjust, among other things, the Entitlement, the Exercise Price (if applicable), the Call Price (if applicable), the Strike Price (if applicable) or any other terms (including without limitation the Closing Price of the Security) of any series of Structured Product for events such as rights issue, bonus issue, subdivision, consolidation, cash distribution or restructuring event. However, we are not required to make an adjustment for every event that may affect a Security, in which case the market price of the Structured Products and the return upon the expiry of the Structured Products may be affected.

In addition, if the Security ceases to be listed on the Stock Exchange during the term of the Structured Products, we may make adjustments and/or amendments to the rights attaching to the Structured Products pursuant to the Conditions of the Structured Products. Such adjustments and/or amendments will be conclusive and binding on you.

In the case of Structured Products which relate to an index, the level of the index may be published by the index compiler at a time when one or more shares comprising in the index are not trading. If this occurs on the Valuation Date but such occurrence does not constitute a Market Disruption Event under the Conditions then the value of such share(s) may not be included in the level of the index. In addition, certain events relating to the index (including a material change in the formula or the method of calculating the index or a failure to publish the index) permit us to determine the level of the index on the basis of the formula or method last in effect prior to such change in formula or method.

Suspension of trading

If the Underlying Assets are suspended from trading or dealing for whatever reason on the market on which they are listed or dealt in (including the Stock Exchange), trading in the

relevant series of Structured Products will be suspended for a similar period. In addition, if an Underlying Asset is an index and the calculation and/or publication of the index level by the index compiler is suspended for whatever reasons, trading in the relevant series of Structured Products may be suspended for a similar period. The value of the Structured Products will decrease over time as the length of the period remaining to expiration becomes shorter. In such circumstances, you should note that in the case of a prolonged suspension period, the market price of the Structured Products may be subject to a significant impact of time decay of such prolonged suspension period and may fluctuate significantly upon resumption of trading after the suspension period of the Structured Products. This may adversely affect your investment in the Structured Products.

Delay in settlement

Unless otherwise specified in the relevant Conditions, in the case of any expiry of Structured Products, there may be a time lag between the date on which the Structured Products expire, and the time the applicable settlement amount relating to such event is determined. Any such delay between the time of expiry and the determination of the settlement amount will be specified in the relevant Conditions.

However, such delay could be significantly longer, particularly in the case of a delay in the expiry of such Structured Products arising from our determination that a Market Disruption Event, Settlement Disruption Event or delisting of the underlying shares or units has occurred at any relevant time or that adjustments are required in accordance with the Conditions.

That applicable settlement amount may change significantly during any such period, and such movement or movements could decrease or modify the settlement amount of the Structured Products.

You should note that in the event of there being a Settlement Disruption Event or a Market Disruption Event, payment of the Cash Settlement Amount may be delayed as more fully described in the Conditions.

Risks relating to Structured Products over trusts

General risks

In the case of Structured Products which relate to the units of a trust:

(a) neither we nor any of our affiliates have the ability to control or predict the actions of the trustee or the manager of the relevant trust. Neither the trustee nor the manager of the relevant trust (i) is involved in the offer of any Structured Product in any way, or (ii) has any obligation to consider the interest of the holders of any Structured Product in taking any corporate actions that might affect the value of any Structured Product; and

(b) we have no role in the relevant trust. The manager of the relevant trust is responsible for making strategic, investment and other trading decisions with respect to the management of the relevant trust consistent with its investment objectives and in compliance with the investment restrictions as set out in the constitutive documents of the relevant trust. The manner in which the relevant trust is managed and the timing of actions may have a significant impact on the performance of the relevant trust. Hence, the market price of the relevant units is also subject to these risks.

Exchange traded funds

Where the Underlying Asset of Structured Products comprises the units of an exchange traded fund ("**ETF**"), you should note that:

(a) an ETF is exposed to the economic, political, currency, legal and other risks of a specific sector or market related to the underlying asset pool or index or market that the ETF is designed to track;

(b) there may be disparity between the performance of the ETF and the performance of the underlying asset pool or index or market that the ETF is designed to track as a result of, for example, failure of the tracking strategy, currency differences, fees and expenses; and

(c) where the underlying asset pool or index or market that the ETF tracks is subject to restricted access, the efficiency in the unit creation or redemption to keep the price of the ETF in line with its net asset value may be disrupted, causing the ETF to trade at a higher premium or discount to its net asset value. Hence, the market price of the Structured Products will also be indirectly subject to these risks.

Synthetic exchange traded funds

Additionally, where the Underlying Asset of Structured Products comprises the units of an ETF adopting a synthetic replication investment strategy to achieve its investment objectives by investing in financial derivative instruments linked to the performance of an underlying asset pool or index that the ETF is designed to track ("**Synthetic ETF**"), you should note that:

(a) investments in financial derivative instruments will expose the Synthetic ETF to the credit, potential contagion and concentration risks of the counterparties who issued such financial derivative instruments. As such counterparties are predominantly international financial institutions, the failure of any such counterparty may have a negative effect on other counterparties of the Synthetic ETF. Even if the Synthetic ETF has collateral to reduce the counterparty risk, there may still be a risk that the market value of the collateral has fallen substantially when the Synthetic ETF seeks to realise the collateral; and

(b) the Synthetic ETF may be exposed to higher liquidity risk if the Synthetic ETF invests in financial derivative instruments which do not have an active secondary market.

The above risks may have a significant impact on the performance of the relevant ETF or Synthetic ETF and hence the market price of Structured Products linked to such ETF or Synthetic ETF.

ETF investing through QFII, RQFII and/or China Connect

Where the Underlying Asset of Structured Products comprises the units of an ETF ("**China ETF**") issued and traded outside Mainland China with direct investment in the Mainland China's securities markets through the Qualified Foreign Institutional Investor ("**QFII**") regime, Renminbi Qualified Foreign Institutional Investor ("**RQFII**") regime and/or the Shanghai-Hong Kong Stock Connect and Shenzhen-Hong Kong Stock Connect (collectively, "**China Connect**"), you should note that, amongst others:

(a) the novelty and untested nature of China Connect make China ETFs riskier than traditional ETFs investing directly in more developed markets. The policy and rules for the QFII regime, the RQFII regime and China Connect prescribed by the Mainland China government are new and subject to change, and there may be uncertainty to their implementation. The uncertainty and change of the laws and regulations in Mainland China may adversely impact on the performance of the China ETFs and the trading price of the relevant units;

(b) a China ETF primarily invests in securities traded in the Mainland China's securities markets and is subject to concentration risk. Investment in the Mainland China's securities markets (which are inherently stock markets with restricted access) involves certain risks and special considerations as compared with investment in more developed economies or markets, such as greater political, tax, economic, foreign exchange, liquidity and regulatory risks. The operation of a China ETF may also be affected by interventions by the applicable government(s) and regulators in the financial markets;

(c) trading of securities invested by the China ETF under China Connect will be subject to a daily quota which is utilised on a first-come-first-serve basis under China Connect. In the event that the daily quota under China Connect is reached, the manager may need to suspend creation of further units of such China ETF, and therefore may affect the liquidity in unit trading of such China ETF. In such event, the trading price of a unit of such China ETF is likely to be at a significant premium to its net asset value, and may be highly volatile. The People's Bank of China and the State Administration of Foreign Exchange have published the detailed

implementation rules removing the investment quota allocated to such China ETF under the QFII and RQFII regimes with effect from 6 June 2020; and

(d) there are risks and uncertainties associated with the current mainland Chinese tax laws applicable to China ETF investing in the mainland China through the QFII regime, RQFII regime and/or China Connect. Although such China ETF may have made a tax provision in respect of potential tax liability, the provision may be excessive or inadequate. Any shortfall between the provisions and actual tax liabilities may be covered by the assets of such China ETF and may therefore adversely affect the net asset value of such China ETF and the market value and/or potential payout of the Structured Products.

The above risks may have a significant impact on the performance of the China ETF and the price of the Structured Products linked to such China ETF.

Please read the offering documents of the China ETF to understand its key features and risks.

ETF traded through dual counters model

Where the Underlying Asset of Structured Products comprises the units of an ETF which adopts the dual counters model for trading its units on the Stock Exchange in Renminbi ("**RMB**") and Hong Kong dollars ("**HKD**") separately, the novelty and relatively untested nature of the Stock Exchange's dual counters model may bring the following additional risks:

(a) the Structured Products may be linked to the HKD-traded units or the RMB-traded units. If the Underlying Asset of Structured Products is the HKD-traded units, movements in the trading prices of the RMB-traded units should not directly affect the price of the Structured Products. Similarly, if the Underlying Asset of Structured Products is the RMB-traded units, movements in the trading prices of the HKD-traded units should not directly affect the price of the Structured Products;

(b) if there is a suspension of inter-counter transfer of such units between the HKD counter and the RMB counter for any reason, such units will only be able to be traded in the relevant currency counter on the Stock Exchange, which may affect the demand and supply of such units and have an adverse effect on the price of the Structured Products; and

(c) the trading price on the Stock Exchange of the HKD-traded units and RMB-traded units may deviate significantly due to different factors, such as market liquidity, RMB conversion risk, supply and demand in each counter and the exchange rate between RMB and HKD. Changes in the trading price of the Underlying Asset of Structured Products in HKD or RMB (as the case may be) may adversely affect the price of the Structured Products.

*Real estate investment trust ("**REIT**")*

Where the Underlying Asset of Structured Products comprises the units of a REIT, you should note that the investment objective of a REIT is to invest in a real estate portfolio. Each REIT is exposed to risks relating to investments in real estate, including but not limited to (a) adverse changes in political or economic conditions; (b) changes in interest rates and the availability of debt or equity financing, which may result in an inability by the REIT to maintain or improve the real estate portfolio and finance future acquisitions; (c) changes in environmental, zoning and other governmental rules; (d) changes in market rents; (e) any required repair and maintenance of the portfolio properties; (f) breach of any property laws or regulations; (g) the relative illiquidity of real estate investment; (h) real estate taxes; (i) any hidden interests in the portfolio properties; (j) any increase in insurance premiums and (k) any uninsurable losses.

There may also be disparity between the market price of the units of a REIT and the net asset value per unit. This is because the market price of the units of a REIT also depends on many factors, including but not limited to (a) the market value and perceived prospects of the real estate portfolio; (b) changes in economic or market conditions; (c) changes in market valuations of similar companies; (d) changes in interest rates; (e) the perceived attractiveness of the units of the REIT against those of other equity securities; (f) the future size and liquidity of the market for the

units and the REIT market generally; (g) any future changes to the regulatory system, including the tax system and (h) the ability of the REIT to implement its investment and growth strategies and to retain its key personnel.

The above risks may have a significant impact on the performance of the relevant units and the price of the Structured Products.

Commodity market risk

Where the Underlying Asset comprises the units of an ETF whose value relates directly to the value of a commodity, you should note that fluctuations in the price of the commodity could materially adversely affect the value of the underlying units. Commodity market is generally subject to greater risks than other markets. The price of a commodity is highly volatile. Price movement of a commodity is influenced by, among other things, interest rates, changing market supply and demand relationships, trade, fiscal, monetary and exchange control programmes and policies of governments, and international political and economic events and policies.

Risks relating to CBBCs

Correlation between the price of a CBBC and the price/level of the Underlying Asset

When the Underlying Asset of a CBBC is trading at a price/level close to its Call Price/Call Level, the price of that CBBC tends to be more volatile and any change in the value of that CBBC at such time may be incomparable and disproportionate to the change in the price/level of the Underlying Asset.

You may lose your entire investment when a Mandatory Call Event occurs

Unlike warrants, CBBCs has a mandatory call feature and trading in the CBBCs will be suspended when the Spot Level/Spot Price reaches the Call Level/Call Price (subject to the circumstances in which a Mandatory Call Event will be reversed as set out below). No investors can sell the CBBCs after the occurrence of a Mandatory Call Event. Even if the level/price of the Underlying Asset bounces back in the right direction, the CBBCs which have been terminated as a result of the Mandatory Call Event will not be revived and investors will not be able to profit from the bounce-back. Investors may receive a Residual Value after the occurrence of a Mandatory Call Event but such amount may be zero.

Mandatory Call Event is irrevocable except in limited circumstances

A Mandatory Call Event is irrevocable unless it is triggered as a result of any of the following events:

(a) system malfunction or other technical errors of HKEX (such as the setting up of wrong Call Price/Call Level and other parameters), and such event is reported by the Stock Exchange to us and we and the Stock Exchange mutually agree that such Mandatory Call Event is to be revoked; or

(b) manifest errors caused by the relevant third party price source where applicable (such as miscalculation of the index level by the relevant index compiler), and such event is reported by us to the Stock Exchange and we and the Stock Exchange mutually agree that such Mandatory Call Event is to be revoked,

in each case, such mutual agreement must be reached between the Stock Exchange and us as prescribed in the relevant procedures by the Stock Exchange from time to time. Upon revocation of the Mandatory Call Event, trading of the CBBCs will resume and any trade cancelled after such Mandatory Call Event will be reinstated.

Non-recognition of Post MCE Trades

The Stock Exchange and its recognised exchange controller, HKEX, shall not incur any liability (whether based on contract, tort (including, without limitation, negligence), or any other legal or equitable grounds and without regard to the circumstances giving rise to any purported claim except in the case of wilful misconduct on the part of the Stock Exchange and/or HKEX) for any direct, consequential, special, indirect, economic, punitive, exemplary or any other loss or damage suffered or incurred by us or any other party arising from or in connection with the Mandatory Call Event or the suspension of trading ("**Trading Suspension**") or the non-recognition of trades after a Mandatory Call Event

("**Non-Recognition of Post MCE Trades**"), including without limitation, any delay, failure, mistake or error in the Trading Suspension or Non-Recognition of Post MCE Trades.

We and our affiliates shall not have any responsibility towards you for any losses suffered as a result of the Trading Suspension and/or Non-Recognition of Post MCE Trades in connection with the occurrence of a Mandatory Call Event, notwithstanding that such Trading Suspension or Non-Recognition of Post MCE Trades may have occurred as a result of an error in the observation of the event.

Residual Value will not include residual funding cost

For Category R CBBCs, the Residual Value (if any) payable by us following the occurrence of a Mandatory Call Event will not include the residual funding cost for the CBBCs. You will not receive any residual funding cost back from us upon early termination of a Category R CBBC following the occurrence of a Mandatory Call Event.

Delay in announcements of a Mandatory Call Event

The Stock Exchange will notify the market as soon as practicable after the CBBC has been called. You must however be aware that there may be delay in the announcements of a Mandatory Call Event due to technical errors or system failures and other factors that are beyond our control or the control of the Stock Exchange.

Our hedging activities may adversely affect the price/level of the Underlying Asset

We and/or any of our affiliates may carry out activities that minimise our risks related to the CBBCs, including effecting transactions for our own account or for the account of our customers and hold long or short positions in the Underlying Asset whether for risk reduction purposes or otherwise. In addition, in connection with the offering of any CBBCs, we and/or any of our affiliates may enter into one or more hedging transactions with respect to the Underlying Asset. In connection with such hedging or market-making activities or with respect to proprietary or other trading activities by us and/or any of our affiliates, we and/or any of our affiliates may enter into transactions in the Underlying Asset which may affect the market price, liquidity or price/level of the Underlying Asset and/or the value of CBBCs and which could be deemed to be adverse to your interests. We and/or our affiliates are likely to modify our hedging positions throughout the life of the CBBCs whether by effecting transactions in the Underlying Asset or in derivatives linked to the Underlying Asset. Further, it is possible that the advisory services which we and/or our affiliates provide in the ordinary course of our business could lead to an adverse impact on the value of the Underlying Asset.

Unwinding of hedging arrangements

The trading and/or hedging activities of us or our affiliates related to CBBCs and/or other financial instruments issued by us from time to time may have an impact on the price/level of the Underlying Asset and may trigger a Mandatory Call Event. In particular, when the Underlying Asset is trading close to the Call Price/Call Level, our unwinding activities may cause a fall or rise (as the case may be) in the trading price/level of the Underlying Asset, leading to a Mandatory Call Event as a result of such unwinding activities.

In respect of Category N CBBCs, we or our affiliates may unwind any hedging transactions entered into by us in relation to the CBBCs at any time even if such unwinding activities may trigger a Mandatory Call Event.

In respect of Category R CBBCs, before the occurrence of a Mandatory Call Event, we or our affiliates may unwind our hedging transactions relating to the CBBCs in proportion to the amount of the CBBCs we repurchase from time to time. Upon the occurrence of a Mandatory Call Event, we or our affiliates may unwind any hedging transactions in relation to the CBBCs. Such unwinding activities after the occurrence of a Mandatory Call Event may affect the trading price/level of the Underlying Asset and consequently the Residual Value for the CBBCs.

Risk relating to the legal form of the Structured Products

Each series of Structured Products will be represented by a global certificate registered in the name of HKSCC Nominees Limited (or such other nominee company as may be used by

HKSCC from time to time in relation to the provision of nominee services to persons admitted for the time being by HKSCC as a participant of CCASS).

Structured Products issued in global registered form and held on your behalf within a clearing system effectively means that the evidence of your title, as well as the efficiency of ultimate delivery of the Cash Settlement Amount, will be subject to the CCASS Rules. You should be aware of the following risks:

(a) you will not receive definitive certificates where the Structured Products remain in the name of HKSCC Nominees Limited for the entire life of the Structured Products;

(b) any register that is maintained by us or on our behalf, while available for inspection by you, will not be capable of registering any interests other than that of the legal title owner, in other words, it will record at all times that the Structured Products are being held by HKSCC Nominees Limited;

(c) you will have to rely solely upon your broker/custodians and the statements you receive from such party as evidence of your interest in the investment;

(d) notices or announcements will be published on the HKEX website and/or released by HKSCC to its participants via CCASS. You will need to check the HKEX website regularly and/or rely on your brokers/ custodians to obtain such notices/ announcements; and

(e) following the Expiry Date and the determination by us as to the Cash Settlement Amount, our obligations to you will be duly performed by payment of the Cash Settlement Amount in accordance with the Conditions to HKSCC Nominees Limited as the "holder" of the Structured Products. HKSCC or HKSCC Nominees Limited will then distribute the received Cash Settlement Amount to the respective CCASS participants in accordance with the CCASS Rules.

Fee arrangements with brokers and conflicts of interest of brokers

We may enter into fee arrangements with brokers and/or any of its affiliates with respect to the primary market in the Structured Products. You should note that any brokers with whom we have a fee arrangement does not, and cannot be expected to, deal exclusively in the Structured Products, therefore any broker and/or its subsidiaries or affiliates may from time to time engage in transactions involving the Underlying Assets and/or the structured products of other issuers over the same Underlying Assets to which the particular series of Structured Products may relate, or other underlying assets as the case may be, for their proprietary accounts and/or for the accounts or 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 Structured Products and present certain conflicts of interests.

Effect of the combination of risk factors unpredictable

Two or more risk factors may simultaneously have an effect on the value of a series of Structured Products such that the effect of any individual risk factor may not be predictable. No assurance can be given as to the effect any combination of risk factors may have on the value of a series of Structured Products.

APPENDIX 1 — TERMS AND CONDITIONS OF WARRANTS

The following pages set out the Conditions in respect of different types of Warrants.

PAGE

Part A — Terms and Conditions of Cash Settled Warrants over Single Equities 44

Part B — Terms and Conditions of Cash Settled Index Warrants 55

Part C — Terms and Conditions of Cash Settled Warrants over Single Unit Trusts 63

PART A — TERMS AND CONDITIONS OF CASH SETTLED WARRANTS OVER SINGLE EQUITIES

These Conditions will, together with the supplemental provisions contained in the relevant Launch Announcement and Supplemental Listing Document, and subject to completion and amendment, be endorsed on the Global Certificate. The relevant Launch Announcement and Supplemental Listing Document in relation to the issue of any series of Warrants may specify other terms and conditions which shall, to the extent so specified or to the extent they are inconsistent with these Conditions, replace or modify these Conditions for the purpose of such series of Warrants.

1. Form, Status, Transfer, Title and Additional Costs and Expenses

(A) The Warrants (which expression shall, unless the context otherwise requires, include any further warrants issued pursuant to Condition 11) relating to the Shares of the Company are issued in registered form subject to and with the benefit of an instrument by way of deed poll (the "**Instrument**" as defined more fully in the relevant Launch Announcement and Supplemental Listing Document) executed by UBS AG (the "**Issuer**") acting through its London branch or any of its branches outside Switzerland as it may specify from time to time. The Warrantholders (as defined below) are entitled to the benefit of, are bound by, and are deemed to have notice of all the provisions of the Instrument. A copy of the Instrument is available for inspection at the offices of UBS Securities Asia Limited ("**Sponsor**") at 52nd Floor, Two International Finance Centre, 8 Finance Street, Central, Hong Kong.

The Warrants are represented by a global certificate ("**Global Certificate**") registered in the name of HKSCC Nominees Limited (or such other nominee company as may be used by Hong Kong Securities Clearing Company Limited ("**HKSCC**") from time to time in relation to the provision of nominee services to persons admitted for the time being by HKSCC as a participant of CCASS) (the "**Nominee**"). No definitive certificate will be issued. The Warrants can only be exercised by HKSCC or the Nominee.

(B) The settlement obligation of the Issuer in respect of the Warrants represents general unsecured contractual obligations of the Issuer and of no other person which rank, and will rank, equally among themselves and pari passu with all other present and future unsecured and unsubordinated contractual obligations of the Issuer, except for obligations accorded preference by mandatory provisions of applicable law.

Warrants represent general contractual obligations of the Issuer, and are not, nor is it the intention (expressed, implicit or otherwise) of the Issuer to create by the issue of Warrants deposit liabilities of the Issuer or a debt obligation of any kind.

(C) Transfers of Warrants may be effected only in Board Lots or integral multiples thereof in CCASS in accordance with the General Rules of CCASS and the CCASS Operational Procedures in effect from time to time (the "**CCASS Rules**").

(D) Each person who is for the time being shown in the register kept by the Issuer in Hong Kong as the holder shall be treated by the Issuer and the Sponsor as the absolute owner and holder of the Warrants. The expressions "**Warrantholder**" and "**Warrantholders**" shall be construed accordingly.

(E) Warrantholders are responsible for additional costs and expenses in connection with any exercise of the Warrants including the Exercise Expenses (as defined below) which amount shall, subject to Condition 2(B) and to the extent necessary, be payable to the Issuer and collected from the Warrantholders.

2. Warrant Rights and Exercise Expenses

(A) Every Board Lot entitles the Warrantholders, upon due exercise and upon compliance with these Conditions, in particular Condition 3, to payment of the Cash Settlement Amount (as defined below), if any.

(B) The Warrantholders will be required to pay a sum equal to all the expenses resulting from the exercise of such Warrants. To effect such payment an amount equivalent to the Exercise Expenses (defined below) shall be deducted from the Cash Settlement Amount in accordance with Condition 3(E).

(C) For the purposes of these Conditions:

"**Average Price**" means the arithmetic mean of the closing prices of one Share (as derived from the Daily Quotation Sheet of the Stock Exchange, subject to any adjustment to such closing prices as may be necessary to reflect any event as contemplated in Condition 5 such as capitalisation, rights issue, distribution or the like) in respect of each Valuation Date;

"**Board Lot**" has the meaning given to it in the relevant Launch Announcement and Supplemental Listing Document;

"**Business Day**" means a day (excluding Saturdays) on which the Stock Exchange is scheduled to open for dealings in Hong Kong and banks are open for business in Hong Kong;

"**Cash Settlement Amount**" means, for every Board Lot, an amount in the Settlement Currency calculated by the Issuer in accordance with the following formula:

(i) In the case of a series of call Warrants:

$$\text{Cash Settlement Amount per Board Lot} = \frac{\text{Entitlement x (Average Price - Exercise Price) x one Board Lot}}{\text{Number of Warrant(s) per Entitlement}}$$

(ii) In the case of a series of put Warrants:

$$\text{Cash Settlement Amount per Board Lot} = \frac{\text{Entitlement x (Exercise Price - Average Price) x one Board Lot}}{\text{Number of Warrant(s) per Entitlement}}$$

For the avoidance of doubt, if the Cash Settlement Amount is a negative figure, it shall be deemed to be zero;

"**CCASS**" means the Central Clearing and Settlement System;

"**CCASS Settlement Day**" has the meaning ascribed to the term "Settlement Day" in the CCASS Rules, subject to such modification and amendment prescribed by HKSCC from time to time;

"**Company**" means the company specified as such in the relevant Launch Announcement and Supplemental Listing Document;

"**Entitlement**" means the number specified as such in the relevant Launch Announcement and Supplemental Listing Document, subject to any adjustment in accordance with Condition 5;

"**Exercise Expenses**" means any charges or expenses including any taxes or duties which are incurred in respect of the exercise of a Board Lot of Warrants;

"**Exercise Price**" means the price specified as such in the relevant Launch Announcement and Supplemental Listing Document, subject to any adjustment in accordance with Condition 5;

"**Expiry Date**" means the date specified as such in the relevant Launch Announcement and Supplemental Listing Document;

"**HKEX**" means Hong Kong Exchanges and Clearing Limited;

"**Listing Date**" means the date specified as such in the relevant Launch Announcement and Supplemental Listing Document;

"**Market Disruption Event**" means:

(1) the occurrence or existence on any Valuation Date during the one-half hour period that ends at the close of trading of any suspension of or limitation imposed on trading (by reason of movements in price exceeding limits permitted by the Stock Exchange or otherwise) on the Stock Exchange in (a) the Shares; or (b) any options or futures contracts relating to the Shares if, in any such case, such suspension or limitation is, in the determination of the Issuer, material;

(2) the issuance of the tropical cyclone warning signal number 8 or above or the issuance of a "BLACK" rainstorm signal on any day which either (i) results in the Stock Exchange being closed for trading for the entire day; or (ii) results in the Stock Exchange being closed prior to its regular time for close of trading for the relevant day (for the avoidance of doubt, in the case when the Stock Exchange is scheduled to open for the morning trading session only, closed prior to its regular time for close of trading for the morning session), PROVIDED THAT there shall be no Market Disruption Event solely by reason of the Stock Exchange opening for trading later than its regular time for opening of trading on any day as a result of the tropical cyclone warning signal number 8 or above or the "BLACK" rainstorm signal having been issued; or

(3) a limitation or closure of the Stock Exchange due to any unforeseen circumstances;

"**Settlement Currency**" means the currency specified as such in the relevant Launch Announcement and Supplemental Listing Document;

"**Settlement Date**" means the third CCASS Settlement Day after the later of: (i) the Expiry Date; and (ii) the day on which the Average Price is determined in accordance with the Conditions;

"**Share**" means the share specified as such in the relevant Launch Announcement and Supplemental Listing Document;

"**Stock Exchange**" means The Stock Exchange of Hong Kong Limited; and

"**Valuation Date**" means each of the five Business Days immediately preceding the Expiry Date, provided that if the Issuer determines, in its sole discretion, that a Market Disruption Event has occurred on any Valuation Date, then that Valuation Date shall be postponed until the first succeeding Business Day on which there is no Market Disruption Event irrespective of whether that postponed Valuation Date would fall on a Business Day that is already or is deemed to be a Valuation Date. For the avoidance of doubt, in the event that a Market Disruption Event has occurred and a Valuation Date is postponed as aforesaid, the closing price of the Shares on the first succeeding Business Day will be used more than once in determining the Average Price, so that in no event shall there be less than five closing prices used to determine the Average Price.

If the postponement of the Valuation Date as aforesaid would result in the Valuation Date falling on or after the Expiry Date, then:

(a) the Business Day immediately preceding the Expiry Date (the "**Last Valuation Date**") shall be deemed to be the Valuation Date notwithstanding the Market Disruption Event; and

(b) the Issuer shall determine the closing price of the Shares on the basis of its good faith estimate of the price that would have prevailed on the Last Valuation Date but for the Market Disruption Event.

Trading in Warrants on the Stock Exchange shall cease prior to the Expiry Date in accordance with the requirements of the Stock Exchange.

Other capitalized terms shall, unless otherwise defined herein, have the meaning ascribed to them in the Base Listing Document, the relevant Launch Announcement and Supplemental Listing Document or the Global Certificate.

3. Exercise of Warrants

(A) Warrants may only be exercised in Board Lots or integral multiples thereof.

(B) The Warrants will automatically be exercised on the Expiry Date, if the Issuer determines that the Cash Settlement Amount (calculated in accordance with these Conditions) is positive (without notice being given to the Warrantholders). The Warrantholders will not be required to deliver any exercise notice and the Issuer or its agent will pay to the Warrantholders the Cash Settlement Amount (if any) in accordance with Condition 3(E).

Any Warrant which has not been automatically exercised in accordance with this Condition 3(B) shall expire immediately thereafter and all rights of the Warrantholders and obligations of the Issuer with respect to such Warrant shall cease.

(C) Any Exercise Expenses which are not determined by the Issuer on the Expiry Date and deducted from the Cash Settlement Amount prior to delivery to the Warrantholders in accordance with this Condition 3, shall be notified by the Issuer to the Warrantholders as soon as practicable after determination thereof and shall be paid by the Warrantholders to the Issuer immediately upon demand.

(D) Subject to exercise of Warrants in accordance with these Conditions, or in the event that Warrants have expired worthless, the Issuer will, with effect from the first Business Day following the Expiry Date, remove the name of each Warrantholder from the register of Warrantholders in respect of such Warrants and thereby cancel the relevant Warrants and, if applicable, cancel the Global Certificate.

(E) Upon exercise of Warrants in accordance with these Conditions, the Issuer will pay the Cash Settlement Amount minus the determined Exercise Expenses to the relevant Warrantholder. If the Cash Settlement Amount is equal to or less than the determined Exercise Expenses, no amount is payable.

The aggregate Cash Settlement Amount minus the determined aggregate Exercise Expenses shall be despatched no later than the Settlement Date, by crediting that amount, in accordance with the CCASS Rules, to the relevant bank account designated by each Warrantholder (the "**Designated Bank Account**").

If as a result of an event beyond the control of the Issuer ("**Settlement Disruption Event**"), it is not possible for the Issuer to procure payment electronically through CCASS by crediting the relevant Designated Bank Account of the Warrantholder on the original Settlement Date, the

Issuer shall use its reasonable endeavours to procure payment electronically through CCASS by crediting the relevant Designated Bank Account of the Warrantholder as soon as reasonably practicable after the original Settlement Date. The Issuer will not be liable to the Warrantholder for any interest in respect of the amount due or any loss or damage that such Warrantholder may suffer as a result of the existence of a Settlement Disruption Event.

(F) The Issuer's obligations to pay the Cash Settlement Amount shall be discharged by payment in accordance with Condition 3(E).

4. Sponsor

(A) The Sponsor will not assume any obligation or duty to or any relationship or agency or trust for the Warrantholders.

(B) The Issuer reserves the right, subject to the appointment of a successor, at any time to vary or terminate the appointment of the initial Sponsor and to appoint another sponsor provided that it will at all times maintain a sponsor in Hong Kong for so long as the Warrants are listed on the Stock Exchange. Notice of any such termination or appointment will be given to the Warrantholders in accordance with Condition 9.

5. Adjustments

(A) *Rights Issues.* If and whenever the Company shall, by way of Rights (as defined below), offer new Shares for subscription at a fixed subscription price to the holders of existing Shares pro rata to existing holdings (a "**Rights Offer**"), the Entitlement shall be adjusted to take effect on the Business Day on which trading in the Shares becomes ex-entitlement ("**Rights Issue Adjustment Date**") in accordance with the following formula:

Adjusted Entitlement = Adjustment Component x E

Where:

$$\text{Adjustment Component} = \frac{1 + M}{1 + (R/S) \times M}$$

E: Existing Entitlement immediately prior to the Rights Offer

S: Cum-Rights Share price being the closing price of an existing Share as derived from the Daily Quotation Sheet of the Stock Exchange on the last Business Day on which the Shares are traded on a Cum-Rights basis

R: Subscription price per new Share specified in the Rights Offer plus an amount equal to any dividends or other benefits foregone to exercise the Right

M: Number of new Share(s) (whether a whole or a fraction) per existing Share each holder thereof is entitled to subscribe

Provided that if the above formula would result in an adjustment to the Entitlement which would amount to one per cent. or less of the Entitlement immediately prior to the adjustment, then no adjustment will be made. In addition, the Issuer shall adjust the Exercise Price (which shall be rounded to the nearest 0.001) by the reciprocal of the Adjustment Component, where the "**reciprocal of the Adjustment Component**" means one divided by the relevant Adjustment Component. The adjustment to the Exercise Price shall take effect on the Rights Issue Adjustment Date.

For the purposes of these Conditions:

"**Rights**" means the right(s) attached to each existing Share or needed to acquire one new Share (as the case may be) which are given to the holders of existing Shares to subscribe at a fixed subscription price for new Shares pursuant to the Rights Offer (whether by the exercise of one Right, a part of a Right or an aggregate number of Rights).

(B) *Bonus Issues.* If and whenever the Company shall make an issue of Shares credited as fully paid to the holders of Shares generally by way of capitalisation of profits or reserves (other than pursuant to a scrip dividend or similar scheme for the time being operated by the Company or otherwise in lieu of a cash dividend and without any payment or other consideration being made or given by such holders) (a "**Bonus Issue**") the Entitlement shall be adjusted to take effect on the Business Day on which trading in the Shares becomes ex-entitlement ("**Bonus Issue Adjustment Date**") in accordance with the following formula:

Adjusted Entitlement = Adjustment Component x E

Where:

Adjustment Component = (1 + N)

E: Existing Entitlement immediately prior to the Bonus Issue

N: Number of additional Shares (whether a whole or a fraction) received by a holder of Shares for each Share held prior to the Bonus Issue

Provided that if the above formula would result in an adjustment to the Entitlement which would amount to one per cent. or less of the Entitlement immediately prior to the adjustment, then no adjustment will be made. In addition, the Issuer shall adjust the Exercise Price (which shall be rounded to the nearest 0.001) by the reciprocal of the Adjustment Component, where the "**reciprocal of the Adjustment Component**" means one divided by the relevant Adjustment Component. The adjustment to the Exercise Price shall take effect on the Bonus Issue Adjustment Date.

(C) *Subdivisions and Consolidations.* If and whenever the Company shall subdivide its Shares or any class of its outstanding share capital comprised of the Shares into a greater number of shares (a "**Subdivision**") or consolidate the Shares or any class of its outstanding share capital comprised of the Shares into a smaller number of shares (a "**Consolidation**"), then:

(i) in the case of a Subdivision, the Entitlement in effect immediately prior thereto will be increased whereas the Exercise Price (which shall be rounded to the nearest 0.001) will be decreased in the same ratio as the Subdivision; and

(ii) in the case of a Consolidation, the Entitlement in effect immediately prior thereto will be decreased whereas the Exercise Price (which shall be rounded to the nearest 0.001) will be increased in the same ratio as the Consolidation,

in each case on the day on which the Subdivision or Consolidation (as the case may be) shall have taken effect.

(D) *Restructuring Events.* If it is announced that the Company is to or may merge or consolidate with or into any other corporation (including becoming, by agreement or otherwise, a subsidiary of or controlled by any person or corporation) (except where the Company is the surviving corporation in a merger) or that it is to or may sell or transfer all or substantially all of its assets, the rights attaching to the Warrants may in the absolute discretion of the Issuer be amended no later than the Business Day preceding the consummation of such merger, consolidation, sale or

transfer (each a "**Restructuring Event**") (as determined by the Issuer in its absolute discretion) so that the Warrants shall, after such Restructuring Event, relate to the number of shares of the corporation(s) resulting from or surviving such Restructuring Event or other securities ("**Substituted Securities**") and/or cash offered in substitution for the affected Shares, as the case may be, to which the holder of such number of Shares to which the Warrants related immediately before such Restructuring Event would have been entitled upon such Restructuring Event, and thereafter the provisions hereof shall apply to such Substituted Securities, provided that any Substituted Securities may, in the absolute discretion of the Issuer, be deemed to be replaced by an amount in the relevant currency equal to the market value or, if no market value is available, fair value, of such Substituted Securities in each case as determined by the Issuer as soon as practicable after such Restructuring Event is effected. For the avoidance of doubt, any remaining Shares shall not be affected by this paragraph and, where cash is offered in substitution for Shares or is deemed to replace Substituted Securities as described above, references in these Conditions to the Shares shall include any such cash.

(E) *Cash Distribution.* No adjustment will be made for an ordinary cash dividend (whether or not it is offered with a scrip alternative) ("**Ordinary Dividend**"). For any other forms of cash distribution ("**Cash Distribution**") announced by the Company, such as a cash bonus, special dividend or extraordinary dividend, no adjustment will be made unless the value of the Cash Distribution accounts for 2 per cent. or more of the Share's closing price on the day of announcement by the Company.

If and whenever the Company shall make a Cash Distribution credited as fully paid to the holders of Shares generally, the Entitlement shall be adjusted to take effect on the Business Day on which trading in the Shares becomes ex-entitlement in respect of the relevant Cash Distribution ("**Distribution Adjustment Date**") in accordance with the following formula:

Adjusted Entitlement = Adjustment Component x E

Where:

$$\text{Adjustment Component} = \frac{S - OD}{S - OD - CD}$$

E: The existing Entitlement immediately prior to the Cash Distribution

S: Cum-Cash Distribution Share price being the closing price of an existing Share as derived from the Daily Quotation Sheet of the Stock Exchange on the last Business Day on which the Shares are traded on a cum-Cash Distribution basis

CD: The Cash Distribution per Share

OD: The Ordinary Dividend per Share, provided that the Ordinary Dividend and the Cash Distribution have the same ex-entitlement date. For avoidance of doubt, the OD shall be zero if the Ordinary Dividend and the Cash Distribution have different ex-entitlement dates

In addition, the Issuer shall adjust the Exercise Price (which shall be rounded to the nearest 0.001) by the reciprocal of the Adjustment Component, where the "**reciprocal of the Adjustment Component**" means one divided by the relevant Adjustment Component. The adjustment to the Exercise Price shall take effect on the Distribution Adjustment Date.

(F) *Other Adjustments.* Without prejudice to and notwithstanding any prior adjustment(s) made pursuant to the applicable Conditions, the Issuer may (but shall not be obliged to) make such

other adjustments to the terms and conditions of the Warrants as appropriate where any event (including the events as contemplated in the applicable Conditions) occurs and irrespective of, in substitution for, or in addition to the provisions contemplated in the applicable Conditions, provided that such adjustment is:

(i) not materially prejudicial to the interests of the Warrantholders generally (without considering the circumstances of any individual Warrantholder or the tax or other consequences of such adjustment in any particular jurisdiction); or

(ii) determined by the Issuer in good faith to be appropriate and commercially reasonable.

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

6. Purchase

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

7. Global Certificate

A Global Certificate representing the Warrants will be deposited with CCASS in the name of HKSCC Nominees Limited. No definitive certificate will be issued.

8. Meetings of Warrantholders and Modification

(A) *Meetings of Warrantholders.* The Instrument contains provisions for convening meetings of the Warrantholders to consider any matter affecting their interests, including the sanctioning by Extraordinary Resolution (as defined in the Instrument) of a modification of the provisions of the Warrants or of the Instrument.

Any resolution to be passed in a meeting of the Warrantholders shall be decided by poll. A meeting may be convened by the Issuer or by Warrantholders holding not less than 10 per cent. of the Warrants 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 Warrants for the time being remaining unexercised, or at any adjourned meeting two or more persons being or representing Warrantholders whatever the number of Warrants 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 Warrantholders who, being entitled to do so, vote in person or by proxy.

An Extraordinary Resolution passed at any meeting of the Warrantholders shall be binding on all the Warrantholders, whether or not they are present at the meeting.

Resolutions can be passed in writing without a meeting of the Warrantholders being held if passed unanimously.

(B) *Modification.* The Issuer may, without the consent of the Warrantholders, effect any modification of the terms and conditions of the Warrants or the Instrument which, in the opinion of the Issuer, is (i) not materially prejudicial to the interests of the Warrantholders generally (without considering the circumstances of any individual Warrantholder or the tax or other consequences

of such modification in any particular jurisdiction); (ii) of a formal, minor or technical nature; (iii) made to correct a manifest error; or (iv) necessary in order to comply with mandatory provisions of the laws or regulations of Hong Kong. Any such modification shall be binding on the Warrantholders and shall be notified to them by the Issuer as soon as practicable thereafter in accordance with Condition 9.

9. Notices

All notices to the Warrantholders will be validly given if published in English and in Chinese on the HKEX website. In such circumstances, the Issuer shall not be required to despatch copies of the notice to the Warrantholders.

10. Liquidation

In the event of a liquidation or dissolution of the Company or the appointment of a liquidator, receiver or administrator or analogous person under any applicable law in respect of the whole or substantially the whole of its undertaking, property or assets, all unexercised Warrants will lapse and shall cease to be valid for any purpose. In the case of voluntary liquidation, the unexercised Warrants will lapse and shall cease to be valid 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 or receiver or administrator or analogous person under any 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.

11. Further Issues

The Issuer shall be at liberty from time to time, without the consent of the Warrantholders, to create and issue further warrants so as to form a single series with the Warrants.

12. Delisting

(A) If at any time the Shares cease to be listed on the 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 Warrants 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 Warrantholders generally are not materially prejudiced as a consequence of such delisting (without considering the circumstances of any individual Warrantholder or the tax or other consequences that may result in any particular jurisdiction).

(B) Without prejudice to the generality of Condition 12(A), where the Shares are, or, upon the delisting, become, listed on any other stock exchange, these Conditions may, in the absolute discretion of the Issuer, be amended to the extent necessary to allow for the substitution of that other stock exchange in place of the Stock Exchange and the Issuer may, without the consent of the Warrantholders, make such adjustments to the entitlements of the Warrantholders on exercise (including, if appropriate, by converting foreign currency amounts at prevailing market rates into the relevant currency) as may be appropriate in the circumstances.

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

13. Illegality or Impracticability

The Issuer is entitled to terminate the Warrants if it determines in good faith and in a commercially reasonable manner that, for reasons beyond its control, it has become or it will become illegal or impracticable:

(i) for it to perform its obligations under the Warrants in whole or in part as a result of:

(a) the adoption of, or any change in, any relevant law or regulation (including any tax law); or

(b) the promulgation of, or any change in, the interpretation by any court, tribunal, governmental, administrative, legislative, regulatory or judicial authority or power with competent jurisdiction of any relevant law or regulation (including any tax law),

(each of (a) and (b), a "**Change in Law Event**"); or

(ii) for it or any of its affiliates to maintain the Issuer's hedging arrangements with respect to the Warrants due to a Change in Law Event.

Upon the occurrence of a Change in Law Event, the Issuer will, if and to the extent permitted by the applicable law or regulation, pay to each Warrantholder a cash amount that the Issuer determines in good faith and in a commercially reasonable manner to be the fair market value in respect of each Warrant held by such Warrantholder immediately prior to such termination (ignoring such illegality or impracticability) less the cost to the Issuer of unwinding any related hedging arrangement as determined by the Issuer in its sole and absolute discretion. Payment will be made to each Warrantholder in such manner as shall be notified to the Warrantholder in accordance with Condition 9.

14. Good Faith and Commercially Reasonable Manner

Any exercise of discretion by the Issuer under these Conditions will be made in good faith and in a commercially reasonable manner.

15. Governing Law

The Warrants and the Instrument are governed by and construed in accordance with the laws of the Hong Kong Special Administrative Region of the People's Republic of China ("**Hong Kong**"). The Issuer and each Warrantholder (by its purchase of the Warrants) submit for all purposes in connection with the Warrants and the Instrument to the non-exclusive jurisdiction of the courts of Hong Kong.

16. Contracts (Rights of Third Parties) Ordinance

A person who is not a party to these Conditions has no right under the Contracts (Rights of Third Parties) Ordinance (Cap. 623 of the Laws of Hong Kong) to enforce or to enjoy the benefit of any term of the Warrants.

17. Language

A Chinese translation of these Conditions will be made available for collection during normal office hours from the Sponsor at 52nd Floor, Two International Finance Centre, 8 Finance Street, Central, Hong Kong. In the event of any inconsistency between the Chinese translation and the English version of these Conditions, the English version of these Conditions shall prevail.

18. Prescription

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

Sponsor:
UBS Securities Asia Limited
52nd Floor
Two International Finance Centre
8 Finance Street, Central
Hong Kong

PART B — TERMS AND CONDITIONS OF CASH SETTLED INDEX WARRANTS

These Conditions will, together with the supplemental provisions contained in the relevant Launch Announcement and Supplemental Listing Document, and subject to completion and amendment, be endorsed on the Global Certificate. The relevant Launch Announcement and Supplemental Listing Document in relation to the issue of any series of Warrants may specify other terms and conditions which shall, to the extent so specified or to the extent they are inconsistent with these Conditions, replace or modify these Conditions for the purpose of such series of Warrants.

1. Form, Status, Transfer, Title and Additional Costs and Expenses

(A) The Warrants (which expression shall, unless the context otherwise requires, include any further warrants issued pursuant to Condition 10) relating to the Index are issued in registered form subject to and with the benefit of an instrument by way of deed poll (the "**Instrument**" as defined more fully in the relevant Launch Announcement and Supplemental Listing Document) executed by UBS AG (the "**Issuer**") acting through its London branch or any of its branches outside Switzerland as it may specify from time to time. The Warrantholders (as defined below) are entitled to the benefit of, are bound by, and are deemed to have notice of all the provisions of the Instrument. A copy of the Instrument is available for inspection at UBS Securities Asia Limited ("**Sponsor**") at 52nd Floor, Two International Finance Centre, 8 Finance Street, Central, Hong Kong.

The Warrants are represented by a global certificate ("**Global Certificate**") registered in the name of HKSCC Nominees Limited (or such other nominee company as may be used by Hong Kong Securities Clearing Company Limited ("**HKSCC**") from time to time in relation to the provision of nominee services to persons admitted for the time being by HKSCC as a participant of CCASS) (the "**Nominee**"). No definitive certificate will be issued. The Warrants can only be exercised by HKSCC or the Nominee.

(B) The settlement obligation of the Issuer in respect of the Warrants represents general unsecured contractual obligations of the Issuer and of no other person which rank, and will rank, equally among themselves and pari passu with all other present and future unsecured and unsubordinated contractual obligations of the Issuer, except for obligations accorded preference by mandatory provisions of applicable law.

Warrants represent general contractual obligations of the Issuer, and are not, nor is it the intention (expressed, implicit or otherwise) of the Issuer to create by the issue of Warrants deposit liabilities of the Issuer or a debt obligation of any kind.

(C) Transfers of Warrants may be effected only in Board Lots or integral multiples thereof in CCASS in accordance with the General Rules of CCASS and the CCASS Operational Procedures in effect from time to time (the "**CCASS Rules**").

(D) Each person who is for the time being shown in the register kept by the Issuer in Hong Kong as the holder shall be treated by the Issuer and the Sponsor as the absolute owner and holder of the Warrants. The expressions "**Warrantholder**" and "**Warrantholders**" shall be construed accordingly.

(E) Warrantholders are responsible for additional costs and expenses in connection with any exercise of the Warrants including the Exercise Expenses (as defined below) which amount shall, subject to Condition 2(B) and to the extent necessary, be payable to the Issuer and collected from the Warrantholders.

2. Warrant Rights and Exercise Expenses

(A) Every Board Lot entitles the Warrantholders, upon due exercise and upon compliance with these Conditions, in particular Condition 3, to payment of the Cash Settlement Amount (as defined below), if any.

(B) The Warrantholders will be required to pay a sum equal to all the expenses resulting from the exercise of such Warrants. To effect such payment an amount equivalent to the Exercise Expenses (defined below) shall be deducted from the Cash Settlement Amount in accordance with Condition 3(E).

(C) For the purposes of these Conditions:

"**Board Lot**" has the meaning given to it in the relevant Launch Announcement and Supplemental Listing Document;

"**Business Day**" means a day (excluding Saturdays) on which the Stock Exchange is scheduled to open for dealings in Hong Kong and banks are open for business in Hong Kong;

"**Cash Settlement Amount**" means, for every Board Lot, an amount calculated by the Issuer in accordance with the following formula (and, if appropriate, either (i) converted (if applicable) into the Settlement Currency at the Exchange Rate or, as the case may be, (ii) converted into the Interim Currency at the First Exchange Rate and then (if applicable) converted into Settlement Currency at the Second Exchange Rate):

(i) In the case of a series of call Warrants:

$$\text{Cash Settlement Amount per Board Lot} = \frac{(\text{Closing Level - Strike Level}) \text{ x one Board Lot x Index Currency Amount}}{\text{Divisor}}$$

(ii) In the case of a series of put Warrants:

$$\text{Cash Settlement Amount per Board Lot} = \frac{(\text{Strike Level - Closing Level}) \text{ x one Board Lot x Index Currency Amount}}{\text{Divisor}}$$

For the avoidance of doubt, if the Cash Settlement Amount is a negative figure, it shall be deemed to be zero;

"**CCASS**" means the Central Clearing and Settlement System;

"**CCASS Settlement Day**" has the meaning ascribed to the term "Settlement Day" in the CCASS Rules, subject to such modification and amendment prescribed by HKSCC from time to time;

"**Closing Level**" means the level specified as such in the relevant Launch Announcement and Supplemental Listing Document subject to any adjustment in accordance with Condition 5;

"**Divisor**" means the number specified as such in the relevant Launch Announcement and Supplemental Listing Document;

"**Exchange Rate**" means the rate specified as such in the relevant Launch Announcement and Supplemental Listing Document;

"**Exercise Expenses**" means any charges or expenses including any taxes or duties which are incurred in respect of the exercise of a Board Lot of Warrants;

"**Expiry Date**" means the date specified as such in the relevant Launch Announcement and Supplemental Listing Document;

"**First Exchange Rate**" means the rate specified as such in the relevant Launch Announcement and Supplemental Listing Document;

"**HKEX**" means Hong Kong Exchanges and Clearing Limited;

"**Index**" means the index specified as such in the relevant Launch Announcement and Supplemental Listing Document;

"**Index Business Day**" means any day on which the Index Exchange is scheduled to open for trading for its regular trading sessions;

"**Index Compiler**" means the index compiler specified as such in the relevant Launch Announcement and Supplemental Listing Document;

"**Index Currency Amount**" has the meaning given to it in the relevant Launch Announcement and Supplemental Listing Document;

"**Index Exchange**" means the index exchange specified as such in the relevant Launch Announcement and Supplemental Listing Document;

"**Interim Currency**" means the currency specified in the relevant Launch Announcement and Supplemental Listing Document;

"**Listing Date**" means the date specified as such in the relevant Launch Announcement and Supplemental Listing Document;

"**Market Disruption Event**" means:

(i) the occurrence or existence, on the Valuation Date during the one-half hour period that ends at the close of trading on the Index Exchange, of any of:

(1) the suspension or material limitation of the trading of a material number of constituent securities that comprise the Index;

(2) the suspension or material limitation of the trading of options or futures contracts relating to the Index on any exchanges on which such contracts are traded; or

(3) the imposition of any exchange controls in respect of any currencies involved in determining the Cash Settlement Amount.

For the purposes of this paragraph (i), (a) the limitation of the number of hours or days of trading will not constitute a Market Disruption Event if it results from an announced change in the regular business hours of any relevant exchange, and (b) a limitation on trading imposed by reason of the movements in price exceeding the levels permitted by any relevant exchange will constitute a Market Disruption Event;

(ii) where the Index Exchange is the Stock Exchange, the issuance of the tropical cyclone warning signal number 8 or above or the issuance of a "BLACK" rainstorm signal on any day which either (i) results in the Stock Exchange being closed for trading for the entire day; or (ii) results in the Stock Exchange being closed prior to its regular time for close of trading for the relevant day (for the avoidance of doubt, in the case when the Stock Exchange is scheduled to open for the morning trading session only, closed prior to its regular time for close of trading for the morning session), PROVIDED THAT there shall

be no Market Disruption Event solely by reason of the Stock Exchange opening for trading later than its regular time for opening of trading on any day as a result of the tropical cyclone warning signal number 8 or above or the "BLACK" rainstorm signal having been issued;

(iii) a limitation or closure of the Index Exchange due to any unforeseen circumstances; or

(iv) any circumstances beyond the control of the Issuer in which the Closing Level or, if applicable, the Exchange Rate, the First Exchange Rate or the Second Exchange Rate (as the case may be) cannot be determined by the Issuer in the manner set out in these Conditions or in such other manner as the Issuer considers appropriate at such time after taking into account all the relevant circumstances.

"**Second Exchange Rate**" means the rate specified as such in the relevant Launch Announcement and Supplemental Listing Document;

"**Settlement Currency**" means the currency specified as such in the relevant Launch Announcement and Supplemental Listing Document;

"**Settlement Date**" means the third CCASS Settlement Day after the later of: (i) the Expiry Date; and (ii) the day on which the Closing Level is determined in accordance with the Conditions;

"**Stock Exchange**" means The Stock Exchange of Hong Kong Limited;

"**Strike Level**" means the level specified as such in the relevant Launch Announcement and Supplemental Listing Document; and

"**Valuation Date**" means the date specified in the relevant Launch Announcement and Supplemental Listing Document.

Trading in Warrants on the Stock Exchange shall cease prior to the Expiry Date in accordance with the requirements of the Stock Exchange.

Other capitalised terms shall, unless otherwise defined herein, bear the meaning ascribed to them in the Base Listing Document, the relevant Launch Announcement and Supplemental Listing Document or the Global Certificate.

3. Exercise of Warrants

(A) Warrants may only be exercised in Board Lots or integral multiples thereof.

(B) The Warrants will automatically be exercised on the Expiry Date, if the Issuer determines that the Cash Settlement Amount (calculated in accordance with these Conditions) is positive (without notice being given to the Warrantholders). The Warrantholders will not be required to deliver any exercise notice and the Issuer or its agent will pay to the Warrantholders the Cash Settlement Amount (if any) in accordance with Condition 3(E).

Any Warrant which has not been automatically exercised in accordance with this Condition 3(B) shall expire immediately thereafter and all rights of the Warrantholders and obligations of the Issuer with respect to such Warrant shall cease.

(C) Any Exercise Expenses which are not determined by the Issuer on the Expiry Date and deducted from the Cash Settlement Amount prior to delivery to the Warrantholders in accordance with this Condition 3, shall be notified by the Issuer to the Warrantholders as soon as practicable after determination thereof and shall be paid by the Warrantholders to the Issuer immediately upon demand.

(D) Subject to exercise of Warrants in accordance with these Conditions, or in the event that Warrants have expired worthless, the Issuer will, with effect from the first Business Day following the Expiry Date, remove the name of each Warrantholder from the register of Warrantholders in respect of such Warrants and thereby cancel the relevant Warrants and, if applicable, cancel the Global Certificate.

(E) Upon exercise of Warrants in accordance with these Conditions, the Issuer will pay the Cash Settlement Amount minus the determined Exercise Expenses to the relevant Warrantholder. If the Cash Settlement Amount is equal to or less than the determined Exercise Expenses, no amount is payable.

The aggregate Cash Settlement Amount minus the determined aggregate Exercise Expenses shall be despatched no later than the Settlement Date, by crediting that amount, in accordance with the CCASS Rules, to the relevant bank account designated by a Warrantholder (the "**Designated Bank Account**").

If as a result of an event beyond the control of the Issuer ("**Settlement Disruption Event**"), it is not possible for the Issuer to procure payment electronically through CCASS by crediting the relevant Designated Bank Account of a Warrantholder on the original Settlement Date, the Issuer shall use its reasonable endeavours to procure payment electronically through CCASS by crediting the relevant Designated Bank Account of the Warrantholder as soon as reasonably practicable after the original Settlement Date. The Issuer will not be liable to the Warrantholder for any interest in respect of the amount due or any loss or damage that such Warrantholder may suffer as a result of the existence of a Settlement Disruption Event.

If the Issuer determines, in its sole discretion, that a Market Disruption Event has occurred on the Valuation Date, then the Issuer shall determine the Closing Level on the basis of its good faith estimate of the Closing Level that would have prevailed on that day but for the occurrence of the Market Disruption Event provided that the Issuer, if applicable, may, but shall not be obliged to, determine such Closing Level by having regard to the manner in which futures contracts relating to the Index are calculated.

(F) The Issuer's obligations to pay the Cash Settlement Amount shall be discharged by payment in accordance with Condition 3(E).

4. Sponsor

(A) The Sponsor will not assume any obligation or duty to or any relationship or agency or trust for the Warrantholders.

(B) The Issuer reserves the right, subject to the appointment of a successor, at any time to vary or terminate the appointment of the initial Sponsor and to appoint another agent provided that it will at all times maintain a sponsor in Hong Kong for so long as the Warrants are listed on the Stock Exchange. Notice of any such termination or appointment will be given to the Warrantholders in accordance with Condition 9.

5. Adjustments to the Index

(A) *Successor Index Compiler Calculates and Reports Index.* If the Index is (i) not calculated and announced by the Index Compiler but is calculated and published by a successor to the Index Compiler (the "**Successor Index Compiler**") acceptable to the Issuer or (ii) replaced by a successor index using, in the determination of the Issuer, the same or a substantially similar formula for and method of calculation as used in the calculation of the Index, then the Index will be deemed to be the index so calculated and announced by the Successor Index Compiler or that successor index, as the case may be.

(B) *Modification and Cessation of Calculation of Index.* If (i) on or prior to the Valuation Date the Index Compiler or (if applicable) the Successor Index Compiler makes a material change in the formula for or the method of calculating the Index or in any other way materially modifies the Index (other than a modification prescribed in that formula or method to maintain the Index in the event of changes in constituent securities, contracts or commodities and other routine events), or (ii) on the Valuation Date the Index Compiler or (if applicable) the Successor Index Compiler fails to calculate and publish the Index (other than as a result of a Market Disruption Event), then the Issuer shall determine the Closing Level using, in lieu of a published level for the Index, the level for the Index as at the Valuation Date as determined by the Issuer in accordance with the formula for and method of calculating the Index last in effect prior to that change or failure, but using only those securities, contracts or commodities that comprised the Index immediately prior to that change or failure (other than those securities that have since ceased to be listed on the relevant exchange).

(C) *Other Adjustments.* Without prejudice to and notwithstanding any prior adjustment(s) made pursuant to the applicable Conditions, the Issuer may (but shall not be obliged to) make such other adjustments to the terms and conditions of the Warrants as appropriate where any event (including the events as contemplated in the applicable Conditions) occurs and irrespective of, in substitution for, or in addition to the provisions contemplated in the applicable Conditions, provided that such adjustment is:

(i) not materially prejudicial to the interests of the Warrantholders generally (without considering the circumstances of any individual Warrantholder or the tax or other consequences of such adjustment in any particular jurisdiction); or

(ii) determined by the Issuer in good faith to be appropriate and commercially reasonable.

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

6. Purchase

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

7. Global Certificate

A Global Certificate representing the Warrants will be deposited with CCASS in the name of HKSCC Nominees Limited. No definitive certificate will be issued.

8. Meetings of Warrantholders and Modification

(A) *Meetings of Warrantholders.* The Instrument contains provisions for convening meetings of the Warrantholders to consider any matter affecting their interests, including the sanctioning by Extraordinary Resolution (as defined in the Instrument) of a modification of the provisions of the Warrants or of the Instrument.

Any resolution to be passed in a meeting of the Warrantholders shall be decided by poll. Such a meeting may be convened by the Issuer or by Warrantholders holding not less than 10 per cent. of the Warrants 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 Warrants for the time being remaining unexercised, or at any adjourned meeting two or more persons being or representing Warrantholders whatever the number of Warrants 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 Warrantholders who, being entitled to do so, vote in person or by proxy.

An Extraordinary Resolution passed at any meeting of the Warrantholders shall be binding on all the Warrantholders, whether or not they are present at the meeting.

Resolutions can be passed in writing without a meeting of the Warrantholders being held if passed unanimously.

(B) *Modification.* The Issuer may, without the consent of the Warrantholders, effect any modification of the terms and conditions of the Warrants or the Instrument which, in the opinion of the Issuer, is (i) not materially prejudicial to the interests of the Warrantholders generally (without considering the circumstances of any individual Warrantholder or the tax or other consequences of such modification in any particular jurisdiction); (ii) of a formal, minor or technical nature; (iii) made to correct a manifest error; or (iv) necessary in order to comply with mandatory provisions of the laws or regulations of Hong Kong. Any such modification shall be binding on the Warrantholders and shall be notified to them by the Issuer as soon as practicable thereafter in accordance with Condition 9.

9. Notices

All notices to the Warrantholders will be validly given if published in English and in Chinese on the HKEX website. In such circumstances, the Issuer shall not be required to despatch copies of the notice to the Warrantholders.

10. Further Issues

The Issuer shall be at liberty from time to time, without the consent of the Warrantholders, to create and issue further warrants so as to form a single series with the Warrants.

11. Illegality or Impracticability

The Issuer is entitled to terminate the Warrants if it determines in good faith and in a commercially reasonable manner that, for reasons beyond its control, it has become or it will become illegal or impracticable:

(i) for it to perform its obligations under the Warrants in whole or in part as a result of:

(a) the adoption of, or any change in, any relevant law or regulation (including any tax law); or

(b) the promulgation of, or any change in, the interpretation by any court, tribunal, governmental, administrative, legislative, regulatory or judicial authority or power with competent jurisdiction of any relevant law or regulation (including any tax law),

(each of (a) and (b), a "**Change in Law Event**"); or

(ii) for it or any of its affiliates to maintain the Issuer's hedging arrangements with respect to the Warrants due to a Change in Law Event.

Upon the occurrence of a Change in Law Event, the Issuer will, if and to the extent permitted by the applicable law or regulation, pay to each Warrantholder a cash amount that the Issuer determines in good faith and in a commercially reasonable manner to be the fair market value in respect of each Warrant held by such Warrantholder immediately prior to such termination (ignoring such illegality or impracticability) less the cost to the Issuer of unwinding any related hedging arrangement as determined by the Issuer in its sole and absolute discretion. Payment will be made to each Warrantholder in such manner as shall be notified to the Warrantholder in accordance with Condition 9.

12. Good Faith and Commercially Reasonable Manner

Any exercise of discretion by the Issuer under these Conditions will be made in good faith and in a commercially reasonable manner.

13. Governing Law

The Warrants and the Instrument are governed by and construed in accordance with the laws of the Hong Kong Special Administrative Region of the People's Republic of China ("**Hong Kong**"). The Issuer and each Warrantholder (by its purchase of the Warrants) submit for all purposes in connection with the Warrants and the Instrument to the non-exclusive jurisdiction of the courts of Hong Kong.

14. Contracts (Rights of Third Parties) Ordinance

A person who is not a party to these Conditions has no right under the Contracts (Rights of Third Parties) Ordinance (Cap. 623 of the Laws of Hong Kong) to enforce or to enjoy the benefit of any term of the Warrants.

15. Language

A Chinese translation of these Conditions will be made available for collection during normal office hours from the Sponsor at 52nd Floor, Two International Finance Centre, 8 Finance Street, Central, Hong Kong. In the event of any inconsistency between the Chinese translation and the English version of these Conditions, the English version of these Conditions shall prevail.

16. Prescription

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

Sponsor:
UBS Securities Asia Limited
52nd Floor
Two International Finance Centre
8 Finance Street, Central
Hong Kong

PART C — TERMS AND CONDITIONS OF CASH SETTLED WARRANTS OVER SINGLE UNIT TRUSTS

These Conditions will, together with the supplemental provisions contained in the relevant Launch Announcement and Supplemental Listing Document, and subject to completion and amendment, be endorsed on the Global Certificate. The relevant Launch Announcement and Supplemental Listing Document in relation to the issue of any series of Warrants may specify other terms and conditions which shall, to the extent so specified or to the extent they are inconsistent with these Conditions, replace or modify these Conditions for the purpose of such series of Warrants.

1. Form, Status, Transfer, Title and Additional Costs and Expenses

(A) The Warrants (which expression shall, unless the context otherwise requires, include any further warrants issued pursuant to Condition 11) relating to the Units of the Trust are issued in registered form subject to and with the benefit of an instrument by way of deed poll (the "**Instrument**" as defined more fully in the relevant Launch Announcement and Supplemental Listing Document) executed by UBS AG (the "**Issuer**") acting through its London branch or any of its branches outside Switzerland as it may specify from time to time. The Warrantholders (as defined below) are entitled to the benefit of, are bound by, and are deemed to have notice of all the provisions of the Instrument. A copy of the Instrument is available for inspection at the offices of UBS Securities Asia Limited ("**Sponsor**") at 52nd Floor, Two International Finance Centre, 8 Finance Street, Central, Hong Kong.

The Warrants are represented by a global certificate ("**Global Certificate**") registered in the name of HKSCC Nominees Limited (or such other nominee company as may be used by Hong Kong Securities Clearing Company Limited ("**HKSCC**") from time to time in relation to the provision of nominee services to persons admitted for the time being by HKSCC as a participant of CCASS) (the "**Nominee**"). No definitive certificate will be issued. The Warrants can only be exercised by HKSCC or the Nominee.

(B) The settlement obligation of the Issuer in respect of the Warrants represents general unsecured contractual obligations of the Issuer and of no other person which rank, and will rank, equally among themselves and pari passu with all other present and future unsecured and unsubordinated contractual obligations of the Issuer, except for obligations accorded preference by mandatory provisions of applicable law.

Warrants represent general contractual obligations of the Issuer, and are not, nor is it the intention (expressed, implicit or otherwise) of the Issuer to create by the issue of Warrants deposit liabilities of the Issuer or a debt obligation of any kind.

(C) Transfers of Warrants may be effected only in Board Lots or integral multiples thereof in CCASS in accordance with the General Rules of CCASS and the CCASS Operational Procedures in effect from time to time (the "**CCASS Rules**").

(D) Each person who is for the time being shown in the register kept by the Issuer in Hong Kong as the holder shall be treated by the Issuer and the Sponsor as the absolute owner and holder of the Warrants. The expressions "**Warrantholder**" and "**Warrantholders**" shall be construed accordingly.

(E) Warrantholders are responsible for additional costs and expenses in connection with any exercise of the Warrants including the Exercise Expenses (as defined below) which amount shall, subject to Condition 2(B) and to the extent necessary, be payable to the Issuer and collected from the Warrantholders.

2. Warrant Rights and Exercise Expenses

(A) Every Board Lot entitles the Warrantholders, upon due exercise and upon compliance with these Conditions, in particular Condition 3, to payment of the Cash Settlement Amount (as defined below), if any.

(B) The Warrantholders will be required to pay a sum equal to all the expenses resulting from the exercise of such Warrants. To effect such payment an amount equivalent to the Exercise Expenses (defined below) shall be deducted from the Cash Settlement Amount in accordance with Condition 3(E).

(C) For the purposes of these Conditions:

"**Average Price**" means the arithmetic mean of the closing prices of one Unit (as derived from the Daily Quotation Sheet of the Stock Exchange, subject to any adjustment to such closing prices as may be necessary to reflect event as contemplated in Condition 5 such as capitalisation, rights issue, distribution or the like) in respect of each Valuation Date;

"**Board Lot**" has the meaning given to it in the relevant Launch Announcement and Supplemental Listing Document;

"**Business Day**" means a day (excluding Saturdays) on which the Stock Exchange is scheduled to open for dealings in Hong Kong and banks are open for business in Hong Kong;

"**Cash Settlement Amount**" means, for every Board Lot, an amount in the Settlement Currency calculated by the Issuer in accordance with the following formula:

(i) In the case of a series of call Warrants:

$$\text{Cash Settlement Amount per Board Lot} = \frac{\text{Entitlement x (Average Price - Exercise Price) x one Board Lot}}{\text{Number of Warrant(s) per Entitlement}}$$

(ii) In the case of a series of put Warrants:

$$\text{Cash Settlement Amount per Board Lot} = \frac{\text{Entitlement x (Exercise Price - Average Price) x one Board Lot}}{\text{Number of Warrant(s) per Entitlement}}$$

For the avoidance of doubt, if the Cash Settlement Amount is a negative figure, it shall be deemed to be zero;

"**CCASS**" means the Central Clearing and Settlement System;

"**CCASS Settlement Day**" has the meaning ascribed to the term "Settlement Day" in the CCASS Rules, subject to such modification and amendment prescribed by HKSCC from time to time;

"**Entitlement**" means the number specified as such in the relevant Launch Announcement and Supplemental Listing Document, subject to any adjustment in accordance with Condition 5;

"**Exercise Expenses**" means any charges or expenses including any taxes or duties which are incurred in respect of the exercise of a Board Lot of Warrants;

"**Exercise Price**" means the price specified as such in the relevant Launch Announcement and Supplemental Listing Document, subject to any adjustment in accordance with Condition 5;

"**Expiry Date**" means the date specified as such in the relevant Launch Announcement and Supplemental Listing Document;

"**HKEX**" means Hong Kong Exchanges and Clearing Limited;

"**Listing Date**" means the date specified as such in the relevant Launch Announcement and Supplemental Listing Document;

"**Market Disruption Event**" means:

(1) the occurrence or existence on any Valuation Date during the one-half hour period that ends at the close of trading of any suspension of or limitation imposed on trading (by reason of movements in price exceeding limits permitted by the Stock Exchange or otherwise) on the Stock Exchange in (a) the Units; or (b) any options or futures contracts relating to the Units if, in any such case, such suspension or limitation is, in the determination of the Issuer, material;

(2) the issuance of the tropical cyclone warning signal number 8 or above or the issuance of a "BLACK" rainstorm signal on any day which either (i) results in the Stock Exchange being closed for trading for the entire day; or (ii) results in the Stock Exchange being closed prior to its regular time for close of trading for the relevant day (for the avoidance of doubt, in the case when the Stock Exchange is scheduled to open for the morning trading session only, closed prior to its regular time for close of trading for the morning session), PROVIDED THAT there shall be no Market Disruption Event solely by reason of the Stock Exchange opening for trading later than its regular time for opening of trading on any day as a result of the tropical cyclone warning signal number 8 or above or the "BLACK" rainstorm signal having been issued; or

(3) a limitation or closure of the Stock Exchange due to any unforeseen circumstances;

"**Settlement Currency**" means the currency specified as such in the relevant Launch Announcement and Supplemental Listing Document;

"**Settlement Date**" means the third CCASS Settlement Day after the later of: (i) the Expiry Date; and (ii) the day on which the Average Price is determined in accordance with the Conditions;

"**Stock Exchange**" means The Stock Exchange of Hong Kong Limited;

"**Trust**" means the trust specified as such in the relevant Launch Announcement and Supplemental Listing Document;

"**Unit**" means the unit specified as such in the relevant Launch Announcement and Supplemental Listing Document; and

"**Valuation Date**" means each of the five Business Days immediately preceding the Expiry Date, provided that if the Issuer determines, in its sole discretion, that a Market Disruption Event has occurred on any Valuation Date, then that Valuation Date shall be postponed until the first succeeding Business Day on which there is no Market Disruption Event irrespective of whether that postponed Valuation Date would fall on a Business Day that is already or is deemed to be a Valuation Date. For the avoidance of doubt, in the event that a Market Disruption Event has occurred and a Valuation Date is postponed as aforesaid, the closing price of the Units on the first succeeding Business Day will be used more than once in determining the Average Price, so that in no event shall there be less than five closing prices used to determine the Average Price.

If the postponement of the Valuation Date as aforesaid would result in the Valuation Date falling on or after the Expiry Date, then:

(a) the Business Day immediately preceding the Expiry Date (the "**Last Valuation Date**") shall be deemed to be the Valuation Date notwithstanding the Market Disruption Event; and

(b) the Issuer shall determine the closing price of the Units on the basis of its good faith estimate of the price that would have prevailed on the Last Valuation Date but for the Market Disruption Event.

Trading in Warrants on the Stock Exchange shall cease prior to the Expiry Date in accordance with the requirements of the Stock Exchange.

Other capitalized terms shall, unless otherwise defined herein, have the meaning ascribed to them in the Base Listing Document, the relevant Launch Announcement and Supplemental Listing Document or the Global Certificate.

3. Exercise of Warrants

(A) Warrants may only be exercised in Board Lots or integral multiples thereof.

(B) The Warrants will automatically be exercised on the Expiry Date, if the Issuer determines that the Cash Settlement Amount (calculated in accordance with these Conditions) is positive (without notice being given to the Warrantholders). The Warrantholders will not be required to deliver any exercise notice and the Issuer or its agent will pay to the Warrantholders the Cash Settlement Amount (if any) in accordance with Condition 3(E).

Any Warrant which has not been automatically exercised in accordance with this Condition 3(B) shall expire immediately thereafter and all rights of the Warrantholders and obligations of the Issuer with respect to such Warrant shall cease.

(C) Any Exercise Expenses which are not determined by the Issuer on the Expiry Date and deducted from the Cash Settlement Amount prior to delivery to the Warrantholders in accordance with this Condition 3, shall be notified by the Issuer to the Warrantholders as soon as practicable after determination thereof and shall be paid by the Warrantholders to the Issuer immediately upon demand.

(D) Subject to exercise of Warrants in accordance with these Conditions, or in the event that Warrants have expired worthless, the Issuer will, with effect from the first Business Day following the Expiry Date, remove the name of each Warrantholder from the register of Warrantholders in respect of such Warrants and thereby cancel the relevant Warrants and, if applicable, cancel the Global Certificate.

(E) Upon exercise of Warrants in accordance with these Conditions, the Issuer will pay the Cash Settlement Amount minus the determined Exercise Expenses to the relevant Warrantholder. If the Cash Settlement Amount is equal to or less than the determined Exercise Expenses, no amount is payable.

The aggregate Cash Settlement Amount minus the determined aggregate Exercise Expenses shall be despatched no later than the Settlement Date, by crediting that amount, in accordance with the CCASS Rules, to the relevant bank account designated by each Warrantholder (the "**Designated Bank Account**").

If as a result of an event beyond the control of the Issuer ("**Settlement Disruption Event**"), it is not possible for the Issuer to procure payment electronically through CCASS by crediting the relevant Designated Bank Account of the Warrantholder on the original Settlement Date, the Issuer shall use its reasonable endeavours to procure payment electronically through CCASS by

crediting the relevant Designated Bank Account of the Warrantholder as soon as reasonably practicable after the original Settlement Date. The Issuer will not be liable to the Warrantholder for any interest in respect of the amount due or any loss or damage that such Warrantholder may suffer as a result of the existence of a Settlement Disruption Event.

(F) The Issuer's obligations to pay the Cash Settlement Amount shall be discharged by payment in accordance with Condition 3(E).

4. Sponsor

(A) The Sponsor will not assume any obligation or duty to or any relationship or agency or trust for the Warrantholders.

(B) The Issuer reserves the right, subject to the appointment of a successor, at any time to vary or terminate the appointment of the initial Sponsor and to appoint another sponsor provided that it will at all times maintain a sponsor in Hong Kong for so long as the Warrants are listed on the Stock Exchange. Notice of any such termination or appointment will be given to the Warrantholders in accordance with Condition 9.

5. Adjustments

(A) *Rights Issues.* If and whenever the Trust shall, by way of Rights (as defined below), offer new Units for subscription at a fixed subscription price to the holders of existing Units pro rata to existing holdings (a "**Rights Offer**"), the Entitlement shall be adjusted to take effect on the Business Day on which trading in the Units becomes ex-entitlement ("**Rights Issue Adjustment Date**") in accordance with the following formula:

Adjusted Entitlement = Adjustment Component x E

Where:

$$\text{Adjustment Component} = \frac{1 + M}{1 + (R/S) \times M}$$

E: Existing Entitlement immediately prior to the Rights Offer

S: Cum-Rights Unit price being the closing price of an existing Unit as derived from the Daily Quotation Sheet of the Stock Exchange on the last Business Day on which the Units are traded on a Cum-Rights basis

R: Subscription price per new Unit specified in the Rights Offer plus an amount equal to any distributions or other benefits foregone to exercise the Right

M: Number of new Unit(s) (whether a whole or a fraction) per existing Unit each holder thereof is entitled to subscribe

Provided that if the above formula would result in an adjustment to the Entitlement which would amount to one per cent. or less of the Entitlement immediately prior to the adjustment, then no adjustment will be made. In addition, the Issuer shall adjust the Exercise Price (which shall be rounded to the nearest 0.001) by the reciprocal of the Adjustment Component, where the "**reciprocal of the Adjustment Component**" means one divided by the relevant Adjustment Component. The adjustment to the Exercise Price shall take effect on the Rights Issue Adjustment Date.

For the purposes of these Conditions:

"**Rights**" means the right(s) attached to each existing Unit or needed to acquire one new Unit (as the case may be) which are given to the holders of existing Units to subscribe at a fixed subscription price for new Units pursuant to the Rights Offer (whether by the exercise of one Right, a part of a Right or an aggregate number of Rights).

(B) *Bonus Issues.* If and whenever the Trust shall make an issue of Units credited as fully paid to the holders of Units generally (other than pursuant to a scrip distribution or similar scheme for the time being operated by the Trust or otherwise in lieu of a cash distribution and without any payment or other consideration being made or given by such holders) (a "**Bonus Issue**") the Entitlement shall be adjusted to take effect on the Business Day on which trading in the Units becomes ex-entitlement ("**Bonus Issue Adjustment Date**") in accordance with the following formula:

Adjusted Entitlement = Adjustment Component x E

Where:

Adjustment Component = (1 + N)

E: Existing Entitlement immediately prior to the Bonus Issue

N: Number of additional Units (whether a whole or a fraction) received by a holder of Units for each Unit held prior to the Bonus Issue

Provided that if the above formula would result in an adjustment to the Entitlement which would amount to one per cent. or less of the Entitlement immediately prior to the adjustment, then no adjustment will be made. In addition, the Issuer shall adjust the Exercise Price (which shall be rounded to the nearest 0.001) by the reciprocal of the Adjustment Component, where the "**reciprocal of the Adjustment Component**" means one divided by the relevant Adjustment Component. The adjustment to the Exercise Price shall take effect on the Bonus Issue Adjustment Date.

(C) *Subdivisions and Consolidations.* If and whenever the Trust shall subdivide its Units or any class of its outstanding Units into a greater number of units (a "**Subdivision**") or consolidate the Units or any class of its outstanding Units into a smaller number of units (a "**Consolidation**"), then:

(i) in the case of a Subdivision, the Entitlement in effect immediately prior thereto will be increased whereas the Exercise Price (which shall be rounded to the nearest 0.001) will be decreased in the same ratio as the Subdivision; and

(ii) in the case of a Consolidation, the Entitlement in effect immediately prior thereto will be decreased whereas the Exercise Price (which shall be rounded to the nearest 0.001) will be increased in the same ratio as the Consolidation,

in each case on the day on which the Subdivision or Consolidation (as the case may be) shall have taken effect.

(D) *Restructuring Events.* If it is announced that the Trust is to or may merge with or into any other trust or consolidate with or into any other trust or corporation (including becoming, by agreement or otherwise, controlled by any person or corporation) (except where the Trust is the surviving entity in a merger) or that it is to, or may, sell or transfer all or substantially all of its assets, the rights attaching to the Warrants may in the absolute discretion of the Issuer be amended no later than the Business Day preceding the consummation of such merger, consolidation, sale or transfer (each a "**Restructuring Event**") (as determined by the Issuer in

its absolute discretion) so that the Warrants shall, after such Restructuring Event, relate to the number of units of the trust(s) resulting from or surviving such Restructuring Event or other securities ("**Substituted Securities**") and/or cash offered in substitution for the affected Units, as the case may be, to which the holder of such number of Units to which the Warrants related immediately before such Restructuring Event would have been entitled upon such Restructuring Event, and thereafter the provisions hereof shall apply to such Substituted Securities, provided that any Substituted Securities may, in the absolute discretion of the Issuer, be deemed to be replaced by an amount in the relevant currency equal to the market value or, if no market value is available, fair value, of such Substituted Securities in each case as determined by the Issuer as soon as practicable after such Restructuring Event is effected. For the avoidance of doubt, any remaining Units shall not be affected by this paragraph and, where cash is offered in substitution for Units or is deemed to replace Substituted Securities as described above, references in these Conditions to the Units shall include any such cash.

(E) *Cash Distribution.* No adjustment will be made for an ordinary cash distribution (whether or not it is offered with a scrip alternative) ("**Ordinary Distribution**"). For any other forms of cash distribution ("**Cash Distribution**") announced by the Trust, such as a cash bonus, special distribution or extraordinary distribution, no adjustment will be made unless the value of the Cash Distribution accounts for 2 per cent. or more of the Unit's closing price on the day of announcement by the Trust.

If and whenever the Trust shall make a Cash Distribution credited as fully paid to the holders of Units generally, the Entitlement shall be adjusted to take effect on the Business Day on which trading in the Units becomes ex-entitlement in respect of the relevant Cash Distribution ("**Distribution Adjustment Date**") in accordance with the following formula:

Adjusted Entitlement = Adjustment Component x E

Where:

$$\text{Adjustment Component} = \frac{S - OD}{S - OD - CD}$$

E: The existing Entitlement immediately prior to the Cash Distribution

S: Cum-Cash Distribution Unit price being the closing price of an existing Unit as derived from the Daily Quotation Sheet of the Stock Exchange on the last Business Day on which the Units are traded on a cum-Cash Distribution basis

CD: The Cash Distribution per Unit

OD: The Ordinary Distribution per Unit, provided that the Ordinary Distribution and the Cash Distribution have the same ex-entitlement date. For avoidance of doubt, the OD shall be zero if the Ordinary Distribution and the Cash Distribution have different ex-entitlement dates

In addition, the Issuer shall adjust the Exercise Price (which shall be rounded to the nearest 0.001) by the reciprocal of the Adjustment Component, where the "**reciprocal of the Adjustment Component**" means one divided by the relevant Adjustment Component. The adjustment to the Exercise Price shall take effect on the Distribution Adjustment Date.

(F) *Other Adjustments.* Without prejudice to and notwithstanding any prior adjustment(s) made pursuant to the applicable Conditions, the Issuer may (but shall not be obliged to) make such

other adjustments to the terms and conditions of the Warrants as appropriate where any event (including the events as contemplated in the applicable Conditions) occurs and irrespective of, in substitution for, or in addition to the provisions contemplated in the applicable Conditions, provided that such adjustment is:

(i) not materially prejudicial to the interests of the Warrantholders generally (without considering the circumstances of any individual Warrantholder or the tax or other consequences of such adjustment in any particular jurisdiction); or

(ii) determined by the Issuer in good faith to be appropriate and commercially reasonable.

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

6. Purchase

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

7. Global Certificate

A Global Certificate representing the Warrants will be deposited with CCASS in the name of HKSCC Nominees Limited. No definitive certificate will be issued.

8. Meetings of Warrantholders and Modification

(A) *Meetings of Warrantholders.* The Instrument contains provisions for convening meetings of the Warrantholders to consider any matter affecting their interests, including the sanctioning by Extraordinary Resolution (as defined in the Instrument) of a modification of the provisions of the Warrants or of the Instrument.

Any resolution to be passed in a meeting of the Warrantholders shall be decided by poll. A meeting may be convened by the Issuer or by Warrantholders holding not less than 10 per cent. of the Warrants 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 Warrants for the time being remaining unexercised, or at any adjourned meeting two or more persons being or representing Warrantholders whatever the number of Warrants 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 Warrantholders who, being entitled to do so, vote in person or by proxy.

An Extraordinary Resolution passed at any meeting of the Warrantholders shall be binding on all the Warrantholders, whether or not they are present at the meeting.

Resolutions can be passed in writing without a meeting of the Warrantholders being held if passed unanimously.

(B) *Modification.* The Issuer may, without the consent of the Warrantholders, effect any modification of the terms and conditions of the Warrants or the Instrument which, in the opinion of the Issuer, is (i) not materially prejudicial to the interests of the Warrantholders generally (without

considering the circumstances of any individual Warrantholder or the tax or other consequences of such modification in any particular jurisdiction); (ii) of a formal, minor or technical nature; (iii) made to correct a manifest error; or (iv) necessary in order to comply with mandatory provisions of the laws or regulations of Hong Kong. Any such modification shall be binding on the Warrantholders and shall be notified to them by the Issuer as soon as practicable thereafter in accordance with Condition 9.

9. Notices

All notices to the Warrantholders will be validly given if published in English and in Chinese on the HKEX website. In such circumstances, the Issuer shall not be required to despatch copies of the notice to the Warrantholders.

10. Termination or Liquidation

In the event of a Termination or the liquidation or dissolution of the trustee of the Trust (including any successor trustee appointed from time to time) ("**Trustee**") (in its capacity as trustee of the Trust) or the appointment of a liquidator, receiver or administrator or analogous person under any applicable law in respect of the whole or substantially the whole of the Trustee's undertaking, property or assets, all unexercised Warrants will lapse and shall cease to be valid for any purpose. In the case of a Termination, the unexercised Warrants will lapse and shall cease to be valid on the effective date of the Termination, in the case of a voluntary liquidation, the unexercised Warrants will lapse and shall cease to be valid 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 or receiver or administrator or analogous person under any applicable law in respect of the whole or substantially the whole of the Trustee's 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.

For the purpose of this Condition 10, "**Termination**" means (i) the Trust is terminated, or the Trustee or the manager of the Trust (including any successor manager appointed from time to time) ("**Manager**") is required to terminate the Trust under the trust deed ("**Trust Deed**") constituting the Trust or applicable law, or the termination of the Trust commences; (ii) the Trust is held or is conceded by the Trustee or the Manager not to have been constituted or to have been imperfectly constituted; (iii) the Trustee ceases to be authorised under the Trust to hold the property of the Trust in its name and perform its obligations under the Trust Deed; or (iv) the Trust ceases to be authorised as an authorised collective investment scheme under the Securities and Futures Ordinance (Cap. 571 of the Laws of Hong Kong).

11. Further Issues

The Issuer shall be at liberty from time to time, without the consent of the Warrantholders, to create and issue further warrants so as to form a single series with the Warrants.

12. Delisting

(A) If at any time the Units cease to be listed on the 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 Warrants 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 Warrantholders generally are not materially prejudiced as a consequence of such delisting (without considering the circumstances of any individual Warrantholder or the tax or other consequences that may result in any particular jurisdiction).

(B) Without prejudice to the generality of Condition 12(A), where the Units are, or, upon the delisting, become, listed on any other stock exchange, these Conditions may, in the absolute discretion of the Issuer, be amended to the extent necessary to allow for the substitution of that other stock exchange in place of the Stock Exchange and the Issuer may, without the consent of the Warrantholders, make such adjustments to the entitlements of the Warrantholders on exercise (including, if appropriate, by converting foreign currency amounts at prevailing market rates into the relevant currency) as may be appropriate in the circumstances.

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

13. Illegality or Impracticability

The Issuer is entitled to terminate the Warrants if it determines in good faith and in a commercially reasonable manner that, for reasons beyond its control, it has become or it will become illegal or impracticable:

(i) for it to perform its obligations under the Warrants in whole or in part as a result of:

(a) the adoption of, or any change in, any relevant law or regulation (including any tax law); or

(b) the promulgation of, or any change in, the interpretation by any court, tribunal, governmental, administrative, legislative, regulatory or judicial authority or power with competent jurisdiction of any relevant law or regulation (including any tax law),

(each of (a) and (b), a "**Change in Law Event**"); or

(ii) for it or any of its affiliates to maintain the Issuer's hedging arrangements with respect to the Warrants due to a Change in Law Event.

Upon the occurrence of a Change in Law Event, the Issuer will, if and to the extent permitted by the applicable law or regulation, pay to each Warrantholder a cash amount that the Issuer determines in good faith and in a commercially reasonable manner to be the fair market value in respect of each Warrant held by such Warrantholder immediately prior to such termination (ignoring such illegality or impracticability) less the cost to the Issuer of unwinding any related hedging arrangement as determined by the Issuer in its sole and absolute discretion. Payment will be made to each Warrantholder in such manner as shall be notified to the Warrantholder in accordance with Condition 9.

14. Good Faith and Commercially Reasonable Manner

Any exercise of discretion by the Issuer under these Conditions will be made in good faith and in a commercially reasonable manner.

15. Governing Law

The Warrants and the Instrument are governed by and construed in accordance with the laws of the Hong Kong Special Administrative Region of the People's Republic of China ("**Hong Kong**"). The Issuer and each Warrantholder (by its purchase of the Warrants) submit for all purposes in connection with the Warrants and the Instrument to the non-exclusive jurisdiction of the courts of Hong Kong.

16. Contracts (Rights of Third Parties) Ordinance

A person who is not a party to these Conditions has no right under the Contracts (Rights of Third Parties) Ordinance (Cap. 623 of the Laws of Hong Kong) to enforce or to enjoy the benefit of any term of the Warrants.

17. Language

A Chinese translation of these Conditions will be made available for collection during normal office hours from the Sponsor at 52nd Floor, Two International Finance Centre, 8 Finance Street, Central, Hong Kong. In the event of any inconsistency between the Chinese translation and the English version of these Conditions, the English version of these Conditions shall prevail.

18. Prescription

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

Sponsor:
UBS Securities Asia Limited
52nd Floor
Two International Finance Centre
8 Finance Street, Central
Hong Kong

APPENDIX 2 — TERMS AND CONDITIONS OF CBBCs

The following pages set out the Conditions in respect of different types of CBBCs.

PAGE

Part A — Terms and Conditions of Cash Settled Callable Bull/Bear Contracts over Single Equities 75

Part B — Terms and Conditions of Cash Settled Callable Bull/Bear Contracts over an Index 89

Part C — Terms and Conditions of Cash Settled Callable Bull/Bear Contracts over Single Unit Trusts 101

PART A — TERMS AND CONDITIONS OF CASH SETTLED CALLABLE BULL/BEAR CONTRACTS OVER SINGLE EQUITIES

These Conditions will, together with the supplemental provisions contained in the relevant Launch Announcement and Supplemental Listing Document, and subject to completion and amendment, be endorsed on the Global Certificate. The relevant Launch Announcement and Supplemental Listing Document in relation to the issue of any series of CBBCs may specify other terms and conditions which shall, to the extent so specified or to the extent they are inconsistent with these Conditions, replace or modify these Conditions for the purpose of such series of CBBCs.

1. Form, Status, Transfer, Title and Additional Costs and Expenses

(A) The CBBCs (which expression shall, unless the context otherwise requires, include any further CBBCs issued pursuant to Condition 12) relating to the Shares of the Company are issued in registered form subject to and with the benefit of an instrument by way of deed poll (the "**Instrument**" as defined more fully in the relevant Launch Announcement and Supplemental Listing Document) executed by UBS AG (the "**Issuer**") acting through its London branch or any of its branches outside Switzerland as it may specify from time to time. The 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 Instrument. A copy of the Instrument is available for inspection at the offices of UBS Securities Asia Limited ("**Sponsor**") at 52nd Floor, Two International Finance Centre, 8 Finance Street, Central, Hong Kong.

The CBBCs are represented by a global certificate ("**Global Certificate**") registered in the name of HKSCC Nominees Limited (or such other nominee company as may be used by Hong Kong Securities Clearing Company Limited ("**HKSCC**") from time to time in relation to the provision of nominee services to persons admitted for the time being by HKSCC as a participant of CCASS) (the "**Nominee**"). No definitive certificate will be issued. The CBBCs can only be exercised by HKSCC or the Nominee.

(B) The settlement obligation of the Issuer in respect of the CBBCs represents general unsecured contractual obligations of the Issuer and of no other person which rank, and will rank, equally among themselves and pari passu with all other present and future unsecured and unsubordinated contractual obligations of the Issuer, except for obligations accorded preference by mandatory provisions of applicable law.

CBBCs represent general contractual obligations of the Issuer, and are not, nor is it the intention (expressed, implicit or otherwise) of the Issuer to create by the issue of CBBCs deposit liabilities of the Issuer or a debt obligation of any kind.

(C) Transfers of CBBCs may be effected only in Board Lots or integral multiples thereof in CCASS in accordance with the General Rules of CCASS and the CCASS Operational Procedures in effect from time to time (the "**CCASS Rules**").

(D) Each person who is for the time being shown in the register kept by the Issuer in Hong Kong as the holder shall be treated by the Issuer and the Sponsor as the absolute owner and holder of the CBBCs. The expressions "**Holder**" and "**Holders**" shall be construed accordingly.

(E) Holders are responsible for additional costs and expenses in connection with any exercise of the CBBCs including the Exercise Expenses (as defined below) which amount shall, subject to Condition 4(G) and to the extent necessary, be payable to the Issuer and collected from the Holders.

2. Definitions

For the purposes of these Conditions:

"**Board Lot**" has the meaning given to it in the relevant Launch Announcement and Supplemental Listing Document;

"**Business Day**" means a day (excluding Saturdays) on which the Stock Exchange is scheduled to open for dealings in Hong Kong and banks are open for business in Hong Kong;

"**Call Price**" means the price specified as such in the relevant Launch Announcement and Supplemental Listing Document, subject to any adjustment in accordance with Condition 6;

"**Cash Settlement Amount**" means, for every Board Lot, an amount in the Settlement Currency calculated by the Issuer in accordance with the following formula:

(i) following a Mandatory Call Event:

(a) in the case of a series of Category R CBBCs, the Residual Value; or

(b) in the case of a series of Category N CBBCs, zero.

(ii) at expiry:

(a) in the case of a series of bull CBBCs:

$$\text{Cash Settlement Amount per Board Lot} = \frac{\text{Entitlement x (Closing Price - Strike Price) x one Board Lot}}{\text{Number of CBBC(s) per Entitlement}}$$

(b) in the case of a series of bear CBBCs:

$$\text{Cash Settlement Amount per Board Lot} = \frac{\text{Entitlement x (Strike Price - Closing Price) x one Board Lot}}{\text{Number of CBBC(s) per Entitlement}}$$

For the avoidance of doubt, if the Cash Settlement Amount is a negative figure, it shall be deemed to be zero;

"**Category N CBBCs**" means a series of CBBCs where the Call Price is equal to the Strike Price;

"**Category R CBBCs**" means a series of CBBCs where the Call Price is different from the Strike Price;

"**CCASS**" means the Central Clearing and Settlement System;

"**CCASS Settlement Day**" has the meaning ascribed to the term "Settlement Day" in the CCASS Rules, subject to such modification and amendment prescribed by HKSCC from time to time;

"**Closing Price**" means the closing price of one Share (as derived from the Daily Quotation Sheet of the Stock Exchange, subject to any adjustment to such closing price as may be necessary to reflect any event as contemplated in Condition 6 such as capitalisation, rights issue, distribution or the like) on the Valuation Date;

"**Company**" means the company specified as such in the relevant Launch Announcement and Supplemental Listing Document;

"**Entitlement**" means the number specified as such in the relevant Launch Announcement and Supplemental Listing Document, subject to any adjustment in accordance with Condition 6;

"**Exercise Expenses**" means any charges or expenses including any taxes or duties which are incurred in respect of the exercise of a Board Lot of CBBCs;

"**Expiry Date**" means the date specified as such in the relevant Launch Announcement and Supplemental Listing Document;

"**Listing Date**" means the date specified as such in the relevant Launch Announcement and Supplemental Listing Document;

"**Mandatory Call Event**" occurs when the Spot Price of the Shares on any Trading Day during the Observation Period is:

(i) in the case of a series of bull CBBCs, at or below the Call Price; or

(ii) in the case of a series of bear CBBCs, at or above the Call Price;

"**Market Disruption Event**" means:

(1) the occurrence or existence on any Trading Day during the one-half hour period that ends at the close of trading of any suspension of or limitation imposed on trading (by reason of movements in price exceeding limits permitted by the Stock Exchange or otherwise) on the Stock Exchange in (a) the Shares; or (b) any options or futures contracts relating to the Shares if, in any such case, such suspension or limitation is, in the determination of the Issuer, material;

(2) the issuance of the tropical cyclone warning signal number 8 or above or the issuance of a "BLACK" rainstorm signal on any day which either (i) results in the Stock Exchange being closed for trading for the entire day; or (ii) results in the Stock Exchange being closed prior to its regular time for close of trading for the relevant day (for the avoidance of doubt, in the case when the Stock Exchange is scheduled to open for the morning trading session only, closed prior to its regular time for close of trading for the morning session), PROVIDED THAT there shall be no Market Disruption Event solely by reason of the Stock Exchange opening for trading later than its regular time for opening of trading on any day as a result of the tropical cyclone warning signal number 8 or above or the "BLACK" rainstorm signal having been issued; or

(3) a limitation or closure of the Stock Exchange due to any unforeseen circumstances;

"**Maximum Trade Price**" means the highest Spot Price of the Shares (subject to any adjustment to such Spot Price as may be necessary to reflect any event as contemplated in Condition 6 such as capitalisation, rights issue, distribution or the like) during the MCE Valuation Period;

"**MCE Valuation Period**" means the period commencing from and including the moment upon which the Mandatory Call Event occurs (the trading session during which the Mandatory Call Event occurs is the "**1st Session**") and up to the end of the trading session on the Stock Exchange immediately following the 1st Session ("**2nd Session**") unless, in the determination of the Issuer in its good faith, the 2nd Session for any reason (including, without limitation, a Market Disruption Event occurring and subsisting in the 2nd Session) does not contain any continuous period of 1 hour or more than 1 hour during which trading in the Shares is permitted on the Stock Exchange with no limitation imposed, the MCE Valuation Period shall be extended to the end of the subsequent trading session following the 2nd Session during which trading in the Shares is permitted on the Stock Exchange with no limitation imposed for a continuous period of at least 1 hour notwithstanding the existence or continuance of a Market Disruption Event in such postponed trading session, unless the Issuer determines in its good faith that each trading session on each of the four Trading Days immediately following the date on which the Mandatory Call

Event occurs does not contain any continuous period of 1 hour or more than 1 hour during which trading in the Shares is permitted on the Stock Exchange with no limitation imposed. In that case:

(i) the period commencing from the 1st Session up to, and including, the last trading session on the Stock Exchange of the fourth Trading Day immediately following the date on which the Mandatory Call Event occurs shall be deemed to be the MCE Valuation Period; and

(ii) the Issuer shall determine the Maximum Trade Price or the Minimum Trade Price (as the case may be) having regard to the then prevailing market conditions, the last reported Spot Price and such other factors as the Issuer may determine to be relevant in its good faith.

For the avoidance of doubt, all Spot Prices available throughout the extended MCE Valuation Period shall be taken into account to determine the Maximum Trade Price or the Minimum Trade Price (as the case may be) for the calculation of the Residual Value.

For the purposes of this definition,

(a) the pre-opening session, the morning session and, in the case of half day trading, the closing auction session (if any) of the same day; and

(b) the afternoon session and the closing auction session (if any) of the same day,

shall each be considered as one trading session only;

"**Minimum Trade Price**" means the lowest Spot Price of the Shares (subject to any adjustment to such Spot Price as may be necessary to reflect any event as contemplated in Condition 6 such as capitalisation, rights issue, distribution or the like) during the MCE Valuation Period;

"**Observation Commencement Date**" means the date specified as such in the relevant Launch Announcement and Supplemental Listing Document;

"**Observation Period**" means the period commencing from and including the Observation Commencement Date and ending on and including the Trading Day immediately preceding the Expiry Date;

"**Post MCE Trades**" has the meaning given to it in the relevant Launch Announcement and Supplemental Listing Document, subject to such modification and amendment prescribed by the Stock Exchange from time to time;

"**Residual Value**" means, for every Board Lot, an amount in the Settlement Currency calculated by the Issuer in accordance with the following formula:

(i) in the case of a series of bull CBBCs:

$$\text{Residual Value per Board Lot} = \frac{\text{Entitlement x (Minimum Trade Price - Strike Price) x one Board Lot}}{\text{Number of CBBC(s) per Entitlement}}$$

(ii) in the case of a series of bear CBBCs:

$$\text{Residual Value per Board Lot} = \frac{\text{Entitlement x (Strike Price - Maximum Trade Price) x one Board Lot}}{\text{Number of CBBC(s) per Entitlement}}$$

"**Settlement Currency**" means the currency specified as such in the relevant Launch Announcement and Supplemental Listing Document;

"**Settlement Date**" means the third CCASS Settlement Day after (i) the end of the MCE Valuation Period or (ii) the later of: (a) the Expiry Date; and (b) the day on which the Closing Price is determined in accordance with the Conditions (as the case may be);

"**Share**" means the share specified as such in the relevant Launch Announcement and Supplemental Listing Document;

"**Spot Price**" means:

(a) in respect of a continuous trading session of the Stock Exchange, the price per Share concluded by means of automatic order matching on the Stock Exchange as reported in the official real-time dissemination mechanism for the Stock Exchange during such continuous trading session in accordance with the Trading Rules, excluding direct business (as defined in the Trading Rules); and

(b) in respect of a pre-opening session or a closing auction session (if applicable) of the Stock Exchange, as the case may be, the final Indicative Equilibrium Price (as defined in the Trading Rules) of the Share (if any) calculated at the end of the pre-order matching period of such pre-opening session or closing auction session (if applicable), as the case may be, in accordance with the Trading Rules, excluding direct business (as defined in the Trading Rules),

subject to such modification and amendment prescribed by the Stock Exchange from time to time;

"**Stock Exchange**" means The Stock Exchange of Hong Kong Limited;

"**Strike Price**" means the price specified as such in the relevant Launch Announcement and Supplemental Listing Document, subject to any adjustment in accordance with Condition 6;

"**Trading Day**" means any day on which the Stock Exchange is scheduled to open for trading for its regular trading sessions;

"**Trading Rules**" means the Rules and Regulations of the Exchange prescribed by the Stock Exchange from time to time; and

"**Valuation Date**" means the Trading Day immediately preceding the Expiry Date unless, in the determination of the Issuer, a Market Disruption Event has occurred on that day in which case, the Valuation Date shall be the first succeeding Trading Day on which the Issuer determines that there is no Market Disruption Event, unless the Issuer determines that there is a Market Disruption Event occurring on each of the four Trading Days immediately following the original date which (but for the Market Disruption Event) would have been the Valuation Date. In that case:

(a) the fourth Trading Day immediately following the original date shall be deemed to be the Valuation Date (regardless of the Market Disruption Event); and

(b) the Issuer shall determine the Closing Price having regard to the then prevailing market conditions, the last reported trading price of the Share on the Stock Exchange and such other factors as the Issuer determines to be relevant.

Other capitalized terms shall, unless otherwise defined herein, have the meaning ascribed to them in the Base Listing Document, any addendum to the Base Listing Document, the relevant Launch Announcement and Supplemental Listing Document or the Global Certificate.

3. Hedging Disruption and Illegality or Impracticability

(A) Hedging Disruption

(i) *Notification.* The Issuer shall as soon as reasonably practicable give notice to the Holders in accordance with Condition 10:

(1) if it determines that a Hedging Disruption Event has occurred; and

(2) of the consequence of such Hedging Disruption Event as determined by the Issuer pursuant to Condition 3(A)(iii).

(ii) *Hedging Disruption Event.* A "**Hedging Disruption Event**" occurs if the Issuer determines in good faith and in a commercially reasonable manner that it is or has become not reasonably practicable or it has otherwise become undesirable, for any reason, for the Issuer wholly or partially to establish, re-establish, substitute or maintain a relevant hedging transaction (a "**Relevant Hedging Transaction**") it deems necessary or desirable to hedge the Issuer's obligations in respect of the CBBCs. The reasons for such determination by the Issuer may include, but are not limited to, the following:

(1) any material illiquidity in the market for the Shares;

(2) a change in any applicable law (including, without limitation, any tax law) or the promulgation of, or change in, the interpretation of any court, tribunal or regulatory authority with competent jurisdiction of any applicable law (including any action taken by a taxing authority);

(3) a material decline in the creditworthiness of a party with whom the Issuer has entered into any such Relevant Hedging Transaction; or

(4) the general unavailability of:

(A) market participants who will agree to enter into a Relevant Hedging Transaction; or

(B) market participants who will so enter into a Relevant Hedging Transaction on commercially reasonable terms.

(iii) *Consequences.* The Issuer, in the event of a Hedging Disruption Event, may determine to:

(1) terminate the CBBCs. In such circumstances the Issuer will, however, if and to the extent permitted by the applicable law, pay to each Holder in respect of each CBBC held by such Holder an amount that the Issuer determines in good faith and in a commercially reasonable manner to be the fair market value of the CBBC immediately prior to such termination less the cost to the Issuer of unwinding any related hedging arrangements. Payment will be made to the Holder in such manner as shall be notified to the Holder in accordance with Condition 10; or

(2) make any other adjustment to the Conditions as it considers appropriate in order to maintain the theoretical value of the CBBCs after adjusting for the relevant Hedging Disruption Event.

(B) Illegality or Impracticability

The Issuer is entitled to terminate the CBBCs if it determines in good faith and in a commercially reasonable manner that, for reasons beyond its control, it has become or it will become illegal or impracticable:

(i) for it to perform its obligations under the CBBCs in whole or in part as a result of:

(1) the adoption of, or any change in, any relevant law or regulation (including any tax law); or

(2) the promulgation of, or any change in, the interpretation by any court, tribunal, governmental, administrative, legislative, regulatory or judicial authority or power with competent jurisdiction of any relevant law or regulation (including any tax law),

(each of (1) and (2), a "**Change in Law Event**"); or

(ii) for it or any of its affiliates to maintain the Issuer's hedging arrangements with respect to the CBBCs due to a Change in Law Event.

Upon the occurrence of a Change in Law Event, the Issuer will, if and to the extent permitted by the applicable law or regulation, pay to each Holder a cash amount that the Issuer determines in good faith and in a commercially reasonable manner to be the fair market value in respect of each CBBC held by such Holder immediately prior to such termination (ignoring such illegality or impracticability) less the cost to the Issuer of unwinding any related hedging arrangement as determined by the Issuer in its sole and absolute discretion. Payment will be made to each Holder in such manner as shall be notified to the Holder in accordance with Condition 10.

4. Exercise of CBBCs

(A) CBBCs may only be exercised in Board Lots or integral multiples thereof.

(B) If no Mandatory Call Event has occurred during the Observation Period, the CBBCs will be deemed to be automatically exercised on the Expiry Date.

(C) Mandatory Call Event

(i) Subject to paragraph (ii) below, following a Mandatory Call Event, the CBBCs will terminate automatically and the Issuer shall have no further obligation under the CBBCs except for the payment of the Cash Settlement Amount (if any) following the Mandatory Call Event on the relevant Settlement Date. The Issuer will give notice to the Holders in accordance with Condition 10. Trading in the CBBCs will be suspended immediately upon the occurrence of a Mandatory Call Event and all Post MCE Trades will be cancelled and will not be recognised by the Issuer or the Stock Exchange.

Revocation

(ii) A Mandatory Call Event is irrevocable unless it is triggered as a result of any of the following events:

(1) system malfunction or other technical errors of Hong Kong Exchanges and Clearing Limited ("**HKEX**") (such as the setting up of wrong Call Price and other parameters); or

(2) manifest errors caused by the relevant third party price source where applicable;

and

(A) in the case of a system malfunction or other technical errors prescribed in paragraph (1) above, such event is reported by the Stock Exchange to the Issuer and the Issuer and the Stock Exchange mutually agree that such Mandatory Call Event is to be revoked; and

(B) in the case of an error by the relevant price source prescribed in paragraph (2) above, such event is reported by the Issuer to the Stock Exchange and the Issuer and the Stock Exchange mutually agree that such Mandatory Call Event is to be revoked,

in each case, such mutual agreement must be reached no later than 30 minutes before the commencement of trading (including the pre-opening session) (Hong Kong time) on the Trading Day of the Stock Exchange immediately following the day on which the Mandatory Call Event occurs or such other time frame as prescribed by the Stock Exchange from time to time.

(D) Every Board Lot of CBBCs entitles the Holder to receive from the Issuer on the Settlement Date the Cash Settlement Amount (if any).

(E) Any Exercise Expenses which are not determined by the Issuer by the Business Day after the MCE Valuation Period or the Expiry Date (as the case may be) and deducted from the Cash Settlement Amount prior to delivery to the Holders in accordance with this Condition 4, shall be notified by the Issuer to the Holders as soon as practicable after determination thereof and shall be paid by the Holders to the Issuer immediately upon demand.

(F) In the event that the CBBCs have been exercised or have expired worthless, the Issuer will, with effect from the first Business Day following the MCE Valuation Period or the Expiry Date, as the case may be, remove the name of each Holder from the register of Holders in respect of such CBBCs and thereby cancel the relevant CBBCs and, if applicable, cancel the Global Certificate.

(G) Upon exercise following a Mandatory Call Event or on the Expiry Date in accordance with these Conditions, the Issuer will pay the Cash Settlement Amount minus the determined Exercise Expenses to the relevant Holder. If the Cash Settlement Amount is equal to or less than the determined Exercise Expenses, no amount is payable.

The aggregate Cash Settlement Amount minus the determined aggregate Exercise Expenses shall be despatched no later than the Settlement Date, by crediting that amount, in accordance with the CCASS Rules, to the relevant bank account designated by each Holder (the "**Designated Bank Account**").

If as a result of an event beyond the control of the Issuer ("**Settlement Disruption Event**"), it is not possible for the Issuer to procure payment electronically through CCASS by crediting the relevant Designated Bank Account of the Holder on the original Settlement Date, the Issuer shall use its reasonable endeavours to procure payment electronically through CCASS by crediting the relevant Designated Bank Account of the Holder as soon as reasonably practicable after the original Settlement Date. The Issuer will not be liable to the Holder for any interest in respect of the amount due or any loss or damage that such Holder may suffer as a result of the existence of a Settlement Disruption Event.

(H) None of the Issuer, the Sponsor or their respective agents shall have any responsibility for any errors or omissions in the calculation and dissemination of any variables published by a third party and used in any calculation made pursuant to these Conditions or in the calculation of the Cash Settlement Amount arising from such errors or omissions.

The purchase of CBBCs does not confer on any Holder of such CBBCs any rights (whether in respect of voting, distributions or otherwise) in relation to the Shares.

(I) Exercise and settlement of the CBBCs is subject to all applicable laws, rules, regulations and guidelines in force at the relevant time and neither the Issuer nor the Sponsor shall incur any liability whatsoever if it is unable to effect the transactions contemplated, after using all reasonable efforts, as a result of any such laws, rules, regulations or guidelines. Neither the Issuer nor the Sponsor shall under any circumstances be liable for any acts or defaults of the CCASS in relation to the performance of its duties in relation to the CBBCs.

(J) Subject to Condition 4(C)(ii), trading in CBBCs on the Stock Exchange shall cease (i) immediately upon the occurrence of a Mandatory Call Event or (ii) at the close of trading for the Trading Day immediately preceding the Expiry Date (for the avoidance of doubt, in the case when the Stock Exchange is scheduled to open for the morning session only, at the close of trading for the morning session), whichever is the earlier. All Post MCE Trades will be invalid and will be cancelled, and will not be recognised by the Issuer or the Stock Exchange.

5. Sponsor

(A) The Sponsor will not assume any obligation or duty to or any relationship or agency or trust for the Holders.

(B) The Issuer reserves the right, subject to the appointment of a successor, at any time to vary or terminate the appointment of the initial Sponsor and to appoint another sponsor provided that it will at all times maintain a sponsor in Hong Kong for so long as the CBBCs are listed on the Stock Exchange. Notice of any such termination or appointment will be given to the Holders in accordance with Condition 10.

6. Adjustments

(A) *Rights Issues.* If and whenever the Company shall, by way of Rights (as defined below), offer new Shares for subscription at a fixed subscription price to the holders of existing Shares pro rata to existing holdings (a "**Rights Offer**"), the Entitlement shall be adjusted to take effect on the Business Day on which trading in the Shares becomes ex-entitlement ("**Rights Issue Adjustment Date**") in accordance with the following formula:

Adjusted Entitlement = Adjustment Component x E

Where:

$$\text{Adjustment Component} = \frac{1 + M}{1 + (R/S) \times M}$$

E: Existing Entitlement immediately prior to the Rights Offer

S: Cum-Rights Share price being the closing price of an existing Share as derived from the Daily Quotation Sheet of the Stock Exchange on the last Business Day on which the Shares are traded on a Cum-Rights basis

R: Subscription price per new Share specified in the Rights Offer plus an amount equal to any dividends or other benefits foregone to exercise the Right

M: Number of new Share(s) (whether a whole or a fraction) per existing Share each holder thereof is entitled to subscribe

Provided that if the above formula would result in an adjustment to the Entitlement which would amount to one per cent. or less of the Entitlement immediately prior to the adjustment, then no adjustment will be made. In addition, the Issuer shall adjust the Strike Price and/or the Call Price (which shall be rounded to the nearest 0.001) by the reciprocal of the Adjustment Component, where the "**reciprocal of the Adjustment Component**" means one divided by the relevant Adjustment Component. The adjustment to the Strike Price and/or the Call Price shall take effect on the Rights Issue Adjustment Date.

For the purposes of these Conditions:

"**Rights**" means the right(s) attached to each existing Share or needed to acquire one new Share (as the case may be) which are given to the holders of existing Shares to subscribe at a fixed subscription price for new Shares pursuant to the Rights Offer (whether by the exercise of one Right, a part of a Right or an aggregate number of Rights).

(B) *Bonus Issues.* If and whenever the Company shall make an issue of Shares credited as fully paid to the holders of Shares generally by way of capitalisation of profits or reserves (other than pursuant to a scrip dividend or similar scheme for the time being operated by the Company or otherwise in lieu of a cash dividend and without any payment or other consideration being made or given by such holders) (a "**Bonus Issue**") the Entitlement shall be adjusted to take effect on the Business Day on which trading in the Shares becomes ex-entitlement ("**Bonus Issue Adjustment Date**") in accordance with the following formula:

Adjusted Entitlement = Adjustment Component x E

Where:

Adjustment Component = (1 + N)

E: Existing Entitlement immediately prior to the Bonus Issue

N: Number of additional Shares (whether a whole or a fraction) received by a holder of Shares for each Share held prior to the Bonus Issue

Provided that if the above formula would result in an adjustment to the Entitlement which would amount to one per cent. or less of the Entitlement immediately prior to the adjustment, then no adjustment will be made. In addition, the Issuer shall adjust the Strike Price and/or the Call Price (which shall be rounded to the nearest 0.001) by the reciprocal of the Adjustment Component, where the "**reciprocal of the Adjustment Component**" means one divided by the relevant Adjustment Component. The adjustment to the Strike Price and/or the Call Price shall take effect on the Bonus Issue Adjustment Date.

(C) *Subdivisions and Consolidations.* If and whenever the Company shall subdivide its Shares or any class of its outstanding share capital comprised of the Shares into a greater number of shares (a "**Subdivision**") or consolidate the Shares or any class of its outstanding share capital comprised of the Shares into a smaller number of shares (a "**Consolidation**"), then:

(i) in the case of a Subdivision, the Entitlement in effect immediately prior thereto will be increased whereas the Strike Price and/or the Call Price (which shall be rounded to the nearest 0.001) will be decreased in the same ratio as the Subdivision; and

(ii) in the case of a Consolidation, the Entitlement in effect immediately prior thereto will be decreased whereas the Strike Price and/or the Call Price (which shall be rounded to the nearest 0.001) will be increased in the same ratio as the Consolidation,

in each case on the day on which the Subdivision or Consolidation (as the case may be) shall have taken effect.

(D) *Restructuring Events.* If it is announced that the Company is to or may merge or consolidate with or into any other corporation (including becoming, by agreement or otherwise, a subsidiary of or controlled by any person or corporation) (except where the Company is the surviving corporation in a merger) or that it is to or may sell or transfer all or substantially all of its assets, the rights attaching to the CBBCs may in the absolute discretion of the Issuer be amended no later than the Business Day preceding the consummation of such merger, consolidation, sale or transfer (each a "**Restructuring Event**") (as determined by the Issuer in its absolute discretion) so that the CBBCs shall, after such Restructuring Event, relate to the number of shares of the corporation(s) resulting from or surviving such Restructuring Event or other securities ("**Substituted Securities**") and/or cash offered in substitution for the affected Shares, as the case may be, to which the holder of such number of Shares to which the CBBCs related immediately before such Restructuring Event would have been entitled upon such Restructuring Event, and thereafter the provisions hereof shall apply to such Substituted Securities, provided that any Substituted Securities may, in the absolute discretion of the Issuer, be deemed to be replaced by an amount in the relevant currency equal to the market value or, if no market value is available, fair value, of such Substituted Securities in each case as determined by the Issuer as soon as practicable after such Restructuring Event is effected. For the avoidance of doubt, any remaining Shares shall not be affected by this paragraph and, where cash is offered in substitution for Shares or is deemed to replace Substituted Securities as described above, references in these Conditions to the Shares shall include any such cash.

(E) *Cash Distribution.* No adjustment will be made for an ordinary cash dividend (whether or not it is offered with a scrip alternative) ("**Ordinary Dividend**"). For any other forms of cash distribution ("**Cash Distribution**") announced by the Company, such as a cash bonus, special dividend or extraordinary dividend, no adjustment will be made unless the value of the Cash Distribution accounts for 2 per cent. or more of the Share's closing price on the day of announcement by the Company.

If and whenever the Company shall make a Cash Distribution credited as fully paid to the holders of Shares generally, the Entitlement shall be adjusted to take effect on the Business Day on which trading in the Shares becomes ex-entitlement in respect of the Cash Distribution ("**Distribution Adjustment Date**") in accordance with the following formula:

Adjusted Entitlement = Adjustment Component x E

Where:

$$\text{Adjustment Component} = \frac{S - OD}{S - OD - CD}$$

E: The existing Entitlement immediately prior to the Cash Distribution

S: Cum-Cash Distribution Share price being the closing price of an existing Share as derived from the Daily Quotation Sheet of the Stock Exchange on the last Business Day on which the Shares are traded on a cum-Cash Distribution basis

CD: The Cash Distribution per Share

OD: The Ordinary Dividend per Share, provided that the Ordinary Dividend and the Cash Distribution have the same ex-entitlement date. For avoidance of doubt, the OD shall be zero if the Ordinary Dividend and the Cash Distribution have different ex-entitlement dates

In addition, the Issuer shall adjust the Strike Price and/or the Call Price (which shall be rounded to the nearest 0.001) by the reciprocal of the Adjustment Component, where the "**reciprocal of the Adjustment Component**" means one divided by the relevant Adjustment Component. The adjustment to the Strike Price and/or the Call Price shall take effect on the Distribution Adjustment Date.

(F) *Other Adjustments.* Without prejudice to and notwithstanding any prior adjustment(s) made pursuant to the applicable Conditions, the Issuer may (but shall not be obliged to) make such other adjustments to the terms and conditions of the CBBCs as appropriate where any event (including the events as contemplated in the applicable Conditions) occurs and irrespective of, in substitution for, or in addition to the provisions contemplated in the applicable Conditions, provided that such adjustment is:

(i) not materially prejudicial to the interests of the Holders generally (without considering the circumstances of any individual Holder or the tax or other consequences of such adjustment in any particular jurisdiction); or

(ii) determined by the Issuer in good faith to be appropriate and commercially reasonable.

(G) *Notice of Adjustments.* All determinations made by the Issuer pursuant hereto will be conclusive and binding on the Holders. The Issuer will give, or procure that there is given, notice as soon as practicable of any adjustment and of the date from which such adjustment is effective by publication in accordance with Condition 10.

7. Purchase

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

8. Global Certificate

A Global Certificate representing the CBBCs will be deposited with CCASS in the name of HKSCC Nominees Limited. No definitive certificate will be issued.

9. Meetings of Holders and Modification

(A) *Meetings of Holders.* The Instrument contains provisions for convening meetings of the Holders to consider any matter affecting their interests, including the sanctioning by Extraordinary Resolution (as defined in the Instrument) of a modification of the provisions of the CBBCs or of the Instrument.

Any resolution to be passed in a meeting of the Holders shall be decided by poll. A meeting may be convened by the Issuer or by Holders holding not less than 10 per cent. of the CBBCs 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 CBBCs for the time being remaining unexercised, or at any adjourned meeting two or more persons being or representing Holders whatever the number of CBBCs 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 Holders who, being entitled to do so, vote in person or by proxy.

An Extraordinary Resolution passed at any meeting of the Holders shall be binding on all the Holders, whether or not they are present at the meeting.

Resolutions can be passed in writing without a meeting of the Holders being held if passed unanimously.

(B) *Modification.* The Issuer may, without the consent of the Holders, effect any modification of the terms and conditions of the CBBCs or the Instrument which, in the opinion of the Issuer, is (i) not materially prejudicial to the interests of the Holders generally (without considering the circumstances of any individual Holder or the tax or other consequences of such modification in any particular jurisdiction); (ii) of a formal, minor or technical nature; (iii) made to correct a manifest error; or (iv) necessary in order to comply with mandatory provisions of the laws or regulations of Hong Kong. Any such modification shall be binding on the Holders and shall be notified to them by the Issuer as soon as practicable thereafter in accordance with Condition 10.

10. Notices

All notices to the Holders will be validly given if published in English and in Chinese on the HKEX website. In such circumstances, the Issuer shall not be required to despatch copies of the notice to the Holders.

11. Liquidation

In the event of a liquidation or dissolution of the Company or the appointment of a liquidator, receiver or administrator or analogous person under any applicable law in respect of the whole or substantially the whole of its undertaking, property or assets, all unexercised CBBCs will lapse and shall cease to be valid for any purpose. In the case of voluntary liquidation, the unexercised CBBCs will lapse and shall cease to be valid 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 or receiver or administrator or analogous person under any 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.

12. Further Issues

The Issuer shall be at liberty from time to time, without the consent of the Holders, to create and issue further CBBCs so as to form a single series with the CBBCs.

13. Delisting

(A) If at any time the Shares cease to be listed on the 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 CBBCs 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 Holders generally are not materially prejudiced as a consequence of such delisting (without considering the circumstances of any individual Holder or the tax or other consequences that may result in any particular jurisdiction).

(B) Without prejudice to the generality of Condition 13(A), where the Shares are, or, upon the delisting, become, listed on any other stock exchange, these Conditions may, in the absolute discretion of the Issuer, be amended to the extent necessary to allow for the substitution of that other stock exchange in place of the Stock Exchange and the Issuer may, without the consent of the Holders, make such adjustments to the entitlements of the Holders on exercise (including, if appropriate, by converting foreign currency amounts at prevailing market rates into the relevant currency) as may be appropriate in the circumstances.

(C) The Issuer shall determine, in its absolute discretion, any adjustment or amendment and its determination shall be conclusive and binding on the Holders save in the case of manifest error. Notice of any adjustments or amendments shall be given to the Holders in accordance with Condition 10 as soon as practicable after they are determined.

14. Good Faith and Commercially Reasonable Manner

Any exercise of discretion by the Issuer under these Conditions will be made in good faith and in a commercially reasonable manner.

15. Governing Law

The CBBCs and the Instrument are governed by and construed in accordance with the laws of the Hong Kong Special Administrative Region of the People's Republic of China ("**Hong Kong**"). The Issuer and each Holder (by its purchase of the CBBCs) submit for all purposes in connection with the CBBCs and the Instrument to the non-exclusive jurisdiction of the courts of Hong Kong.

16. Contracts (Rights of Third Parties) Ordinance

A person who is not a party to these Conditions has no right under the Contracts (Rights of Third Parties) Ordinance (Cap. 623 of the Laws of Hong Kong) to enforce or to enjoy the benefit of any term of the CBBCs.

17. Language

A Chinese translation of these Conditions will be made available for collection during normal office hours from the Sponsor at 52nd Floor, Two International Finance Centre, 8 Finance Street, Central, Hong Kong. In the event of any inconsistency between the Chinese translation and the English version of these Conditions, the English version of these Conditions shall prevail.

18. Prescription

Claims against the Issuer for payment of any amount in respect of the CBBCs will become void unless made within ten years after the MCE Valuation Period or the Expiry Date (as the case may be) and thereafter, any sums payable in respect of such CBBCs shall be forfeited and shall revert to the Issuer.

Sponsor:
UBS Securities Asia Limited
52nd Floor
Two International Finance Centre
8 Finance Street, Central
Hong Kong

PART B — TERMS AND CONDITIONS OF CASH SETTLED CALLABLE BULL/BEAR CONTRACTS OVER AN INDEX

These Conditions will, together with the supplemental provisions contained in the relevant Launch Announcement and Supplemental Listing Document, and subject to completion and amendment, be endorsed on the Global Certificate. The relevant Launch Announcement and Supplemental Listing Document in relation to the issue of any series of CBBCs may specify other terms and conditions which shall, to the extent so specified or to the extent they are inconsistent with these Conditions, replace or modify these Conditions for the purpose of such series of CBBCs.

1. Form, Status, Transfer, Title and Additional Costs and Expenses

(A) The CBBCs (which expression shall, unless the context otherwise requires, include any further CBBCs issued pursuant to Condition 11) relating to the Index are issued in registered form subject to and with the benefit of an instrument by way of deed poll (the "**Instrument**" as defined more fully in the relevant Launch Announcement and Supplemental Listing Document) executed by UBS AG (the "**Issuer**") acting through its London branch or any of its branches outside Switzerland as it may specify from time to time. The 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 Instrument. A copy of the Instrument is available for inspection at UBS Securities Asia Limited ("**Sponsor**") at 52nd Floor, Two International Finance Centre, 8 Finance Street, Central, Hong Kong.

The CBBCs are represented by a global certificate ("**Global Certificate**") registered in the name of HKSCC Nominees Limited (or such other nominee company as may be used by Hong Kong Securities Clearing Company Limited ("**HKSCC**") from time to time in relation to the provision of nominee services to persons admitted for the time being by HKSCC as a participant of CCASS) (the "**Nominee**"). No definitive certificate will be issued. The CBBCs can only be exercised by HKSCC or the Nominee.

(B) The settlement obligation of the Issuer in respect of the CBBCs represents general unsecured contractual obligations of the Issuer and of no other person which rank, and will rank, equally among themselves and pari passu with all other present and future unsecured and unsubordinated contractual obligations of the Issuer, except for obligations accorded preference by mandatory provisions of applicable law.

CBBCs represent general contractual obligations of the Issuer, and are not, nor is it the intention (expressed, implicit or otherwise) of the Issuer to create by the issue of CBBCs deposit liabilities of the Issuer or a debt obligation of any kind.

(C) Transfers of CBBCs may be effected only in Board Lots or integral multiples thereof in CCASS in accordance with the General Rules of CCASS and the CCASS Operational Procedures in effect from time to time (the "**CCASS Rules**").

(D) Each person who is for the time being shown in the register kept by the Issuer in Hong Kong as the holder shall be treated by the Issuer and the Sponsor as the absolute owner and holder of the CBBCs. The expressions "**Holder**" and "**Holders**" shall be construed accordingly.

(E) Holders are responsible for additional costs and expenses in connection with any exercise of the CBBCs including the Exercise Expenses (as defined below) which amount shall, subject to Condition 4(G) and to the extent necessary, be payable to the Issuer and collected from the Holders.

2. Definitions

For the purposes of these Conditions:

"**Board Lot**" has the meaning given to it in the relevant Launch Announcement and Supplemental Listing Document;

"**Business Day**" means a day (excluding Saturdays) on which the Stock Exchange is scheduled to open for dealings in Hong Kong and banks are open for business in Hong Kong;

"**Call Level**" means the level specified as such in the relevant Launch Announcement and Supplemental Listing Document, subject to any adjustment in accordance with Condition 6;

"**Cash Settlement Amount**" means, for every Board Lot, an amount calculated by the Issuer in accordance with the following formula (and, if appropriate, either (i) converted (if applicable) into the Settlement Currency at the Exchange Rate or, as the case may be, (ii) converted into the Interim Currency at the First Exchange Rate and then (if applicable) converted into Settlement Currency at the Second Exchange Rate):

(i) following a Mandatory Call Event:

(a) in the case of a series of Category R CBBCs, the Residual Value; or

(b) in the case of a series of Category N CBBCs, zero.

(ii) at expiry:

(a) in the case of a series of bull CBBCs:

$$\text{Cash Settlement Amount per Board Lot} = \frac{(\text{Closing Level - Strike Level}) \times \text{one Board Lot} \times \text{Index Currency Amount}}{\text{Divisor}}$$

(b) in the case of a series of bear CBBCs:

$$\text{Cash Settlement Amount per Board Lot} = \frac{(\text{Strike Level - Closing Level}) \times \text{one Board Lot} \times \text{Index Currency Amount}}{\text{Divisor}}$$

For the avoidance of doubt, if the Cash Settlement Amount is a negative figure, it shall be deemed to be zero;

"**Category N CBBCs**" means a series of CBBCs where the Call Level is equal to the Strike Level;

"**Category R CBBCs**" means a series of CBBCs where the Call Level is different from the Strike Level;

"**CCASS**" means the Central Clearing and Settlement System;

"**CCASS Settlement Day**" has the meaning ascribed to the term "Settlement Day" in the CCASS Rules, subject to such modification and amendment prescribed by HKSCC from time to time;

"**Closing Level**" means the level specified as such in the relevant Launch Announcement and Supplemental Listing Document subject to any adjustment in accordance with Condition 6;

"**Divisor**" means the number specified as such in the relevant Launch Announcement and Supplemental Listing Document;

"**Exchange Rate**" means the rate specified as such in the relevant Launch Announcement and Supplemental Listing Document;

"**Exercise Expenses**" means any charges or expenses including any taxes or duties which are incurred in respect of the exercise of a Board Lot of CBBCs;

"**Expiry Date**" means the date specified as such in the relevant Launch Announcement and Supplemental Listing Document;

"**First Exchange Rate**" means the rate specified as such in the relevant Launch Announcement and Supplemental Listing Document;

"**Index**" means the index specified as such in the relevant Launch Announcement and Supplemental Listing Document;

"**Index Business Day**" means any day on which the Index Exchange is scheduled to open for trading for its regular trading sessions;

"**Index Compiler**" means the index compiler specified as such in the relevant Launch Announcement and Supplemental Listing Document;

"**Index Currency Amount**" has the meaning given to it in the relevant Launch Announcement and Supplemental Listing Document;

"**Index Exchange**" means the index exchange specified as such in the relevant Launch Announcement and Supplemental Listing Document;

"**Interim Currency**" means the currency specified as such in the relevant Launch Announcement and Supplemental Listing Document;

"**Listing Date**" means the date specified as such in the relevant Launch Announcement and Supplemental Listing Document;

"**Mandatory Call Event**" occurs when the Spot Level of the Index is, at any time on any Index Business Day during the Observation Period:

(a) in the case of a series of bull CBBCs, at or below the Call Level; or

(b) in the case of a series of bear CBBCs, at or above the Call Level;

"**Market Disruption Event**" means:

(i) the occurrence or existence, on any Trading Day or Index Business Day during the one-half hour period that ends at the close of trading on the Index Exchange, of any of:

(1) the suspension or material limitation of the trading of a material number of constituent securities that comprise the Index;

(2) the suspension or material limitation of the trading of options or futures contracts relating to the Index on any exchanges on which such contracts are traded; or

(3) the imposition of any exchange controls in respect of any currencies involved in determining the Cash Settlement Amount.

For the purposes of this paragraph (i), (a) the limitation of the number of hours or days of trading will not constitute a Market Disruption Event if it results from an announced change in the regular business hours of any relevant exchange, and (b) a limitation on trading imposed by reason of the movements in price exceeding the levels permitted by any relevant exchange will constitute a Market Disruption Event;

(ii) where the Index Exchange is the Stock Exchange, the issuance of the tropical cyclone warning signal number 8 or above or the issuance of a "BLACK" rainstorm signal on any day which either (i) results in the Stock Exchange being closed for trading for the entire day; or (ii) results in the Stock Exchange being closed prior to its regular time for close of trading for the relevant day (for the avoidance of doubt, in the case when the Stock

Exchange is scheduled to open for the morning trading session only, closed prior to its regular time for close of trading for the morning session), PROVIDED THAT there shall be no Market Disruption Event solely by reason of the Stock Exchange opening for trading later than its regular time for opening of trading on any day as a result of the tropical cyclone warning signal number 8 or above or the "BLACK" rainstorm signal having been issued;

(iii) a limitation or closure of the Index Exchange due to any unforeseen circumstances; or

(iv) any circumstances beyond the control of the Issuer in which the Closing Level or, if applicable, the Exchange Rate, the First Exchange Rate or the Second Exchange Rate (as the case may be) cannot be determined by the Issuer in the manner set out in these Conditions or in such other manner as the Issuer considers appropriate at such time after taking into account all the relevant circumstances.

"**Maximum Index Level**" means the highest Spot Level of the Index during the MCE Valuation Period;

"**MCE Valuation Period**" means the period commencing from and including the moment upon which the Mandatory Call Event occurs (the trading session during which the Mandatory Call Event occurs is the "**1st Session**") and up to the end of the trading session on the Index Exchange immediately following the 1st Session ("**2nd Session**") unless, in the determination of the Issuer in its good faith, the 2nd Session for any reason (including, without limitation, a Market Disruption Event occurring and subsisting in the 2nd Session) does not contain any continuous period of 1 hour or more than 1 hour during which Spot Levels are available, the MCE Valuation Period shall be extended to the end of the subsequent trading session on the Index Exchange following the 2nd Session during which Spot Levels are available for a continuous period of at least 1 hour notwithstanding the existence or continuance of a Market Disruption Event in such postponed trading session, unless the Issuer determines in its good faith that each trading session on each of the four Index Business Days immediately following the date on which the Mandatory Call Event occurs does not contain any continuous period of 1 hour or more than 1 hour during which Spot Levels are available. In that case:

(i) the period commencing from the 1st Session up to, and including, the last trading session of the fourth Index Business Day on the Index Exchange immediately following the date on which the Mandatory Call Event occurs shall be deemed to be the MCE Valuation Period; and

(ii) the Issuer shall determine the Maximum Index Level or the Minimum Index Level (as the case may be) having regard to the then prevailing market conditions, the last reported Spot Level of the Index and such other factors as the Issuer may determine to be relevant in its good faith.

For the avoidance of doubt, all Spot Levels available throughout the extended MCE Valuation Period shall be taken into account to determine the Maximum Index Level or the Minimum Index Level (as the case may be) for the calculation of the Residual Value.

For the purposes of this definition,

(a) the pre-opening session, the morning session and, in the case of half day trading, the closing auction session (if any) of the same day; and

(b) the afternoon session and the closing auction session (if any) of the same day, shall each be considered as one trading session only;

"**Minimum Index Level**" means the lowest Spot Level of the Index during the MCE Valuation Period;

"**Observation Commencement Date**" means the date specified as such in the relevant Launch Announcement and Supplemental Listing Document;

"**Observation Period**" means the period commencing from and including the Observation Commencement Date and ending on and including the Trading Day immediately preceding the Expiry Date;

"**Post MCE Trades**" has the meaning given to it in the relevant Launch Announcement and Supplemental Listing Document, subject to such modification and amendment prescribed by the Stock Exchange from time to time;

"**Residual Value**" means, for every Board Lot, an amount calculated by the Issuer in accordance with the following formula (and, if appropriate, either (a) converted (if applicable) into the Settlement Currency at the Exchange Rate or, as the case may be, (b) converted into the Interim Currency at the First Exchange Rate and then (if applicable) converted into Settlement Currency at the Second Exchange Rate):

(i) in the case of a series of bull CBBCs:

$$\text{Residual Value per Board Lot} = \frac{(\text{Minimum Index Level - Strike Level}) \text{ x one Board Lot x Index Currency Amount}}{\text{Divisor}}$$

(ii) in the case of a series of bear CBBCs:

$$\text{Residual Value per Board Lot} = \frac{(\text{Strike Level - Maximum Index Level}) \text{ x one Board Lot x Index Currency Amount}}{\text{Divisor}}$$

"**Second Exchange Rate**" means the rate specified as such in the relevant Launch Announcement and Supplemental Listing Document;

"**Settlement Currency**" means the currency specified as such in the relevant Launch Announcement and Supplemental Listing Document;

"**Settlement Date**" means the third CCASS Settlement Day after (i) the end of the MCE Valuation Period or (ii) the later of: (a) the Expiry Date; and (b) the day on which the Closing Level is determined in accordance with the Conditions (as the case may be);

"**Spot Level**" means the spot level of the Index as compiled and published by the Index Compiler;

"**Stock Exchange**" means The Stock Exchange of Hong Kong Limited;

"**Strike Level**" means the level specified as such in the relevant Launch Announcement and Supplemental Listing Document subject to any adjustment in accordance with Condition 6;

"**Trading Day**" means any day on which the Stock Exchange is scheduled to open for trading for its regular trading sessions; and

"**Valuation Date**" means the date specified as such in the relevant Launch Announcement and Supplemental Listing Document.

Other capitalised terms shall, unless otherwise defined herein, bear the meaning ascribed to them in the Base Listing Document, any addendum to the Base Listing Document, the relevant Launch Announcement and Supplemental Listing Document or the Global Certificate.

3. Hedging Disruption and Illegality or Impracticability

(A) Hedging Disruption

(i) *Notification.* The Issuer shall as soon as reasonably practicable give notice to the Holders in accordance with Condition 10:

(1) if it determines that a Hedging Disruption Event has occurred; and

(2) of the consequence of such Hedging Disruption Event as determined by the Issuer pursuant to Condition 3(A)(iii).

(ii) *Hedging Disruption Event.* A "**Hedging Disruption Event**" occurs if the Issuer determines in good faith and in a commercially reasonable manner that it is or has become not reasonably practicable or it has otherwise become undesirable, for any reason, for the Issuer wholly or partially (a) to establish, re-establish, substitute or maintain a relevant hedging transaction (including, without limitation, any hedging transaction with respect to options or futures relating to the Index, or any currency in which the components of the Index are denominated) (a "**Relevant Hedging Transaction**") it deems necessary or desirable to hedge the Issuer's obligations in respect of the CBBCs or (b) to freely realize, recover, receive, repatriate, remit or transfer the proceeds of the Relevant Hedging Transactions between accounts within the jurisdiction of the Relevant Hedging Transactions (the "**Affected Jurisdiction**") or from accounts within the Affected Jurisdiction to accounts outside of the Affected Jurisdiction. The reasons for such determination by the Issuer may include, but are not limited to, the following:

(1) any material illiquidity in the market for the components of the Index;

(2) a change in any applicable law (including, without limitation, any tax law) or the promulgation of, or change in, the interpretation of any court, tribunal or regulatory authority with competent jurisdiction of any applicable law (including any action taken by a taxing authority);

(3) a material decline in the creditworthiness of a party with whom the Issuer has entered into any such Relevant Hedging Transaction; or

(4) the general unavailability of:

(A) market participants who will agree to enter into a Relevant Hedging Transaction; or

(B) market participants who will so enter into a Relevant Hedging Transaction on commercially reasonable terms.

(iii) *Consequences.* The Issuer, in the event of a Hedging Disruption Event, may determine to:

(1) terminate the CBBCs. In such circumstances the Issuer will, however, if and to the extent permitted by the applicable law, pay to each Holder in respect of each CBBC held by such Holder an amount that the Issuer determines in good faith and in a commercially reasonable manner to be the fair market value of the CBBC immediately prior to such termination less the cost to the Issuer of unwinding any related hedging arrangements. Payment will be made to the Holder in such manner as shall be notified to the Holder in accordance with Condition 10; or

(2) make any other adjustment to the Conditions as it considers appropriate in order to maintain the theoretical value of the CBBCs after adjusting for the relevant Hedging Disruption Event.

(B) Illegality or Impracticability

The Issuer is entitled to terminate the CBBCs if it determines in good faith and in a commercially reasonable manner that, for reasons beyond its control, it has become or it will become illegal or impracticable:

(i) for it to perform its obligations under the CBBCs in whole or in part as a result of:

(1) the adoption of, or any change in, any relevant law or regulation (including any tax law); or

(2) the promulgation of, or any change in, the interpretation by any court, tribunal, governmental, administrative, legislative, regulatory or judicial authority or power with competent jurisdiction of any relevant law or regulation (including any tax law),

(each of (1) and (2), a "**Change in Law Event**"); or

(ii) for it or any of its affiliates to maintain the Issuer's hedging arrangements with respect to the CBBCs due to a Change in Law Event.

Upon the occurrence of a Change in Law Event, the Issuer will, if and to the extent permitted by the applicable law or regulation, pay to each Holder a cash amount that the Issuer determines in good faith and in a commercially reasonable manner to be the fair market value in respect of each CBBC held by such Holder immediately prior to such termination (ignoring such illegality or impracticability) less the cost to the Issuer of unwinding any related hedging arrangement as determined by the Issuer in its sole and absolute discretion. Payment will be made to each Holder in such manner as shall be notified to the Holder in accordance with Condition 10.

4. Exercise of CBBCs

(A) CBBCs may only be exercised in Board Lots or integral multiples thereof.

(B) If no Mandatory Call Event has occurred during the Observation Period, the CBBCs will be deemed to be automatically exercised on the Expiry Date.

(C) Mandatory Call Event

(i) Subject to paragraph (ii) below, following a Mandatory Call Event, the CBBCs will terminate automatically and the Issuer shall have no further obligation under the CBBCs except for the payment of the Cash Settlement Amount (if any) following the Mandatory Call Event on the relevant Settlement Date. The Issuer will give notice to the Holders in accordance with Condition 10. Trading in the CBBCs will be suspended immediately upon the occurrence of a Mandatory Call Event and any Post MCE Trades will be cancelled and will not be recognised by the Issuer or the Stock Exchange.

Revocation

(ii) A Mandatory Call Event is irrevocable unless it is triggered as a result of any of the following events:

(1) system malfunction or other technical errors of Hong Kong Exchanges and Clearing Limited ("**HKEX**") (such as the setting up of wrong Call Level and other parameters); or

(2) manifest errors caused by the relevant third party price source where applicable (such as miscalculation of the index level by the relevant index compiler);

and

(A) in the case of a system malfunction or other technical errors prescribed in paragraph (1) above, such event is reported by the Stock Exchange to the Issuer and the Issuer and the Stock Exchange mutually agree that such Mandatory Call Event is to be revoked; and

(B) in the case of an error by the relevant price source prescribed in paragraph (2) above, such event is reported by the Issuer to the Stock Exchange and the Issuer and the Stock Exchange mutually agree that such Mandatory Call Event is to be revoked,

and in each case, such mutual agreement must be reached no later than 30 minutes before the commencement of trading (including the pre-opening session) (Hong Kong time) on the Trading Day of the Stock Exchange immediately following the day on which the Mandatory Call Event occurs or such other time frame as prescribed by the Stock Exchange from time to time.

(D) Every Board Lot of CBBCs entitles the Holder to receive from the Issuer on the Settlement Date the Cash Settlement Amount (if any).

(E) Any Exercise Expenses which are not determined by the Issuer by the Business Day after the MCE Valuation Period or the Expiry Date (as the case may be) and deducted from the Cash Settlement Amount prior to delivery to the Holders in accordance with this Condition 4, shall be notified by the Issuer to the Holders as soon as practicable after determination thereof and shall be paid by the Holders to the Issuer immediately upon demand.

(F) In the event that the CBBCs have been exercised or have expired worthless, the Issuer will, with effect from the first Business Day following the MCE Valuation Period or Expiry Date, as the case may be, remove the name of each Holder from the register of Holders in respect of such CBBCs and thereby cancel the relevant CBBCs and, if applicable, cancel the Global Certificate.

(G) Upon exercise following a Mandatory Call Event or on the Expiry Date in accordance with these Conditions, the Issuer will pay the Cash Settlement Amount minus the determined Exercise Expenses to the relevant Holder. If the Cash Settlement Amount is equal to or less than the determined Exercise Expenses, no amount is payable.

The aggregate Cash Settlement Amount minus the determined aggregate Exercise Expenses shall be despatched no later than the Settlement Date, by crediting that amount, in accordance with the CCASS Rules, to the relevant bank account designated by a Holder (the "**Designated Bank Account**").

If as a result of an event beyond the control of the Issuer ("**Settlement Disruption Event**"), it is not possible for the Issuer to procure payment electronically through CCASS by crediting the relevant Designated Bank Account of a Holder on the original Settlement Date, the Issuer shall use its reasonable endeavours to procure payment electronically through CCASS by crediting the relevant Designated Bank Account of the Holder as soon as reasonably practicable after the original Settlement Date. The Issuer will not be liable to the Holder for any interest in respect of the amount due or any loss or damage that such Holder may suffer as a result of the existence of a Settlement Disruption Event.

If the Issuer determines, in its sole discretion, that a Market Disruption Event has occurred on the Valuation Date, then the Issuer shall determine the Closing Level on the basis of its good faith estimate of the Closing Level that would have prevailed on that day but for the occurrence of the Market Disruption Event provided that the Issuer may, if applicable, but shall not be obliged to, determine such Closing Level by having regard to the manner in which futures contracts relating to the Index are calculated.

(H) None of the Issuer, the Sponsor or their respective agents shall have any responsibility for any errors or omissions in the calculation and dissemination of any variables published by a third party and used in any calculation made pursuant to these Conditions or in the calculation of the Cash Settlement Amount arising from such errors or omissions.

The purchase of CBBCs does not confer on any Holder of such CBBCs any rights (whether in respect of voting, distributions or otherwise) in relation to the constituent securities, contracts, commodities or currencies comprising the Index.

(I) Exercise and settlement of the CBBCs is subject to all applicable laws, rules, regulations and guidelines in force at the relevant time and neither the Issuer nor the Sponsor shall incur any liability whatsoever if it is unable to effect the transactions contemplated, after using all reasonable efforts, as a result of any such laws, rules, regulations or guidelines. Neither the Issuer nor the Sponsor shall under any circumstances be liable for any acts or defaults of the CCASS in relation to the performance of its duties in relation to the CBBCs.

(J) Subject to Condition 4(C)(ii), trading in CBBCs on the Stock Exchange shall cease (i) immediately upon the occurrence of a Mandatory Call Event or (ii) at the close of trading for the Trading Day immediately preceding the Expiry Date (for the avoidance of doubt, in the case when the Stock Exchange is scheduled to open for the morning session only, at the close of trading for the morning session), whichever is the earlier. All Post MCE Trades will be invalid and will be cancelled, and will not be recognised by the Issuer or the Stock Exchange.

5. Sponsor

(A) The Sponsor will not assume any obligation or duty to or any relationship or agency or trust for the Holders.

(B) The Issuer reserves the right, subject to the appointment of a successor, at any time to vary or terminate the appointment of the initial Sponsor and to appoint another agent provided that it will at all times maintain a sponsor in Hong Kong for so long as the CBBCs are listed on the Stock Exchange. Notice of any such termination or appointment will be given to the Holders in accordance with Condition 10.

6. Adjustments to the Index

(A) *Successor Index Compiler Calculates and Reports Index.* If the Index is (i) not calculated and announced by the Index Compiler but is calculated and published by a successor to the Index Compiler (the "**Successor Index Compiler**") acceptable to the Issuer or (ii) replaced by a successor index using, in the determination of the Issuer, the same or a substantially similar formula for and method of calculation as used in the calculation of the Index, then the Index will be deemed to be the index so calculated and announced by the Successor Index Compiler or that successor index, as the case may be.

(B) *Modification and Cessation of Calculation of Index.* If (i) on or prior to the Valuation Date the Index Compiler or (if applicable) the Successor Index Compiler makes a material change in the formula for or the method of calculating the Index or in any other way materially modifies the Index (other than a modification prescribed in that formula or method to maintain the Index in the event of changes in constituent securities, contracts, commodities or currencies and other

routine events), or (ii) on the Valuation Day the Index Compiler or (if applicable) the Successor Index Compiler fails to calculate and publish the Index (other than as a result of a Market Disruption Event), then the Issuer shall determine the Closing Level using, in lieu of a published level for the Index, the level for the Index as at that Index Business Day as determined by the Issuer in accordance with the formula for and method of calculating the Index last in effect prior to that change or failure, but using only those securities, contracts, commodities or currencies that comprised the Index immediately prior to that change or failure (other than those securities that have since ceased to be listed on the relevant exchange).

(C) *Other Adjustments.* Without prejudice to and notwithstanding any prior adjustment(s) made pursuant to the applicable Conditions, the Issuer may (but shall not be obliged to) make such other adjustments to the terms and conditions of the CBBCs as appropriate where any event (including the events as contemplated in the applicable Conditions) occurs and irrespective of, in substitution for, or in addition to the provisions contemplated in the applicable Conditions, provided that such adjustment is:

(i) not materially prejudicial to the interests of the Holders generally (without considering the circumstances of any individual Holder or the tax or other consequences of such adjustment in any particular jurisdiction); or

(ii) determined by the Issuer in good faith to be appropriate and commercially reasonable.

(D) *Notice of Adjustments.* All determinations made by the Issuer pursuant hereto will be conclusive and binding on the Holders. The Issuer will give, or procure that there is given, notice as soon as practicable of any adjustment and of the date from which such adjustment is effective by publication in accordance with Condition 10.

7. Purchase

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

8. Global Certificate

A Global Certificate representing the CBBCs will be deposited with CCASS in the name of HKSCC Nominees Limited. No definitive certificate will be issued.

9. Meetings of Holders and Modification

(A) *Meetings of Holders.* The Instrument contains provisions for convening meetings of the Holders to consider any matter affecting their interests, including the sanctioning by Extraordinary Resolution (as defined in the Instrument) of a modification of the provisions of the CBBCs or of the Instrument.

Any resolution to be passed in a meeting of the Holders shall be decided by poll. Such a meeting may be convened by the Issuer or by Holders holding not less than 10 per cent. of the CBBCs 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 CBBCs for the time being remaining unexercised, or at any adjourned meeting two or more persons being or representing Holders whatever the number of CBBCs 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 Holders who, being entitled to do so, vote in person or by proxy.

An Extraordinary Resolution passed at any meeting of the Holders shall be binding on all the Holders, whether or not they are present at the meeting.

Resolutions can be passed in writing without a meeting of the Holders being held if passed unanimously.

(B) *Modification.* The Issuer may, without the consent of the Holders, effect any modification of the terms and conditions of the CBBCs or the Instrument which, in the opinion of the Issuer, is (i) not materially prejudicial to the interests of the Holders generally (without considering the circumstances of any individual Holder or the tax or other consequences of such modification in any particular jurisdiction); (ii) of a formal, minor or technical nature; (iii) made to correct a manifest error; or (iv) necessary in order to comply with mandatory provisions of the laws or regulations of Hong Kong. Any such modification shall be binding on the Holders and shall be notified to them by the Issuer as soon as practicable thereafter in accordance with Condition 10.

10. Notices

All notices to the Holders will be validly given if published in English and in Chinese on the HKEX website. In such circumstances, the Issuer shall not be required to despatch copies of the notice to the Holders.

11. Further Issues

The Issuer shall be at liberty from time to time, without the consent of the Holders, to create and issue further CBBCs so as to form a single series with the CBBCs.

12. Good Faith and Commercially Reasonable Manner

Any exercise of discretion by the Issuer under these Conditions will be made in good faith and in a commercially reasonable manner.

13. Governing Law

The CBBCs and the Instrument are governed by and construed in accordance with the laws of the Hong Kong Special Administrative Region of the People's Republic of China ("**Hong Kong**"). The Issuer and each Holder (by its purchase of the CBBCs) submit for all purposes in connection with the CBBCs and the Instrument to the non-exclusive jurisdiction of the courts of Hong Kong.

14. Contracts (Rights of Third Parties) Ordinance

A person who is not a party to these Conditions has no right under the Contracts (Rights of Third Parties) Ordinance (Cap. 623 of the Laws of Hong Kong) to enforce or to enjoy the benefit of any term of the CBBCs.

15. Language

A Chinese translation of these Conditions will be made available for collection during normal office hours from the Sponsor at 52nd Floor, Two International Finance Centre, 8 Finance Street, Central, Hong Kong. In the event of any inconsistency between the Chinese translation and the English version of these Conditions, the English version of these Conditions shall prevail.

16. Prescription

Claims against the Issuer for payment of any amount in respect of the CBBCs will become void unless made within ten years after the MCE Valuation Period or the Expiry Date (as the case may be) and thereafter, any sums payable in respect of such CBBCs shall be forfeited and shall revert to the Issuer.

Sponsor:
UBS Securities Asia Limited
52nd Floor
Two International Finance Centre
8 Finance Street, Central
Hong Kong

PART C — TERMS AND CONDITIONS OF CASH SETTLED CALLABLE BULL/BEAR CONTRACTS OVER SINGLE UNIT TRUSTS

These Conditions will, together with the supplemental provisions contained in the relevant Launch Announcement and Supplemental Listing Document, and subject to completion and amendment, be endorsed on the Global Certificate. The relevant Launch Announcement and Supplemental Listing Document in relation to the issue of any series of CBBCs may specify other terms and conditions which shall, to the extent so specified or to the extent they are inconsistent with these Conditions, replace or modify these Conditions for the purpose of such series of CBBCs.

1. Form, Status, Transfer, Title and Additional Costs and Expenses

(A) The CBBCs (which expression shall, unless the context otherwise requires, include any further CBBCs issued pursuant to Condition 12) relating to the Units of the Trust are issued in registered form subject to and with the benefit of an instrument by way of deed poll (the "**Instrument**" as defined more fully in the relevant Launch Announcement and Supplemental Listing Document) executed by UBS AG (the "**Issuer**") acting through its London branch or any of its branches outside Switzerland as it may specify from time to time. The 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 Instrument. A copy of the Instrument is available for inspection at the offices of UBS Securities Asia Limited ("**Sponsor**") at 52nd Floor, Two International Finance Centre, 8 Finance Street, Central, Hong Kong.

The CBBCs are represented by a global certificate ("**Global Certificate**") registered in the name of HKSCC Nominees Limited (or such other nominee company as may be used by Hong Kong Securities Clearing Company Limited ("**HKSCC**") from time to time in relation to the provision of nominee services to persons admitted for the time being by HKSCC as a participant of CCASS) (the "**Nominee**"). No definitive certificate will be issued. The CBBCs can only be exercised by HKSCC or the Nominee.

(B) The settlement obligation of the Issuer in respect of the CBBCs represents general unsecured contractual obligations of the Issuer and of no other person which rank, and will rank, equally among themselves and pari passu with all other present and future unsecured and unsubordinated contractual obligations of the Issuer, except for obligations accorded preference by mandatory provisions of applicable law.

CBBCs represent general contractual obligations of the Issuer, and are not, nor is it the intention (expressed, implicit or otherwise) of the Issuer to create by the issue of CBBCs deposit liabilities of the Issuer or a debt obligation of any kind.

(C) Transfers of CBBCs may be effected only in Board Lots or integral multiples thereof in CCASS in accordance with the General Rules of CCASS and the CCASS Operational Procedures in effect from time to time (the "**CCASS Rules**").

(D) Each person who is for the time being shown in the register kept by the Issuer in Hong Kong as the holder shall be treated by the Issuer and the Sponsor as the absolute owner and holder of the CBBCs. The expressions "**Holder**" and "**Holders**" shall be construed accordingly.

(E) Holders are responsible for additional costs and expenses in connection with any exercise of the CBBCs including the Exercise Expenses (as defined below) which amount shall, subject to Condition 4(G) and to the extent necessary, be payable to the Issuer and collected from the Holders.

2. Definitions

For the purposes of these Conditions:

"**Board Lot**" has the meaning given to it in the relevant Launch Announcement and Supplemental Listing Document;

"**Business Day**" means a day (excluding Saturdays) on which the Stock Exchange is scheduled to open for dealings in Hong Kong and banks are open for business in Hong Kong;

"**Call Price**" means the price specified as such in the relevant Launch Announcement and Supplemental Listing Document, subject to any adjustment in accordance with Condition 6;

"**Cash Settlement Amount**" means, for every Board Lot, an amount in the Settlement Currency calculated by the Issuer in accordance with the following formula:

(i) following a Mandatory Call Event:

(a) in the case of a series of Category R CBBCs, the Residual Value; or

(b) in the case of a series of Category N CBBCs, zero.

(ii) at expiry:

(a) in the case of a series of bull CBBCs:

$$\text{Cash Settlement Amount per Board Lot} = \frac{\text{Entitlement x (Closing Price - Strike Price) x one Board Lot}}{\text{Number of CBBC(s) per Entitlement}}$$

(b) in the case of a series of bear CBBCs:

$$\text{Cash Settlement Amount per Board Lot} = \frac{\text{Entitlement x (Strike Price - Closing Price) x one Board Lot}}{\text{Number of CBBC(s) per Entitlement}}$$

For the avoidance of doubt, if the Cash Settlement Amount is a negative figure, it shall be deemed to be zero;

"**Category N CBBCs**" means a series of CBBCs where the Call Price is equal to the Strike Price;

"**Category R CBBCs**" means a series of CBBCs where the Call Price is different from the Strike Price;

"**CCASS**" means the Central Clearing and Settlement System;

"**CCASS Settlement Day**" has the meaning ascribed to the term "Settlement Day" in the CCASS Rules, subject to such modification and amendment prescribed by HKSCC from time to time;

"**Closing Price**" means the closing price of one Unit (as derived from the Daily Quotation Sheet of the Stock Exchange, subject to any adjustment to such closing price as may be necessary to reflect any event as contemplated in Condition 6 such as capitalisation, rights issue, distribution or the like) on the Valuation Date;

"**Entitlement**" means the number specified as such in the relevant Launch Announcement and Supplemental Listing Document, subject to any adjustment in accordance with Condition 6;

"**Exercise Expenses**" means any charges or expenses including any taxes or duties which are incurred in respect of the exercise of a Board Lot of CBBCs;

"**Expiry Date**" means the date specified as such in the relevant Launch Announcement and Supplemental Listing Document;

"**Listing Date**" means the date specified as such in the relevant Launch Announcement and Supplemental Listing Document;

"**Mandatory Call Event**" occurs when the Spot Price of the Units on any Trading Day during the Observation Period is:

(i) in the case of a series of bull CBBCs, at or below the Call Price; or

(ii) in the case of a series of bear CBBCs, at or above the Call Price;

"**Market Disruption Event**" means:

(1) the occurrence or existence on any Trading Day during the one-half hour period that ends at the close of trading of any suspension of or limitation imposed on trading (by reason of movements in price exceeding limits permitted by the Stock Exchange or otherwise) on the Stock Exchange in (a) the Units; or (b) any options or futures contracts relating to the Units if, in any such case, such suspension or limitation is, in the determination of the Issuer, material;

(2) the issuance of the tropical cyclone warning signal number 8 or above or the issuance of a "BLACK" rainstorm signal on any day which either (i) results in the Stock Exchange being closed for trading for the entire day; or (ii) results in the Stock Exchange being closed prior to its regular time for close of trading for the relevant day (for the avoidance of doubt, in the case when the Stock Exchange is scheduled to open for the morning trading session only, closed prior to its regular time for close of trading for the morning session), PROVIDED THAT there shall be no Market Disruption Event solely by reason of the Stock Exchange opening for trading later than its regular time for opening of trading on any day as a result of the tropical cyclone warning signal number 8 or above or the "BLACK" rainstorm signal having been issued; or

(3) a limitation or closure of the Stock Exchange due to any unforeseen circumstances;

"**Maximum Trade Price**" means the highest Spot Price of the Units (subject to any adjustment to such Spot Price as may be necessary to reflect any event as contemplated in Condition 6 such as capitalisation, rights issue, distribution or the like) during the MCE Valuation Period;

"**MCE Valuation Period**" means the period commencing from and including the moment upon which the Mandatory Call Event occurs (the trading session during which the Mandatory Call Event occurs is the "**1st Session**") and up to the end of the trading session on the Stock Exchange immediately following the 1st Session ("**2nd Session**") unless, in the determination of the Issuer in its good faith, the 2nd Session for any reason (including, without limitation, a Market Disruption Event occurring and subsisting in the 2nd Session) does not contain any continuous period of 1 hour or more than 1 hour during which trading in the Units is permitted on the Stock Exchange with no limitation imposed, the MCE Valuation Period shall be extended to the end of the subsequent trading session following the 2nd Session during which trading in the Units is permitted on the Stock Exchange with no limitation imposed for a continuous period of at least 1 hour notwithstanding the existence or continuance of a Market Disruption Event in such postponed trading session, unless the Issuer determines in its good faith that each trading session on each of the four Trading Days immediately following the date on which the Mandatory Call Event occurs does not contain any continuous period of 1 hour or more than 1 hour during which trading in the Units is permitted on the Stock Exchange with no limitation imposed. In that case:

(i) the period commencing from the 1st Session up to, and including, the last trading session on the Stock Exchange of the fourth Trading Day immediately following the date on which the Mandatory Call Event occurs shall be deemed to be the MCE Valuation Period; and

(ii) the Issuer shall determine the Maximum Trade Price or the Minimum Trade Price (as the case may be) having regard to the then prevailing market conditions, the last reported Spot Price and such other factors as the Issuer may determine to be relevant in its good faith.

For the avoidance of doubt, all Spot Prices available throughout the extended MCE Valuation Period shall be taken into account to determine the Maximum Trade Price or the Minimum Trade Price (as the case may be) for the calculation of the Residual Value.

For the purposes of this definition,

(a) the pre-opening session, the morning session and, in the case of half day trading, the closing auction session (if any) of the same day; and

(b) the afternoon session and the closing auction session (if any) of the same day,

shall each be considered as one trading session only;

"**Minimum Trade Price**" means the lowest Spot Price of the Units (subject to any adjustment to such Spot Price as may be necessary to reflect any event as contemplated in Condition 6 such as capitalisation, rights issue, distribution or the like) during the MCE Valuation Period;

"**Observation Commencement Date**" means the date specified as such in the relevant Launch Announcement and Supplemental Listing Document;

"**Observation Period**" means the period commencing from and including the Observation Commencement Date and ending on and including the Trading Day immediately preceding the Expiry Date;

"**Post MCE Trades**" has the meaning given to it in the relevant Launch Announcement and Supplemental Listing Document, subject to such modification and amendment prescribed by the Stock Exchange from time to time;

"**Residual Value**" means, for every Board Lot, an amount in the Settlement Currency calculated by the Issuer in accordance with the following formula:

(i) in the case of a series of bull CBBCs:

$$\text{Residual Value per Board Lot} = \frac{\text{Entitlement x (Minimum Trade Price - Strike Price) x one Board Lot}}{\text{Number of CBBC(s) per Entitlement}}$$

(ii) in the case of a series of bear CBBCs:

$$\text{Residual Value per Board Lot} = \frac{\text{Entitlement x (Strike Price - Maximum Trade Price) x one Board Lot}}{\text{Number of CBBC(s) per Entitlement}}$$

"**Settlement Currency**" means the currency specified as such in the relevant Launch Announcement and Supplemental Listing Document;

"**Settlement Date**" means the third CCASS Settlement Day after (i) the end of the MCE Valuation Period or (ii) the later of: (a) the Expiry Date; and (b) the day on which the Closing Price is determined in accordance with the Conditions (as the case may be);

"**Spot Price**" means:

(a) in respect of a continuous trading session of the Stock Exchange, the price per Unit concluded by means of automatic order matching on the Stock Exchange as reported in the official real-time dissemination mechanism for the Stock Exchange during such continuous trading session in accordance with the Trading Rules, excluding direct business (as defined in the Trading Rules); and

(b) in respect of a pre-opening session or a closing auction session (if applicable) of the Stock Exchange, as the case may be, the final Indicative Equilibrium Price (as defined in the Trading Rules) of the Unit (if any) calculated at the end of the pre-order matching period of such pre-opening session or closing auction session (if applicable), as the case may be, in accordance with the Trading Rules, excluding direct business (as defined in the Trading Rules),

subject to such modification and amendment prescribed by the Stock Exchange from time to time;

"**Stock Exchange**" means The Stock Exchange of Hong Kong Limited;

"**Strike Price**" means the price specified as such in the relevant Launch Announcement and Supplemental Listing Document, subject to any adjustment in accordance with Condition 6;

"**Trading Day**" means any day on which the Stock Exchange is scheduled to open for trading for its regular trading sessions;

"**Trading Rules**" means the Rules and Regulations of the Exchange prescribed by the Stock Exchange from time to time;

"**Trust**" means the trust specified as such in the relevant Launch Announcement and Supplemental Listing Document;

"**Unit**" means the unit specified as such in the relevant Launch Announcement and Supplemental Listing Document; and

"**Valuation Date**" means the Trading Day immediately preceding the Expiry Date unless, in the determination of the Issuer, a Market Disruption Event has occurred on that day in which case, the Valuation Date shall be the first succeeding Trading Day on which the Issuer determines that there is no Market Disruption Event, unless the Issuer determines that there is a Market Disruption Event occurring on each of the four Trading Days immediately following the original date which (but for the Market Disruption Event) would have been the Valuation Date. In that case:

(a) the fourth Trading Day immediately following the original date shall be deemed to be the Valuation Date (regardless of the Market Disruption Event); and

(b) the Issuer shall determine the Closing Price having regard to the then prevailing market conditions, the last reported trading price of the Unit on the Stock Exchange and such other factors as the Issuer determines to be relevant.

Other capitalized terms shall, unless otherwise defined herein, have the meaning ascribed to them in the Base Listing Document, any addendum to the Base Listing Document, the relevant Launch Announcement and Supplemental Listing Document or the Global Certificate.

3. Hedging Disruption and Illegality or Impracticability

(A) Hedging Disruption

(i) *Notification.* The Issuer shall as soon as reasonably practicable give notice to the Holders in accordance with Condition 10:

(1) if it determines that a Hedging Disruption Event has occurred; and

(2) of the consequence of such Hedging Disruption Event as determined by the Issuer pursuant to Condition 3(A)(iii).

(ii) *Hedging Disruption Event.* A "**Hedging Disruption Event**" occurs if the Issuer determines in good faith and in a commercially reasonable manner that it is or has become not reasonably practicable or it has otherwise become undesirable, for any reason, for the Issuer wholly or partially to establish, re-establish, substitute or maintain a relevant hedging transaction (a "**Relevant Hedging Transaction**") it deems necessary or desirable to hedge the Issuer's obligations in respect of the CBBCs. The reasons for such determination by the Issuer may include, but are not limited to, the following:

(1) any material illiquidity in the market for the Units;

(2) a change in any applicable law (including, without limitation, any tax law) or the promulgation of, or change in, the interpretation of any court, tribunal or regulatory authority with competent jurisdiction of any applicable law (including any action taken by a taxing authority);

(3) a material decline in the creditworthiness of a party with whom the Issuer has entered into any such Relevant Hedging Transaction; or

(4) the general unavailability of:

(A) market participants who will agree to enter into a Relevant Hedging Transaction; or

(B) market participants who will so enter into a Relevant Hedging Transaction on commercially reasonable terms.

(iii) *Consequences.* The Issuer, in the event of a Hedging Disruption Event, may determine to:

(1) terminate the CBBCs. In such circumstances the Issuer will, however, if and to the extent permitted by the applicable law, pay to each Holder in respect of each CBBC held by such Holder an amount that the Issuer determines in good faith and in a commercially reasonable manner to be the fair market value of the CBBC immediately prior to such termination less the cost to the Issuer of unwinding any related hedging arrangements. Payment will be made to the Holder in such manner as shall be notified to the Holder in accordance with Condition 10; or

(2) make any other adjustment to the Conditions as it considers appropriate in order to maintain the theoretical value of the CBBCs after adjusting for the relevant Hedging Disruption Event.

(B) Illegality or Impracticability

The Issuer is entitled to terminate the CBBCs if it determines in good faith and in a commercially reasonable manner that, for reasons beyond its control, it has become or it will become illegal or impracticable:

(i) for it to perform its obligations under the CBBCs in whole or in part as a result of:

(1) the adoption of, or any change in, any relevant law or regulation (including any tax law); or

(2) the promulgation of, or any change in, the interpretation by any court, tribunal, governmental, administrative, legislative, regulatory or judicial authority or power with competent jurisdiction of any relevant law or regulation (including any tax law),

(each of (1) and (2), a "**Change in Law Event**"); or

(ii) for it or any of its affiliates to maintain the Issuer's hedging arrangements with respect to the CBBCs due to a Change in Law Event.

Upon the occurrence of a Change in Law Event, the Issuer will, if and to the extent permitted by the applicable law or regulation, pay to each Holder a cash amount that the Issuer determines in good faith and in a commercially reasonable manner to be the fair market value in respect of each CBBC held by such Holder immediately prior to such termination (ignoring such illegality or impracticability) less the cost to the Issuer of unwinding any related hedging arrangement as determined by the Issuer in its sole and absolute discretion. Payment will be made to each Holder in such manner as shall be notified to the Holder in accordance with Condition 10.

4. Exercise of CBBCs

(A) CBBCs may only be exercised in Board Lots or integral multiples thereof.

(B) If no Mandatory Call Event has occurred during the Observation Period, the CBBCs will be deemed to be automatically exercised on the Expiry Date.

(C) Mandatory Call Event

(i) Subject to paragraph (ii) below, following a Mandatory Call Event, the CBBCs will terminate automatically and the Issuer shall have no further obligation under the CBBCs except for the payment of the Cash Settlement Amount (if any) following the Mandatory Call Event on the relevant Settlement Date. The Issuer will give notice to the Holders in accordance with Condition 10. Trading in the CBBCs will be suspended immediately upon the occurrence of a Mandatory Call Event and all Post MCE Trades will be cancelled and will not be recognised by the Issuer or the Stock Exchange.

Revocation

(ii) A Mandatory Call Event is irrevocable unless it is triggered as a result of any of the following events:

(1) system malfunction or other technical errors of Hong Kong Exchanges and Clearing Limited ("**HKEX**") (such as the setting up of wrong Call Price and other parameters); or

(2) manifest errors caused by the relevant third party price source where applicable;

and

(A) in the case of a system malfunction or other technical errors prescribed in paragraph (1) above, such event is reported by the Stock Exchange to the Issuer and the Issuer and the Stock Exchange mutually agree that such Mandatory Call Event is to be revoked; and

(B) in the case of an error by the relevant price source prescribed in paragraph (2) above, such event is reported by the Issuer to the Stock Exchange and the Issuer and the Stock Exchange mutually agree that such Mandatory Call Event is to be revoked,

in each case, such mutual agreement must be reached no later than 30 minutes before the commencement of trading (including the pre-opening session) (Hong Kong time) on the Trading Day of the Stock Exchange immediately following the day on which the Mandatory Call Event occurs or such other time frame as prescribed by the Stock Exchange from time to time.

(D) Every Board Lot of CBBCs entitles the Holder to receive from the Issuer on the Settlement Date the Cash Settlement Amount (if any).

(E) Any Exercise Expenses which are not determined by the Issuer by the Business Day after the MCE Valuation Period or the Expiry Date (as the case may be) and deducted from the Cash Settlement Amount prior to delivery to the Holders in accordance with this Condition 4, shall be notified by the Issuer to the Holders as soon as practicable after determination thereof and shall be paid by the Holders to the Issuer immediately upon demand.

(F) In the event that the CBBCs have been exercised or have expired worthless, the Issuer will, with effect from the first Business Day following the MCE Valuation Period or the Expiry Date, as the case may be, remove the name of each Holder from the register of Holders in respect of such CBBCs and thereby cancel the relevant CBBCs and, if applicable, cancel the Global Certificate.

(G) Upon exercise following a Mandatory Call Event or on the Expiry Date in accordance with these Conditions, the Issuer will pay the Cash Settlement Amount minus the determined Exercise Expenses to the relevant Holder. If the Cash Settlement Amount is equal to or less than the determined Exercise Expenses, no amount is payable.

The aggregate Cash Settlement Amount minus the determined aggregate Exercise Expenses shall be despatched no later than the Settlement Date, by crediting that amount, in accordance with the CCASS Rules, to the relevant bank account designated by each Holder (the "**Designated Bank Account**").

If as a result of an event beyond the control of the Issuer ("**Settlement Disruption Event**"), it is not possible for the Issuer to procure payment electronically through CCASS by crediting the relevant Designated Bank Account of the Holder on the original Settlement Date, the Issuer shall use its reasonable endeavours to procure payment electronically through CCASS by crediting the relevant Designated Bank Account of the Holder as soon as reasonably practicable after the original Settlement Date. The Issuer will not be liable to the Holder for any interest in respect of the amount due or any loss or damage that such Holder may suffer as a result of the existence of a Settlement Disruption Event.

(H) None of the Issuer, the Sponsor or their respective agents shall have any responsibility for any errors or omissions in the calculation and dissemination of any variables published by a third party and used in any calculation made pursuant to these Conditions or in the calculation of the Cash Settlement Amount arising from such errors or omissions.

The purchase of CBBCs does not confer on any Holder of such CBBCs any rights (whether in respect of voting, distributions or otherwise) in relation to the Units.

(I) Exercise and settlement of the CBBCs is subject to all applicable laws, rules, regulations and guidelines in force at the relevant time and neither the Issuer nor the Sponsor shall incur any liability whatsoever if it is unable to effect the transactions contemplated, after using all reasonable efforts, as a result of any such laws, rules, regulations or guidelines. Neither the Issuer nor the Sponsor shall under any circumstances be liable for any acts or defaults of the CCASS in relation to the performance of its duties in relation to the CBBCs.

(J) Subject to Condition 4(C)(ii), trading in CBBCs on the Stock Exchange shall cease (i) immediately upon the occurrence of a Mandatory Call Event or (ii) at the close of trading for the Trading Day immediately preceding the Expiry Date (for the avoidance of doubt, in the case when the Stock Exchange is scheduled to open for the morning session only, at the close of trading for the morning session), whichever is the earlier. All Post MCE Trades will be invalid and will be cancelled, and will not be recognised by the Issuer or the Stock Exchange.

5. Sponsor

(A) The Sponsor will not assume any obligation or duty to or any relationship or agency or trust for the Holders.

(B) The Issuer reserves the right, subject to the appointment of a successor, at any time to vary or terminate the appointment of the initial Sponsor and to appoint another sponsor provided that it will at all times maintain a sponsor in Hong Kong for so long as the CBBCs are listed on the Stock Exchange. Notice of any such termination or appointment will be given to the Holders in accordance with Condition 10.

6. Adjustments

(A) *Rights Issues.* If and whenever the Trust shall, by way of Rights (as defined below), offer new Units for subscription at a fixed subscription price to the holders of existing Units pro rata to existing holdings (a "**Rights Offer**"), the Entitlement shall be adjusted to take effect on the Business Day on which trading in the Units becomes ex-entitlement ("**Rights Issue Adjustment Date**") in accordance with the following formula:

Adjusted Entitlement = Adjustment Component x E

Where:

$$\text{Adjustment Component} = \frac{1 + M}{1 + (R/S) \times M}$$

E: Existing Entitlement immediately prior to the Rights Offer

S: Cum-Rights Unit price being the closing price of an existing Unit as derived from the Daily Quotation Sheet of the Stock Exchange on the last Business Day on which the Units are traded on a Cum-Rights basis

R: Subscription price per new Unit specified in the Rights Offer plus an amount equal to any distributions or other benefits foregone to exercise the Right

M: Number of new Unit(s) (whether a whole or a fraction) per existing Unit each holder thereof is entitled to subscribe

Provided that if the above formula would result in an adjustment to the Entitlement which would amount to one per cent. or less of the Entitlement immediately prior to the adjustment, then no adjustment will be made. In addition, the Issuer shall adjust the Strike Price and/or the Call Price (which shall be rounded to the nearest 0.001) by the reciprocal of the Adjustment Component, where the "**reciprocal of the Adjustment Component**" means one divided by the relevant Adjustment Component. The adjustment to the Strike Price and/or the Call Price shall take effect on the Rights Issue Adjustment Date.

For the purposes of these Conditions:

"**Rights**" means the right(s) attached to each existing Unit or needed to acquire one new Unit (as the case may be) which are given to the holders of existing Units to subscribe at a fixed subscription price for new Units pursuant to the Rights Offer (whether by the exercise of one Right, a part of a Right or an aggregate number of Rights).

(B) *Bonus Issues.* If and whenever the Trust shall make an issue of Units credited as fully paid to the holders of Units generally (other than pursuant to a scrip distribution or similar scheme for the time being operated by the Trust or otherwise in lieu of a cash distribution and without any payment or other consideration being made or given by such holders) (a "**Bonus Issue**") the Entitlement shall be adjusted to take effect on the Business Day on which trading in the Units becomes ex-entitlement ("**Bonus Issue Adjustment Date**") in accordance with the following formula:

Adjusted Entitlement = Adjustment Component x E

Where:

Adjustment Component = (1 + N)

E: Existing Entitlement immediately prior to the Bonus Issue

N: Number of additional Units (whether a whole or a fraction) received by a holder of Units for each Unit held prior to the Bonus Issue

Provided that if the above formula would result in an adjustment to the Entitlement which would amount to one per cent. or less of the Entitlement immediately prior to the adjustment, then no adjustment will be made. In addition, the Issuer shall adjust the Strike Price and/or the Call Price (which shall be rounded to the nearest 0.001) by the reciprocal of the Adjustment Component, where the "**reciprocal of the Adjustment Component**" means one divided by the relevant Adjustment Component. The adjustment to the Strike Price and/or the Call Price shall take effect on the Bonus Issue Adjustment Date.

(C) *Subdivisions and Consolidations.* If and whenever the Trust shall subdivide its Units or any class of its outstanding Units into a greater number of units (a "**Subdivision**") or consolidate the Units or any class of its outstanding Units into a smaller number of units (a "**Consolidation**"), then:

(i) in the case of a Subdivision, the Entitlement in effect immediately prior thereto will be increased whereas the Strike Price and/or the Call Price (which shall be rounded to the nearest 0.001) will be decreased in the same ratio as the Subdivision; and

(ii) in the case of a Consolidation, the Entitlement in effect immediately prior thereto will be decreased whereas the Strike Price and/or the Call Price (which shall be rounded to the nearest 0.001) will be increased in the same ratio as the Consolidation,

in each case on the day on which the Subdivision or Consolidation (as the case may be) shall have taken effect.

(D) *Restructuring Events*. If it is announced that the Trust is to or may merge with or into any other trust or consolidate with or into any other trust or corporation (including becoming, by agreement or otherwise, controlled by any person or corporation) (except where the Trust is the surviving entity in a merger) or that it is to, or may, sell or transfer all or substantially all of its assets, the rights attaching to the CBBCs may in the absolute discretion of the Issuer be amended no later than the Business Day preceding the consummation of such merger, consolidation, sale or transfer (each a "**Restructuring Event**") (as determined by the Issuer in its absolute discretion) so that the CBBCs shall, after such Restructuring Event, relate to the number of units of the trust(s) resulting from or surviving such Restructuring Event or other securities ("**Substituted Securities**") and/or cash offered in substitution for the affected Units, as the case may be, to which the holder of such number of Units to which the CBBCs related immediately before such Restructuring Event would have been entitled upon such Restructuring Event, and thereafter the provisions hereof shall apply to such Substituted Securities, provided that any Substituted Securities may, in the absolute discretion of the Issuer, be deemed to be replaced by an amount in the relevant currency equal to the market value or, if no market value is available, fair value, of such Substituted Securities in each case as determined by the Issuer as soon as practicable after such Restructuring Event is effected. For the avoidance of doubt, any remaining Units shall not be affected by this paragraph and, where cash is offered in substitution for Units or is deemed to replace Substituted Securities as described above, references in these Conditions to the Units shall include any such cash.

(E) *Cash Distribution*. No adjustment will be made for an ordinary cash distribution (whether or not it is offered with a scrip alternative) ("**Ordinary Distribution**"). For any other forms of cash distribution ("**Cash Distribution**") announced by the Trust, such as a cash bonus, special distribution or extraordinary distribution, no adjustment will be made unless the value of the Cash Distribution accounts for 2 per cent. or more of the Unit's closing price on the day of announcement by the Trust.

If and whenever the Trust shall make a Cash Distribution credited as fully paid to the holders of Units generally, the Entitlement shall be adjusted to take effect on the Business Day on which trading in the Units becomes ex-entitlement in respect of the Cash Distribution ("**Distribution Adjustment Date**") in accordance with the following formula:

Adjusted Entitlement = Adjustment Component x E

Where:

$$\text{Adjustment Component} = \frac{S - OD}{S - OD - CD}$$

E: The existing Entitlement immediately prior to the Cash Distribution

S: Cum-Cash Distribution Unit price being the closing price of an existing Unit as derived from the Daily Quotation Sheet of the Stock Exchange on the last Business Day on which the Units are traded on a cum-Cash Distribution basis

CD: The Cash Distribution per Unit

OD: The Ordinary Distribution per Unit, provided that the Ordinary Distribution and the Cash Distribution have the same ex-entitlement date. For avoidance of doubt, the OD shall be zero if the Ordinary Distribution and the Cash Distribution have different ex-entitlement dates

In addition, the Issuer shall adjust the Strike Price and/or the Call Price (which shall be rounded to the nearest 0.001) by the reciprocal of the Adjustment Component, where the "**reciprocal of the Adjustment Component**" means one divided by the relevant Adjustment Component. The adjustment to the Strike Price and/or the Call Price shall take effect on the Distribution Adjustment Date.

(F) *Other Adjustments.* Without prejudice to and notwithstanding any prior adjustment(s) made pursuant to the applicable Conditions, the Issuer may (but shall not be obliged to) make such other adjustments to the terms and conditions of the CBBCs as appropriate where any event (including the events as contemplated in the applicable Conditions) occurs and irrespective of, in substitution for, or in addition to the provisions contemplated in the applicable Conditions, provided that such adjustment is:

(i) not materially prejudicial to the interests of the Holders generally (without considering the circumstances of any individual Holder or the tax or other consequences of such adjustment in any particular jurisdiction); or

(ii) determined by the Issuer in good faith to be appropriate and commercially reasonable.

(G) *Notice of Adjustments.* All determinations made by the Issuer pursuant hereto will be conclusive and binding on the Holders. The Issuer will give, or procure that there is given, notice as soon as practicable of any adjustment and of the date from which such adjustment is effective by publication in accordance with Condition 10.

7. Purchase

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

8. Global Certificate

A Global Certificate representing the CBBCs will be deposited with CCASS in the name of HKSCC Nominees Limited. No definitive certificate will be issued.

9. Meetings of Holders and Modification

(A) *Meetings of Holders.* The Instrument contains provisions for convening meetings of the Holders to consider any matter affecting their interests, including the sanctioning by Extraordinary Resolution (as defined in the Instrument) of a modification of the provisions of the CBBCs or of the Instrument.

Any resolution to be passed in a meeting of the Holders shall be decided by poll. A meeting may be convened by the Issuer or by Holders holding not less than 10 per cent. of the CBBCs 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 CBBCs for the time being remaining unexercised, or at any adjourned meeting two or more persons being or representing Holders whatever the number of CBBCs 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 Holders who, being entitled to do so, vote in person or by proxy.

An Extraordinary Resolution passed at any meeting of the Holders shall be binding on all the Holders, whether or not they are present at the meeting.

Resolutions can be passed in writing without a meeting of the Holders being held if passed unanimously.

(B) *Modification.* The Issuer may, without the consent of the Holders, effect any modification of the terms and conditions of the CBBCs or the Instrument which, in the opinion of the Issuer, is (i) not materially prejudicial to the interests of the Holders generally (without considering the circumstances of any individual Holder or the tax or other consequences of such modification in any particular jurisdiction); (ii) of a formal, minor or technical nature; (iii) made to correct a manifest error; or (iv) necessary in order to comply with mandatory provisions of the laws or regulations of Hong Kong. Any such modification shall be binding on the Holders and shall be notified to them by the Issuer as soon as practicable thereafter in accordance with Condition 10.

10. Notices

All notices to the Holders will be validly given if published in English and in Chinese on the HKEX website. In such circumstances, the Issuer shall not be required to despatch copies of the notice to the Holders.

11. Termination or Liquidation

In the event of a Termination or the liquidation or dissolution of the trustee of the Trust (including any successor trustee appointed from time to time) ("**Trustee**") (in its capacity as trustee of the Trust) or the appointment of a liquidator, receiver or administrator or analogous person under any applicable law in respect of the whole or substantially the whole of the Trustee's undertaking, property or assets, all unexercised CBBCs will lapse and shall cease to be valid for any purpose. In the case of a Termination, the unexercised CBBCs will lapse and shall cease to be valid on the effective date of the Termination, in the case of a voluntary liquidation, the unexercised CBBCs will lapse and shall cease to be valid 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 or receiver or administrator or analogous person under any applicable law in respect of the whole or substantially the whole of the Trustee's 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.

For the purpose of this Condition 11, "**Termination**" means (i) the Trust is terminated, or the Trustee or the manager of the Trust (including any successor manager appointed from time to time) ("**Manager**") is required to terminate the Trust under the trust deed ("**Trust Deed**") constituting the Trust or applicable law, or the termination of the Trust commences; (ii) the Trust is held or is conceded by the Trustee or the Manager not to be have been constituted or to have been imperfectly constituted; (iii) the Trustee ceases to be authorised under the Trust to hold the property of the Trust in its name and perform its obligations under the Trust Deed; or (iv) the Trust ceases to be authorised as an authorised collective investment scheme under the Securities and Futures Ordinance (Cap. 571 of the Laws of Hong Kong).

12. Further Issues

The Issuer shall be at liberty from time to time, without the consent of the Holders, to create and issue further CBBCs so as to form a single series with the CBBCs.

13. Delisting

(A) If at any time the Units cease to be listed on the 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 CBBCs 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 Holders generally are not materially prejudiced as a consequence of such delisting (without considering the circumstances of any individual Holder or the tax or other consequences that may result in any particular jurisdiction).

(B) Without prejudice to the generality of Condition 13(A), where the Units are, or, upon the delisting, become, listed on any other stock exchange, these Conditions may, in the absolute discretion of the Issuer, be amended to the extent necessary to allow for the substitution of that other stock exchange in place of the Stock Exchange and the Issuer may, without the consent of the Holders, make such adjustments to the entitlements of the Holders on exercise (including, if appropriate, by converting foreign currency amounts at prevailing market rates into the relevant currency) as may be appropriate in the circumstances.

(C) The Issuer shall determine, in its absolute discretion, any adjustment or amendment and its determination shall be conclusive and binding on the Holders save in the case of manifest error. Notice of any adjustments or amendments shall be given to the Holders in accordance with Condition 10 as soon as practicable after they are determined.

14. Good Faith and Commercially Reasonable Manner

Any exercise of discretion by the Issuer under these Conditions will be made in good faith and in a commercially reasonable manner.

15. Governing Law

The CBBCs and the Instrument are governed by and construed in accordance with the laws of the Hong Kong Special Administrative Region of the People's Republic of China ("**Hong Kong**"). The Issuer and each Holder (by its purchase of the CBBCs) submit for all purposes in connection with the CBBCs and the Instrument to the non-exclusive jurisdiction of the courts of Hong Kong.

16. Contracts (Rights of Third Parties) Ordinance

A person who is not a party to these Conditions has no right under the Contracts (Rights of Third Parties) Ordinance (Cap. 623 of the Laws of Hong Kong) to enforce or to enjoy the benefit of any term of the CBBCs.

17. Language

A Chinese translation of these Conditions will be made available for collection during normal office hours from the Sponsor at 52nd Floor, Two International Finance Centre, 8 Finance Street, Central, Hong Kong. In the event of any inconsistency between the Chinese translation and the English version of these Conditions, the English version of these Conditions shall prevail.

18. Prescription

Claims against the Issuer for payment of any amount in respect of the CBBCs will become void unless made within ten years after the MCE Valuation Period or the Expiry Date (as the case may be) and thereafter, any sums payable in respect of such CBBCs shall be forfeited and shall revert to the Issuer.

Sponsor:
UBS Securities Asia Limited
52nd Floor
Two International Finance Centre
8 Finance Street, Central
Hong Kong

APPENDIX 3 — AUDITOR'S REPORT AND OUR CONSOLIDATED FINANCIAL STATEMENTS AS AT AND FOR THE YEAR ENDED 31 DECEMBER 2020

This information in this Appendix 3 has been extracted from the Annual Report 2020 as at and for the year ended 31 December 2020. The page numbers of such document appear on the bottom left or right hand side of the pages in this Appendix 3.

Please refer to the Issuer's base listing document dated 23 March 2020 for the auditor's report and consolidated financial statements as at and for the year ended 31 December 2019.

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Aeschengraben 9
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CH-4002 Basel

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www.ey.com/ch

To the General Meeting of

UBS AG, Zurich & Basel

Basel, 4 March 2021

Statutory auditor's report on the audit of the consolidated financial statements

Opinion

We have audited the consolidated financial statements of UBS AG and its subsidiaries ("the Group"), which comprise the consolidated balance sheets as of 31 December 2020 and 31 December 2019, and the consolidated income statements, statements of comprehensive income, statements of changes in equity and statements of cash flows for each of the three years in the period ended 31 December 2020, and the related notes to the consolidated financial statements, including the information identified as "audited" as described in Note 1 (collectively referred to as the "consolidated financial statements").

In our opinion, the accompanying consolidated financial statements give a true and fair view of the consolidated financial position of the Group as at 31 December 2020 and 31 December 2019, and the consolidated financial performance and its consolidated cash flows for each of the three years in the period ended 31 December 2020 in accordance with International Financial Reporting Standards (IFRS) and comply with Swiss law.

Basis for opinion

We conducted our audit in accordance with Swiss law, International Standards on Auditing (ISAs) and Swiss Auditing Standards. Our responsibilities under those provisions and standards are further described in the *Auditor's responsibilities for the audit of the consolidated financial statements* section of our report.

We are independent of the Group in accordance with the provisions of Swiss law and the requirements of the Swiss audit profession, as well as the International Code of Ethics for Professional Accountants (including International Independence Standards) of the International Ethics Standards Board for Accountants (IESBA Code), and we have fulfilled our other ethical responsibilities in accordance with these requirements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Key audit matters

Key audit matters are those matters that, in our professional judgment, were of most significance in our audit of the consolidated financial statements of the current period. These matters were addressed in the context of our audit of the consolidated financial statements as a whole, and in forming our opinion thereon, and we do not provide a separate opinion on these matters. For each matter below, our description of how our audit addressed the matter is provided in that context.

We have fulfilled the responsibilities described in the *Auditor's responsibilities for the audit of the consolidated financial statements* section of our report, including in relation to these matters. Accordingly, our audit included the performance of procedures designed to respond to our assessment of the risks of material misstatement of the consolidated financial statements. The results of our audit procedures, including the procedures performed to address the matters below, provide the basis for our audit opinion on the accompanying consolidated financial statements.

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Valuation of complex or illiquid instruments at fair value in accordance with IFRS 9 and IFRS 13

Area of focus

At 31 December 2020, as explained in Notes 1 and 21 to the consolidated financial statements, the Group held financial assets and liabilities measured at fair value of USD 404,576 million and USD 325,080 million, including financial instruments that did not trade in active markets. These instruments are reported within the following accounts: financial assets and liabilities at fair value held for trading, derivative financial instruments, financial assets and liabilities at fair value not held for trading, other financial liabilities designated at fair value and debt issued designated at fair value. In determining the fair value of these financial instruments, the Group used valuation techniques, modelling assumptions, and estimates of unobservable market inputs which required significant management judgment.

Auditing management's judgments and assumptions used in the estimation of the fair value of these instruments was complex due to the highly judgmental nature of valuation techniques, modelling assumptions and significant unobservable inputs. This included consideration of any incremental risk arising from the impact of COVID-19 on valuation techniques and supporting external marks. The valuation techniques that required judgement were comprised of discounted cash flow and earnings-based valuation techniques. Judgmental modelling assumptions result from a range of different models or model calibrations used by market participants. Valuation inputs which were particularly complex and subjective included those with a limited degree of observability and the extrapolation, interpolation or calibration of curves using limited and proxy data points. Examples of such inputs included unobservable credit spreads and bond prices, volatility, and correlation.

Our audit response

We obtained an understanding, evaluated the design and tested the operating effectiveness of the controls over management's financial instruments valuation processes, including controls over market data inputs, model and methodology governance, and valuation adjustments.

We tested the valuation techniques, models and methodologies, and the inputs used in those models, as outlined above, by performing an independent revaluation of certain complex or illiquid financial assets and liabilities with the support of specialists, using independent models and inputs, and comparing inputs to available market data among other procedures.

In addition, we evaluated the methodology and inputs used by management in determining valuation adjustments, including funding and credit fair value adjustments, on uncollateralized derivatives and fair value option liabilities.

We also assessed management's disclosures regarding fair value measurement (within Notes 1 and 21 to the consolidated financial statements).

Recognition of deferred tax assets

Area of focus

At 31 December 2020, the Group's deferred tax assets ("DTA") were USD 9,174 million (see Note 8 to the consolidated financial statements). DTAs are recognized to the extent it is probable that taxable profits will be available, against which, the deductible temporary differences or the carryforward of unused tax losses within the loss carryforward period can be utilized. There is significant judgment exercised when estimating the future taxable income that is not based on the reversal of taxable temporary differences. Management's

estimate of future taxable profits is based on the strategic plans and is sensitive to the assumptions made in estimating future taxable income. Additionally, management supports a portion of the DTA with tax planning strategies.

Auditing management's assessment of the realizability of the Group's DTAs was complex due to the highly judgmental nature of estimating future taxable profits over the life of the underlying tax loss carryforwards. Estimating future profitability is inherently subjective as it is sensitive to future economic, market and other conditions, which are difficult to predict. Specifically, some of the more subjective key macro-economic assumptions used included gross domestic product growth rates, equity market performance, and interest rates. The subjectivity of these assumptions has increased due to the uncertain projected impact of COVID-19. Additionally, auditing tax planning strategies requires specific tax knowledge and understanding of the applicable tax laws, which are complex and require judgment in the interpretation of such laws and the related application.

Our audit response

We obtained an understanding, evaluated the design, and tested the operating effectiveness of management's controls over DTA valuation, which included the assumptions used in developing the strategic plans, tax planning strategies and estimating future taxable income.

We assessed the completeness and accuracy of the data used for the estimations of future taxable income. This included recalculating the outputs of the models applied to the recognition process for DTAs.

We involved specialists to assist in assessing the key economic assumptions embedded in the strategic plans. We compared key assumptions used to forecast future taxable income to externally available historical and prospective data and assumptions, and assessed the sensitivity of the outcomes using reasonably possible changes in assumptions.

In addition, we assessed the appropriateness and impact of management's tax planning strategies by evaluating whether these strategies were available, feasible, and prudent. This evaluation was based on applicable tax laws and an assessment of management's interpretations of such tax laws, our understanding of the Group's business and industry, and the Group's ability to implement the strategies.

We also assessed management's disclosure regarding recognized and unrecognized deferred tax assets (within Note 8 to the consolidated financial statements).

Legal provisions & contingent liabilities

Area of focus

At 31 December 2020, the Group's provisions for litigation, regulatory and similar matters (legal provisions) were USD 2,135 million. As explained in Note 18 to the consolidated financial statements, the Group operates in a legal and regulatory environment that is exposed to significant litigation and similar risks arising from disputes and regulatory proceedings. Such matters are subject to many uncertainties and the outcomes may be difficult to predict. These uncertainties inherently affect the amount and timing of potential outflows with respect to the legal provisions which have been established and contingent liabilities.

Auditing management's assessment of legal provisions and contingent liabilities was complex and judgmental due to the significant estimation required to evaluate management's estimate of the amount and the probability that an outflow of resources will be required for existing legal matters. In particular, these legal provisions are based on management's estimation of the likelihood of the occurrence of certain scenarios and related impact on the Group's financial position.

Our audit response

We obtained an understanding, evaluated the design and tested the operational effectiveness of management's controls over the legal provision and contingencies process. Our procedures included testing management's review of the accuracy of the inputs to the estimation of the likelihood of the occurrence of certain scenarios and related impact on the Group's financial position.

We assessed the methodologies on which the provision amounts were based with the involvement of specialists, recalculated the provisions, and tested the underlying information. We inspected legal analyses of the matters supporting the judgmental aspects impacted by legal interpretations. We obtained correspondence directly from external legal counsel to assess the information provided by management and performed inquiries with external counsel as necessary.

We also assessed management's disclosure regarding legal provisions and contingent liabilities (within Note 18 to the consolidated financial statements).

Expected credit losses

Area of focus

At 31 December 2020, the Group's allowances and provisions for expected credit losses ("ECL") was USD 1,468 million. As explained in Note 1, Note 9 and Note 20 to the consolidated financial statements, ECL is recognized for financial assets measured at amortized cost, financial assets measured at fair value through other comprehensive income, fee and lease receivables, financial guarantees and irrevocable loan commitments. ECL is also recognized on the undrawn portion of revolving revocable credit lines, which include the Group's credit card limits and master credit facilities. The allowances and provisions for ECL consists of exposures that are in default which are individually evaluated for impairment (stage 3), as well as losses inherent in the loan portfolio that are not specifically identified (stage 1 and stage 2). Management's ECL estimates represent the difference between contractual cash flows and those the Group expects to receive, discounted at the effective interest rate. The method used to calculate ECL is based on a combination of the following principal factors: probability of default ("PD"), loss given default ("LGD") and exposure at default ("EAD").

Auditing management's estimate of the allowances and provisions for ECL was complex due to the highly judgmental nature of forward-looking economic scenarios, their probability weightings, and the credit risk models used to estimate stage 1 and stage 2 ECL. In the current unprecedented economic environment resulting from the COVID-19 pandemic, ECL estimation requires higher management judgement, specifically within the following two areas: (i) scenario selection, including assumptions about the scenario severity, the form and shape of the recovery pattern, and the number of scenarios necessary to sufficiently cover the bandwidth of potential outcomes, as well as related scenario weights; and, (ii) the impact on the ECL models, including related model overlays implemented by

management, since the output from historic data based ECL models may be less appropriate.

Additionally, auditing the measurement of individual ECL for stage 3 was complex due to the high degree of judgment involved in management's process for estimating ECL based on LGD assumptions. These LGD assumptions take into account expected future cash flows from collateral and other credit enhancements or expected payouts from bankruptcy proceedings for unsecured claims and, where applicable, time to realization of collateral and the seniority of claims.

Our audit response

We obtained an understanding, evaluated the design and tested the operating effectiveness of management's controls over the ECL estimate, including management's choice of, and the probability weighting assigned to, the forward-looking economic scenarios used in measuring ECL. We evaluated management's methodologies and governance controls for developing and monitoring the economic scenarios used and the probability weightings assigned to them, and any related overlays. Supported by specialists, we assessed the key macroeconomic variables used in the forward-looking scenarios, such as real gross domestic product growth, unemployment rate, interest rates and house price indices.

We obtained an understanding, evaluated the design and tested the operating effectiveness of controls over credit risk models used in the ECL estimate, including controls over the completeness and accuracy of model input data, calculation logic, output data used in the overall ECL calculation, and any related overlays. With the support of specialists, we performed an evaluation of management's models and tested the model outcomes by inspecting model documentation, reperforming model calculations, and comparing data used as inputs to management's forecast to external sources, among other procedures.

For the measurement of stage 3, we obtained an understanding, evaluated the design and tested the operating effectiveness of controls over management's process, including an evaluation of the assumptions used by management regarding the future cash flows from the debtors' continuing operations and/or the liquidation of collateral. Supported by specialists in certain areas, we additionally tested collateral valuation, cash flow assumptions and exit strategies by performing inquiries of management, inspecting underlying documents, such as loan contracts, financial statements, covenants, budgets and business plans, and by re-performing discounted cash flow calculations among other procedures.

We also assessed management's disclosures regarding financial assets at amortized cost and other positions in scope of expected credit loss measurement (Note 1, Note 9 and Note 20 to the consolidated financial statements).

IT logical access and change management controls relevant to financial reporting

Area of focus

The Group's business and financial accounting and reporting processes are highly dependent on its information technology ("IT") systems. This dependency increased during the 2020 COVID-19 pandemic when the Group shifted to a remote working environment, with the bulk of its workforce working outside the office. The Group continues to invest in

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its IT systems to meet client needs and business requirements including the effectiveness of its IT general controls ("ITGCs") relevant to IT logical access and change management.

Auditing management's ITGCs relevant to IT logical access and change management was complex as the Group is a multi-location organization and in addition has a significant number of IT systems and applications relevant to financial reporting.

Our audit response

In assessing the effectiveness of management's ITGCs related to IT logical access and change management, we utilized IT auditors as part of our audit team. Our audit procedures focused on the IT infrastructure and applications relevant to financial reporting. We obtained an understanding and evaluated the design, and tested the operating effectiveness of key IT logical access and change management controls.

Our audit procedures related to IT logical access included tests of user access management, privileged user access, periodic access right recertifications, and user authentication controls.

Our audit procedures related to IT change management included tests of management's program change test approach, approval of change requests, as well as segregation of duties.

Other information in the annual report

The Board of Directors is responsible for the other information in the annual report. The other information comprises all information included in the annual report, but does not include the consolidated financial statements, the stand-alone financial statements of UBS AG, the compensation report (pages 260-261), and our auditor's reports thereon.

Our opinions on the consolidated financial statements, the standalone financial statements of UBS AG and the compensation report do not cover the other information in the annual report and we do not express any form of assurance conclusion thereon.

In connection with our audit of the consolidated financial statements, our responsibility is to read the other information in the annual report and, in doing so, consider whether the other information is materially inconsistent with the consolidated financial statements or our knowledge obtained in the audit, or otherwise appears to be materially misstated. If, based on the work we have performed, we conclude that there is a material misstatement of this other information, we are required to report that fact. We have nothing to report in this regard.

Responsibility of the Board of Directors for the consolidated financial statements

The Board of Directors is responsible for the preparation of the consolidated financial statements that give a true and fair view in accordance with IFRS and the provisions of Swiss law, and for such internal control as the Board of Directors determines is necessary to enable the preparation of consolidated financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the consolidated financial statements, the Board of Directors is responsible for assessing the Group's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless the Board of Directors either intends to liquidate the Group or to cease operations, or has no realistic alternative but to do so.

Auditor's responsibilities for the audit of the consolidated financial statements

Our objectives are to obtain reasonable assurance about whether the consolidated financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with Swiss law, ISAs and Swiss Auditing Standards will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these consolidated financial statements.

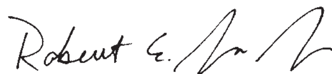
A further description of our responsibilities for the audit of the consolidated financial statements is located at the website of EXPERTsuisse: http://www.expertsuisse.ch/en/audit-report-for-public-companies. This description forms part of our auditor's report.

Report on other legal and regulatory requirements

In accordance with article 728a para. 1 item 3 CO and the Swiss Auditing Standard 890, we confirm that an internal control system exists, which has been designed for the preparation of consolidated financial statements according to the instructions of the Board of Directors.

We recommend that the consolidated financial statements submitted to you be approved.

Ernst & Young Ltd



Maurice McCormick
Licensed audit expert
(Auditor in charge)

Robert E. Jacob, Jr.
Certified Public Accountant (U.S.)

UBS AG consolidated financial statements

Primary financial statements and share information

Audited |

Income statement

		For the year ended		
USD million	Note	31.12.20	31.12.19	31.12.18
Interest income from financial instruments measured at amortized cost and fair value through other comprehensive income	3	8,816	10,703	10,121
Interest expense from financial instruments measured at amortized cost	3	(4,333)	(7,303)	(6,494)
Net interest income from financial instruments measured at fair value through profit or loss	3	1,305	1,015	1,344
Net interest income	3	5,788	4,415	4,971
Other net income from financial instruments measured at fair value through profit or loss	3	6,930	6,833	6,953
Credit loss (expense) / release	20	(695)	(78)	(117)
Fee and commission income	4	20,982	19,156	19,632
Fee and commission expense	4	(1,775)	(1,696)	(1,703)
Net fee and commission income	4	19,207	17,460	17,930
Other income	5	1,549	677	905
Total operating income		32,780	29,307	30,642
Personnel expenses	6	14,686	13,801	13,992
General and administrative expenses	7	8,486	8,586	10,075
Depreciation and impairment of property, equipment and software	12	1,851	1,576	1,052
Amortization and impairment of goodwill and intangible assets	13	57	175	65
Total operating expenses		25,081	24,138	25,184
Operating profit / (loss) before tax		7,699	5,169	5,458
Tax expense / (benefit)	8	1,488	1,198	1,345
Net profit / (loss)		6,211	3,971	4,113
Net profit / (loss) attributable to non-controlling interests		15	6	7
Net profit / (loss) attributable to shareholders		6,196	3,965	4,107

Financial statements

Statement of comprehensive income

		For the year ended		
USD million	Note	31.12.20	31.12.19	31.12.18
Comprehensive income attributable to shareholders				
Net profit / (loss)		6,196	3,965	4,107
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		2,040	199	(701)
Effective portion of changes in fair value of hedging instruments designated as net investment hedges, before tax		(938)	(144)	181
Foreign currency translation differences on foreign operations reclassified to the income statement		(7)	52	4
Effective portion of changes in fair value of hedging instruments designated as net investment hedges reclassified to the income statement		2	(14)	2
Income tax relating to foreign currency translations, including the effect of net investment hedges		(67)	(1)	(2)
Subtotal foreign currency translation, net of tax		1,030[1]	92	(515)
Financial assets measured at fair value through other comprehensive income	11			
Net unrealized gains / (losses), before tax		223	189	(56)
Realized gains reclassified to the income statement from equity		(40)	(33)	0
Realized losses reclassified to the income statement from equity		0	2	0
Income tax relating to net unrealized gains / (losses)		(48)	(41)	12
Subtotal financial assets measured at fair value through other comprehensive income, net of tax		136	117	(45)
Cash flow hedges of interest rate risk	25			
Effective portion of changes in fair value of derivative instruments designated as cash flow hedges, before tax		2,012	1,571	(42)
Net (gains) / losses reclassified to the income statement from equity		(770)	(175)	(294)
Income tax relating to cash flow hedges		(231)	(253)	67
Subtotal cash flow hedges, net of tax		1,011[2]	1,143	(269)
Cost of hedging	25			
Change in fair value of cost of hedging, before tax		(46)		
Amortization of initial cost of hedging to the income statement		33		
Income tax relating to cost of hedging		0		
Subtotal cost of hedging, net of tax		(13)		
Total other comprehensive income that may be reclassified to the income statement, net of tax		2,165	1,351	(829)
Other comprehensive income that will not be reclassified to the income statement				
Defined benefit plans	26			
Gains / (losses) on defined benefit plans, before tax		(222)[3]	(129)	(70)
Income tax relating to defined benefit plans		88	(41)	245
Subtotal defined benefit plans, net of tax		(134)	(170)	175
Own credit on financial liabilities designated at fair value	21			
Gains / (losses) from own credit on financial liabilities designated at fair value, before tax		(293)	(400)	517
Income tax relating to own credit on financial liabilities designated at fair value		0	8	(8)
Subtotal own credit on financial liabilities designated at fair value, net of tax		(293)	(392)	509
Total other comprehensive income that will not be reclassified to the income statement, net of tax		(427)	(562)	684
Total other comprehensive income		1,738	789	(145)
Total comprehensive income attributable to shareholders		7,934	4,754	3,961

Table continues on the next page.

Statement of comprehensive income (continued)

Table continued from previous page.

		For the year ended		
USD million	Note	31.12.20	31.12.19	31.12.18
Comprehensive income attributable to non-controlling interests				
Net profit / (loss)		15	6	7
Other comprehensive income that will not be reclassified to the income statement				
Foreign currency translation movements, before tax		21	(4)	(1)
Income tax relating to foreign currency translation movements		0	0	0
Subtotal foreign currency translation, net of tax		21	(4)	(1)
Total other comprehensive income that will not be reclassified to the income statement, net of tax		21	(4)	(1)
Total comprehensive income attributable to non-controlling interests		36	2	5
Total comprehensive income				
Net profit / (loss)		6,211	3,971	4,113
Other comprehensive income		1,759	785	(147)
of which: other comprehensive income that may be reclassified to the income statement		*2,165*	*1,351*	*(829)*
of which: other comprehensive income that will not be reclassified to the income statement		*(406)*	*(566)*	*682*
Total comprehensive income		7,970	4,756	3,967

1 Mainly driven by the strengthening of the Swiss franc (9%) and the euro (9%) against the US dollar. 2 Mainly reflects an increase in net unrealized gains on US dollar hedging derivatives resulting from decreases in the relevant long-term US dollar interest rates, partly offset by the reclassification of net gains on hedging instruments from OCI to the income statement as the hedged forecast cash flows affected profit or loss. 3 Mainly includes a net pre-tax OCI loss of USD 172 million related to the Swiss pension plan (primarily driven by an extraordinary employer contribution of USD 143 million that increased the gross plan assets, but led to an OCI loss as no net pension asset could be recognized on the balance sheet as of 31 December 2020 due to the asset ceiling) and a net pre-tax OCI loss of USD 61 million related to the UK pension plan (driven by an increase in the defined benefit obligation, mainly resulting from a lower discount rate). Refer to Note 26 for more information.

Balance sheet

USD million	Note	31.12.20	31.12.19
Assets			
Cash and balances at central banks		158,231	107,068
Loans and advances to banks	9	15,344	12,379
Receivables from securities financing transactions	9, 22	74,210	84,245
Cash collateral receivables on derivative instruments	9, 22	32,737	23,289
Loans and advances to customers	9	380,977	327,992
Other financial assets measured at amortized cost	9, 14a	27,219	23,012
Total financial assets measured at amortized cost		688,717	577,985
Financial assets at fair value held for trading	21	125,492	127,695
of which: assets pledged as collateral that may be sold or repledged by counterparties		*47,098*	*41,285*
Derivative financial instruments	10, 21, 22	159,618	121,843
Brokerage receivables	21	24,659	18,007
Financial assets at fair value not held for trading	21	80,038	83,636
Total financial assets measured at fair value through profit or loss		389,808	351,181
Financial assets measured at fair value through other comprehensive income	11, 21	8,258	6,345
Investments in associates	28b	1,557	1,051
Property, equipment and software	12	11,958	11,826
Goodwill and intangible assets	13	6,480	6,469
Deferred tax assets	8	9,174	9,524
Other non-financial assets	14b	9,374	7,547
Total assets		1,125,327	971,927
Liabilities			
Amounts due to banks	15	11,050	6,570
Payables from securities financing transactions	22	6,321	7,778
Cash collateral payables on derivative instruments	22	37,313	31,416
Customer deposits	15a	527,929	450,591
Funding from UBS Group AG and its subsidiaries	15b	53,979	47,866
Debt issued measured at amortized cost	17	85,351	62,835
Other financial liabilities measured at amortized cost	19a	10,421	10,373
Total financial liabilities measured at amortized cost		732,364	617,429
Financial liabilities at fair value held for trading	21	33,595	30,591
Derivative financial instruments	10, 21, 22	161,102	120,880
Brokerage payables designated at fair value	21	38,742	37,233
Debt issued designated at fair value	16, 21	59,868	66,592
Other financial liabilities designated at fair value	19b, 21	31,773	36,157
Total financial liabilities measured at fair value through profit or loss		325,080	291,452
Provisions	18a	2,791	2,938
Other non-financial liabilities	19c	7,018	6,211
Total liabilities		1,067,254	918,031
Equity			
Share capital		338	338
Share premium		24,580	24,659
Retained earnings		25,251	23,419
Other comprehensive income recognized directly in equity, net of tax		7,585	5,306
Equity attributable to shareholders		57,754	53,722
Equity attributable to non-controlling interests		319	174
Total equity		58,073	53,896
Total liabilities and equity		1,125,327	971,927

Statement of changes in equity

USD million	Share capital	Share premium	Retained earnings
Balance as of 31 December 2017	**338**	**24,633**	**22,189**
Effect of adoption of IFRS 9			(518)
Effect of adoption of IFRS 15			(25)
Effect of retained earnings restatement[2]			(32)
Balance as of 1 January 2018 after the adoption of IFRS 9 and IFRS 15 and restatement of retained earnings	**338**	**24,633**	**21,614**
Issuance of share capital			
Premium on shares issued and warrants exercised		34	
Tax (expense) / benefit		(5)	
Dividends			(3,098)
Translation effects recognized directly in retained earnings			(21)
New consolidations / (deconsolidations) and other increases / (decreases)		(7)	
Total comprehensive income for the year			4,790
of which: net profit / (loss)			*4,107*
of which: other comprehensive income (OCI) that may be reclassified to the income statement, net of tax			
of which: OCI that will not be reclassified to the income statement, net of tax – defined benefit plans			*175*
of which: OCI that will not be reclassified to the income statement, net of tax – own credit			*509*
of which: OCI that will not be reclassified to the income statement, net of tax – foreign currency translation			
Balance as of 31 December 2018	**338**	**24,655**	**23,285**
Effect of adoption of IFRIC 23			(11)
Balance as of 1 January 2019 after the adoption of IFRIC 23	**338**	**24,655**	**23,274**
Issuance of share capital			
Premium on shares issued and warrants exercised		0	
Tax (expense) / benefit		11	
Dividends			(3,250)
Translation effects recognized directly in retained earnings			(9)
New consolidations / (deconsolidations) and other increases / (decreases)		(7)	
Total comprehensive income for the year			3,403
of which: net profit / (loss)			*3,965*
of which: other comprehensive income (OCI) that may be reclassified to the income statement, net of tax			
of which: OCI that will not be reclassified to the income statement, net of tax – defined benefit plans			*(170)*
of which: OCI that will not be reclassified to the income statement, net of tax – own credit			*(392)*
of which: OCI that will not be reclassified to the income statement, net of tax – foreign currency translation			
Balance as of 31 December 2019	**338**	**24,659**	**23,419**

Other comprehensive income recognized directly in equity, net of tax[1]	*of which: foreign currency translation*	*of which: financial assets at fair value through other comprehensive income*	*of which: cash flow hedges*	*of which: cost of hedging*	Total equity attributable to shareholders	Non-controlling interests	Total equity
4,828	***4,455***	***13***	***360***		**51,987**	**59**	**52,046**
(74)		*(74)*			(591)		(591)
					(25)		(25)
					(32)		(32)
4,754	***4,455***	***(61)***	***360***		**51,338**	**59**	**51,397**
					0		0
					34		34
					(5)		(5)
					(3,098)	(10)	(3,108)
21		*3*	*18*		0		0
					(7)	122	115
(829)	*(515)*	*(45)*	*(269)*		3,961	5	3,967
					4,107	*7*	*4,113*
(829)	*(515)*	*(45)*	*(269)*		*(829)*		*(829)*
					175		*175*
					509		*509*
					0	*(1)*	*(1)*
3,946	***3,940***	***(103)***	***109***		**52,224**	**176**	**52,400**
					(11)		(11)
3,946	***3,940***	***(103)***	***109***		**52,213**	**176**	**52,389**
					0		0
					0		0
					11		11
					(3,250)	(8)	(3,258)
9		*0*	*9*		0		0
					(7)	5	(3)
1,351	*92*	*117*	*1,143*		4,754	2	4,756
					3,965	*6*	*3,971*
1,351	*92*	*117*	*1,143*		*1,351*		*1,351*
					(170)		*(170)*
					(392)		*(392)*
					0	*(4)*	*(4)*
5,306	**4,032**	***14***	***1,260***		**53,722**	**174**	**53,896**

Statement of changes in equity (continued)

USD million	Share capital	Share premium	Retained earnings
Balance as of 31 December 2019	**338**	**24,659**	**23,419**
Issuance of share capital			
Premium on shares issued and warrants exercised		(4)[3]	
Tax (expense) / benefit		1	
Dividends			(3,848)
Translation effects recognized directly in retained earnings			(49)
Share of changes in retained earnings of associates and joint ventures			(40)
New consolidations / (deconsolidations) and other increases / (decreases)[4]		(76)	
Total comprehensive income for the year			5,769
of which: net profit / (loss)			*6,196*
of which: other comprehensive income (OCI) that may be reclassified to the income statement, net of tax			
of which: OCI that will not be reclassified to the income statement, net of tax – defined benefit plans			*(134)*
of which: OCI that will not be reclassified to the income statement, net of tax – own credit			*(293)*
of which: OCI that will not be reclassified to the income statement, net of tax – foreign currency translation			
Balance as of 31 December 2020	338	24,580	25,251

1 Excludes other comprehensive income related to defined benefit plans and own credit, which is recorded directly in Retained earnings. 2 Opening retained earnings as of 1 January 2018 have been restated to reflect a reduction of USD 32 million in connection with the retrospective recognition of a USD 43 million increase in compensation-related liabilities and an USD 11 million increase in deferred tax assets. Refer to Note 1b for more information. 3 Includes decreases related to recharges by UBS Group AG for share-based compensation awards granted to employees of UBS AG or its subsidiaries. 4 Mainly relates to the establishment of a banking partnership with Banco do Brasil. Refer to Note 29 for more information.

Other comprehensive income recognized directly in equity, net of tax[1]	*of which: foreign currency translation*	*of which: financial assets at fair value through other comprehensive income*	*of which: cash flow hedges*	*of which: cost of hedging*	Total equity attributable to shareholders	Non-controlling interests	Total equity
5,306	4,032	14	1,260		53,722	174	53,896
					0		0
					(4)		(4)
					1		1
					(3,848)	(6)	(3,854)
49		0	49		0		0
					(40)		(40)
65	65				(12)	115	103
2,165	1,030	136	1,011	(13)	7,934	36	7,970
					6,196	15	6,211
2,165	1,030	136	1,011	(13)	2,165		2,165
					(134)		(134)
					(293)		(293)
					0	21	21
7,585	5,126	151	2,321	(13)	57,754	319	58,073

Ordinary share capital

As of 31 December 2020, UBS AG had 3,858,408,466 issued shares (31 December 2019: 3,858,408,466 shares) with a nominal value of CHF 0.10 each, leading to a share capital of CHF 385,840,846.60. The shares were entirely held by UBS Group AG.

Conditional share capital

As of 31 December 2020, the following conditional share capital was available to UBS AG's Board of Directors (BoD):

– A maximum of CHF 38,000,000 represented by up to 380,000,000 fully paid registered shares with a nominal value of CHF 0.10 each, to be issued through the voluntary or mandatory exercise of conversion rights and / or warrants granted in connection with the issuance of bonds or similar financial instruments on national or international capital markets. This conditional capital allowance was approved at the Annual General Meeting of UBS AG on 14 April 2010. The BoD has not made use of such allowance.

Authorized share capital

UBS AG had no authorized capital available to issue on 31 December 2020.

Earnings per share

In 2015, UBS AG shares were delisted from the SIX Swiss Exchange and the New York Stock Exchange. As of 31 December 2020, 100% of UBS AG's issued shares were held by UBS Group AG and therefore were not publicly traded. Accordingly, earnings per share information is not provided for UBS AG.

Statement of cash flows

	For the year ended		
USD million	31.12.20	31.12.19	31.12.18
Cash flow from / (used in) operating activities			
Net profit / (loss)	6,211	3,971	4,113
Non-cash items included in net profit and other adjustments:			
Depreciation and impairment of property, equipment and software	1,851	1,576	1,052
Amortization and impairment of goodwill and intangible assets	57	175	65
Credit loss expense / (release)	695	78	117
Share of net profits of associates / joint ventures and impairment of associates	(84)	(45)	(528)
Deferred tax expense / (benefit)	355	460	374
Net loss / (gain) from investing activities	(698)	220	(49)
Net loss / (gain) from financing activities	3,246	6,506	(4,829)
Other net adjustments	(8,061)	862	(1,092)
Net change in operating assets and liabilities:			
Loans and advances to banks / amounts due to banks	3,586	(4,336)	3,504
Securities financing transactions	9,588	8,678	(11,230)
Cash collateral on derivative instruments	(3,486)	2,842	(1,449)
Loans and advances to customers	(33,897)	(3,205)	(4,152)
Customer deposits	52,831	23,399	7,931
Financial assets and liabilities at fair value held for trading and derivative financial instruments	11,326	(18,873)	11,093
Brokerage receivables and payables	(5,199)	(2,347)	11,432
Financial assets at fair value not held for trading, other financial assets and liabilities	392	126	10,902
Provisions, other non-financial assets and liabilities	(1,213)	(537)	1,377
Income taxes paid, net of refunds	(919)	(741)	(888)
Net cash flow from / (used in) operating activities	36,581	18,805	27,744
Cash flow from / (used in) investing activities			
Purchase of subsidiaries, associates and intangible assets	(46)	(26)	(287)
Disposal of subsidiaries, associates and intangible assets[1]	674	114	137
Purchase of property, equipment and software	(1,573)	(1,401)	(1,473)
Disposal of property, equipment and software	364	11	114
Purchase of financial assets measured at fair value through other comprehensive income	(6,290)	(3,424)	(1,999)
Disposal and redemption of financial assets measured at fair value through other comprehensive income	4,530	3,913	1,361
Net (purchase) / redemption of debt securities measured at amortized cost	(4,166)	(562)	(3,770)
Net cash flow from / (used in) investing activities	(6,506)	(1,374)	(5,918)

Table continues on the next page.

Statement of cash flows (continued)

Table continued from previous page.

	For the year ended		
USD million	31.12.20	31.12.19	31.12.18
Cash flow from / (used in) financing activities			
Net short-term debt issued / (repaid)	23,845	(17,149)	(12,245)
Distributions paid on UBS AG shares	(3,848)	(3,250)	(3,098)
Repayment of lease liabilities	(547)	(496)	
Issuance of long-term debt, including debt issued designated at fair value	72,273	59,199	54,726
Repayment of long-term debt, including debt issued designated at fair value	(83,825)	(68,883)	(44,344)
Funding from UBS Group AG and its subsidiaries	4,606	5,848	5,956
Net changes in non-controlling interests	(6)	(8)	(31)
Net cash flow from / (used in) financing activities	12,498	(24,738)	963
Total cash flow			
Cash and cash equivalents at the beginning of the year	119,804	125,853	104,787
Net cash flow from / (used in) operating, investing and financing activities	42,573	(7,307)	22,789
Effects of exchange rate differences on cash and cash equivalents	11,053	1,258	(1,722)
Cash and cash equivalents at the end of the year[2]	173,430	119,804	125,853
of which: cash and balances at central banks[3]	*158,088*	*106,957*	*108,268*
of which: loans and advances to banks	*13,928*	*11,317*	*15,452*
of which: money market paper[4]	*1,415*	*1,530*	*2,133*
Additional information			
Net cash flow from / (used in) operating activities includes:			
Interest received in cash	11,929	15,344	14,666
Interest paid in cash	6,414	10,800	9,372
Dividends on equity investments, investment funds and associates received in cash[5]	1,901	3,145	2,322

1 Includes cash proceeds from the sale of the majority stake in Fondcenter AG of USD 426 million for the year ended 31 December 2020. Refer to Note 29 for more information. Also includes dividends received from associates. 2 USD 3,828 million, USD 3,192 million and USD 5,245 million of cash and cash equivalents (mainly reflected in Loans and advances to banks) were restricted as of 31 December 2020, 31 December 2019 and 31 December 2018, respectively. Refer to Note 23 for more information. 3 Includes only balances with an original maturity of three months or less. 4 Money market paper is included in the balance sheet under Financial assets at fair value held for trading (31 December 2020: USD 117 million; 31 December 2019: USD 235 million; 31 December 2018: USD 366 million), Financial assets measured at fair value through other comprehensive income (31 December 2020: USD 178 million; 31 December 2019: USD 24 million; 31 December 2018: USD 8 million), Financial assets at fair value not held for trading (31 December 2020: USD 536 million; 31 December 2019: USD 920 million; 31 December 2018: USD 1,556 million) and Other financial assets measured at amortized cost (31 December 2020: USD 584 million; 31 December 2019: USD 351 million; 31 December 2018: USD 204 million). 5 Includes dividends received from associates reported within Net cash flow from / (used in) investing activities.

Changes in liabilities arising from financing activities

USD million	Debt issued measured at amortized cost	*of which: short-term*	*of which: long-term*	Debt issued designated at fair value	Over-the-counter (OTC) debt instruments[2]	Funding from UBS Group AG and its subsidiaries[3]	Total
Balance as of 1 January 2019	91,245	39,025	52,220	57,031	2,450	41,202	191,928
Cash flows	(28,355)	*(17,149)*	*(11,206)*	1,947	(425)	5,848	(20,985)
Non-cash changes	(55)	*(39)*	*(16)*	7,614	(3)	1,033	8,588
of which: foreign currency translation	*(346)*	*(39)*	*(307)*	*210*	*(6)*	*(128)*	*(270)*
of which: fair value changes				*7,404*	*3*	*17*	*7,424*
of which: other[1]	*291*		*291*			*1,144*	*1,434*
Balance as of 31 December 2019	62,835	*21,837*	*40,998*	66,592	2,022	48,083	179,531
Cash flows	18,722	*23,845*	*(5,123)*	(6,423)	(6)	4,606	16,899
Non-cash changes	3,794	*984*	*2,810*	(301)	44	2,666	6,203
of which: foreign currency translation	*3,589*	*984*	*2,605*	*1,760*	*82*	*1,395*	*6,825*
of which: fair value changes				*(2,061)*	*(38)*	*152*	*(1,946)*
of which: other[1]	*205*		*205*			*1,119*	*1,324*
Balance as of 31 December 2020	85,351	46,666	38,685	59,868	2,060	55,354	202,633

1 Includes the effect of fair value hedges on long-term debt. Refer to Note 1a item 2j and Note 17 for more information. 2 Included in balance sheet line Other financial liabilities designated at fair value.
3 Includes funding from UBS Group AG and its subsidiaries measured at amortized cost (refer to Note 15b) and measured at fair value (refer to Note 19b).

Notes to the UBS AG consolidated financial statements

Note 1 Summary of significant accounting policies

The following table provides an overview of information included in this Note.

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Financial statements

Note 1 Summary of significant accounting policies (continued)

a) Significant accounting policies

This Note describes the significant accounting policies applied in the preparation of the consolidated financial statements (the Financial Statements) of UBS AG and its subsidiaries (UBS AG). On 25 February 2021, the Financial Statements were authorized for issue by the Board of Directors.

Basis of accounting

The Financial Statements have been 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).

Disclosures marked as audited in the "Risk, capital, liquidity and funding, and balance sheet" section of this report form an integral part of the Financial Statements. These disclosures relate to requirements under IFRS 7, *Financial Instruments: Disclosures*, and IAS 1, *Presentation of Financial Statements*, and are not repeated in this section.

The accounting policies described in this Note have been applied consistently in all years presented unless otherwise stated in Note 1b. In addition, effective from 1 January 2019, UBS AG applies IFRS 16, *Leases,* which sets out the principles for the recognition, measurement, presentation and disclosure of leases. Within this Note, policies applied for periods that differ from those applied to the financial year ended 31 December 2020 are identified as "Comparative policy."

Critical accounting estimates and judgments

Preparation of these Financial Statements under IFRS requires management to apply judgment and make estimates and assumptions that affect reported amounts of assets, liabilities, income and expenses and disclosure of contingent assets and liabilities, and may involve significant uncertainty at the time they are made. Such estimates and assumptions are based on the best available information. UBS AG regularly reassesses such estimates and assumptions, which encompass historical experience, expectations of the future and other pertinent factors, to determine their continuing relevance based on current conditions, updating them as necessary. Changes in those estimates and assumptions may have a significant effect on the Financial Statements. Furthermore, actual results may differ significantly from UBS AG's estimates, which could result in significant losses to UBS AG, beyond what was anticipated or provided for.

The following areas contain estimation uncertainty or require critical judgment and have a significant effect on amounts recognized in the Financial Statements:

- expected credit loss measurement (refer to item 2g in this Note and to Note 20);
- fair value measurement (refer to item 2f in this Note and to Note 21);
- income taxes (refer to item 7 in this Note and to Note 8);
- provisions and contingent liabilities (refer to item 11 in this Note and to Note 18);
- post-employment benefit plans (refer to item 6 in this Note and to Note 26);
- goodwill (refer to item 10 in this Note and to Note 13); and
- consolidation of structured entities (refer to item 1 in this Note and to Note 28).

1) Consolidation

The Financial Statements comprise the financial statements of UBS AG and its subsidiaries, presented as a single economic entity; intercompany transactions and balances have been eliminated. UBS AG consolidates all entities that it controls, including structured entities (SEs), which is the case when it has: (i) power over the relevant activities of the entity; (ii) exposure to an entity's variable returns; and (iii) the ability to use its power to affect its own returns.

Consideration is given to all facts and circumstances to determine whether UBS AG has power over another entity, i.e., the current ability to direct the relevant activities of an entity when decisions about those activities need to be made.

Subsidiaries, including SEs, are consolidated from the date when control is gained and deconsolidated from the date when control ceases. Control, or the lack thereof, is reassessed if facts and circumstances indicate that there is a change to one or more elements required to establish that control is present.

Business combinations are accounted for using the acquisition method. The amount of non-controlling interest is measured at the non-controlling interest's proportionate share of the acquiree's identifiable net assets.

› **Refer to Note 28 for more information**

Critical accounting estimates and judgments

Each individual entity is assessed for consolidation in line with the aforementioned consolidation principles. The assessment of control can be complex and requires the use of significant judgment, in particular in determining whether UBS AG has power over the entity. As the nature and extent of UBS AG's involvement is unique for each entity, there is no uniform consolidation outcome by entity. Certain entities within a class may be consolidated while others may not. When carrying out the consolidation assessment, judgment is exercised considering all the relevant facts and circumstances, including the nature and activities of the investee, as well as the substance of voting and similar rights.

› **Refer to Note 28 for more information**

2) Financial instruments

a. Recognition

UBS AG recognizes financial instruments when it becomes a party to contractual provisions of an instrument. UBS AG applies settlement date accounting to all standard purchases and sales of non-derivative financial instruments.

In transactions where UBS AG acts as a transferee, to the extent such financial asset transfer does not qualify for derecognition by the transferor, UBS AG does not recognize the transferred instrument as its asset.

UBS AG also acts in a fiduciary capacity, which results in it holding or placing assets on behalf of individuals, trusts, retirement benefit plans and other institutions. Unless these items meet the definition of an asset and the recognition criteria are satisfied, such assets are not recognized on UBS AG's balance sheet and the related income is excluded from the Financial Statements.

Client cash balances associated with derivatives clearing and execution services are not recognized on the balance sheet if, through contractual agreement, regulation or practice, UBS AG neither obtains benefits from nor controls such cash balances.

b. Classification, measurement and presentation

Financial assets

All financial instruments are on initial recognition measured at fair value and classified as measured at amortized cost, fair value through other comprehensive income (FVOCI) or fair value through profit or loss (FVTPL). For financial instruments subsequently measured at amortized cost or FVOCI, the initial fair value is adjusted for directly attributable transaction costs.

Where the contractual terms of a debt instrument result in cash flows that are solely payments of principal and interest (SPPI) on the principal amount outstanding, the debt instrument is classified as measured at amortized cost if it is held within a business model that has an objective to hold financial assets to collect contractual cash flows, or at FVOCI if it is held within a business model with the objective being achieved by both collecting contractual cash flows and selling financial assets.

All other financial assets are measured at FVTPL, including those held for trading or those managed on a fair value basis, except for derivatives designated in a hedge relationship, in which case hedge accounting requirements apply (refer to item 2j in this Note for more information).

Business model assessment and contractual cash flow characteristics

UBS AG determines the nature of a business model by considering the way financial assets are managed to achieve a particular business objective.

In assessing whether the contractual cash flows are SPPI, UBS AG considers whether the contractual terms of the financial asset contain a term that could change the timing or amount of contractual cash flows arising over the life of the instrument.

Financial liabilities

Financial liabilities measured at amortized cost

Financial liabilities measured at amortized cost include *Debt issued measured at amortized cost* and *Funding from UBS Group AG and its subsidiaries*, which constitute obligations of UBS AG arising from funding it has received from UBS Group AG or its subsidiaries, which are not within the UBS AG's scope of consolidation. The latter includes contingent capital instruments issued to UBS Group AG and its subsidiaries containing contractual provisions under which the principal amounts would be written down or converted into equity upon either a specified common equity tier 1 (CET1) ratio breach or a determination by the Swiss Financial Market Supervisory Authority (FINMA) that a viability event has occurred. Such contractual provisions are not derivatives, as the underlying is deemed to be a non-financial variable specific to a party to the contract.

Where there is a legal bail-in mechanism for write-down or conversion into equity (as is the case, for instance, with senior unsecured debt issued by UBS AG that is subject to write-down or conversion under resolution authority granted to FINMA under Swiss law), the amortized cost accounting treatment applied to these instruments is not affected.

If the debt were to be written down or converted into equity in a future period, it would be partially or fully derecognized, with the difference between its carrying amount and the fair value of any equity issued recognized in the income statement.

A gain or loss is recognized in *Other income* when debt issued is subsequently repurchased for market-making or other activities. A subsequent sale of own bonds in the market is treated as a reissuance of debt.

Financial liabilities measured at fair value through profit or loss

UBS AG designates certain issued debt instruments as financial liabilities at fair value through profit or loss, on the basis that such financial instruments include embedded derivatives and / or are managed on a fair value basis (refer to the table below for more information), in which case bifurcation of the embedded derivative component is not required. Financial instruments including embedded derivatives arise predominantly from the issuance of certain structured debt instruments.

Measurement and presentation

After initial recognition, UBS AG classifies, measures and presents its financial assets and liabilities in accordance with IFRS 9, as described in the table on the following pages.

Note 1 Summary of significant accounting policies (continued)

Classification, measurement and presentation of financial assets

<table>
<tr><th colspan="2">Financial assets classification</th><th>Significant items included</th><th>Measurement and presentation</th></tr>
<tr><td colspan="2">Measured at amortized cost</td><td>This classification includes:
– cash and balances at central banks;
– loans and advances to banks;
– cash collateral receivables on securities borrowed;
– receivables on reverse repurchase agreements;
– cash collateral receivables on derivative instruments;
– residential and commercial mortgages;
– corporate loans;
– secured loans, including Lombard loans, and unsecured loans;
– loans to financial advisors; and
– debt securities held as high-quality liquid assets (HQLA).</td><td>Measured at amortized cost using the effective interest method less allowances for expected credit losses (ECL) (refer to items 2d and 2g in this Note for more information).

The following items are recognized in the income statement:
– interest income, which is accounted for in accordance with item 2d in this Note;
– ECL and reversals; and
– foreign exchange translation gains and losses.

When the financial asset at amortized cost is derecognized, the gain or loss is recognized in the income statement.

For amounts arising from settlement of certain derivatives, refer to the next page.</td></tr>
<tr><td>Measured at FVOCI</td><td>Debt instruments measured at FVOCI</td><td>This classification primarily includes debt securities and certain asset-backed securities held as HQLA.</td><td>Measured at fair value, with unrealized gains and losses reported in Other comprehensive income, net of applicable income taxes, until such investments are derecognized. Upon derecognition, any accumulated balances in Other comprehensive income are reclassified to the income statement and reported within Other income.

The following items, which are determined on the same basis as for financial assets measured at amortized cost, are recognized in the income statement:
– interest income, which is accounted for in accordance with item 2d in this Note;
– ECL and reversals; and
– foreign exchange translation gains and losses.</td></tr>
</table>

Note 1 Summary of significant accounting policies (continued)

Classification, measurement and presentation of financial assets

<table>
<tr><th colspan="2">Financial assets classification</th><th>Significant items included</th><th>Measurement and presentation</th></tr>
<tr><td rowspan="2">Measured at FVTPL</td><td>Held for trading</td><td>Financial assets held for trading include:
– all derivatives with a positive replacement value, except those that are designated and effective hedging instruments; and
– other financial assets acquired principally for the purpose of selling or repurchasing in the near term, or that are part of a portfolio of identified financial instruments that are managed together and for which there is evidence of a recent actual pattern of short-term profit taking. Included in this category are debt instruments (including those in the form of securities, money market paper, and traded corporate and bank loans) and equity instruments.</td><td rowspan="2">Measured at fair value, with changes recognized in the income statement.

Derivative assets (including derivatives that are designated and effective hedging instruments) are generally presented as Derivative financial instruments, except those exchange-traded and OTC-cleared derivatives that are considered to be settled on a daily basis or in substance net settled on a daily basis, which are presented within Cash collateral receivables on derivative instruments.

Changes in fair value, initial transaction costs, dividends and gains and losses arising on disposal or redemption are recognized in Other net income from financial instruments measured at fair value through profit or loss,[1] except interest income on instruments other than derivatives (refer to item 2d in this Note), interest on derivatives designated as hedging instruments in hedges of interest rate risk and forward points on certain short- and long-duration foreign exchange contracts acting as economic hedges, which are reported in Net interest income.

Changes in the fair value of derivatives that are designated and effective hedging instruments are presented either in the income statement or Other comprehensive income, depending on the type of hedge relationship (refer to item 2j in this Note for more information).</td></tr>
<tr><td>Mandatorily measured at FVTPL – Other</td><td>This classification includes financial assets mandatorily measured at FVTPL that are not held for trading, as follows:
– certain structured loans, certain commercial loans, receivables under reverse repurchase and cash collateral on securities borrowing agreements that are managed on a fair value basis;
– loans managed on a fair value basis, including those hedged with credit derivatives;
– certain debt securities held as HQLA and managed on a fair value basis;
– certain investment fund holdings and assets held to hedge delivery obligations related to cash-settled employee compensation plans;
– brokerage receivables, for which contractual cash flows do not meet the SPPI criterion because the aggregate balance is accounted for as a single unit of account, with interest being calculated on the individual components;
– auction rate securities, for which contractual cash flows do not meet the SPPI criterion because interest may be reset at rates that contain leverage;
– equity instruments; and
– assets held under unit-linked investment contracts.</td></tr>
</table>

1 Effective from 1 January 2019, this line item includes dividends (prior to 1 January 2019, dividends were included within *Net interest income*), intermediation income arising from certain client-driven Global Wealth Management and Personal & Corporate Banking financial transactions, foreign currency translation effects and income and expenses from exposures to precious metals.

Note 1 Summary of significant accounting policies (continued)

Classification, measurement and presentation of financial liabilities

<table>
<tr><th colspan="2">Financial liabilities classification</th><th>Significant items included</th><th>Measurement and presentation</th></tr>
<tr><td colspan="2">Measured at amortized cost</td><td>This classification includes:
– demand and time deposits;
– retail savings / deposits;
– amounts payable under repurchase agreements;
– cash collateral on securities lent;
– non-structured fixed-rate bonds;
– subordinated debt;
– certificates of deposit and covered bonds;
– obligations against funding from UBS Group AG and its subsidiaries; and
– cash collateral payables on derivative instruments.</td><td>Measured at amortized cost using the effective interest method.

When the financial liability at amortized cost is derecognized, the gain or loss is recognized in the income statement.</td></tr>
<tr><td rowspan="2">Measured at fair value through profit or loss</td><td>Held for trading</td><td>Financial liabilities held for trading include:
– all derivatives with a negative replacement value (including certain loan commitments), except those that are designated and effective hedging instruments; and
– obligations to deliver financial instruments, such as debt and equity instruments, that UBS AG has sold to third parties but does not own (short positions).</td><td rowspan="2">Measurement and presentation of financial liabilities classified at FVTPL follow the same principles as for financial assets classified at FVTPL, except that the amount of change in the fair value of the financial liability designated at FVTPL that is attributable to changes in UBS AG's own credit risk is presented in Other comprehensive income directly within Retained earnings and is never reclassified to the income statement.

Derivative liabilities (including derivatives that are designated and effective hedging instruments) are generally presented as Derivative financial instruments, except those exchange-traded and OTC-cleared derivatives that are considered to be settled on a daily basis or in substance net settled on a daily basis, which are presented within Cash collateral payables on derivative instruments.</td></tr>
<tr><td>Designated at FVTPL</td><td>UBS AG designates at FVTPL the following financial liabilities:
– issued hybrid debt instruments that primarily include equity-linked, credit-linked and rates-linked bonds or notes;
– issued debt instruments managed on a fair value basis;
– certain payables under repurchase agreements and cash collateral on securities lending agreements that are managed in conjunction with associated reverse repurchase agreements and cash collateral on securities borrowed;
– amounts due under unit-linked investment contracts whose cash flows are linked to financial assets measured at FVTPL and eliminate an accounting mismatch; and
– brokerage payables, which arise in conjunction with brokerage receivables and are measured at FVTPL to achieve measurement consistency.</td></tr>
</table>

c. Loan commitments and financial guarantees

Loan commitments are arrangements to provide credit under defined terms and conditions. Irrevocable loan commitments are classified as: (i) derivative loan commitments measured at fair value through profit or loss; (ii) loan commitments designated at fair value through profit or loss; or (iii) loan commitments not measured at fair value. Financial guarantee contracts are contracts that require UBS AG to make specified payments to reimburse the holder for an incurred loss because a specified debtor fails to make payments when due in accordance with the terms of a specified debt instrument.

d. Interest income and expense

Interest income and expense are recognized in the income statement based on the effective interest method. When calculating the effective interest rate (EIR) for financial instruments (other than credit-impaired financial instruments), UBS AG estimates future cash flows considering all contractual terms of the instrument, but not expected credit losses, with the EIR applied to the gross carrying amount of the financial asset or the amortized cost of a financial liability. However, when a financial asset becomes credit-impaired after initial recognition, interest income is determined by applying the EIR to the amortized cost of the instrument, which represents the gross carrying amount adjusted for any credit loss allowance.

Upfront fees, including fees on loan commitments not measured at fair value where a loan is expected to be issued, and direct costs are included within the initial measurement of a financial instrument measured at amortized cost or FVOCI and recognized over the expected life of the instrument as part of its EIR.

Fees related to loan commitments where no loan is expected to be issued, as well as loan syndication fees where UBS AG does not retain a portion of the syndicated loan or where UBS AG does retain a portion of the syndicated loan at the same effective yield for comparable risk as other participants, are included in *Net fee and commission income* and either recognized over the life of the commitment or when syndication occurs.

› **Refer to item 3 in this Note for more information**

Interest income on financial assets, excluding derivatives, is included in interest income when positive and in interest expense when negative. Similarly, interest expense on financial liabilities, excluding derivatives, is included in interest expense, except when interest rates are negative, in which case it is included in interest income.

› **Refer to item 2b in this Note and Note 3 for more information**

e. Derecognition

Financial assets

UBS AG derecognizes a financial asset, or a portion of a financial asset, when the contractual rights to the cash flows from the financial asset expire, or UBS AG has either (i) transferred the contractual rights to receive the cash flows from the asset, or (ii) retained the contractual rights to receive the cash flows of that asset, but assumed a contractual obligation to pay the cash flows to one or more entities, subject to certain criteria. Transferred financial assets are derecognized if the purchaser has received substantially all the risks and rewards of the asset or a significant part of the risks and rewards combined with a practical ability to sell or pledge the asset.

Where financial assets have been pledged as collateral or in similar arrangements, they are considered to have been transferred if the counterparty has received the contractual rights to the cash flows of the pledged assets, as may be evidenced by, for example, the counterparty's right to sell or repledge the assets. In transfers where control over the financial asset is retained, UBS AG continues to recognize the asset to the extent of its continuing involvement, determined by the extent to which it is exposed to changes in the value of the transferred asset following the transfer.

Certain over-the-counter (OTC) derivative contracts and most exchange-traded futures and option contracts cleared through central clearing counterparties and exchanges are considered to be settled on a daily basis, as the payment or receipt of variation margin on a daily basis represents legal or economic settlement, which results in derecognition of the associated derivatives.

› **Refer to item 2i in this Note, Note 22 and Note 23 for more information**

Financial liabilities

UBS AG derecognizes a financial liability from its balance sheet when it is extinguished; i.e., when the obligation specified in the contract is discharged, canceled or expires. When an existing financial liability is exchanged for a new one from the same lender on substantially different terms, or the terms of an existing liability are substantially modified, the original liability is derecognized and a new liability recognized with any difference in the respective carrying amounts recognized in the income statement.

f. Fair value of financial instruments

UBS AG accounts for a significant portion of its assets and liabilities at fair value. Fair value is the price on the measurement date that would be received for the sale of an asset or paid to transfer a liability in an orderly transaction between market participants in the principal market, or in the most advantageous market in the absence of a principal market.

› **Refer to Note 21 for more information**

Note 1 Summary of significant accounting policies (continued)

Critical accounting estimates and judgments

The use of valuation techniques, modeling assumptions and estimates of unobservable market inputs in the fair valuation of financial instruments requires significant judgment and could affect the amount of gain or loss recorded for a particular position. Valuation techniques that rely more heavily on unobservable inputs and sophisticated models inherently require a higher level of judgment and may require adjustment to reflect factors that market participants would consider in estimating fair value, such as close-out costs, which are presented in Note 21d.

UBS AG's governance framework over fair value measurement is described in Note 21b, and UBS AG provides a sensitivity analysis of the estimated effects arising from changing significant unobservable inputs in Level 3 financial instruments to reasonably possible alternative assumptions within Note 21g.

› **Refer to Note 21 for more information**

g. Allowances and provisions for expected credit losses

Expected credit losses (ECL) are recognized for financial assets measured at amortized cost, financial assets measured at FVOCI, fee and lease receivables, financial guarantees and loan commitments not measured at fair value. ECL are also recognized on the undrawn portion of revolving revocable credit lines, which include UBS AG's credit card limits and master credit facilities, and are referred to by UBS AG as "other credit lines." Though these other credit lines are revocable at any time, UBS AG is exposed to credit risk because the borrower has the ability to draw down funds before UBS AG can take credit risk mitigation actions.

Recognition of expected credit losses

ECL are recognized on the following basis:

- Stage 1 instruments: Maximum 12-month ECL are recognized from initial recognition, reflecting the portion of lifetime cash shortfalls that would result if a default occurs in the 12 months after the reporting date, weighted by the risk of a default occurring.
- Stage 2 instruments: Lifetime ECL are recognized if a significant increase in credit risk (SICR) is observed subsequent to the instrument's initial recognition, reflecting lifetime cash shortfalls that would result from all possible default events over the expected life of a financial instrument, weighted by the risk of a default occurring. When an SICR is no longer observed, the instrument will move back to stage 1.
- Stage 3 instruments: Lifetime ECL are always recognized for credit-impaired financial instruments, as determined by the occurrence of one or more loss events, by estimating expected cash flows based on a chosen recovery strategy. Credit-impaired exposures may include positions for which no allowance has been recognized, for example because they are expected to be fully recoverable through collateral held.
- Changes in lifetime ECL since initial recognition are also recognized for assets that are purchased or originated credit-impaired (POCI). POCI financial instruments include those that are purchased at a deep discount or newly originated with a defaulted counterparty; they remain a separate category until derecognition.

All or part of a financial asset is written off if it is deemed uncollectible or forgiven. Write-offs reduce the principal amount of a claim and are charged against related allowances for credit losses. Recoveries, in part or in full, of amounts previously written off are generally credited to *Credit loss (expense) / release*.

ECL are recognized in the income statement in *Credit loss (expense) / release*. A corresponding ECL allowance is reported as a decrease in the carrying amount of financial assets measured at amortized cost on the balance sheet. For financial assets that are FVOCI, the carrying amount is not reduced, but an accumulated amount is recognized in *Other comprehensive income*. For off-balance sheet financial instruments and other credit lines, provisions for ECL are presented in *Provisions.*

Default and credit impairment

UBS AG applies a single definition of default for credit risk management purposes, regulatory reporting and ECL, with a counterparty classified as defaulted based on quantitative and qualitative criteria.

› **Refer to "Credit policies for distressed assets" in the "Risk management and control" section of this report for more information**

Measurement of expected credit losses

IFRS 9 ECL reflect an unbiased, probability-weighted estimate based on loss expectations resulting from default events. The method used to calculate ECL applies the following principal factors: probability of default (PD), loss given default (LGD) and exposure at default (EAD). Parameters are generally determined on an individual financial asset level. Based on the materiality of the portfolio, for credit card exposures and personal account overdrafts in Switzerland, a portfolio approach is applied that derives an average PD and LGD for the entire portfolio. PDs and LGDs used in the ECL calculation are point-in-time (PIT)-based for key portfolios and consider both current conditions and expected cyclical changes. For material portfolios, PDs and LGDs are determined for different scenarios, whereas EAD projections are treated as scenario independent.

For the purpose of determining the ECL-relevant parameters, UBS AG leverages its Pillar 1 internal ratings-based (IRB) models that are also used in determining expected loss (EL) and risk-weighted assets under the Basel III framework and Pillar 2 stress loss models. Adjustments have been made to these models and IFRS 9-related models have been developed that consider the complexity, structure and risk profile of relevant portfolios and take account of the fact that PDs and LGDs used in the ECL calculation are PIT-based, as opposed to the corresponding Basel III through-the-cycle (TTC) parameters. All models that are relevant for measuring expected credit losses are subject to UBS's model validation and oversight processes.

Probability of default: PD represents the likelihood of a default over a specified time period. A 12-month PD represents the likelihood of default determined for the next 12 months and a lifetime PD represents the probability of default over the remaining lifetime of the instrument. PIT PDs are derived from TTC PDs and scenario forecasts. The modeling is region-, industry- and client segment-specific and considers both macroeconomic scenario dependencies and client-idiosyncratic information.

Exposure at default: EAD represents an estimate of the exposure to credit risk at the time of a potential default occurring, considering expected repayments, interest payments and accruals, discounted at the EIR. Future drawdowns on facilities are considered through a credit conversion factor (CCF) that is reflective of historical drawdown and default patterns and the characteristics of the respective portfolios.

Loss given default: LGD represents an estimate of the loss at the time of a potential default occurring, taking into account expected future cash flows from collateral and other credit enhancements, or expected payouts from bankruptcy proceedings for unsecured claims and, where applicable, time to realization of collateral and the seniority of claims. The LGD is commonly expressed as a percentage of the EAD.

Estimation of expected credit losses

Number of scenarios and estimation of scenario weights

The determination of the probability-weighted ECL requires evaluating a range of diverse and relevant future economic conditions, especially with a view to modeling the non-linear effect of assumptions about macroeconomic factors on the estimate.

To accommodate this requirement, UBS AG uses different economic scenarios in the ECL calculation. Each scenario is represented by a specific scenario narrative, which is relevant considering the exposure of key portfolios to economic risks, and for which a set of consistent macroeconomic variables is determined. An econometric model is used to provide an input into the scenario weight assessment process giving a first indication of the probability that the GDP forecast used for each scenario would materialize, if historically observed deviations of GDP growth from trend growth were representative. As such historical analyses of GDP development do not include an assessment of the underlying economic or political causes, management positions the model output into the context of current conditions and future expectations and applies material judgment in determining the final scenario weights.

The determined weights constitute the probabilities that the respective set of macroeconomic conditions will occur and not that the chosen particular narratives with the related macroeconomic variables will materialize.

Macroeconomic and other factors

The range of macroeconomic, market and other factors that is modeled as part of the scenario determination is wide, and historical information is used to support the identification of the key factors. As the forecast horizon increases, the availability of information decreases, requiring an increase in judgment. For cycle-sensitive PD and LGD determination purposes, UBS AG projects the relevant economic factors for a period of three years before reverting, over a specified period, to a cycle-neutral PD and LGD for longer-term projections.

Factors relevant for ECL calculation vary by type of exposure. Regional and client-segment characteristics are generally taken into account, with specific focus on Switzerland and the US, considering UBS AG's key ECL-relevant portfolios.

For UBS AG, the following forward-looking macroeconomic variables represent the most relevant factors for ECL calculation:
- GDP growth rates, given their significant effect on borrowers' performance;
- unemployment rates, given their significant effect on private clients' ability to meet contractual obligations;
- house price indices, given their significant effect on mortgage collateral valuations;
- interest rates, given their significant effect on counterparties' abilities to service debt;
- consumer price indices, given their overall relevance for companies' performance, private clients' purchasing power and economic stability; and
- equity indices, given that they are an important factor in our corporate rating tools.

Scenario generation, review process and governance

A team of economists, who are part of Group Risk Control, develop the forward-looking macroeconomic assumptions with involvement from a broad range of experts.

The scenarios, their weight and the key macroeconomic and other factors are subject to a critical assessment by the Scenario and Operating Committees, which include senior management from Group Risk and Group Finance. Important aspects for the review include whether there may be particular credit risk concerns that may not be capable of being addressed systematically and require post-model adjustments for stage allocation and ECL allowance.

The Group Model Governance Board, as the highest authority under UBS AG's model governance framework, ratifies the decisions taken by the Operating Committee.

› **Refer to Note 20 for more information**

ECL measurement period

The period for which lifetime ECL are determined is based on the maximum contractual period that UBS AG is exposed to credit risk, taking into account contractual extension, termination and prepayment options. For irrevocable loan commitments and financial guarantee contracts, the measurement period represents the maximum contractual period for which UBS AG has an obligation to extend credit.

Note 1 Summary of significant accounting policies (continued)

Additionally, some financial instruments include both an on-demand loan and a revocable undrawn commitment, where the contractual cancelation right does not limit UBS AG's exposure to credit risk to the contractual notice period, as the client has the ability to draw down funds before UBS AG can take risk-mitigating actions. In such cases, UBS AG is required to estimate the period over which it is exposed to credit risk. This applies to UBS AG's credit card limits, which do not have a defined contractual maturity date, are callable on demand and where the drawn and undrawn components are managed as one exposure. The exposure arising from UBS AG's credit card limits is not significant and is managed at a portfolio level, with credit actions triggered when balances are past due. An ECL measurement period of seven years is applied for credit card limits, capped at 12 months for stage 1 balances, as a proxy for the period that UBS AG is exposed to credit risk.

Customary master credit agreements in the Swiss corporate market also include on-demand loans and revocable undrawn commitments. For smaller commercial facilities, a risk-based monitoring (RbM) approach is in place that highlights negative trends as risk events, at an individual facility level, based on a combination of continuously updated risk indicators. The risk events trigger additional credit reviews by a risk officer, enabling informed credit decisions to be taken. Larger corporate facilities are not subject to RbM, but are reviewed at least annually through a formal credit review. UBS AG has assessed these credit risk management practices and considers both the RbM approach and formal credit reviews as substantive credit reviews resulting in a re-origination of the given facility. Following this, a 12-month measurement period from the reporting date is used for both types of facilities as an appropriate proxy of the period over which UBS AG is exposed to credit risk, with 12 months also used as a look-back period for assessing SICR, always from the respective reporting date.

Significant increase in credit risk

Financial instruments subject to ECL are monitored on an ongoing basis. To determine whether the recognition of a maximum 12-month ECL continues to be appropriate, an assessment is made as to whether an SICR has occurred since initial recognition of the financial instrument, applying both quantitative and qualitative factors.

Primarily, UBS AG assesses changes in an instrument's risk of default on a quantitative basis by comparing the annualized forward-looking and scenario-weighted lifetime PD of an instrument determined at two different dates:

– at the reporting date; and
– at inception of the instrument.

If, based on UBS AG's quantitative modeling, an increase exceeds a set threshold, an SICR is deemed to have occurred and the instrument is transferred to stage 2 with lifetime ECL recognized.

The threshold applied varies depending on the original credit quality of the borrower, with a higher SICR threshold set for those instruments with a low PD at inception. The SICR assessment based on PD changes is made at an individual financial asset level. A high-level overview of the SICR trigger, which is a multiple of the annualized remaining lifetime PIT PD expressed in rating downgrades, is provided in the "SICR thresholds" table below. The actual SICR thresholds applied are defined on a more granular level by interpolating between the values shown in the table below.

SICR thresholds

Internal rating at origination of the instrument	Rating downgrades / SICR trigger
0–3	3
4–8	2
9–13	1

› **Refer to the "Risk management and control" section of this report for more details about UBS AG's internal grading system**

Irrespective of the SICR assessment based on default probabilities, credit risk is generally deemed to have significantly increased for an instrument if the contractual payments are more than 30 days past due. For certain less material portfolios, specifically the Swiss credit card portfolio, the 30-day past due criterion is used as the primary indicator of an SICR. Where instruments are transferred to stage 2 due to the 30-day past due criterion, a minimum period of six months is applied before a transfer back to stage 1 can be triggered. For instruments in Personal & Corporate Banking and Global Wealth Management Region Switzerland that are between 90 and 180 days past due but have not been reclassified to stage 3, a one-year period is applied before a transfer back to stage 1 can be triggered.

Additionally, based on individual counterparty-specific indicators, external market indicators of credit risk or general economic conditions, counterparties may be moved to a watch list, which is used as a secondary qualitative indicator for an SICR. Exception management is further applied, allowing for individual and collective adjustments on exposures sharing the same credit risk characteristics to take account of specific situations that are not otherwise fully reflected.

In general, the overall SICR determination process does not apply to Lombard loans, securities financing transactions and certain other asset-based lending transactions, because of the risk management practices adopted, including daily monitoring processes with strict margining. If margin calls are not satisfied, a position is closed out and classified as a stage 3 position. In exceptional cases, an individual adjustment and a transfer into stage 2 may be made to take account of specific facts.

Credit risk officers are responsible for the identification of an SICR, which for accounting purposes is in some respects different from internal credit risk management processes. This difference mainly arises because ECL accounting requirements are instrument-specific, such that a borrower can have multiple exposures allocated to different stages, and maturing loans in stage 2 will migrate to stage 1 upon renewal irrespective of the actual credit risk at that time. Under a risk-based approach, a holistic counterparty credit assessment and the absolute level of risk at any given date will determine what risk-mitigating actions may be warranted.

› **Refer to the "Risk management and control" section of this report for more information**

Critical accounting estimates and judgments

The calculation of ECL requires management to apply significant judgment and make estimates and assumptions that can result in significant changes to the timing and amount of ECL recognized.

Determination of a significant increase in credit risk
IFRS 9 does not include a definition of what constitutes an SICR, with UBS AG's assessment considering qualitative and quantitative criteria. An IFRS 9 Operating Committee has been established to review and challenge the SICR results.

Scenarios, scenario weights and macroeconomic variables
ECL reflect an unbiased and probability-weighted amount, which UBS AG determines by evaluating a range of possible outcomes. Management selects forward-looking scenarios which include relevant macroeconomic variables and management's assumptions around future economic conditions. An IFRS 9 Scenario Committee, in addition to the Operating Committee, is in place to derive, review and challenge the scenario selection and weights as well as to determine whether any additional post-model adjustments are required that may significantly affect ECL.

ECL measurement period
Lifetime ECL are generally determined based upon the contractual maturity of the transaction, which significantly affects ECL. For credit card limits and Swiss callable master credit facilities, judgment is required, as UBS AG must determine the period over which it is exposed to credit risk. A seven-year period is applied for credit card limits, capped at 12 months for stage 1 positions, and a 12-month period applied for master credit facilities.

Modeling and post-model adjustments
A number of complex models have been developed or modified to calculate ECL, with additional post-model adjustments required which may significantly affect ECL. The models are governed by UBS AG's model validation controls and approved by the Group Model Governance Board (the GMGB). The post-model adjustments are approved by the IFRS 9 Operating Committee and endorsed by the GMGB.

UBS AG provides a sensitivity analysis covering key macroeconomic variables, scenario weights and SICR trigger points on ECL measurement within Note 20f.

› **Refer to Note 20 for more information**

h. Restructured and modified financial assets

When payment default is expected or where default has already occurred, UBS AG may grant concessions to borrowers in financial difficulties that it would not consider in the normal course of its business, such as preferential interest rates, extension of maturity, modifying the schedule of repayments, debt / equity swap, subordination, etc. When a concession or forbearance measure is granted, each case is considered individually and the exposure is generally classified as being in default. Forbearance classification will remain until the loan is collected or written off, non-preferential conditions superseding preferential conditions are granted or until the counterparty has recovered and the preferential conditions no longer exceed UBS AG's risk tolerance.

Modifications result in an alteration of future contractual cash flows and can occur within UBS AG's normal risk tolerance or as part of a credit restructuring where a counterparty is in financial difficulties.

A restructuring or modification of a financial asset could lead to a substantial change in the terms and conditions, resulting in the original financial asset being derecognized and a new financial asset being recognized. Where the modification does not result in a derecognition, any difference between the modified contractual cash flows discounted at the original EIR and the existing gross carrying amount of the given financial asset is recognized in the income statement as a modification gain or loss.

i. Offsetting

UBS AG nets financial assets and liabilities on its balance sheet if (i) it has the unconditional and legally enforceable right to set off the recognized amounts, both in the normal course of business and in the event of default, bankruptcy or insolvency of UBS AG and its counterparties, and (ii) it intends either to settle on a net basis or to realize the asset and settle the liability simultaneously. Netted positions include, for example, certain derivatives and repurchase and reverse repurchase transactions with various counterparties, exchanges and clearing houses.

In assessing whether UBS AG intends to either settle on a net basis, or to realize the asset and settle the liability simultaneously, emphasis is placed on the effectiveness of operational settlement mechanics in eliminating substantially all credit and liquidity exposure between the counterparties. This condition precludes offsetting on the balance sheet for substantial amounts of UBS AG's financial assets and liabilities, even though they may be subject to enforceable netting arrangements. For OTC derivative contracts, balance sheet offsetting is generally only permitted in circumstances in which a market settlement mechanism exists via an exchange or central clearing counterparty that effectively accomplishes net settlement through a daily exchange of collateral via a cash margining process. For repurchase arrangements and securities financing transactions, balance sheet offsetting may be permitted only to the extent that the settlement mechanism eliminates, or results in insignificant, credit and liquidity risk, and processes the receivables and payables in a single settlement process or cycle.

› **Refer to Note 22 for more information**

Note 1 Summary of significant accounting policies (continued)

j. Hedge accounting
UBS AG applies hedge accounting requirements of IFRS 9, unless stated otherwise below, where the criteria for documentation and hedge effectiveness are met. If a hedge relationship no longer meets the criteria for hedge accounting, hedge accounting is discontinued. Voluntary discontinuation of hedge accounting is permitted under IAS 39 but not under IFRS 9.

Fair value hedges of interest rate risk related to debt instruments
The fair value change of the hedged item attributable to a hedged risk is reflected as an adjustment to the carrying amount of the hedged item, and recognized in the income statement along with the change in the fair value of the hedging instrument.

Fair value hedges of portfolio interest rate risk related to loans designated under IAS 39
The fair value change of the hedged item attributable to a hedged risk is reflected within *Other financial assets measured at amortized cost* or *Other financial liabilities measured at amortized cost* and recognized in the income statement along with the change in the fair value of the hedging instrument.

Fair value hedges of foreign exchange risk related to debt instruments
The fair value change of the hedged item attributable to a hedged risk is reflected in the measurement of the hedged item and recognized in the income statement along with the change in the fair value of the hedging instrument. The foreign currency basis spread of cross-currency swaps designated as hedging derivatives is excluded from the designation and accounted for as a cost of hedging with amounts deferred in *Other comprehensive income* within *Equity*. These amounts are released to the income statement over the term of the hedged item.

Discontinuation of fair value hedges
Discontinuations for reasons other than derecognition of the hedged item result in an adjustment to the carrying amount, which is amortized to the income statement over the remaining life of the hedged item using the effective interest method. If the hedged item is derecognized, the unamortized fair value adjustment or deferred cost of hedging amount is recognized immediately in the income statement as part of any derecognition gain or loss.

Cash flow hedges of forecast transactions
Fair value gains or losses associated with the effective portion of derivatives designated as cash flow hedges for cash flow repricing risk are recognized initially in *Other comprehensive income* within *Equity* and reclassified to the income statement in the periods when the hedged forecast cash flows affect profit or loss, including discontinued hedges for which forecast cash flows are expected to occur. If the forecast transactions are no longer expected to occur, the deferred gains or losses are immediately reclassified to the income statement.

Hedges of net investments in foreign operations
Gains or losses on the hedging instrument relating to the effective portion of a hedge are recognized directly in *Other comprehensive income* within *Equity,* while any gains or losses relating to the ineffective and / or undesignated portion (for example, the interest element of a forward contract) are recognized in the income statement. Upon disposal or partial disposal of the foreign operation, the cumulative value of any such gains or losses recognized in *Equity* associated with the entity is reclassified to *Other income*.

Interest Rate Benchmark Reform
UBS AG can continue hedge accounting during the period of uncertainty before existing interest rate benchmarks are replaced with alternative risk-free interest rates. During this period, UBS AG can assume that the current benchmark rates will continue to exist, such that forecast transactions are considered highly probable and hedge relationships remain, with little or no consequential impact on the financial statements. Upon replacement of existing interest rate benchmarks by alternative risk-free interest rates expected in 2021 and beyond, UBS AG will apply the requirements of *Amendments to IFRS 9, IAS 39, IFRS 7, IFRS 4 and IFRS 16 (Interest Rate Benchmark Reform – Phase 2).*

› **Refer to Note 1b and Note 1c for more information**

3) Fee and commission income and expenses

UBS AG earns fee income from the diverse range of services it provides to its clients. Fee income can be divided into two broad categories: fees earned from services that are provided over a certain period of time, such as management of clients' assets, custody services and certain advisory services; and fees earned from point-in-time services, such as underwriting fees, deal-contingent merger and acquisitions (M&A) fees and brokerage fees (e.g., securities and derivatives execution and clearing). UBS AG recognizes fees earned on transaction-based arrangements when it has fully provided the service to the customer. Where the contract requires services to be provided over time, income is recognized on a systematic basis over the life of the agreement.

Consideration received is allocated to the separately identifiable performance obligations in a contract. Owing to the nature of UBS AG's business, contracts that include multiple performance obligations are typically those that are considered to include a series of similar performance obligations fulfilled over time with the same pattern of transfer to the client, e.g., management of client assets and custodial services. As a consequence, UBS AG is not required to apply significant judgment in allocating the consideration received across the various performance obligations.

Point-in-time services are generally for a fixed price or dependent on deal size, e.g., a fixed number of basis points of trade size, where the amount of revenue is known when the performance obligation is met.

Fixed period-in-time fees are recognized on a straight-line basis over the performance period. Custodial and asset management fees can be variable through reference to the size of the customer portfolio and are generally billed on a monthly or quarterly basis once the customer's portfolio size is known or known with near certainty. This is generally prior to UBS AG's reporting dates and such fees are also recognized ratably over the performance period.

UBS AG does not recognize performance fees related to management of clients' assets or fees related to contingencies beyond UBS AG's control until such uncertainties are resolved.

UBS AG's fees are generally earned from short-term contracts, with the majority either collected immediately or via regular monthly or quarterly amounts deducted directly from clients' accounts. As a result, UBS AG's contracts do not include a financing component or result in the recognition of significant receivables or prepayment assets. Furthermore, due to the short-term nature of such contracts, UBS AG has not capitalized any material costs to obtain or fulfill a contract or generated any significant contract assets or liabilities.

UBS AG acts as principal in the majority of contracts with customers, with the exception of derivatives execution and clearing services, resulting in fee and commission income and expense being presented gross on the face of the income statement. For derivatives execution and clearing services, UBS AG only records its specific fees in the income statement, with fees payable to other parties not recognized as an expense but instead directly offset against the associated income collected from the given client.

UBS AG presents expenses primarily in line with their nature in the income statement, differentiating between expenses that are directly attributable to the satisfaction of specific performance obligations associated with the generation of revenues, which are presented within *Total operating income* as *Fee and commission expense*, and those that are related to personnel, general and administrative expenses, which are presented within *Total operating expenses*.

› **Refer to Note 4 for more information, including the disaggregation of revenues**

4) Cash and cash equivalents

For the purpose of the statement of cash flows, cash and cash equivalents comprise balances with an original maturity of three months or less, including cash, money market paper and balances at central and other banks.

5) Share-based and other deferred compensation plans

UBS AG recognizes expenses for deferred compensation awards over the period that the employee is required to provide service to become entitled to the award. Where the service period is shortened, for example in the case of employees affected by restructuring programs or mutually agreed termination provisions, recognition of expense is accelerated to the termination date. Where no future service is required, such as for employees who are eligible for retirement or who have met certain age and length-of-service criteria, the services are presumed to have been received and compensation expense is recognized over the performance year or, in the case of off-cycle awards, immediately on the grant date.

Share-based compensation plans

UBS Group AG is the grantor of and maintains the obligation to settle share-based compensation plans that are awarded to employees of UBS AG. As a consequence, UBS AG classifies the awards of UBS Group AG shares as equity-settled share-based payment transactions. UBS AG recognizes the fair value of awards granted to its employees by reference to the fair value of UBS Group AG's equity instruments on the date of grant, taking into account the terms and conditions inherent in the award, including, where relevant, dividend rights, transfer restrictions in effect beyond the vesting date, market conditions, and non-vesting condition. For equity-settled awards, the fair value is not remeasured unless the terms of the award are modified such that there is an incremental increase in value. No adjustments are made for modifications that result in a decrease in value. Any increase in fair value resulting from a modification is recognized as compensation expense, either over the remaining service period or, for vested awards, immediately. Expenses are recognized, on a per-tranche basis, over the service period based on an estimate of the number of instruments expected to vest and are adjusted to reflect the actual outcomes of service or performance conditions.

For equity-settled awards, forfeiture events resulting from a breach of a non-vesting condition (i.e., one that does not relate to a service or performance condition) do not result in any adjustment to the share-based compensation expense.

For cash-settled share-based awards, fair value is remeasured at each reporting date, so that the cumulative expense recognized equals the cash distributed.

Other deferred compensation plans

Compensation expense for other deferred compensation plans is recognized on a per-tranche or straight-line basis, depending on the nature of the plan. The amount recognized is measured based on the present value of the amount expected to be paid under the plan and is remeasured at each reporting date, so that the cumulative expense recognized equals the cash or the fair value of respective financial instruments distributed.

› **Refer to Note 27 for more information**

6) Post-employment benefit plans

UBS AG sponsors various post-employment benefit plans for its employees worldwide, which include defined benefit and defined contribution pension plans, and other post-employment benefits, such as medical and life insurance benefits that are payable after the completion of employment.

› **Refer to Note 26 for more information**

Note 1 Summary of significant accounting policies (continued)

Defined benefit plans

Defined benefit plans specify an amount of benefit that an employee will receive, which usually depends on one or more factors, such as age, years of service and compensation. The defined benefit liability recognized in the balance sheet is the present value of the defined benefit obligation less the fair value of the plan's assets at the balance sheet date, with changes resulting from remeasurements recorded immediately in *Other comprehensive income*. If the fair value of the plan's assets is higher than the present value of the defined benefit obligation, the recognition of the resulting net asset is limited to the present value of economic benefits available in the form of refunds from the plan or reductions in future contributions to the plan. UBS AG applies the projected unit credit method to determine the present value of its defined benefit obligations, the related current service cost and, where applicable, the past service cost. These amounts, which take into account the specific features of each plan, including risk sharing between employee and employer, are calculated periodically by independent qualified actuaries.

Critical accounting estimates and judgments

The net defined benefit liability or asset at the balance sheet date and the related personnel expense depend on the expected future benefits to be provided, determined using a number of economic and demographic assumptions. A range of assumptions could be applied, and different assumptions could significantly alter the defined benefit liability or asset and pension expense recognized. The most significant assumptions include life expectancy, the discount rate, expected salary increases, pension increases, and interest credits on retirement savings account balances. Sensitivity analysis for reasonable possible movements in each significant assumption for UBS AG's post-employment obligations is provided within Note 26.

› **Refer to Note 26 for more information**

Defined contribution plans

A defined contribution plan pays fixed contributions into a separate entity from which post-employment and other benefits are paid. UBS AG has no legal or constructive obligation to pay further amounts if the plan does not hold sufficient assets to pay employees the benefits relating to employee service in the current and prior periods. Compensation expense is recognized when the employees have rendered services in exchange for contributions. This is generally in the year of contribution. Prepaid contributions are recognized as an asset to the extent that a cash refund or a reduction in future payments is available.

7) Income taxes

UBS AG is subject to the income tax laws of Switzerland and those of the non-Swiss jurisdictions in which UBS AG has business operations.

UBS AG's provision for income taxes is composed of current and deferred taxes. Current income taxes represent taxes to be paid or refunded for the current period or previous periods.

Deferred taxes are recognized for temporary differences between the carrying amounts and tax bases of assets and liabilities that will result in taxable or deductible amounts in future periods and are measured using the applicable tax rates and laws that have been enacted or substantively enacted by the end of the reporting period and that will be in effect when such differences are expected to reverse.

Deferred tax assets arise from a variety of sources, the most significant being: (i) tax losses that can be carried forward to be used against profits in future years; and (ii) temporary differences that will result in deductions against profits in future years. Deferred tax assets are recognized only to the extent it is probable that sufficient taxable profits will be available against which these differences can be used. When an entity or tax group has a history of recent losses, deferred tax assets are only recognized to the extent there are sufficient taxable temporary differences or there is convincing other evidence that sufficient taxable profit will be available against which the unused tax losses can be utilized.

Deferred tax liabilities are recognized for temporary differences between the carrying amounts of assets and liabilities in the balance sheet that reflect the expectation that certain items will give rise to taxable income in future periods.

Deferred and current tax assets and liabilities are offset when: (i) they arise in the same tax reporting group; (ii) they relate to the same tax authority; (iii) the legal right to offset exists; and (iv) they are intended to be settled net or realized simultaneously.

Current and deferred taxes are recognized as income tax benefit or expense in the income statement, except for current and deferred taxes recognized in relation to: (i) the acquisition of a subsidiary (for which such amounts would affect the amount of goodwill arising from the acquisition); (ii) gains and losses on the sale of treasury shares (for which the tax effects are recognized directly in *Equity*); (iii) unrealized gains or losses on financial instruments that are classified at FVOCI; (iv) changes in fair value of derivative instruments designated as cash flow hedges; (v) remeasurements of defined benefit plans; or (vi) certain foreign currency translations of foreign operations. Amounts relating to points (iii) through (vi) are recognized in *Other comprehensive income* within *Equity*.

UBS AG reflects the potential effect of uncertain tax positions for which acceptance by the relevant tax authority is not considered probable by adjusting current or deferred taxes, as applicable, using either the most likely amount or expected value methods, depending on which method is deemed a better predictor of the basis on which and extent to which the uncertainty will be resolved.

Critical accounting estimates and judgments

Tax laws are complex, and judgment and interpretations about the application of such laws are required when accounting for income taxes. UBS AG considers the performance of its businesses and the accuracy of historical forecasts and other factors in evaluating the recoverability of its deferred tax assets, including the remaining tax loss carry-forward period, and its assessment of expected future taxable profits in the forecast period used for recognizing deferred tax assets. Estimating future profitability and business plan forecasts is inherently subjective and is particularly sensitive to future economic, market and other conditions.

Forecasts are reviewed annually, but adjustments may be made at other times, if required. If recent losses have been incurred, convincing evidence is required to prove there is sufficient future profitability given the value of UBS AG's deferred tax assets may be affected, with effects primarily recognized through the income statement.

In addition, judgment is required to assess the expected value of uncertain tax positions and the related probabilities, including interpretation of tax laws, the resolution of any income tax-related appeals and litigation.

› **Refer to Note 8 for more information**

8) Investments in associates

Interests in entities where UBS AG has significant influence over the financial and operating policies of the entity but does not have control are classified as investments in associates and accounted for under the equity method of accounting. Typically, UBS AG has significant influence when it holds or has the ability to hold between 20% and 50% of a company's voting rights. Investments in associates are initially recognized at cost, and the carrying amount is increased or decreased after the date of acquisition to recognize UBS AG's share of the investee's comprehensive income and any impairment losses.

The net investment in an associate is impaired if there is objective evidence of a loss event and the carrying amount of the investment in the associate exceeds its recoverable amount.

› **Refer to Note 28 for more information**

9) Property, equipment and software

Property, equipment and software includes own-used properties, leasehold improvements, information technology hardware, externally purchased and internally generated software, as well as communications and other similar equipment. Property, equipment and software is measured at cost less accumulated depreciation and impairment losses and is reviewed at each reporting date for indication for impairment. Software development costs are capitalized only when the costs can be measured reliably and it is probable that future economic benefits will arise. Depreciation of property, equipment and software begins when they are available for use (i.e., when they are in the location and condition necessary for them to be capable of operating in the manner intended by management).

Depreciation is calculated on a straight-line basis over an asset's estimated useful life. The estimated useful economic lives of UBS AG's property, equipment and software are:
- properties, excluding land: ≤ 67 years
- IT hardware and communications equipment: ≤ 7 years
- other machines and equipment: ≤ 10 years
- software: ≤ 10 years
- leased properties and leasehold improvements: the shorter of the lease term or the economic life of asset (typically ≤ 20 years).

Property, equipment and software are generally tested for impairment at the appropriate cash-generating unit (CGU) level, alongside goodwill and intangible assets as described in item 10 in this Note. An impairment charge is, however, only recognized for such assets if both the asset's fair value less costs of disposal and value in use (if determinable) are below its carrying amount. The fair values of such assets, other than property that has a market price, are generally determined using a replacement cost approach that reflects the amount that would be currently required by a market participant to replace the service capacity of the asset. If such assets are no longer used, they are tested individually for impairment.

› **Refer to Note 12 for more information**

10) Goodwill and intangible assets

Goodwill represents the future economic benefits arising from other assets acquired in a business combination that are not individually identified and recognized. Goodwill is not amortized, but is assessed for impairment at the end of each reporting period, or when indicators of impairment exist. UBS AG tests goodwill for impairment annually, irrespective of whether there is any indication of impairment.

The impairment test is performed for each CGU to which goodwill is allocated by comparing the recoverable amount, based on its value in use, to the carrying amount of the respective CGU. An impairment charge is recognized in the income statement if the carrying amount exceeds the recoverable amount.

Intangible assets include separately identifiable intangible items arising from business combinations and certain purchased trademarks and similar items. Intangible assets are recognized at cost. The cost of an intangible asset acquired in a business combination is its fair value at the date of acquisition. Intangible assets with a finite useful life are amortized using the straight-line method over their estimated useful life, generally not exceeding 20 years. In rare cases, intangible assets can have an indefinite useful life, in which case they are not amortized. At each reporting date, intangible assets are reviewed for indications of impairment. If such indications exist, the intangible assets are analyzed to assess whether their carrying amount is fully recoverable. An impairment loss is recognized if the carrying amount exceeds the recoverable amount.

Note 1 Summary of significant accounting policies (continued)

Critical accounting estimates and judgments

UBS AG's methodology for goodwill impairment testing is based on a model that is most sensitive to the following key assumptions: (i) forecasts of earnings available to shareholders in years one to three; (ii) changes in the discount rates; and (iii) changes in the long-term growth rate.

Earnings available to shareholders are estimated on the basis of forecast results, which are part of the business plan approved by the BoD. The discount rates and growth rates are determined using external information, as well as considering inputs from both internal and external analysts and the view of management.

The key assumptions used to determine the recoverable amounts of each cash-generating unit are tested for sensitivity by applying reasonably possible changes to those assumptions.

› **Refer to Notes 2 and 13 for more information**

11) Provisions and contingent liabilities

Provisions are liabilities of uncertain timing or amount, and are generally recognized in accordance with IAS 37, *Provisions, Contingent Liabilities and Contingent Assets*, when: (i) UBS AG has a present obligation as a result of a past event; (ii) it is probable that an outflow of resources will be required to settle the obligation; and (iii) a reliable estimate of the amount of the obligation can be made.

The majority of UBS AG's provisions relate to litigation, regulatory and similar matters, restructuring, and employee benefits. Restructuring provisions are generally recognized as a consequence of management agreeing to materially change the scope of the business or the manner in which it is conducted, including changes in management structure. Provisions for employee benefits relate mainly to service anniversaries and sabbatical leave, and are recognized in accordance with measurement principles set out in item 6 in this Note. In addition, UBS AG presents expected credit loss allowances within *Provisions* if they relate to a loan commitment, financial guarantee contract or a revolving revocable credit line.

IAS 37 provisions are measured considering the best estimate of the consideration required to settle the present obligation at the balance sheet date.

When conditions required to recognize a provision are not met, a contingent liability is disclosed, unless the likelihood of an outflow of resources is remote. Contingent liabilities are also disclosed for possible obligations that arise from past events the existence of which will be confirmed only by uncertain future events not wholly within the control of UBS AG.

Critical accounting estimates and judgments

Recognition of provisions often involves significant judgment in assessing the existence of an obligation that results from past events and in estimating the probability, timing and amount of any outflows of resources. This is particularly the case for litigation, regulatory and similar matters, which, due to their nature, are subject to many uncertainties, making their outcome difficult to predict.

The amount of any provision recognized is sensitive to the assumptions used and there could be a wide range of possible outcomes for any particular matter.

Management regularly reviews all the available information regarding such matters, including legal advice, to assess whether the recognition criteria for provisions have been satisfied and to determine the timing and amount of any potential outflows.

› **Refer to Note 18 for more information**

12) Foreign currency translation

Transactions denominated in a foreign currency are translated into the functional currency of the reporting entity at the spot exchange rate on the date of the transaction. At the balance sheet date, all monetary assets, including those at FVOCI, and monetary liabilities denominated in foreign currency are translated into the functional currency using the closing exchange rate. Translation differences are reported in *Other net income from financial instruments measured at fair value through profit or loss*.

Non-monetary items measured at historical cost are translated at the exchange rate on the date of the transaction.

Upon consolidation, assets and liabilities of foreign operations are translated into US dollars, UBS AG's presentation currency, at the closing exchange rate on the balance sheet date, and income and expense items and other comprehensive income are translated at the average rate for the period. The resulting foreign currency translation differences are recognized in *Equity* and reclassified to the income statement when UBS AG disposes of, partially or in its entirety, the foreign operation and UBS AG no longer controls the foreign operation.

Share capital issued, share premium and treasury shares held are translated at the historic average rate, with the difference between the historic average rate and the spot rate realized upon repayment of share capital or disposal of treasury shares reported as *Share premium*. Cumulative amounts recognized in OCI in respect of cash flow hedges and financial assets measured at FVOCI are translated at the closing exchange rate as of the balance sheet dates, with any translation effects adjusted through *Retained earnings*.

› **Refer to Note 33 for more information**

13) Non-controlling interests

Non-controlling interests

If UBS AG has an obligation to purchase a non-controlling interest subject to option or forward arrangements, the amounts allocated to non-controlling interests are reduced and a liability equivalent to the exercise price of the option or forward is recognized, with any difference between these two amounts recorded in *Share premium*.

Net cash settlement contracts

Contracts involving UBS Group AG shares that require net cash settlement, or provide the counterparty or UBS AG with a settlement option that includes a choice of settling net in cash, are classified as derivatives held for trading.

14) Leasing

UBS AG predominantly enters into lease contracts, or contracts that include lease components, as a lessee of real estate, including offices, retail branches and sales offices, with a small number of IT hardware leases. UBS AG identifies non-lease components of a contract and accounts for them separately from lease components.

When UBS AG is a lessee in a lease arrangement, UBS AG recognizes a lease liability and corresponding right-of-use (RoU) asset at the commencement of the lease term when UBS AG acquires control of the physical use of the asset. Lease liabilities are presented within *Other financial liabilities measured at amortized cost* and RoU assets within *Property, equipment and software*. The lease liability is measured based on the present value of the lease payments over the lease term, discounted using UBS AG's unsecured borrowing rate, given that the rate implicit in a lease is generally not observable. Interest expense on the lease liability is presented within *Interest expense from financial instruments measured at amortized cost*. The RoU asset is recorded at an amount equal to the lease liability but is adjusted for rent prepayments, initial direct costs, any costs to refurbish the leased asset and / or lease incentives received. The RoU asset is depreciated over the shorter of the lease term or the useful life of the underlying asset, with the depreciation presented within *Depreciation and impairment of property, equipment and software*.

Lease payments generally include fixed and variable payments that depend on an index (such as an inflation index). When a lease contains an extension or termination option that UBS AG considers reasonably certain to be exercised, the expected rental payments or costs of termination are included within the lease payments used to generate the lease liability. UBS AG does not typically enter into leases with purchase options or residual value guarantees.

Where UBS AG acts as a lessor or sub-lessor under a finance lease, a receivable is recognized in *Other financial assets measured at amortized cost* at an amount equal to the present value of the aggregate of the lease payments plus any unguaranteed residual value that UBS AG expects to recover at the end of the lease term. Initial direct costs are also included in the initial measurement of the lease receivable. Lease payments received during the lease term are allocated as repayments of the outstanding receivable. Interest income reflects a constant periodic rate of return on UBS AG's net investment using the interest rate implicit in the lease (or, for sub-leases, the rate for the head lease). UBS AG reviews the estimated unguaranteed residual value annually, and if the estimated residual value to be realized is less than the amount assumed at lease inception, a loss is recognized for the expected shortfall. Where UBS AG acts as a lessor or sub-lessor in an operating lease, UBS AG recognizes the operating lease income on a straight-line basis over the lease term.

Lease receivables are subject to impairment requirements as set out in item 2g in this Note. ECL on lease receivables are determined following the general impairment model within IFRS 9, *Financial Instruments*, without utilizing the simplified approach of always measuring impairment at the amount of lifetime ECL.

Comparative policy | *Policy applicable prior to 1 January 2019*

Operating lease rentals payable were recognized as an expense on a straight-line basis over the lease term, which commenced with control of the physical use of the property. Lease incentives were treated as a reduction of rental expense and were recognized on a consistent basis over the lease term. Operating lease expenses of USD 533 million were presented within *General and administrative expenses* in 2018. As at the date of adoption of IFRS 16, UBS AG had USD 24 million of finance leases and accounted for them consistently with the policy applied from 1 January 2019 above. The adoption of IFRS 16 had no impact on retained earnings.

› **Refer to Note 12 and 30 for more information**

Note 1 Summary of significant accounting policies (continued)

b) Changes in accounting policies, comparability and other adjustments

New or amended accounting standards

Adoption of hedge accounting requirements of IFRS 9, Financial Instruments

Effective from 1 January 2020, UBS AG has prospectively adopted the hedge accounting requirements of IFRS 9, *Financial Instruments*, for all of its existing hedge accounting programs, except for fair value hedges of portfolio interest rate risk, which, as permitted under IFRS 9, continue to be accounted for under IAS 39, *Financial Instruments: Recognition and Measurement*.

The adoption of these requirements has not changed any of the hedge designations disclosed in the Annual Report 2019 with only minor amendments to hedge documentation and hedge effectiveness testing methodologies required to make them compliant with IFRS 9. The adoption had no financial effect on UBS AG's financial statements. However, starting on 1 January 2020, UBS AG began to designate cross-currency swaps as *Fair value hedges of foreign exchange risk related to debt instruments* and utilized the cost of hedging approach introduced by IFRS 9.

› **Refer to Note 1a item 2j for more information about UBS AG's hedge accounting policies under IFRS 9 and Note 25 for more information about Fair value hedges of foreign exchange risk related to debt instruments**

Other changes to financial reporting

Modification of deferred compensation awards

During 2020, UBS AG modified the terms of certain outstanding deferred compensation awards granted for performance years 2015 through 2019 by removing the requirement to provide future service for qualifying employees. These awards remain subject to forfeiture if certain non-vesting conditions are not satisfied. As a result, UBS AG recognized an expense of USD 342 million in the third quarter of 2020, of which USD 303 million was recorded within *Variable compensation – performance awards*, USD 23 million within *Social security* and USD 16 million within *Other personnel expenses*, with a corresponding increase of USD 342 million in liabilities. The full year effect was an expense of approximately USD 270 million, of which USD 240 million is disclosed within *Variable compensation – performance awards*, USD 20 million within *Social security* and USD 10 million within *Other personnel expenses,* with an increase of approximately USD 270 million in liabilities.

Outstanding deferred compensation awards granted to Group Executive Board members, those granted under the Long-Term Incentive Plan, as well as those granted to financial advisors in the US, were not affected by these changes.

Restatement of compensation-related liabilities

During 2020, UBS AG restated its balance sheet and statement of changes in equity as of 1 January 2018 to correct a USD 43 million liability understatement in connection with a legacy Global Wealth Management deferred compensation plan, with the effects presented in the table below. The restatement resulted from a correction of an actuarial calculation associated with compensation-related liabilities. The effects of the understatement were not material to prior-year financial statements; however, such effects would have been material to the quarterly reporting period in which the understatement was identified and therefore prior years were restated. The restatement had no effect on *Net profit / (loss)* for the current period or for any comparative periods.

	31.12.19			31.12.18			1.1.18		
USD million	As reported	Effect	Restated	As reported	Effect	Restated	As reported	Effect	Restated
Balance sheet assets									
Deferred tax assets	9,513	11	9,524	10,066	11	10,077	10,121	11	10,132
Total assets	**971,916**	**11**	**971,927**	**958,055**	**11**	**958,066**	**939,528**	**11**	**939,539**
Balance sheet liabilities									
Other non-financial liabilities	6,168	43	6,211	6,275	43	6,318	6,499	43	6,542
of which: Compensation-related liabilities	*4,296*	*43*	*4,339*	*4,645*	*43*	*4,688*	*5,036*	*43*	*5,079*
of which: financial advisor compensation plans	*1,459*	*43*	*1,502*	*1,454*	*43*	*1,497*		*Not disclosed*	
Total liabilities	**917,988**	**43**	**918,031**	**905,624**	**43**	**905,667**	**888,100**	**43**	**888,143**
Equity									
Retained earnings	23,451	(32)	23,419	23,317	(32)	23,285	21,646	(32)	21,614
Equity attributable to shareholders	**53,754**	**(32)**	**53,722**	**52,256**	**(32)**	**52,224**	**51,370**	**(32)**	**51,338**
Total equity	**53,928**	**(32)**	**53,896**	**52,432**	**(32)**	**52,400**	**51,429**	**(32)**	**51,397**
Total liabilities and equity	**971,916**	**11**	**971,927**	**958,055**	**11**	**958,066**	**939,528**	**11**	**939,539**

Segment reporting
Effective from 1 January 2020, UBS AG no longer discloses a detailed cost breakdown by financial statement line item within its segment reporting disclosures provided in Note 2. The modified approach of presenting operating expenses for each division aligns the reporting with the way that UBS AG manages its cost base. This change has no effect on the income statement, or on the net profit of any business division.

Presentation of interest income and expense from financial instruments measured at fair value through profit or loss
Effective from 1 January 2020, UBS AG presents interest income and interest expense from financial instruments measured at fair value through profit or loss on a net basis, in line with how UBS AG assesses and reports interest and in accordance with IFRS. This presentation change has no effect on *Net interest income* or on *Net profit / (loss) attributable to shareholders*. Prior periods have been aligned with this change in presentation. Further information about net interest income from financial instruments measured at fair value through profit or loss is provided in Note 3.

c) International Financial Reporting Standards and Interpretations to be adopted in 2021 and later and other changes

Amendments to IAS 39, IFRS 9 and IFRS 7 (*Interest Rate Benchmark Reform – Phase 2*)
In August 2020, the IASB issued *Interest Rate Benchmark Reform – Phase 2, Amendments to IFRS 9, IAS 39, IFRS 7, IFRS 4 and IFRS 16* addressing a number of issues in financial reporting areas that arise when IBOR rates are reformed or replaced.

The amendments provide a practical expedient which permits certain changes in the contractual cash flows of debt instruments attributable to the replacement of IBOR rates with alternative risk-free interest rates (RFRs) to be accounted for prospectively by updating the instrument's EIR.

In terms of hedge accounting, the amendments provide relief from discontinuing hedge relationships because of changes resulting from the replacement of IBOR rates and temporary relief from having to ensure that the designated RFR risk component is separately identifiable. Additionally, the amendments do not require remeasurement or immediate release to the income statement of the accumulated amounts resulting from IBOR hedges upon the change to RFRs.

Furthermore, the amendments introduce additional disclosure requirements covering any new risks arising from the reforms and how the transition to alternative benchmark rates is managed.

UBS AG will adopt these amendments on 1 January 2021 and does not expect a material effect on its financial statements.

› **Refer to Note 25 for more information**

IFRS 17, *Insurance Contracts*
In May 2017, the IASB issued IFRS 17, *Insurance Contracts*, which sets out the accounting requirements for contractual rights and obligations that arise from insurance contracts issued and reinsurance contracts held. IFRS 17 is effective from 1 January 2023. UBS AG is assessing the standard, but does not expect it to have a material effect on its financial statements.

Amendments to IAS 1, *Presentation of Financial Statements*, IFRS Practice Statement 2, *Making Materiality Judgements* and IAS 8, *Accounting Policies, Changes in Accounting Estimates and Errors*
In February 2021, the IASB issued amendments to IAS 1, *Presentation of Financial Statements*, IFRS Practice Statement 2, *Making Materiality Judgements* and amendments to IAS 8, *Accounting Policies, Changes in Accounting Estimates and Errors* to help improve accounting policy disclosures and distinguish changes in accounting estimates from changes in accounting policies. These amendments are effective from 1 January 2023, with early application permitted. UBS AG is currently assessing the effect on its financial statements.

Annual Improvements to IFRS Standards 2018–2020 Cycle and narrow-scope amendments to IFRS 3, *Business Combinations*, and IAS 37, *Provisions, Contingent Liabilities and Contingent Assets*
In May 2020, the IASB issued several narrow-scope amendments to a number of standards as well as *Annual Improvements to IFRS Standards 2018–2020 Cycle*. These minor amendments are effective from 1 January 2022. UBS AG is currently assessing the effect on its financial statements.

Note 2a Segment reporting

UBS AG's businesses are organized 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 and qualify as reportable segments for the purpose of segment reporting. Together with Group Functions, the four business divisions reflect the management structure of UBS AG:

– **Global Wealth Management** provides investment advice and solutions, as well as lending solutions, to private clients, in particular in the ultra high net worth and high net worth segments. The business is managed globally across the regions.
– **Personal & Corporate Banking** provides comprehensive financial products and services to private, corporate and institutional clients, operating across all banking markets in Switzerland.
– **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. Offerings include advisory services, capital markets, cash and derivatives trading across equities and fixed income and financing.
– **Group Functions** – formerly named Corporate Center, is made up of the following major areas: Group Services (which consists of Technology, Corporate Services, Human Resources, Operations, Finance, Legal, Risk Control, Research and Analytics, Compliance, Regulatory & Governance, Communications & Branding and UBS in Society), Group Treasury and Non-core and Legacy Portfolio.

Financial information about the four business divisions and Group Functions is presented separately in internal management reports.

UBS AG's internal accounting policies, which include management accounting policies and service level agreements, determine the revenues and expenses directly attributable to each reportable segment. Transactions between the reportable segments are carried out at internally agreed rates and are reflected in the operating results of the reportable segments. Revenue-sharing agreements are used to allocate external client revenues to reportable segments where several reportable segments are involved in the value creation chain. Total intersegment revenues for UBS AG are immaterial, as the majority of the revenues are allocated across the segments by means of revenue-sharing agreements. Interest income earned from managing UBS AG's consolidated equity is allocated to the reportable segments based on average attributed equity and currency composition. Assets and liabilities of the reportable segments are funded through and invested with Group Functions, and the net interest margin is reflected in the results of each reportable segment.

Segment assets are based on a third-party view and do not include intercompany balances. This view is in line with internal reporting to the GEB. If one operating segment is involved in an external transaction together with another operating segment or Group Functions, additional criteria are considered to determine the segment that will report the associated assets. This will include a consideration of which segment's business needs are being addressed by the transaction and which segment is providing the funding and / or resources. Allocation of liabilities follows the same principles.

Non-current assets disclosed for segment reporting purposes represent assets that are expected to be recovered more than 12 months after the reporting date, excluding financial instruments, deferred tax assets and post-employment benefits.

Effective from 1 January 2020, UBS AG only reports total operating expenses for each business division and no longer discloses a detailed cost breakdown by financial statement line item. This change streamlines reporting, ensures alignment with how UBS AG manages its cost base and has no effect on the income statement, or on the net profit of any business division.

Note 2a Segment reporting (continued)

Segment reporting

USD million	Global Wealth Management	Personal & Corporate Banking	Asset Management	Investment Bank	Group Functions	UBS AG
For the year ended 31 December 2020						
Net interest income	4,027	2,049	(17)	284	(555)	5,788
Non-interest income[1]	13,107	1,859	2,993	9,224	504	27,686
Income	17,134	3,908	2,975	9,508	(52)	33,474
Credit loss (expense) / release	(88)	(257)	(2)	(305)	(42)	(695)
Total operating income	17,046	3,651	2,974	9,203	(94)	32,780
Total operating expenses	13,080	2,390	1,520	6,762	1,329	25,081
Operating profit / (loss) before tax	3,965	1,261	1,454	2,441	(1,423)	7,699
Tax expense / (benefit)						1,488
Net profit / (loss)						6,211
Additional information						
Total assets	367,714	231,710	28,266	369,778	127,858	1,125,327
Additions to non-current assets	5	12	385	150	1,971	2,524

USD million	Global Wealth Management	Personal & Corporate Banking	Asset Management	Investment Bank	Group Functions	UBS AG
For the year ended 31 December 2019						
Net interest income	3,947	1,993	(25)	(669)	(831)	4,415
Non-interest income	12,426	1,745	1,962	7,967	869	24,970
Income	16,373	3,737	1,938	7,298	38	29,385
Credit loss (expense) / release	(20)	(21)	0	(30)	(7)	(78)
Total operating income	16,353	3,717	1,938	7,268	31	29,307
Total operating expenses	13,018	2,274	1,407	6,515	925	24,138
Operating profit / (loss) before tax	**3,335**	**1,443**	**531**	**753**	**(893)**	**5,169**
Tax expense / (benefit)						1,198
Net profit / (loss)						**3,971**
Additional information						
Total assets[2]	309,766	209,512	34,565	316,058	102,028	971,927
Additions to non-current assets	68	10	0	1	4,935	5,014

USD million	Global Wealth Management	Personal & Corporate Banking	Asset Management	Investment Bank	Group Functions	UBS AG
For the year ended 31 December 2018						
Net interest income	4,101	2,049	(29)	(459)	(690)	4,971
Non-interest income	12,700	2,169	1,881	8,539	499	25,788
Income	16,801	4,218	1,852	8,080	(191)	30,759
Credit loss (expense) / release	(15)	(56)	0	(38)	(8)	(117)
Total operating income	16,786	4,162	1,852	8,042	(199)	30,642
Total operating expenses	13,574	2,363	1,427	6,600	1,220	25,184
Operating profit / (loss) before tax	**3,212**	**1,799**	**425**	**1,442**	**(1,419)**	**5,458**
Tax expense / (benefit)						1,345
Net profit / (loss)						**4,113**
Additional information						
Total assets[2]	313,737	200,767	28,140	302,434	112,988	958,066
Additions to non-current assets	196	23	1	89	1,449	1,757

1 Includes a USD 631 million net gain on the sale of a majority stake in Fondcenter AG, of which USD 571 million was recognized in Asset Management and USD 60 million was recognized in Global Wealth Management. Refer to Note 29 for more information. 2 Information has been restated where applicable. Refer to Note 1b for more information.

Note 2b Segment reporting by geographic location

The operating regions shown in the table below correspond to the regional management structure of UBS AG. The allocation of operating income to these regions reflects, and is consistent with, the basis on which the business is managed and its performance is evaluated. These allocations involve assumptions and judgments that management considers to be reasonable, and may be refined to reflect changes in estimates or management structure. The main principles of the allocation methodology are that client revenues are attributed to the domicile of the given client and trading and portfolio management revenues are attributed to the country where the risk is managed. This revenue attribution is consistent with the mandate of the regional Presidents. Certain revenues, such as those related to Non-core and Legacy Portfolio in Group Functions, are managed at a group level. These revenues are included in the *Global* line.

The geographic analysis of non-current assets is based on the location of the entity in which the given assets are recorded.

For the year ended 31 December 2020

	Total operating income		Total non-current assets	
	USD billion	Share %	USD billion	Share %
Americas	13.0	40	9.0	45
of which: USA	*11.7*	*36*	*8.4*	*42*
Asia Pacific	6.0	18	1.4	7
Europe, Middle East and Africa (excluding Switzerland)	6.5	20	2.7	14
Switzerland	6.9	21	6.9	34
Global	0.5	2	0.0	0
Total	**32.8**	**100**	**20.0**	**100**

For the year ended 31 December 2019

	Total operating income[1]		Total non-current assets	
	USD billion	Share %	USD billion	Share %
Americas	12.0	41	8.9	46
of which: USA	*10.9*	*37*	*8.5*	*44*
Asia Pacific	4.7	16	1.3	7
Europe, Middle East and Africa (excluding Switzerland)	5.8	20	2.6	13
Switzerland	6.7	23	6.5	34
Global	0.1	0	0.0	0
Total	**29.3**	**100**	**19.3**	**100**

For the year ended 31 December 2018

	Total operating income[1]		Total non-current assets	
	USD billion	Share %	USD billion	Share %
Americas	12.6	41	7.4	46
of which: USA	*11.5*	*37*	*7.0*	*43*
Asia Pacific	4.9	16	0.8	5
Europe, Middle East and Africa (excluding Switzerland)	6.2	20	1.8	11
Switzerland	7.1	23	6.2	38
Global	(0.2)	(1)	0.0	0
Total	**30.6**	**100**	**16.2**	**100**

1 Effective as of 1 January 2020, the Investment Bank was realigned into two new business lines, Global Banking and Global Markets, which affects how the business is managed and therefore the allocation of operating income to the regions. The presentation of prior-year information reflects the new regional management structure of the Investment Bank.

Income statement notes

Note 3 Net interest income and other net income from financial instruments measured at fair value through profit or loss

	For the year ended		
USD million	31.12.20	31.12.19	31.12.18
Net interest income from financial instruments measured at fair value through profit or loss	1,305	1,015	1,344
Other net income from financial instruments measured at fair value through profit or loss	6,930	6,833	6,953
of which: net gains / (losses) from financial liabilities designated at fair value [1]	*1,625*	(8,748)	9,382
Total net income from financial instruments measured at fair value through profit or loss	**8,235**	**7,848**	**8,297**
Net interest income			
Net interest income from financial instruments measured at amortized cost and fair value through other comprehensive income			
Interest income from loans and deposits[2]	6,696	8,026	7,822
Interest income from securities financing transactions[3]	862	2,005	1,567
Interest income from other financial instruments measured at amortized cost	335	364	266
Interest income from debt instruments measured at fair value through other comprehensive income	101	120	142
Interest income from derivative instruments designated as cash flow hedges	822	188	324
Total interest income from financial instruments measured at amortized cost and fair value through other comprehensive income	**8,816**	**10,703**	**10,121**
Interest expense on loans and deposits[4]	2,440	4,541	3,566
Interest expense on securities financing transactions[5]	870	1,152	1,130
Interest expense on debt issued	918	1,491	1,797
Interest expense on lease liabilities	105	118	
Total interest expense from financial instruments measured at amortized cost	**4,333**	**7,303**	**6,494**
Total net interest income from financial instruments measured at amortized cost and fair value through other comprehensive income	**4,483**	**3,400**	**3,628**
Net interest income from financial instruments measured at fair value through profit or loss			
Net interest income from financial instruments at fair value held for trading	847	1,218	1,111
Net interest income from brokerage balances	682	339	575
Net interest income from securities financing transactions at fair value not held for trading[6]	77	116	115
Interest income from other financial instruments at fair value not held for trading	585	914	901
Interest expense on other financial instruments designated at fair value	(886)	(1,571)	(1,357)
Total net interest income from financial instruments measured at fair value through profit or loss	**1,305**	**1,015**	**1,344**
Total net interest income	**5,788**	**4,415**	**4,971**

1 Excludes fair value changes of hedges related to financial liabilities designated at fair value and foreign currency translation effects arising from translating foreign currency transactions into the respective functional currency, both of which are reported within Other net income from financial instruments measured at fair value through profit or loss. 2019 and 2018 included a net loss of USD 1,830 million and a net gain of USD 2,152 million, respectively, driven by financial liabilities related to unit-linked investment contracts, which are designated at fair value through profit or loss. This was offset by a net gain of USD 1,830 million and a net loss of USD 2,134 million in 2019 and 2018, respectively, related to financial assets for unit-linked investment contracts that are mandatorily measured at fair value through profit or loss not held for trading. 2 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. 3 Includes interest income on receivables from securities financing transactions and negative interest, including fees, on payables from securities financing transactions. 4 Consists of interest expense on amounts due to banks, cash collateral payables on derivative instruments, customer deposits, and funding from UBS Group AG and its subsidiaries, as well as negative interest on cash and balances at central banks, loans and advances to banks, and cash collateral receivables on derivative instruments. 5 Includes interest expense on payables from securities financing transactions and negative interest, including fees, on receivables from securities financing transactions. 6 Includes interest expense on securities financing transactions designated at fair value.

Note 4 Net fee and commission income

	For the year ended		
USD million	31.12.20	31.12.19	31.12.18
Fee and commission income			
Underwriting fees	1,104	784	843
of which: equity underwriting fees	*657*	*360*	*431*
of which: debt underwriting fees	*446*	*424*	*412*
M&A and corporate finance fees	736	774	768
Brokerage fees	4,132	3,248	3,521
Investment fund fees	5,289	4,859	4,955
Portfolio management and related services	8,009	7,656	7,756
Other	1,712	1,836	1,789
Total fee and commission income[1]	20,982	19,156	19,632
of which: recurring	*13,010*	*12,545*	*12,911*
of which: transaction-based	*7,512*	*6,449*	*6,629*
of which: performance-based	*461*	*163*	*93*
Fee and commission expense			
Brokerage fees paid	274	310	316
Distribution fees paid	589	590	580
Other	911	796	807
Total fee and commission expense	1,775	1,696	1,703
Net fee and commission income	19,207	17,460	17,930
of which: net brokerage fees	*3,858*	*2,938*	*3,205*

1 For the year ended 31 December 2020, reflects third-party fee and commission income of USD 12,475 million for Global Wealth Management, USD 1,427 million for Personal & Corporate Banking, USD 3,129 million for Asset Management, USD 3,901 million for the Investment Bank and USD 50 million for Group Functions (for the year ended 31 December 2019: USD 11,694 million for Global Wealth Management, USD 1,307 million for Personal & Corporate Banking, USD 2,659 million for Asset Management, USD 3,397 million for the Investment Bank and USD 98 million for Group Functions; for the year ended 31 December 2018: USD 12,059 million for Global Wealth Management, USD 1,338 million for Personal & Corporate Banking, USD 2,579 million for Asset Management, USD 3,557 million for the Investment Bank and USD 100 million for Group Functions).

Note 5 Other income

	For the year ended		
USD million	31.12.20	31.12.19	31.12.18
Associates, joint ventures and subsidiaries			
Net gains / (losses) from acquisitions and disposals of subsidiaries[1]	635[2]	(36)	(292)
Net gains / (losses) from disposals of investments in associates	0	4	46
Share of net profits of associates and joint ventures	84[3]	46	529[4]
Impairments related to associates	0	(1)	0
Total	719	13	283
Net gains / (losses) from disposals of financial assets measured at fair value through other comprehensive income	40	31	0
Income from properties[5]	25	27	24
Net gains / (losses) from properties held for sale	76[6]	(19)	40
Income from shared services provided to UBS Group AG or its subsidiaries	422	464	478
Other	267[7]	161	80
Total other income	1,549	677	905

1 Includes foreign exchange gains / (losses) reclassified from other comprehensive income related to the disposal or closure of foreign operations. 2 Includes a USD 631 million net gain on the sale of a majority stake in Fondcenter AG. Refer to Note 29 for more information. 3 Includes a valuation gain of USD 26 million on UBS AG's equity ownership of SIX Group. 4 Includes a valuation gain of USD 460 million on UBS AG's equity ownership of SIX Group related to the sale of SIX Payment Services to Worldline. 5 Includes rent received from third parties. 6 Includes net gains of USD 140 million arising from sale-and-leaseback transactions, primarily related to a property in Geneva, partly offset by remeasurement losses relating to properties that were reclassified as held for sale. 7 Includes a USD 215 million gain on the sale of intellectual property rights associated with the Bloomberg Commodity Index family.

Note 6 Personnel expenses

	For the year ended		
USD million	31.12.20	31.12.19	31.12.18
Salaries[1]	5,535	5,183	5,199
Variable compensation – performance awards[2]	2,953[3]	2,545	2,794
of which: guarantees for new hires	*24*	*29*	*43*
Variable compensation – other[2]	201	225	220
Financial advisor compensation[2,4]	4,091	4,043	4,054
Contractors	138	147	184
Social security	704[3]	627	629
Post-employment benefit plans[5]	597	569	363[6]
Other personnel expenses	466[3]	461	549
Total personnel expenses	14,686	13,801	13,992

1 Includes role-based allowances. 2 Refer to Note 27 for more information. 3 During 2020, UBS AG modified the conditions for continued vesting of certain outstanding deferred compensation awards for qualifying employees, resulting in an expense of approximately USD 270 million, of which USD 240 million is disclosed within Variable compensation – performance awards, USD 20 million within Social security and USD 10 million within Other personnel expenses. Refer to Note 1b for more information. 4 Financial advisor compensation consists of grid-based compensation based directly on compensable revenues generated by financial advisors and supplemental compensation calculated on the basis of financial advisor productivity, firm tenure, 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. 5 Refer to Note 26 for more information. 6 Changes to the pension fund of UBS AG in Switzerland announced in 2018 resulted in a reduction in the pension obligation recognized by UBS AG. As a consequence, a pre-tax gain of USD 132 million was recognized in the income statement in 2018, with no overall effect on total equity. Refer to Note 26 for more information.

Note 7 General and administrative expenses

	For the year ended		
USD million	31.12.20	31.12.19	31.12.18
Occupancy	362	342	852
Rent and maintenance of IT and other equipment	346	339	326
Communication and market data services	505	517	520
Administration	5,499	5,176	5,383
of which: shared services costs charged by UBS Group AG or its subsidiaries	*4,939*	*4,621*	*4,803*
of which: UK and German bank levies[1]	*55*	*41*	*58*
Marketing and public relations[2]	225	233	277
Travel and entertainment	132	325	367
Professional fees	592	782	870
Outsourcing of IT and other services	522	610	729
Litigation, regulatory and similar matters[3]	197	165	657
Other	108	97	95
Total general and administrative expenses	8,486	8,586	10,075

1 The UK bank levy expenses of USD 38 million (USD 30 million for 2019 and USD 40 million for 2018) included a credit of USD 27 million (USD 31 million for 2019 and USD 45 million for 2018) related to prior years. 2 Includes charitable donations. 3 Reflects the net increase in provisions for litigation, regulatory and similar matters recognized in the income statement. Refer to Note 18 for more information. Also includes recoveries from third parties of USD 3 million in 2020 (USD 11 million in 2019 and USD 29 million in 2018).

Note 8 Income taxes

	For the year ended		
USD million	31.12.20	31.12.19	31.12.18
Tax expense / (benefit)			
Swiss			
Current	417	336	434
Deferred	107	246	2,326
Total Swiss	524	**582**	**2,760**
Non-Swiss			
Current	715	402	537
Deferred	248	214	(1,952)
Total non-Swiss	963	**616**	**(1,415)**
Total income tax expense / (benefit) recognized in the income statement	1,488	**1,198**	**1,345**

Income tax recognized in the income statement

Income tax expenses of USD 1,488 million were recognized for UBS AG in 2020, representing an effective tax rate of 19.3%. This included Swiss tax expenses of USD 524 million and non-Swiss tax expenses of USD 963 million.

The Swiss tax expenses included current tax expenses of USD 417 million related to taxable profits of UBS Switzerland AG and other Swiss entities. They also included deferred tax expenses of USD 107 million, which primarily reflect the amortization of deferred tax assets (DTAs) previously recognized in relation to deductible temporary differences.

The non-Swiss tax expenses included current tax expenses of USD 715 million related to taxable profits earned by non-Swiss subsidiaries and branches, and net deferred tax expenses of USD 248 million. Expenses of USD 456 million, primarily relating to the amortization of DTAs previously recognized in relation to tax losses carried forward and deductible temporary differences of UBS Americas Inc., were partly offset by a net benefit of USD 208 million in respect of the remeasurement of DTAs. This net benefit included net upward remeasurements of DTAs of USD 146 million for certain entities, primarily in connection with our business planning process, and USD 62 million in respect of additional DTA recognition that resulted from the contribution of real estate assets by UBS AG to UBS Americas Inc. and UBS Financial Services Inc. in 2020. This allowed the full recognition of DTAs in respect of the associated historic real estate costs that were previously capitalized for US tax purposes under the elections that were made in the fourth quarter of 2018.

The effective tax rate for 2020 of 19.3% is lower than UBS AG's normal tax rate of around 25%, mainly as a result of the aforementioned deferred tax benefit of USD 208 million in respect of the remeasurement of DTAs and also because no net tax expense was recognized in respect of the pre-tax gain of USD 631 million in relation to the sale of a majority stake in Fondcenter AG.

	For the year ended		
USD million	31.12.20	31.12.19	31.12.18
Operating profit / (loss) before tax	7,699	5,169	5,458
of which: Swiss	*3,042*	*2,297*	*1,427*
of which: non-Swiss	*4,657*	*2,872*	*4,031*
Income taxes at Swiss tax rate of 19.5% for 2020, 20.5% for 2019 and 21% for 2018	1,501	1,060	1,146
Increase / (decrease) resulting from:			
Non-Swiss tax rates differing from Swiss tax rate	96	72	68
Tax effects of losses not recognized	144	131	222
Previously unrecognized tax losses now utilized	(212)	(265)	(25)
Non-taxable and lower-taxed income	(381)	(305)	(419)
Non-deductible expenses and additional taxable income	373	713	883
Adjustments related to prior years – current tax	(66)	1	114
Adjustments related to prior years – deferred tax	18	(6)	27
Change in deferred tax recognition	(383)	(293)	(802)
Adjustments to deferred tax balances arising from changes in tax rates	235	(9)	0
Other items	163	99	130
Income tax expense / (benefit)	1,488	1,198	1,345

Note 8 Income taxes (continued)

The components of operating profit before tax, and the differences between income tax expense reflected in the financial statements and the amounts calculated at the Swiss tax rate, are provided in the table on the previous page and explained below.

Component	Description
Non-Swiss tax rates differing from Swiss tax rate	To the extent that UBS AG profits or losses arise outside Switzerland, the applicable local tax rate may differ from the Swiss tax rate. This item reflects, for such profits, an adjustment from the tax expense that would arise at the Swiss tax rate to the tax expense that would arise at the applicable local tax rate. Similarly, it reflects, for such losses, an adjustment from the tax benefit that would arise at the Swiss tax rate to the tax benefit that would arise at the applicable local tax rate.
Tax effects of losses not recognized	This item relates to tax losses of entities arising in the year that are not recognized as DTAs and where no tax benefit arises in relation to those losses. Therefore, the tax benefit calculated by applying the local tax rate to those losses as described above is reversed.
Previously unrecognized tax losses now utilized	This item relates to taxable profits of the year that are offset by tax losses of previous years for which no DTAs were previously recorded. Consequently, no current tax or deferred tax expense arises in relation to those taxable profits and the tax expense calculated by applying the local tax rate on those profits is reversed.
Non-taxable and lower-taxed income	This item relates to tax deductions for the year in respect of permanent differences. These include deductions in respect of profits that are either not taxable or are taxable at a lower rate of tax than the local tax rate. They also include deductions made for tax purposes, which are not reflected in the accounts.
Non-deductible expenses and additional taxable income	This item relates to additional taxable income for the year in respect of permanent differences. These include income that is recognized for tax purposes by an entity but is not included in its profit that is reported in the financial statements, as well as expenses for the year that are non-deductible (e.g., client entertainment costs are not deductible in certain locations).
Adjustments related to prior years – current tax	This item relates to adjustments to current tax expense for prior years (e.g., if the tax payable for a year is agreed with the tax authorities in an amount that differs from the amount previously reflected in the financial statements).
Adjustments related to prior years – deferred tax	This item relates to adjustments to deferred tax positions recognized in prior years (e.g., if a tax loss for a year is fully recognized and the amount of the tax loss agreed with the tax authorities is expected to differ from the amount previously recognized as DTAs in the accounts).
Change in deferred tax recognition	This item relates to changes in DTAs, including changes in DTAs previously recognized resulting from reassessments of expected future taxable profits. It also includes changes in temporary differences in the year, for which deferred tax is not recognized.
Adjustments to deferred tax balances arising from changes in tax rates	This item relates to remeasurements of DTAs and liabilities recognized due to changes in tax rates. These have the effect of changing the future tax saving that is expected from tax losses or deductible tax differences and therefore the amount of DTAs recognized or, alternatively, changing the tax cost of additional taxable income from taxable temporary differences and therefore the deferred tax liability.
Other items	Other items include other differences between profits or losses at the local tax rate and the actual local tax expense or benefit, including movements in provisions for uncertain positions in relation to the current year and other items.

Income tax recognized directly in equity

A net tax expense of USD 258 million was recognized in *Other comprehensive income* (2019: net expense of USD 327 million) and a net tax benefit of USD 1 million recognized in *Share premium* (2019: benefit of USD 11 million).

Note 8 Income taxes (continued)

Deferred tax assets and liabilities

UBS AG has gross DTAs, valuation allowances and recognized DTAs related to tax loss carry-forwards and deductible temporary differences, and also deferred tax liabilities in respect of taxable temporary differences, as shown in the table below. The valuation allowances reflect DTAs that were not recognized because, as of the last remeasurement period, management did not consider it probable that there would be sufficient future taxable profits available to utilize the related tax loss carry-forwards and deductible temporary differences.

Of the recognized DTAs as of 31 December 2020, USD 8.8 billion related to the US and USD 0.4 billion related to other locations (as of 31 December 2019, USD 9.3 billion related to the US and USD 0.2 billion related to other locations).

The recognition of DTAs is supported by forecasts of taxable profits for the entities concerned. In addition, tax planning opportunities are available that would result in additional future taxable income and these would be utilized, if necessary.

As of 31 December 2020, UBS AG has recognized DTAs of USD 138 million (31 December 2019: USD 75 million) in respect of entities that incurred losses in either the current or preceding year.

Deferred tax liabilities are recognized in respect of investments in subsidiaries, branches and associates, and interests in joint arrangements, except to the extent that UBS AG can control the timing of the reversal of the associated taxable temporary difference and it is probable that such will not reverse in the foreseeable future. However, as of 31 December 2020, this exception was not considered to apply to any taxable temporary differences.

USD million	31.12.20			31.12.19[1]		
Deferred tax assets[2]	Gross	Valuation allowance	Recognized	Gross	Valuation allowance	Recognized
Tax loss carry-forwards	14,108	(8,715)	5,393	14,826	(8,861)	5,965
Temporary differences	4,343	(561)	3,782	4,169	(610)	3,559
of which: related to real estate costs capitalized for US tax purposes	*2,268*	*0*	*2,268*	*2,219*	*0*	*2,219*
of which: related to compensation and benefits	*1,112*	*(173)*	*939*	*1,086*	*(179)*	*907*
of which: related to trading assets	*23*	*(5)*	*16*	*99*	*(5)*	*93*
of which: other	*940*	*(383)*	*558*	*765*	*(426)*	*340*
Total deferred tax assets	18,450	(9,276)	9,174	18,995	(9,471)	9,524
Deferred tax liabilities						
Goodwill and intangible assets			31			29
Cash flow hedges			425			156
Other			102			126
Total deferred tax liabilities			558			311

1 Comparative-period information has been restated. Refer to Note 1b for more information. 2 Less deferred tax liabilities as applicable.

As of 31 December 2020, USD 16.3 billion of the unrecognized tax losses carried forward related to the US (these primarily related to UBS AG's US branch), USD 13.8 billion related to the UK and USD 5.0 billion related to other locations (as of 31 December 2019, USD 17.8 billion related to the US, USD 14.9 billion related to the UK and USD 5.0 billion related to other locations).

In general, US federal tax losses incurred prior to 31 December 2017 can be carried forward for 20 years. However, US federal tax losses incurred after 31 December 2017 and UK tax losses can be carried forward indefinitely, although the utilization of such losses is limited to 80% of the entity's future year taxable profits for the US and generally to 25% thereof for the UK. The amounts of US tax loss carry-forwards that are included in the table below are based on their amount for federal tax purposes rather than for state and local tax purposes.

Unrecognized tax loss carry-forwards

USD million	31.12.20	31.12.19
Within 1 year	146	13
From 2 to 5 years	638	609
From 6 to 10 years	13,257	14,712
From 11 to 20 years	3,858	4,030
No expiry	17,227	18,364
Total	35,127	37,728

Note 9 Financial assets at amortized cost and other positions in scope of expected credit loss measurement

The tables on the following pages provide information about financial instruments and certain other credit lines that are subject to expected credit loss (ECL) requirements. UBS AG's ECL disclosure segments or "ECL segments" are aggregated portfolios based on shared risk characteristics and on the same or similar rating methods applied. The key segments are presented in the table below.

› **Refer to Note 20 for more information about expected credit loss measurement**

Segment	Segment description	Description of credit risk sensitivity	Business division / Group Functions
Private clients with mortgages	Lending to private clients secured by owner-occupied real estate and personal account overdrafts of those clients	Sensitive to the interest rate environment, unemployment levels, real estate collateral values and other regional aspects	– Personal & Corporate Banking – Global Wealth Management
Real estate financing	Rental or income-producing real estate financing to private and corporate clients secured by real estate	Sensitive to GDP developments, the interest rate environment, real estate collateral values and other regional aspects	– Personal & Corporate Banking – Global Wealth Management – Investment Bank
Large corporate clients	Lending to large corporate and multi-national clients	Sensitive to GDP developments, unemployment levels, seasonality, business cycles and collateral values (diverse collateral, including real estate and other collateral types)	– Personal & Corporate Banking – Investment Bank
SME clients	Lending to small and medium-sized corporate clients	Sensitive to GDP developments, unemployment levels, the interest rate environment and, to some extent, seasonality, business cycles and collateral values (diverse collateral, including real estate and other collateral types)	– Personal & Corporate Banking
Lombard	Loans secured by pledges of marketable securities, guarantees and other forms of collateral	Sensitive to the market (e.g., changes in collateral values)	– Global Wealth Management
Credit cards	Credit card solutions in Switzerland and the US	Sensitive to unemployment levels	– Personal & Corporate Banking – Global Wealth Management
Commodity trade finance	Working capital financing of commodity traders, generally extended on a self-liquidating transactional basis	Sensitive primarily to the strength of individual transaction structures and collateral values (price volatility of commodities), as the primary source for debt service is directly linked to the shipments financed	– Personal & Corporate Banking
Financial intermediaries and hedge funds	Lending to financial institutions and pension funds, including exposures to broker-dealers and clearing houses	Sensitive to unemployment levels, the quality and volatility index changes, equity market and GDP developments, regulatory changes and political risk	– Personal & Corporate Banking – Investment Bank

› **Refer to Note 20f for more details regarding sensitivity**

Note 9 Financial assets at amortized cost and other positions in scope of expected credit loss measurement (continued)

The tables below and on the following pages provide ECL exposure and ECL allowance and provision information about financial instruments and certain non-financial instruments that are subject to ECL.

USD million	31.12.20							
	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	158,231	158,231	0	0	0	0	0	0
Loans and advances to banks	15,344	15,160	184	0	(16)	(9)	(5)	(1)
Receivables from securities financing transactions	74,210	74,210	0	0	(2)	(2)	0	0
Cash collateral receivables on derivative instruments	32,737	32,737	0	0	0	0	0	0
Loans and advances to customers	380,977	358,396	20,341	2,240	(1,060)	(142)	(215)	(703)
of which: Private clients with mortgages	*148,175*	*138,769*	*8,448*	*959*	*(166)*	*(35)*	*(93)*	*(39)*
of which: Real estate financing	*43,429*	*37,568*	*5,838*	*23*	*(63)*	*(15)*	*(44)*	*(4)*
of which: Large corporate clients	*15,161*	*12,658*	*2,029*	*474*	*(279)*	*(27)*	*(40)*	*(212)*
of which: SME clients	*14,872*	*11,990*	*2,254*	*628*	*(310)*	*(19)*	*(23)*	*(268)*
of which: Lombard	*133,850*	*133,795*	*0*	*55*	*(36)*	*(5)*	*0*	*(31)*
of which: Credit cards	*1,558*	*1,198*	*330*	*30*	*(38)*	*(11)*	*(11)*	*(16)*
of which: Commodity trade finance	*3,269*	*3,214*	*43*	*12*	*(106)*	*(5)*	*0*	*(101)*
Other financial assets measured at amortized cost	27,219	26,401	348	469	(133)	(34)	(9)	(90)
of which: Loans to financial advisors	*2,569*	*1,982*	*137*	*450*	*(108)*	*(27)*	*(5)*	*(76)*
Total financial assets measured at amortized cost	688,717	665,135	20,873	2,709	(1,211)	(187)	(229)	(795)
Financial assets measured at fair value through other comprehensive income	8,258	8,258	0	0	0	0	0	0
Total on-balance sheet financial assets in scope of ECL requirements	696,976	673,394	20,873	2,709	(1,211)	(187)	(229)	(795)

	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	17,081	14,687	2,225	170	(63)	(14)	(15)	(34)
of which: Large corporate clients	*3,710*	*2,048*	*1,549*	*113*	*(20)*	*(4)*	*(5)*	*(12)*
of which: SME clients	*1,310*	*936*	*326*	*48*	*(13)*	*(1)*	*(1)*	*(11)*
of which: Financial intermediaries and hedge funds	*7,637*	*7,413*	*224*	*0*	*(17)*	*(7)*	*(9)*	*0*
of which: Lombard	*641*	*633*	*0*	*8*	*(2)*	*0*	*0*	*(2)*
of which: Commodity trade finance	*1,441*	*1,416*	*25*	*0*	*(2)*	*(1)*	*0*	*0*
Irrevocable loan commitments	41,372	36,894	4,374	104	(142)	(74)	(68)	0
of which: Large corporate clients	*24,209*	*20,195*	*3,950*	*64*	*(121)*	*(63)*	*(58)*	*0*
Forward starting reverse repurchase and securities borrowing agreements	3,247	3,247	0	0	0	0	0	0
Committed unconditionally revocable credit lines	42,077	37,176	4,792	108	(50)	(29)	(21)	0
of which: Real estate financing	*6,328*	*5,811*	*517*	*0*	*(12)*	*(5)*	*(7)*	*0*
of which: Large corporate clients	*4,909*	*2,783*	*2,099*	*27*	*(9)*	*(2)*	*(7)*	*0*
of which: SME clients	*5,827*	*4,596*	*1,169*	*63*	*(16)*	*(12)*	*(4)*	*0*
of which: Lombard	*9,671*	*9,671*	*0*	*0*	*0*	*(1)*	*0*	*0*
of which: Credit cards	*8,661*	*8,220*	*430*	*11*	*(8)*	*(6)*	*(2)*	*0*
of which: Commodity trade finance	*242*	*242*	*0*	*0*	*0*	*0*	*0*	*0*
Irrevocable committed prolongation of existing loans	3,282	3,277	5	0	(2)	(2)	0	0
Total off-balance sheet financial instruments and other credit lines	107,059	95,281	11,396	382	(257)	(119)	(104)	(34)
Total allowances and provisions					(1,468)	(306)	(333)	(829)

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

Note 9 Financial assets at amortized cost and other positions in scope of expected credit loss measurement (continued)

USD million	31.12.19							
	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	107,068	107,068	0	0	0	0	0	0
Loans and advances to banks	12,379	12,298	80	0	(6)	(4)	(1)	(1)
Receivables from securities financing transactions	84,245	84,245	0	0	(2)	(2)	0	0
Cash collateral receivables on derivative instruments	23,289	23,289	0	0	0	0	0	0
Loans and advances to customers	327,992	310,705	15,538	1,749	(764)	(82)	(123)	(559)
of which: Private clients with mortgages	*132,646*	*124,063*	*7,624*	*959*	*(110)*	*(15)*	*(55)*	*(41)*
of which: Real estate financing	*38,481*	*32,932*	*5,532*	*17*	*(43)*	*(5)*	*(34)*	*(4)*
of which: Large corporate clients	*9,703*	*9,184*	*424*	*94*	*(117)*	*(15)*	*(4)*	*(98)*
of which: SME clients	*11,786*	*9,817*	*1,449*	*521*	*(303)*	*(17)*	*(15)*	*(271)*
of which: Lombard	*112,893*	*112,796*	*0*	*98*	*(22)*	*(4)*	*0*	*(18)*
of which: Credit cards	*1,661*	*1,314*	*325*	*22*	*(35)*	*(8)*	*(14)*	*(13)*
of which: Commodity trade finance	*2,844*	*2,826*	*8*	*10*	*(81)*	*(5)*	*0*	*(77)*
Other financial assets measured at amortized cost	23,012	21,985	451	576	(143)	(35)	(13)	(95)
of which: Loans to financial advisors	*2,877*	*2,341*	*334*	*202*	*(109)*	*(29)*	*(11)*	*(70)*
Total financial assets measured at amortized cost	**577,985**	**559,590**	**16,069**	**2,326**	**(915)**	**(124)**	**(137)**	**(655)**
Financial assets measured at fair value through other comprehensive income	**6,345**	**6,345**	**0**	**0**	**0**	**0**	**0**	**0**
Total on-balance sheet financial assets in scope of ECL requirements	**584,329**	**565,935**	**16,069**	**2,326**	**(915)**	**(124)**	**(137)**	**(655)**
	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	18,142	17,757	304	82	(42)	(8)	(1)	(33)
of which: Large corporate clients	*3,687*	*3,461*	*203*	*24*	*(10)*	*(1)*	*0*	*(9)*
of which: SME clients	*1,180*	*1,055*	*67*	*58*	*(24)*	*0*	*0*	*(23)*
of which: Financial intermediaries and hedge funds	*7,966*	*7,950*	*16*	*0*	*(5)*	*(4)*	*0*	*0*
of which: Lombard	*622*	*622*	*0*	*0*	*(1)*	*0*	*0*	*(1)*
of which: Commodity trade finance	*2,334*	*2,320*	*13*	*0*	*(1)*	*(1)*	*0*	*0*
Irrevocable loan commitments	27,547	27,078	419	50	(35)	(30)	(5)	0
of which: Large corporate clients	*18,735*	*18,349*	*359*	*27*	*(27)*	*(24)*	*(3)*	*0*
Forward starting reverse repurchase and securities borrowing agreements	1,657	1,657	0	0	0	0	0	0
Committed unconditionally revocable credit lines	36,979	35,735	1,197	46	(34)	(17)	(17)	0
of which: Real estate financing	*5,242*	*4,934*	*307*	*0*	*(16)*	*(3)*	*(13)*	*0*
of which: Large corporate clients	*4,274*	*4,188*	*69*	*17*	*(1)*	*(1)*	*0*	*0*
of which: SME clients	*4,787*	*4,589*	*171*	*27*	*(9)*	*(8)*	*(1)*	*0*
of which: Lombard	*7,976*	*7,975*	*0*	*1*	*0*	*0*	*0*	*0*
of which: Credit cards	*7,890*	*7,535*	*355*	*0*	*(6)*	*(4)*	*(2)*	*0*
of which: Commodity trade finance	*344*	*344*	*0*	*0*	*0*	*0*	*0*	*0*
Irrevocable committed prolongation of existing loans	3,289	3,285	0	4	(3)	(3)	0	0
Total off-balance sheet financial instruments and other credit lines	**87,614**	**85,513**	**1,920**	**182**	**(114)**	**(58)**	**(23)**	**(33)**
Total allowances and provisions					**(1,029)**	**(181)**	**(160)**	**(688)**

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

Note 9 Financial assets at amortized cost and other positions in scope of expected credit loss measurement (continued)

Coverage ratios are calculated for the core loan portfolio by taking ECL allowances and provisions divided by the gross carrying amount of the exposures. Core loan exposure is defined as the sum of *Loans and advances to customers* and *Loans to financial advisors*.

These ratios are influenced by the following key factors:

– lending in Switzerland includes government backed COVID-19 loans;
– Lombard loans are generally secured with marketable securities in portfolios that are, as a rule, highly diversified, with strict lending policies that are intended to ensure that credit risk is minimal under most circumstances;
– mortgage loans to private clients and real estate financing are controlled by conservative eligibility criteria, including low loan-to-value ratios and strong debt service capabilities; for example, more than 99% of the aggregated amount of Swiss residential mortgage loans would continue to be fully covered by real estate collateral even if the value of that collateral decreased by 20%, for a 30% reduction, more than 98% would be covered;
– the amount of unsecured retail lending (including credit cards) is insignificant;
– contractual maturities in the loan portfolio, which are a factor in the calculation of ECLs, are generally short, with a large part of the loan portfolio having contractual maturities of 12 months or less; and
– write-offs of ECL allowances against the gross loan balances when all or part of a financial asset is deemed uncollectible or forgiven, reduces the coverage ratios.

Coverage ratios for core loan portfolio

	31.12.20							
	Gross carrying amount (USD million)				ECL coverage (bps)			
On-balance sheet	Total	Stage 1	Stage 2	Stage 3	Total	Stage 1	Stage 2	Stage 3
Private clients with mortgages	148,341	138,803	8,540	998	11	2	108	390
Real estate financing	43,492	37,583	5,883	27	15	4	75	1,414
Large corporate clients	15,440	12,684	2,069	686	181	21	192	3,089
SME clients	15,183	12,010	2,277	896	204	16	101	2,991
Lombard	133,886	133,800	0	86	3	0	0	3,592
Credit cards	1,596	1,209	342	46	240	91	333	3,488
Commodity trade finance	3,375	3,219	43	113	315	16	2	8,939
Other loans and advances to customers	20,722	19,229	1,402	91	29	13	25	3,563
Loans to financial advisors	2,677	2,009	142	526	404	135	351	1,446
Total[1]	384,714	360,547	20,697	3,470	30	5	106	2,247

	Gross exposure (USD million)				ECL coverage (bps)			
Off-balance sheet	Total	Stage 1	Stage 2	Stage 3	Total	Stage 1	Stage 2	Stage 3
Private clients with mortgages	6,285	6,083	198	3	7	6	16	197
Real estate financing	7,056	6,576	481	0	21	9	185	0
Large corporate clients	32,828	25,026	7,598	205	46	27	92	565
SME clients	9,121	7,239	1,734	148	40	19	63	779
Lombard	14,178	14,170	0	8	2	1	0	1,941
Credit cards	8,661	8,220	430	11	9	8	44	0
Commodity trade finance	1,683	1,658	25	0	10	8	15	8,279
Financial intermediaries and hedge funds	7,690	7,270	448	0	26	13	248	166
Other off-balance sheet commitments	16,309	15,792	482	8	12	6	11	12,414
Total[2]	103,812	92,034	11,396	382	25	13	91	894

1 Includes Loans and advances to customers of USD 382,036 million and Loans to financial advisors of USD 2,677 million which are presented on the balance sheet line Other assets measured at amortized cost.
2 Excludes Forward starting reverse repurchase and securities borrowing agreements.

Note 9 Financial assets at amortized cost and other positions in scope of expected credit loss measurement (continued)

Coverage ratios for core loan portfolio	31.12.19							
	Gross carrying amount (USD million)				ECL coverage (bps)			
On-balance sheet	Total	Stage 1	Stage 2	Stage 3	Total	Stage 1	Stage 2	Stage 3
Private clients with mortgages	132,756	124,077	7,679	1,000	8	1	72	406
Real estate financing	38,524	32,937	5,567	21	11	2	62	1,765
Large corporate clients	9,819	9,199	429	192	119	16	100	5,088
SME clients	12,089	9,834	1,464	791	251	18	104	3,420
Lombard	112,915	112,799	0	116	2	0	0	1,566
Credit cards	1,696	1,322	339	35	205	60	404	3,718
Commodity trade finance	2,925	2,831	8	87	278	17	3	8,844
Other loans and advances to customers	18,031	17,788	176	67	29	8	15	5,750
Loans to financial advisors	2,987	2,370	344	272	366	122	305	2,570
Total[1]	**331,743**	**313,158**	**16,005**	**2,580**	**26**	**4**	**83**	**2,436**

	Gross exposure (USD million)				ECL coverage (bps)			
Off-balance sheet	Total	Stage 1	Stage 2	Stage 3	Total	Stage 1	Stage 2	Stage 3
Private clients with mortgages	5,520	5,466	51	2	7	6	100	245
Real estate financing	6,046	5,715	326	4	29	9	390	0
Large corporate clients	26,706	26,009	630	67	14	10	59	1,319
SME clients	6,782	6,407	273	101	53	15	115	2,265
Lombard	9,902	9,895	0	7	1	0	0	1,403
Credit cards	7,890	7,535	355	0	8	5	52	0
Commodity trade finance	2,678	2,664	13	0	5	5	9	2,713
Financial intermediaries and hedge funds	9,676	9,651	25	0	5	5	71	83
Other off-balance sheet commitments	10,759	10,513	246	0	4	3	34	22,592
Total[2]	**85,957**	**83,856**	**1,920**	**182**	**13**	**7**	**120**	**1,822**

1 Includes Loans and advances to customers of USD 328,756 million and Loans to financial advisors of USD 2,987 million which are presented on the balance sheet line Other assets measured at amortized cost.
2 Excludes Forward starting reverse repurchase and securities borrowing agreements.

Note 10 Derivative instruments

Overview

Over-the-counter (OTC) derivative contracts are usually traded under a standardized International Swaps and Derivatives Association (ISDA) master agreement between UBS AG and its counterparties. Terms are negotiated directly with counterparties and the contracts have industry-standard settlement mechanisms prescribed by ISDA. Regulators in various jurisdictions have begun a phased introduction of rules requiring the payment and collection of initial and variation margin on certain OTC derivative contracts, which may have a bearing on their price and other relevant terms. Due to challenges brought on by COVID-19, the International Organization of Securities Commissions (IOSCO) has extended the deadline for the completion of the final phase-in of margin requirements for non-centrally cleared derivatives, to 1 September 2022.

Other derivative contracts are standardized in terms of their amounts and settlement dates, and are bought and sold on regulated exchanges. These are commonly referred to as exchange-traded derivatives (ETD) contracts. Exchanges offer the benefits of pricing transparency, standardized daily settlement of changes in value and, consequently, reduced credit risk.

Most of UBS AG's derivative transactions relate to sales and market-making activity. Sales activities include the structuring and marketing of derivative products to customers to enable them to take, transfer, modify or reduce current or expected risks. Market-making aims to directly support the facilitation and execution of client activity, and involves quoting bid and offer prices to other market participants with the intention of generating revenues based on spread and volume. UBS AG also uses various derivative instruments for hedging purposes.

› **Refer to Notes 16 and 21 for more information about derivative instruments**

› **Refer to Note 25 for more information about derivatives designated in hedge accounting relationships**

Risks of derivative instruments

The derivative financial assets shown on the balance sheet can be an important component of UBS AG 's credit exposure, however, the positive replacement values related to a respective counterparty are rarely an adequate reflection of UBS AG's credit exposure in its derivatives business with that counterparty. This is generally the case because, on the one hand, replacement values can increase over time (potential future exposure), while, on the other hand, exposure may be mitigated by entering into master netting agreements and bilateral collateral arrangements. Both the exposure measures used internally by UBS AG to control credit risk and the capital requirements imposed by regulators reflect these additional factors.

› **Refer to Note 22 for more information about derivative financial assets and liabilities after consideration of netting potential allowed under enforceable netting arrangements**

› **Refer to the "Risk management and control" section of this report for more information about the risks arising from derivative instruments**

Contingent collateral features of derivative liabilities

Certain derivative instruments contain contingent collateral or termination features triggered upon a downgrade of the published credit ratings of UBS AG in the normal course of business. Based on UBS AG's credit ratings as of 31 December 2020, USD 0.0 billion, USD 0.3 billion and USD 0.8 billion would have been required for contractual obligations related to OTC derivatives in the event of a one-notch, two-notch and three-notch reduction in long-term credit ratings, respectively. In evaluating UBS AG's liquidity requirements, UBS AG considers additional collateral or termination payments that would be required in the event of a reduction in UBS AG's long-term credit ratings, and a corresponding reduction in UBS AG's short-term ratings.

Note 10 Derivative instruments (continued)

Derivative instruments

	31.12.20					31.12.19				
USD billion	Derivative financial assets	Notional amounts related to derivative financial assets[2]	Derivative financial liabilities	Notional amounts related to derivative financial liabilities[2]	Other notional amounts[2,3]	Derivative financial assets	Notional amounts related to derivative financial assets[2]	Derivative financial liabilities	Notional amounts related to derivative financial liabilities[2]	Other notional amounts[2,3]
Interest rate contracts	50.9	928.0	43.9	880.4	11,291.5	42.6	1,020.2	36.6	975.2	11,999.2
of which: forward contracts (OTC)[1]	*0.0*	*19.8*	*0.4*	*21.9*	*2,602.5*	*0.0*	*16.3*	*0.3*	*19.6*	*3,136.8*
of which: swaps (OTC)	*40.8*	*407.0*	*30.9*	*364.8*	*8,105.2*	*34.3*	*454.7*	*26.2*	*402.9*	*8,086.0*
of which: options (OTC)	*10.1*	*447.5*	*12.5*	*460.5*		*8.1*	*464.8*	*10.0*	*486.1*	
of which: futures (ETD)					*480.6*					*546.9*
of which: options (ETD)	*0.0*	*53.6*	*0.0*	*33.1*	*103.3*	*0.0*	*84.4*	*0.0*	*66.6*	*229.5*
Credit derivative contracts	2.4	57.6	2.9	64.8		2.0	70.2	3.0	69.9	
of which: credit default swaps (OTC)	*2.2*	*53.6*	*2.6*	*62.3*		*1.7*	*65.0*	*2.2*	*66.0*	
of which: total return swaps (OTC)	*0.1*	*1.9*	*0.3*	*2.5*		*0.3*	*2.0*	*0.8*	*3.3*	
Foreign exchange contracts	68.7	2,951.2	70.5	2,820.4	1.4	52.5	3,173.6	54.0	2,993.8	1.2
of which: forward contracts (OTC)	*27.3*	*779.2*	*29.0*	*853.3*		*22.4*	*935.5*	*23.4*	*966.6*	
of which: swaps (OTC)	*34.3*	*1,727.3*	*34.4*	*1,567.3*		*22.8*	*1,573.2*	*23.8*	*1,418.5*	
of which: options (OTC)	*7.1*	*440.9*	*7.1*	*394.7*		*7.3*	*660.9*	*6.8*	*604.9*	
Equity contracts	34.8	449.6	41.2	581.3	91.3	22.8	420.3	25.5	534.5	122.1
of which: swaps (OTC)	*6.4*	*89.4*	*9.8*	*108.4*		*4.0*	*81.3*	*5.5*	*96.3*	
of which: options (OTC)	*7.0*	*87.1*	*10.9*	*146.2*		*5.0*	*88.6*	*6.8*	*144.1*	
of which: futures (ETD)					*67.9*					*84.9*
of which: options (ETD)	*10.7*	*273.1*	*11.3*	*326.8*	*23.5*	*7.2*	*250.4*	*7.8*	*294.1*	*37.2*
of which: agency transactions (ETD)[4]	*10.7*		*9.1*			*6.6*		*5.4*		
Commodity contracts	2.2	57.8	2.0	49.7	10.1	1.8	56.1	1.7	60.0	12.6
of which: swaps (OTC)	*0.5*	*17.7*	*0.8*	*18.0*		*0.4*	*13.8*	*0.6*	*15.1*	
of which: options (OTC)	*1.0*	*23.5*	*0.7*	*17.8*		*1.0*	*27.4*	*0.4*	*23.6*	
of which: futures (ETD)					*9.3*					*12.0*
of which: forward contracts (ETD)	*0.0*	*8.0*	*0.0*	*6.3*		*0.0*	*5.9*	*0.0*	*4.9*	
Loan commitments measured at FVTPL (OTC)[5]			0.0	10.2				0.0	7.1	
Unsettled purchases of non-derivative financial instruments[6]	0.3	18.3	0.2	10.0		0.1	16.6	0.1	6.9	
Unsettled sales of non-derivative financial instruments[6]	0.2	17.2	0.3	12.9		0.1	15.4	0.1	9.7	
Total derivative instruments, based on IFRS netting[7]	159.6	4,479.6	161.1	4,429.7	11,394.4	121.8	4,772.4	120.9	4,657.0	12,135.1

1 Includes certain forward starting repurchase and reverse repurchase agreements that are classified as measured at fair value through profit or loss and are recognized within derivative instruments. The notional amounts related to these instruments were previously presented in the former Note 34 under Forward starting transactions (refer to the "Consolidated financial statements" section of the Annual Report 2019 for more information). Starting with this report, the presentation of these notionals has been aligned with the fair values presented in this table and prior periods have been amended to ensure comparability. 2 In cases where derivative financial instruments are presented on a net basis on the balance sheet, the respective notional amounts of the netted derivative financial instruments are still presented on a gross basis. 3 Other notional amounts 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 all periods presented. 4 Notional amounts of exchange-traded agency transactions and OTC-cleared transactions entered into on behalf of clients are not disclosed as they have a significantly different risk profile. 5 These notional amounts relate to derivative loan commitments that were previously presented in the former Note 34 under loan commitments measured at fair value (refer to the "Consolidated financial statements" section of the Annual Report 2019 for more information). Starting with this report, the presentation of these notionals has been aligned with the fair values of the derivative loan commitments presented in this table and prior periods have been amended to ensure comparability. 6 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. 7 Derivative 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 the entity and all of the counterparties, and intends either to settle on a net basis or to realize the asset and settle the liability simultaneously. Refer to Note 22 for more information on netting arrangements.

On a notional amount basis, approximately 50% of OTC interest rate contracts held as of 31 December 2020 (31 December 2019: 54%) mature within one year, 30% (31 December 2019: 28%) within one to five years and 20% (31 December 2019: 18%) after five years. Notional amounts of interest rate contracts cleared through either a central counterparty or an exchange that are legally settled on a daily basis are presented under *Other notional amounts* in the table above and are categorized into maturity buckets on the basis of contractual maturities of the cleared underlying derivative contracts.

Note 11 Financial assets measured at fair value through other comprehensive income

USD million	31.12.20	31.12.19
Financial assets measured at fair value through other comprehensive income[1]		
Debt instruments		
Government and government agencies	8,155	6,162
of which: USA	*7,727*	*5,814*
Banks	103	178
Corporates and other	0	4
Total financial assets measured at fair value through other comprehensive income	8,258	6,345
Unrealized gains, before tax	204	41
Unrealized (losses), before tax	(4)	(25)
Net unrealized gains / (losses), before tax	200	16
Net unrealized gains / (losses), after tax	151	15

1 Refer to Note 21c for more information about product type and fair value hierarchy categorization. Refer also to Note 9 and Note 20 for more information about expected credit loss measurement.

Note 12 Property, equipment and software

At historical cost less accumulated depreciation

USD million	Owned properties	Leased properties[1]	Leasehold improve-ments	IT hardware and communication equipment	Internally generated software	Purchased software	Other machines and equipment	Projects in progress	2020	2019
Historical cost										
Balance at the beginning of the year	6,988	3,630	2,917	963	5,817	302	768	943	22,329	21,365
Additions	25	401[2]	36	90	156	24	18	1,239	1,989	1,740
Disposals / write-offs[3]	(315)	(8)	(169)	(155)	(133)	(46)	(41)	0	(867)	(554)
Reclassifications[4]	(469)	0	208	8	937	1	30	(1,305)	(590)	(391)
Foreign currency translation	633	68	84	26	46	6	31	30	924	169
Balance at the end of the year	6,863	4,091	3,077	931	6,824	287	806	907	23,785	22,329
Accumulated depreciation										
Balance at the beginning of the year	4,074	481	1,729	710	2,735	233	541	0	10,503	9,623
Depreciation	152	512	226	92	703	30	64	0	1,779	1,542
Impairment[5]	0	4	1	0	67	0	0	0	72	34
Disposals / write-offs[3]	(199)	(3)	(164)	(155)	(126)	(46)	(41)	0	(735)	(533)
Reclassifications[4]	(332)	0	6	0	0	0	0	0	(328)	(248)
Foreign currency translation	372	26	69	21	20	6	22	0	535	86
Balance at the end of the year	4,067	1,019	1,868	668	3,398	222	585	0	11,827	10,503
Net book value										
Net book value at the beginning of the year	2,914	3,149	1,188	254	3,082	69	227	943	11,826	11,742
Net book value at the end of the year	**2,796**	**3,072**	**1,209**	**264**	**3,425**	**65**	**220**	**907**[6]	**11,958**	**11,826**

1 Represents right-of-use assets recognized by UBS AG as lessee. Includes immaterial leased IT equipment. The total cash outflow for leases during 2020 was USD 652 million (2019: USD 614 million). Interest expense on lease liabilities is included within Interest expense from financial instruments measured at amortized cost and Lease liabilities are included within Other financial liabilities measured at amortized cost. Refer to Notes 3 and 19a, respectively. Also refer to Note 1 for more information about the nature of UBS AG's leasing activities. 2 In 2020, right-of-use assets included the Additions from sale-and-leaseback transactions, from which UBS AG recognized net gains of USD 140 million, included within Other income. Refer to Note 5. 3 Includes write-offs of fully depreciated assets. 4 The total net reclassification amount for the respective periods represents reclassifications to Properties and other non-current assets held for sale. 5 Impairment charges recorded in 2020 generally relate to assets that are no longer used for which the recoverable amount based on a value in use approach was determined to be zero. Includes the impairment of internally generated software resulting from a decision in the fourth quarter of 2020 to not proceed with an internal business transfer from UBS Switzerland AG to UBS AG. 6 Consists of USD 762 million related to internally generated software, USD 81 million related to Leasehold improvements and USD 63 million related to Owned properties.

Note 13 Goodwill and intangible assets

Introduction

UBS AG performs an impairment test on its goodwill assets on an annual basis or when indicators of impairment exist.

UBS AG considers Asset Management and the Investment Bank, as they are reported in Note 2a, as separate cash-generating units (CGUs), as that is the level at which the performance of investments (and the related goodwill) is reviewed and assessed by management. Given that a significant amount of goodwill in Global Wealth Management relates to the PaineWebber acquisition in 2000, which mainly affected the Americas portion of the business, this goodwill remains separately monitored by the Americas, despite the formation of Global Wealth Management in 2018. Accordingly, goodwill for Global Wealth Management is separately considered for impairment at the level of two CGUs: Americas; and Switzerland and International (consisting of EMEA, Asia Pacific and Global).

The impairment test is performed for each CGU to which goodwill is allocated by comparing the recoverable amount, based on its value in use, with the carrying amount of the respective CGU. An impairment charge is recognized if the carrying amount exceeds the recoverable amount.

As of 31 December 2020, total goodwill recognized on the balance sheet was USD 6.2 billion, of which USD 3.7 billion was carried by the Global Wealth Management Americas CGU, USD 1.2 billion was carried by the Global Wealth Management Switzerland and International CGU, and USD 1.2 billion was carried by Asset Management. The Investment Bank CGU had no goodwill. Based on the impairment testing methodology described below, UBS AG concluded that the goodwill balances as of 31 December 2020 allocated to these CGUs are not impaired.

Methodology for goodwill impairment testing

The recoverable amounts are determined using a discounted cash flow model, which has been adapted to use inputs that consider features of the banking business and its regulatory environment. The recoverable amount of a CGU is the sum of the discounted earnings attributable to shareholders from the first three forecast years and the terminal value, adjusted for the effect of the capital assumed to be needed over the next three years and to support growth beyond that period. The terminal value, which covers all periods beyond the third year, is calculated on the basis of the forecast of third-year profit, the discount rate and the long-term growth rate, as well as the implied perpetual capital growth.

The carrying amount for each CGU is determined by reference to the Group's equity attribution framework. Within that framework, which is described in the "Capital, liquidity and funding, and balance sheet" section of this report, UBS attributes equity to the businesses on the basis of their risk-weighted assets and leverage ratio denominator (both metrics include resource allocations from Group Functions to the business divisions), their goodwill and their intangible assets, as well as attributed equity related to certain CET1 deduction items. The framework is primarily used for the purpose of measuring the performance of the businesses and includes certain management assumptions. Attributed equity equals the capital that a CGU requires to conduct its business and is currently considered a reasonable approximation of the carrying amount of the CGUs. The attributed equity methodology is aligned with the business planning process, the inputs from which are used in calculating the recoverable amounts of the respective CGU.

› **Refer to the "Capital, liquidity and funding, and balance sheet" section of this report for more information about the equity attribution framework**

Assumptions

Valuation parameters used within UBS AG's impairment test model are linked to external market information, where applicable. The model used to determine the recoverable amount is most sensitive to changes in the forecast earnings available to shareholders in years one to three, to changes in the discount rates and to changes in the long-term growth rate. The applied long-term growth rate is based on long-term economic growth rates for different regions worldwide. Earnings available to shareholders are estimated on the basis of forecast results, which are part of the business plan approved by the Board of Directors.

The discount rates are determined by applying a capital asset pricing model-based approach, as well as considering quantitative and qualitative inputs from both internal and external analysts and the view of management. In addition, they take into account regional differences in risk-free rates at the level of individual CGUs. Consistently, long-term growth rates are determined based on nominal or real GDP growth rate forecasts, depending on the region.

Note 13 Goodwill and intangible assets (continued)

Key assumptions used to determine the recoverable amounts of each CGU are tested for sensitivity by applying a reasonably possible change to those assumptions. Forecast earnings available to shareholders were changed by 20%, the discount rates were changed by 1.5 percentage points and the long-term growth rates were changed by 0.75 percentage points. Under all scenarios, reasonably possible changes in key assumptions did not result in an impairment of goodwill or intangible assets reported by Global Wealth Management Americas, Global Wealth Management Switzerland and International, and Asset Management.

If the estimated earnings and other assumptions in future periods deviate from the current outlook, the value of goodwill attributable to Global Wealth Management Americas, Global Wealth Management Switzerland and International, and Asset Management may become impaired in the future, giving rise to losses in the income statement. Recognition of any impairment of goodwill would reduce IFRS equity and net profit. It would not affect cash flows and, as goodwill is required to be deducted from capital under the Basel III capital framework, no effect would be expected on UBS AG's capital ratios.

Discount and growth rates

	Discount rates		Growth rates	
In %	31.12.20	31.12.19	31.12.20	31.12.19
Global Wealth Management Americas	9.5	9.5	5.1	4.2
Global Wealth Management Switzerland and International	8.5	8.5	3.7	3.4
Asset Management	8.5	9.0	3.5	3.0
Investment Bank	11.0	11.0	4.8	4.0

	Goodwill	Intangible assets				
USD million	Total	Infrastructure[1]	Customer relationships, contractual rights and other	Total	2020	2019
Historical cost						
Balance at the beginning of the year	6,272	760	788	1,548	7,820	8,018
Additions			147[2]	147	147	11
Disposals	(158)[3]				(158)	(11)
Write-offs			(35)	(35)	(35)	(185)
Foreign currency translation	69		22	22	91	(12)
Balance at the end of the year	6,182	760	922	1,683	7,865	7,820
Accumulated amortization and impairment						
Balance at the beginning of the year		730	621	1,351	1,351	1,371
Amortization		30	25	55	55	65
Impairment[4]			2	2	2	0
Disposals					0	(8)
Write-offs			(35)	(35)	(35)	(75)
Foreign currency translation			11	11	11	(2)
Balance at the end of the year		760	624	1,385	1,385	1,351
Net book value at the end of the year	6,182	0	298	298	6,480	6,469

1 Consists of the branch network intangible asset recognized in connection with the acquisition of PaineWebber Group, Inc. 2 Relates to the establishment of a banking partnership with Banco do Brasil. Refer to Note 29 for more information. 3 Relates to the sale of a majority stake in Fondcenter AG. Refer to Note 29 for more information. 4 Impairment charges recorded in 2020 relate to assets for which the recoverable amount was determined considering their value in use (recoverable amount of the impaired intangible assets in 2020 was USD 5 million).

Note 13 Goodwill and intangible assets (continued)

The table below presents goodwill and intangible assets by CGU for the year ended 31 December 2020.

USD million	Global Wealth Management Americas	Global Wealth Management Switzerland and International	Asset Management	Investment Bank	Group Functions	Total
Goodwill						
Balance at the beginning of the year	3,719	1,198	1,354	0	0	6,272
Additions						0
Disposals			(158)			(158)
Foreign currency translation	5	34	30			69
Balance at the end of the year	3,724	1,233	1,226	0	0	6,182
Intangible assets						
Balance at the beginning of the year	92	92	0	5	7	197
Additions				147		147
Disposals						0
Amortization	(36)	(12)		(4)	(4)	(55)
Impairment	(2)					(2)
Foreign currency translation	(9)	7		12		11
Balance at the end of the year	46	88	0	161	4	298

The table below presents estimated aggregated amortization expenses for intangible assets.

USD million	Intangible assets
Estimated, aggregated amortization expenses for:	
2021	33
2022	28
2023	27
2024	24
2025	23
Thereafter	160
Not amortized due to indefinite useful life	2
Total	298

Note 14 Other assets

a) Other financial assets measured at amortized cost

USD million	31.12.20	31.12.19
Debt securities	18,801	14,141
of which: government bills / bonds	*9,789*	*8,492*
Loans to financial advisors	2,569	2,877
Fee- and commission-related receivables	2,014	1,520
Finance lease receivables	1,447	1,444
Settlement and clearing accounts	614	587
Accrued interest income	592	742
Other	1,182	1,701
Total other financial assets measured at amortized cost	27,219	23,012

b) Other non-financial assets

USD million	31.12.20	31.12.19
Precious metals and other physical commodities	6,264	4,597
Bail deposit[1]	1,418	1,293
Prepaid expenses	731	687
VAT and other tax receivables	392	436
Properties and other non-current assets held for sale	246	199
Other	323	335
Total other non-financial assets	9,374	7,547

1 Refer to item 1 in Note 18b for more information.

Note 15 Amounts due to banks, customer deposits, and funding from UBS Group AG and its subsidiaries

a) Amounts due to banks and customer deposits

USD million	31.12.20	31.12.19
Amounts due to banks	11,050	6,570
Customer deposits	527,929	450,591
of which: demand deposits	*237,604*	*176,972*
of which: retail savings / deposits	*220,898*	*168,581*
of which: time deposits	*42,457*	*63,659*
of which: fiduciary deposits	*26,970*	*41,378*
Total amounts due to banks and customer deposits	538,979	457,161

Customer deposits increased by USD 77 billion, mainly in Switzerland and the Americas, of which USD 50 billion was in Global Wealth Management and USD 27 billion in Personal & Corporate Banking, as a result of clients holding higher levels of cash, as well as currency effects. Demand deposits and retail savings / deposits together increased by USD 113 billion, partly offset by decreases of USD 36 billion in time deposits and fiduciary deposits.

b) Funding from UBS Group AG and its subsidiaries

USD million	31.12.20	31.12.19
Senior unsecured debt that contributes to total loss-absorbing capacity (TLAC)	36,611	30,105
Senior unsecured debt other than TLAC	2,939	3,389
High-trigger loss-absorbing additional tier 1 capital instruments	11,854	11,958
Low-trigger loss-absorbing additional tier 1 capital instruments	2,575	2,415
Total[1]	53,979	47,866

1 UBS AG has also recognized funding from UBS Group AG and its subsidiaries that is designated at fair value. Refer to Note 19b for more information.

Note 16 Debt issued designated at fair value

USD million	31.12.20	31.12.19
Issued debt instruments		
Equity-linked[1]	41,069	41,722
Rates-linked	11,038	16,318
Credit-linked	1,933	1,916
Fixed-rate	3,604	4,636
Commodity-linked	1,497	1,567
Other	726	432
Total debt issued designated at fair value	59,868	66,592
of which: issued by UBS AG with original maturity greater than one year[2]	*46,427*	*51,031*
of which: life-to-date own credit (gain) / loss	*233*	*82*

1 Includes investment fund unit-linked instruments issued. 2 Issued by the legal entity UBS AG. Based on original contractual maturity without considering any early redemption features. 100% of the balance as of 31 December 2020 was unsecured (31 December 2019: more than 99% of the balance was unsecured).

As of 31 December 2020 and 31 December 2019, the contractual redemption amount at maturity of debt issued designated at fair value through profit or loss was not materially different from the carrying amount.

The table below shows the residual contractual maturity of the carrying amount of debt issued designated at fair value, split between fixed-rate and floating-rate instruments based on the contractual terms, and does not consider any early redemption features. Interest rate ranges for future interest payments related to debt issued designated at fair value have not been included in the table below, as the majority of the debt instruments issued are structured products and therefore the future interest payments are highly dependent upon the embedded derivative and prevailing market conditions at the point in time that each interest payment is made.

› **Refer to Note 24 for maturity information on an undiscounted cash flow basis**

Contractual maturity of carrying amount

USD million	2021	2022	2023	2024	2025	2026–2030	Thereafter	Total 31.12.20	Total 31.12.19
UBS AG[1]									
Non-subordinated debt									
Fixed-rate	4,144	1,473	1,112	512	318	227	1,623	9,409	10,368
Floating-rate	18,145	8,758	5,915	1,727	6,454	6,058	2,471	49,528	55,299
Subtotal	22,289	10,231	7,027	2,239	6,772	6,286	4,094	58,937	65,668
Other subsidiaries[2]									
Non-subordinated debt									
Fixed-rate	88	7	0	0	0	422	22	539	520
Floating-rate	41	185	126	0	0	0	39	392	404
Subtotal	129	192	126	0	0	422	61	931	924
Total	22,418	10,423	7,153	2,239	6,772	6,708	4,155	59,868	66,592

1 Comprises instruments issued by the legal entity UBS AG. 2 Comprises instruments issued by subsidiaries of UBS AG.

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Note 17 Debt issued measured at amortized cost

USD million	31.12.20	31.12.19
Certificates of deposit	15,680	5,190
Commercial paper	25,472	14,413
Other short-term debt	5,515	2,235
Short-term debt[1]	46,666	21,837
Senior unsecured debt	18,483	22,356
of which: issued by UBS AG with original maturity greater than one year[2]	*18,464*	*22,349*
Covered bonds	2,796	2,633
Subordinated debt	7,744	7,431
of which: low-trigger loss-absorbing tier 2 capital instruments	*7,201*	*6,892*
of which: non-Basel III-compliant tier 2 capital instruments	*543*	*540*
Debt issued through the Swiss central mortgage institutions	9,660	8,574
Other long-term debt	3	4
Long-term debt[3]	38,685	40,998
Total debt issued measured at amortized cost[4]	85,351	62,835

1 Debt with an original contractual maturity of less than one year. 2 Issued by the legal entity UBS AG. Based on original contractual maturity without considering any early redemption features. As of 31 December 2020, 100% of the balance was unsecured (31 December 2019: 100% of the balance was unsecured). 3 Debt with an original 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. 4 Net of bifurcated embedded derivatives, the fair value of which was not material for the periods presented.

UBS AG uses interest rate and foreign exchange derivatives to manage the risks inherent in certain debt instruments held at amortized cost. In some cases, UBS AG applies hedge accounting for interest rate risk as discussed in item 2j in Note 1a and Note 25. As a result of applying hedge accounting, the life-to-date adjustment to the carrying amount of debt issued was an increase of USD 761 million as of 31 December 2020 and an increase of USD 574 million as of 31 December 2019, reflecting changes in fair value due to interest rate movements.

Subordinated debt consists of unsecured debt obligations that are contractually subordinated in right of payment to all other present and future non-subordinated obligations of the respective issuing entity. All of the subordinated debt instruments outstanding as of 31 December 2020 pay a fixed rate of interest.

The table below shows the residual contractual maturity of the carrying amount of debt issued, split between fixed-rate and floating-rate based on the contractual terms, and does not consider any early redemption features. The effects from interest rate swaps, which are used to hedge various fixed-rate debt issuances by changing the repricing characteristics into those similar to floating-rate debt, are also not considered in the table below.

› **Refer to Note 24 for maturity information on an undiscounted cash flow basis**

Contractual maturity of carrying amount

USD million	2021	2022	2023	2024	2025	2026–2030	Thereafter	Total 31.12.20	Total 31.12.19
UBS AG[1]									
Non-subordinated debt									
Fixed-rate	40,886	5,813	4,224	0	386	0	1,309	52,618	33,696
Floating-rate	12,007	1,155	1,175	0	962	0	0	15,299	13,119
Subordinated debt									
Fixed-rate	0	2,053	0	2,693	335	2,663	0	7,744	7,431
Subtotal	52,893	9,022	5,398	2,693	1,684	2,663	1,309	75,661	54,247
Other subsidiaries[2]									
Non-subordinated debt									
Fixed-rate	1,152	928	1,038	1,106	1,211	3,580	674	9,690	8,588
Subtotal	1,152	928	1,038	1,106	1,211	3,580	674	9,690	8,588
Total	54,045	9,950	6,437	3,798	2,895	6,243	1,983	85,351	62,835

1 Comprises debt issued by the legal entity UBS AG. 2 Comprises debt issued by subsidiaries of UBS AG.

Note 18 Provisions and contingent liabilities

a) Provisions

The table below presents an overview of total provisions.

USD million	31.12.20	31.12.19
Provisions other than provisions for expected credit losses	2,534	2,825
Provisions for expected credit losses	257	114
Total provisions	2,791	2,938

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

USD million	Litigation, regulatory and similar matters[1]	Restructuring	Other[3]	Total 2020	Total 2019
Balance at the beginning of the year	2,475	99	251	2,825	3,209
Increase in provisions recognized in the income statement	233	88	134	455	376
Release of provisions recognized in the income statement	(33)	(11)	(44)	(88)	(119)
Provisions used in conformity with designated purpose	(603)	(100)	(51)	(755)	(632)
Capitalized reinstatement costs	0	0	11	11	0
Reclassifications	0	(13)	13	0	(1)
Foreign currency translation / unwind of discount	64	4	18	86	(8)
Balance at the end of the year	2,135	67[2]	332	2,534	2,825

1 Comprises provisions for losses resulting from legal, liability and compliance risks. 2 Primarily consists of provisions for onerous contracts of USD 49 million as of 31 December 2020 (31 December 2019: USD 61 million) and personnel-related restructuring provisions of USD 13 million as of 31 December 2020 (31 December 2019: USD 33 million). 3 Mainly includes provisions related to real estate, employee benefits and operational risks.

Restructuring provisions primarily relate to onerous contracts and severance payments. Onerous contracts for property are recognized when UBS AG 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. Severance-related provisions are used within a short time period but potential changes in amount may be triggered when natural staff attrition reduces the number of people affected by a restructuring event and therefore the estimated costs.

Information about provisions and contingent liabilities in respect of litigation, regulatory and similar matters, as a class, is included in Note 18b. There are no material contingent liabilities associated with the other classes of provisions.

b) Litigation, regulatory and similar matters

UBS operates in a legal and regulatory environment that exposes it to significant litigation and similar risks arising from disputes and regulatory proceedings. As a result, UBS (which for purposes of this Note may refer to UBS AG and/or one or more of its subsidiaries, as applicable) 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. 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.

Note 18 Provisions and contingent liabilities (continued)

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 18a 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.

Litigation, regulatory and similar matters may also result in non-monetary penalties and consequences. For example, the non-prosecution agreement UBS entered into with the US Department of Justice (DOJ), Criminal Division, Fraud Section in connection with submissions of benchmark interest rates, including, among others, the British Bankers' Association London Interbank Offered Rate (LIBOR), was terminated by the DOJ based on its determination that UBS had committed a US crime in relation to foreign exchange matters. As a consequence, UBS AG pleaded guilty to one count of wire fraud for conduct in the LIBOR matter, paid a fine and was subject to probation, which ended in January 2020.

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, liquidity and funding, and balance sheet" section of this report.

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

USD million	Global Wealth Manage-ment	Personal & Corporate Banking	Asset Manage-ment	Investment Bank	Group Functions	Total 2020	Total 2019
Balance at the beginning of the year	782	113	0	255	1,325	2,475	2,827
Increase in provisions recognized in the income statement	213	0	0	19	1	233	258
Release of provisions recognized in the income statement	(24)	(6)	0	(1)	(2)	(33)	(81)
Provisions used in conformity with designated purpose	(154)	(1)	0	(52)	(395)	(603)	(518)
Reclassifications	0	0	0	(3)	3	0	0
Foreign currency translation / unwind of discount	44	10	0	10	0	64	(12)
Balance at the end of the year	861	115	0	227	932	2,135	2,475

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

Note 18 Provisions and contingent liabilities (continued)

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.

The Swiss Federal Administrative Court ruled in 2016 that, in the administrative assistance proceedings related to a French bulk request, UBS has the right to appeal all final FTA client data disclosure orders. On 30 July 2018, the Swiss Federal Administrative Court granted UBS's appeal by holding the French administrative assistance request inadmissible. The FTA filed a final appeal with the Swiss Federal Supreme Court. On 26 July 2019, the Supreme Court reversed the decision of the Federal Administrative Court. In December 2019, the court released its written decision. The decision requires the FTA to obtain confirmation from the French authorities that transmitted data will be used only for the purposes stated in their request before transmitting any data. The stated purpose of the original request was to obtain information relating to taxes owed by account holders. Accordingly, any information transferred to the French authorities must not be passed to criminal authorities or used in connection with the ongoing case against UBS discussed in this item. In February 2020, the FTA ordered that UBS would not be granted party status in the French administrative assistance proceedings. UBS appealed this decision to the Federal Administrative Court. On 15 July, the Federal Administrative Court upheld the FTA's decision, holding that UBS will no longer have party status in these proceedings. The Swiss Federal Supreme Court has determined that it will not hear UBS's appeal of this decision.

Since 2013, UBS (France) S.A., UBS AG and certain former employees have been under investigation in France for alleged complicity in unlawful solicitation of clients on French territory, regarding the laundering of proceeds of tax fraud, and banking and financial solicitation by unauthorized persons. In connection with this investigation, the investigating judges ordered UBS AG to provide bail ("*caution*") of EUR 1.1 billion and UBS (France) S.A. to post bail of EUR 40 million, which was reduced on appeal to EUR 10 million.

A trial in the court of first instance took place from 8 October 2018 until 15 November 2018. On 20 February 2019, the court announced 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 laundering the proceeds of tax fraud. The court imposed fines aggregating EUR 3.7 billion on UBS AG and UBS (France) S.A. and awarded EUR 800 million of civil damages to the French state. UBS has appealed the decision. Under French law, the judgment is suspended while the appeal is pending. The trial originally scheduled for 2 June 2020 has been rescheduled to 8-24 March 2021. The Court of Appeal will retry the case de novo as to both the law and the facts, and the fines and penalties can be greater than or less than those imposed by the court of first instance. A subsequent appeal to the Cour de Cassation, France's highest court, is possible with respect to questions of law.

UBS believes that based on both the law and the facts the judgment of the court of first instance should be reversed. UBS believes it followed its obligations under Swiss and French law as well as the European Savings Tax Directive. Even assuming liability, which it contests, UBS believes the penalties and damage amounts awarded greatly exceed the amounts that could be supported by the law and the facts. In particular, UBS believes the court incorrectly based the penalty on the total regularized assets rather than on any unpaid taxes on those assets for which a fraud has been characterized and further incorrectly awarded damages based on costs that were not proven by the civil party. Notwithstanding that UBS believes it should be acquitted, our balance sheet at 31 December 2020 reflected provisions with respect to this matter in an amount of EUR 450 million (USD 549 million at 31 December 2020). The wide range of possible outcomes in this case contributes to a high degree of estimation uncertainty. The provision reflected on our balance sheet at 31 December 2020 reflects our best estimate of possible financial implications, although it is reasonably possible that actual penalties and civil damages could exceed the provision amount.

In 2016, UBS was notified by the Belgian investigating judge that it is under formal investigation ("*inculpé*") regarding the laundering of proceeds of tax fraud, of banking and financial solicitation by unauthorized persons, and of serious tax fraud.

Our balance sheet at 31 December 2020 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 31 December 2020 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 2.1 billion, which includes amounts that the funds may be held liable to pay the trustee for the liquidation of BMIS (BMIS Trustee).

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

In the US, the BMIS Trustee filed claims against UBS entities, among others, in relation to the two Luxembourg funds and one of the offshore funds. The total amount claimed against all defendants in these actions was not less than USD 2 billion. 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 125 million 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 in relation to their examinations of UBS's operations.

Since that time UBS has received customer complaints and arbitrations with aggregate claimed damages of USD 3.4 billion, of which claims with aggregate claimed damages of USD 2.8 billion have been resolved through settlements, arbitration or withdrawal of the claim. The claims have been filed by 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; customer complaint and arbitration 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 2015, defendants' motion to dismiss was denied and a request for permission to appeal that ruling was denied by the Puerto Rico Supreme Court.

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 3 billion of bonds by the System in 2008 and sought damages of over USD 800 million. In 2016, the court granted the System's request to join the action as a plaintiff, but ordered that plaintiffs must file an amended complaint. In 2017, the court denied defendants' motion to dismiss the amended complaint. In 2020, the court denied plaintiffs' motion for summary judgment.

Note 18 Provisions and contingent liabilities (continued)

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 125 million 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. The actions collectively seek recovery of an aggregate of USD 955 million 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.

Our balance sheet at 31 December 2020 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 the UK Financial Conduct Authority (FCA), the US Commodity Futures Trading Commission (CFTC), FINMA, the Board of Governors of the Federal Reserve System (Federal Reserve Board) and the Connecticut Department of Banking, the DOJ's Criminal Division and the European Commission. UBS has ongoing obligations under the Cease and Desist Order of the Federal Reserve Board and the Office of the Comptroller of the Currency (as successor to the Connecticut Department of Banking), and to cooperate with relevant authorities and to undertake certain remediation measures. UBS has also been 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. Investigations relating to foreign exchange matters by certain authorities remain ongoing notwithstanding these resolutions.

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 141 million 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 2017, two putative class actions were filed in federal court in New York against UBS and numerous other banks on behalf of persons and entities who had indirectly purchased foreign exchange instruments from a defendant or co-conspirator in the US, and a consolidated complaint was filed in June 2017. In March 2018, the court dismissed the consolidated complaint. In October 2018, the court granted plaintiffs' motion seeking leave to file an amended complaint. UBS and 11 other banks have reached an agreement with the plaintiffs to settle the class action for a total of USD 10 million. The court approved the settlement in November 2020.

LIBOR and other benchmark-related regulatory matters: Numerous government agencies, including the SEC, the CFTC, the DOJ, the FCA, the UK Serious Fraud Office, the Monetary Authority of Singapore, the Hong Kong Monetary Authority, FINMA, various state attorneys general in the US and competition authorities in various jurisdictions, have 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 has ongoing obligations to cooperate with the authorities with whom we have reached resolutions and to undertake certain remediation measures with respect to benchmark interest rate submissions. UBS has been granted conditional leniency or conditional immunity from authorities in certain jurisdictions, including the Antitrust Division of the DOJ and the Swiss Competition Commission (WEKO), in connection with potential antitrust or competition law violations related to certain rates. However, UBS has not reached a final settlement with WEKO, as the Secretariat of WEKO has asserted that UBS does not qualify for full immunity.

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

USD LIBOR class and individual actions in the US: In 2013 and 2015, the district court in the USD LIBOR actions dismissed, in whole or in part, certain plaintiffs' antitrust claims, federal racketeering claims, CEA claims, and state common law claims. Although the Second Circuit vacated the district court's judgment dismissing antitrust claims, the district court again dismissed antitrust claims against UBS in 2016. Certain plaintiffs have appealed that decision to the Second Circuit. 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. UBS entered into an agreement in 2016 with representatives of a class of bondholders to settle their USD LIBOR class action. The agreement has received final court approval. 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 December 2019, UBS entered into an agreement with representatives of the class of USD lenders to settle their USD LIBOR class action. The agreement has received final court approval. 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. On 26 March 2020 the court granted defendants' motion to dismiss the complaint in its entirety. Plaintiffs have appealed the dismissal. 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.

Other benchmark class actions in the US: In 2014, 2015 and 2017, the court in one of the Euroyen TIBOR lawsuits dismissed certain of the plaintiffs' claims, including 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. Plaintiffs have appealed. 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. Defendants moved to dismiss the amended complaint in October 2020. In 2017, the court dismissed the CHF LIBOR action on standing grounds and failure to state a claim. Plaintiffs filed an amended complaint following the dismissal, and the court granted a renewed motion to dismiss in September 2019. Plaintiffs have appealed. Also 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. In October 2018, the court in the SIBOR / SOR action dismissed all but one of plaintiffs' claims against UBS. Plaintiffs filed an amended complaint following the dismissal, and the courts granted a renewed motion to dismiss in July 2019. Plaintiffs have appealed. In November 2018, the court in the BBSW lawsuit dismissed the case as to UBS and certain other foreign defendants for lack of personal jurisdiction. Following that dismissal, plaintiffs filed an amended complaint in April 2019, which UBS and other defendants named in the amended complaint moved to dismiss. In February 2020, the court in the BBSW action 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. 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 are pending. Similar class actions have been filed concerning European government bonds and other government bonds.

UBS and reportedly other banks are responding to investigations and requests for information from various authorities regarding government bond trading practices. As a result of its review to date, UBS has taken appropriate action.

With respect to additional matters and jurisdictions not encompassed by the settlements and orders referred to above, our balance sheet at 31 December 2020 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.

Note 18 Provisions and contingent liabilities (continued)

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 may continue 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 31 December 2020 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.

Note 19 Other liabilities

a) Other financial liabilities measured at amortized cost

USD million	31.12.20	31.12.19
Other accrued expenses	1,508	1,697
Accrued interest expenses	1,382	1,596
Settlement and clearing accounts	1,181	1,368
Lease liabilities	3,821	3,858
Other[1]	2,530	1,854
Total other financial liabilities measured at amortized cost	10,421	10,373

1 In 2020 UBS AG modified the conditions for continued vesting of certain outstanding deferred compensation awards for qualifying employees. Refer to Note 1b for more information.

b) Other financial liabilities designated at fair value

USD million	31.12.20	31.12.19
Financial liabilities related to unit-linked investment contracts	20,975	28,145
Securities financing transactions	7,317	5,742
Over-the-counter debt instruments	2,060	2,022
Funding from UBS Group AG and its subsidiaries	1,375	217
Other	46	31
Total other financial liabilities designated at fair value	31,773	36,157
of which: life-to-date own credit (gain) / loss	*148*	*6*

c) Other non-financial liabilities

USD million	31.12.20	31.12.19
Compensation-related liabilities[1]	4,776	4,339
of which: financial advisor compensation plans[1]	*1,497*	*1,502*
of which: other compensation plans	*2,034*	*1,750*
of which: net defined benefit liability	*711*	*629*
of which: other compensation-related liabilities[2]	*534*	*458*
Deferred tax liabilities	558	311
Current tax liabilities	943	780
VAT and other tax payables	470	445
Deferred income	212	134
Other	61	202
Total other non-financial liabilities	7,018	6,211

1 Comparative-period information has been restated. Refer to Note 1b for more information. 2 Includes liabilities for payroll taxes and untaken vacation.

Additional information

Note 20 Expected credit loss measurement

a) Expected credit losses in the period

Total net credit loss expenses were USD 695 million in 2020, reflecting net credit loss expenses of USD 266 million related to stage 1 and 2 positions and USD 429 million net credit loss expenses related to credit-impaired (stage 3) positions.

Stage 1 and 2 net credit loss expenses of USD 266 million were primarily driven by a net expense of USD 200 million from updating the forward-looking scenarios and their associated weightings, factoring in updated macroeconomic assumptions to reflect the effects of the COVID-19 pandemic, with approximately half from the baseline scenario and half from the severe downside scenario. The main drivers included updated GDP and unemployment assumptions in Switzerland and the US, primarily impacting *Large corporate clients* and, to a lesser extent, *Private clients with mortgages*, *Real estate financing* and *SME clients*. These scenario updates impacted remeasurements for stage 1 and 2 positions without stage transfers and triggered exposure movements between stages, primarily from stage 1 to stage 2 as probabilities of default increased.

In addition to the scenario related effects, stage 1 and 2 expenses of USD 73 million arose from new transactions, net of releases from derecognized transactions, primarily from *Large corporate clients* and *SME clients*. A further USD 32 million stage 1 and 2 net release of expenses resulted from a number of model updates, primarily impacting *Financial intermediaries*, *Real estate financing* and *SME clients*. The remaining stage 1 and 2 expenses of USD 24 million mainly reflect the effects of post-model adjustments for selected exposures to Swiss *SME clients*, as well as remeasurements within the loan book, mainly in the Investment Bank.

The changes in the macroeconomic environment in the second half of 2020 generally included more optimistic forward-looking assumptions for both the baseline and severe downside scenarios compared with those applied in the first half of the year. Management applied a post-model expense adjustment of USD 117 million to offset the stage 1 and 2 releases that would have otherwise arisen, deeming them to be premature given the high degree of prevailing uncertainties and the wide range of reasonable possible outcomes.

› **Refer to Note 20b for more information**

Stage 3 net expenses of USD 429 million were recognized across a number of defaulted positions. In the Investment Bank, stage 3 net expenses of USD 217 million were recognized, of which USD 81 million related to an exposure to a client in the travel sector. In Personal & Corporate Banking, stage 3 net expenses of USD 128 million were recognized, of which USD 59 million related to a case of fraud at a commodity trade finance counterparty, which affected a number of lenders, including UBS AG. In Global Wealth Management, stage 3 net expenses of USD 40 million were recognized, primarily across a small number of collateralized and securities-based lending positions. In Group Functions, stage 3 expenses of USD 42 million were recognized from one energy-related exposure in the Non-core and Legacy Portfolio.

Credit loss (expense) / release

USD million	Global Wealth Management	Personal & Corporate Banking	Asset Management	Investment Bank	Group Functions	Total
For the year ended 31.12.20						
Stages 1 and 2	(48)	(129)	0	(88)	0	(266)
Stage 3	(40)	(128)	(2)	(217)	(42)	(429)
Total credit loss (expense) / release	(88)	(257)	(2)	(305)	(42)	(695)
For the year ended 31.12.19						
Stages 1 and 2	3	23	0	(4)	0	22
Stage 3	(23)	(44)	0	(26)	(7)	(100)
Total credit loss (expense) / release	**(20)**	**(21)**	**0**	**(30)**	**(7)**	**(78)**
For the year ended 31.12.18						
Stages 1 and 2	0	0	0	(9)	0	(9)
Stage 3	(15)	(56)	0	(29)	(8)	(109)
Total credit loss (expense) / release	**(15)**	**(56)**	**0**	**(38)**	**(8)**	**(117)**

Note 20 Expected credit loss measurement (continued)

b) Changes to ECL models, scenarios, scenario weights and key inputs

Refer to Note 1a for information about the principles governing ECL models, scenarios, scenario weights and key inputs applied.

During 2020, management carefully considered guidance issued by supervisory authorities concerning the interpretation of key elements of IFRS 9, *Financial instruments*, in the context of COVID-19.

Governance

Comprehensive cross-functional and cross-divisional governance processes are in place and used to discuss and approve scenario updates and weights, to assess whether significant increases in credit risk resulted in stage transfers, to review model outputs and to reach conclusions regarding post-model adjustments.

Model changes

During 2020, the probability of default (PD) and loss given default (LGD) models applied to *Financial intermediaries*, *Large corporate clients*, *Real estate financing* and *SME clients* were revised to reflect updates to PD and LGD risk drivers and macroeconomic dependencies.

The model updates resulted in a USD 32 million decrease in ECL allowances, primarily in Personal & Corporate Banking across *Financial intermediaries*, *Real estate financing* and *SME clients*.

Scenario and key input updates

During 2020, the four scenarios and related macroeconomic factors that were applied at the end of 2019 were reviewed in light of the economic and political conditions and prevailing uncertainties through a series of governance meetings, with input from UBS AG risk and finance experts across the regions and business divisions. Scenario assumptions are benchmarked against external data, e.g., from Bloomberg Consensus, Oxford Economics and the International Monetary Fund World Economic Outlook (IMF WEO). The hypothetical scenarios, in particular the upside and mild downside scenarios, were viewed less plausible. Given the considerable uncertainties associated with the economic conditions, an exceptional interim design of these scenarios was not deemed appropriate. Therefore, management concluded that the probability weights of the upside and the mild downside scenarios would be set to zero.

The baseline scenario, which is aligned to the economic and market assumptions used for UBS AG's business planning purposes, and the severe downside scenario, which is the Group's binding stress scenario, were updated throughout 2020 using the most recent available macroeconomic and market information.

The baseline scenario updates during the first half of 2020 assumed a deterioration of GDP in relevant markets, especially in the US and in Switzerland, increasing unemployment, including a sharp increase in the US to previously unseen levels, lower equity prices and higher market volatility. House prices were assumed to be largely flat in Switzerland over 2020 but to decrease in the US. Overall, only modest economic improvements were expected from the second half of 2020. The severe downside assumptions were considered to be consistent with assumptions for COVID-19-related disruption but to a significantly more adverse degree than what was considered under the baseline scenario, with a full year contraction expected to continue into 2021 and only a moderate recovery starting from the end of 2021.

Improvements in macroeconomic forward-looking assumptions started from the third quarter 2020, with the fourth quarter 2020 in particular including more optimistic assumptions for the baseline, with increased GDP growth forecasts and lower unemployment levels in the US and in Switzerland in particular, given improvements in economic activity as well as greater optimism regarding the availability and effective distribution of vaccines and continued government support. In addition, the assumptions for the severe downside scenario were made less pessimistic in the second half of 2020.

The table on the following page details the key assumptions for the baseline and severe downside scenarios applied as of 31 December 2020. The outlook of the one-year and three-year cumulative GDP growth rates in the baseline are significantly higher than those seen at the end of 2019, as the economy is expected to recover from the sharp contractions seen in mid-2020. However, GDP levels are expected to remain below 31 December 2019 levels until 2022 in the US and Switzerland, and until 2023 in the Eurozone. The GDP growth rates in the severe downside scenario are also higher, to reflect the recovery from the weaker starting levels. Under the baseline scenario, US unemployment is expected to decline to 5.5% by the end of the first year and to 4.5% by the end of the third year. Unemployment rates in the Eurozone and Switzerland are expected to rise modestly in the first year in the baseline scenario but to recover by the end of the third year. The severe downside scenario includes marked increases in unemployment.

Note 20 Expected credit loss measurement (continued)

Scenario weights and post-model adjustments

As a consequence of the exceptional circumstances and prevailing uncertainties during 2020 and as at 31 December 2020, the weight allocations shifted significantly since 2019, with the baseline scenario weighted at 70% and the severe downside scenario at 30% through the end of the third quarter of 2020, to best reflect management's sentiment regarding the boundaries of economic outcomes. During the fourth quarter of 2020, changes in the macro-economic environment generally included more optimistic forward-looking assumptions as stated above. However, developments as at 31 December 2020, including an increase in infection and hospitalization rates, as well as strict lockdowns in many jurisdictions, led to a continued high level of uncertainty in relation to the effects of the pandemic and its impact on the global economy. These developments gave rise to questions around whether the assumptions will play out as forecasted. As a consequence, in the fourth quarter 2020, management decreased the weight placed on the baseline scenario from 70% to 60% and increased the weight placed on the severe downside scenario from 30% to 40%, and applied additionally a post-model adjustment of USD 117 million to offset the stage 1 and 2 ECL releases which would have otherwise arisen from the scenario update effects.

ECL scenario	Assigned weights in %	
	31.12.20	31.12.19
Upside	0.0	7.5
Baseline	60.0	42.5
Mild downside	0.0	35.0
Severe downside	40.0	15.0

Scenario assumptions	One year		Three years cumulative	
31.12.20	Baseline	Severe downside	Baseline	Severe downside
Real GDP growth (% change)				
United States	2.7	(5.9)	9.1	(3.8)
Eurozone	2.5	(8.7)	9.9	(10.3)
Switzerland	3.3	(6.6)	9.0	(5.7)
Consumer price index (% change)				
United States	1.7	(1.2)	5.5	0.4
Eurozone	1.4	(1.3)	3.9	(1.7)
Switzerland	0.3	(1.8)	0.9	(1.6)
Unemployment rate (end-of-period level, %)[1]				
United States	5.5	12.1	4.5	9.9
Eurozone	9.5	14.1	8.0	16.4
Switzerland	3.8	6.1	3.2	6.8
Fixed income: 10-year government bonds (change in yields, basis points)				
USD	22.0	(50.0)	46.0	(15.0)
EUR	4.0	(35.0)	21.0	(25.0)
CHF	13.0	(70.0)	31.0	(35.0)
Equity indices (% change)				
S&P 500	(2.9)	(50.2)	(1.7)	(40.1)
EuroStoxx 50	3.8	(57.6)	13.5	(50.4)
SPI	(0.8)	(53.6)	5.8	(44.2)
Swiss real estate (% change)				
Single-Family Homes	3.4	(17.0)	7.1	(30.0)
Other real estate (% change)				
United States (S&P / Case-Shiller)	2.5	(15.3)	9.2	(28.7)
Eurozone (House Price Index)	1.1	(22.9)	7.2	(35.4)

1 2020 unemployment rate is presented as an end-of-period level. 2019 unemployment rate was presented as a change in levels. The 2020 change in level would have been: One year shock in the baseline scenario: United States: -3.5%, Eurozone: 0.4% and Switzerland: 0.4% and for the global crisis scenario: United States: 3.1%, Eurozone: 5.0% and Switzerland: 2.6%. Three year shock in the baseline scenario: United States: -4.5%, Eurozone: -1.2% and Switzerland: -0.2% and for the global crisis scenario: United States: 0.9%, Eurozone: 7.2% and Switzerland: 3.4%

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Note 20 Expected credit loss measurement (continued)

Scenario assumptions	One year		Three years cumulative	
31.12.19	Baseline	Severe downside	Baseline	Severe downside
Real GDP growth (% change)				
United States	1.9	(6.4)	6.4	(4.3)
Eurozone	1.0	(9.1)	2.8	(10.8)
Switzerland	1.5	(7.0)	4.8	(6.2)
Consumer price index (% change)				
United States	1.8	(1.2)	6.2	0.4
Eurozone	1.3	(1.3)	4.3	(1.7)
Switzerland	0.8	(1.8)	2.7	(1.6)
Unemployment rate (change, percentage points)				
United States	(0.4)	5.7	(0.5)	5.6
Eurozone	(0.1)	5.6	(0.2)	7.9
Switzerland	0.1	2.6	0.3	3.6
Fixed income: 10-year government bonds (change in yields, basis points)				
USD	0.2	(100.0)	10.1	(75.0)
EUR	8.4	(30.0)	28.2	(20.0)
CHF	9.5	(70.0)	30.0	(35.0)
Equity indices (% change)				
S&P 500	3.5	(53.0)	9.5	(42.9)
EuroStoxx 50	0.5	(60.0)	4.4	(52.9)
SPI	1.4	(56.2)	5.3	(46.8)
Swiss real estate (% change)				
Single-Family Homes	0.1	(15.2)	2.3	(27.0)
Other real estate (% change)				
United States (S&P / Case-Shiller)	4.0	(13.3)	16.7	(23.4)
Eurozone (House Price Index)	1.2	(23.0)	2.2	(33.2)

c) Development of ECL allowances and provisions

The ECL allowances and provisions recognized in the period are impacted by a variety of factors, such as:
- origination of new instruments during the period;
- effect of passage of time as the ECLs on an instrument for the remaining lifetime decrease (all other factors remaining the same);
- discount unwind within ECLs as it is measured on a present value basis;
- derecognition of instruments in the period;
- change in individual asset quality of instruments;
- effect of updating forward-looking scenarios and the respective weights;
- movements from a maximum 12-month ECL to the recognition of lifetime ECLs (and vice versa) following transfers between stages 1 and 2;
- movements from stages 1 and 2 to stage 3 (credit-impaired status) when default has become certain and probability of default (PD) increases to 100% (or vice versa);
- changes in models or updates to model parameters; and
- foreign exchange translations for assets denominated in foreign currencies and other movements.

Note 20 Expected credit loss measurement (continued)

The following table explains the changes in the ECL allowances and provisions for on- and off-balance sheet financial instruments and other credit lines in scope of ECL requirements between the beginning and the end of the period due to the factors listed on the previous page.

Development of ECL allowances and provisions

USD million	Total	Stage 1	Stage 2	Stage 3
Balance as of 31 December 2019	(1,029)	(181)	(160)	(688)
Net movement from new and derecognized transactions[1]	(28)	(90)	17	46
of which: Private clients with mortgages	*(2)*	*(3)*	*2*	*0*
of which: Real estate financing	*(3)*	*(5)*	*2*	*0*
of which: Large corporate clients	*(32)*	*(29)*	*(4)*	*0*
of which: SME clients	*(16)*	*(14)*	*(3)*	*0*
of which: Other	*26*	*(39)*	*20*	*46*
of which: Securities financing transactions REIT	*32*	*(1)*	*15*	*17*
of which: Loans to financial advisors	*9*	*(1)*	*9*	*0*
of which: Lombard loans	*23*	*(6)*	*0*	*29*
of which Financial intermediaries	*(20)*	*(15)*	*(5)*	*0*
Remeasurements with stage transfers[2]	(427)	45	(134)	(338)
of which: Private clients with mortgages	*(19)*	*(2)*	*(17)*	*0*
of which: Real estate financing	*(6)*	*3*	*(9)*	*0*
of which: Large corporate clients	*(224)*	*34*	*(83)*	*(175)*
of which: SME clients	*(43)*	*(1)*	*(11)*	*(31)*
of which: Other	*(134)*	*11*	*(14)*	*(131)*
of which: Securities financing transactions REIT	*(36)*	*0*	*(18)*	*(19)*
of which: Loans to financial advisors	*(12)*	*7*	*(7)*	*(11)*
of which: Lombard loans	*(36)*	*0*	*0*	*(36)*
of which Commodity Trade Finance	*(59)*	*0*	*0*	*(59)*
Remeasurements without stage transfers[3]	(271)	(88)	(47)	(136)
of which: Private clients with mortgages	*(34)*	*(19)*	*(8)*	*(7)*
of which: Real estate financing	*(14)*	*(4)*	*(11)*	*1*
of which: Large corporate clients	*(149)*	*(53)*	*(17)*	*(79)*
of which: SME clients	*(13)*	*0*	*(7)*	*(6)*
of which: Other	*(60)*	*(11)*	*(4)*	*(44)*
of which: Loans to financial advisors	*(18)*	*(12)*	*(3)*	*(3)*
of which: Lombard loans	*(3)*	*6*	*0*	*(9)*
of which: Credit cards	*(12)*	*0*	*0*	*(12)*
Model changes[4]	32	21	11	0
Total ECL allowance movements with profit or loss impact[5]	(694)	(112)	(154)	(429)
Write-offs, FX and other movements (without profit or loss impact)[6]	254	(14)	(19)	287
Balance as of 31 December 2020	(1,468)	(306)	(333)	(829)

1 Represents the increase and decrease in allowances and provisions resulting from financial instruments (including guarantees and facilities) that were newly originated, purchased or renewed and from the final derecognition of loans or facilities on their maturity date or earlier. 2 Represents the remeasurement between 12-month and lifetime ECL due to stage transfers. 3 Represents the change in allowances and provisions related to changes in model inputs or assumptions, including changes in forward-looking macroeconomic conditions, changes in the exposure profile, PD and LGD changes, and unwinding of the time value. 4 Represents the change in the allowances and provisions related to changes in models and methodologies. 5 Includes ECL movements from new and derecognized transactions, remeasurement changes, model and methodology changes. 6 Represents the decrease in allowances and provisions resulting from write-offs of the ECL allowance against the gross carrying amount when all or part of a financial asset is deemed uncollectible or forgiven and movements in foreign exchange rates.

In 2020, ECL allowances and provisions increased by USD 694 million from net credit loss expenses impacting profit or loss:
– a USD 28 million net increase from new and derecognized transactions that resulted from a USD 90 million stage 1 increase primarily in *Large corporate clients* and *SME clients*, offset by a USD 63 million net release from stage 2 and 3 transactions, driven by transactions that were terminated before their contractual maturity, mainly in *Lombard lending* and *Securities financing transactions Real estate investment trusts (SFT-REITs)*;
– a USD 697 million net increase from book quality movements that resulted from a USD 427 million net increase from transactions moving from stages 1 and 2 into stages 2 and 3, respectively, of which approximately half related to *Large corporate clients,* with further substantial effects from *Commodity trade finance, SME clients, SFT REITs* and *Lombard loans*, and USD 271 million from remeasurements without stage transfers, approximately half relating to *Large corporate clients*, and another significant portion relating to real estate related lending, primarily due to the updates of macroeconomic factors;
– a USD 32 million net decrease that resulted from a number of model revisions, primarily impacting *Financial intermediaries*, *Real estate financing* and *SME clients*, from updates to the PD and LGD risk drivers and macroeconomic dependencies.

In addition to the movements impacting profit or loss, allowances decreased by USD 346 million as a result of a number of write offs. A further USD 75 million allowance increase resulted from foreign exchange movements, almost entirely due to the Swiss franc strengthening against the US dollar.

Note 20 Expected credit loss measurement (continued)

The following table explains the changes in the ECL allowances and provisions for on- and off-balance sheet financial instruments and other credit lines in scope of ECL requirements between the beginning and the end of the prior period due to the factors listed earlier in this note.

USD million	Total	Stage 1	Stage 2	Stage 3
Balance as of 31 December 2018	(1,054)	(176)	(183)	(695)
Net movement from new and derecognized transactions[1]	(53)	(66)	10	3
of which: Private clients with mortgages	*(1)*	*(4)*	*3*	*0*
of which: Real estate financing	*(3)*	*(5)*	*2*	*0*
of which: Large corporate clients	*(6)*	*(14)*	*8*	*0*
of which: SME clients	*(16)*	*(14)*	*(2)*	*0*
Remeasurements with stage transfers[2]	(125)	14	(35)	(105)
of which: Private clients with mortgages	*(5)*	*1*	*(5)*	*(1)*
of which: Real estate financing	*5*	*4*	*1*	*0*
of which: Large corporate clients	*(45)*	*4*	*(11)*	*(38)*
of which: SME clients	*(64)*	*2*	*(11)*	*(55)*
Remeasurements without stage transfers[3]	73	31	41	1
of which: Private clients with mortgages	*22*	*2*	*30*	*(9)*
of which: Real estate financing	*1*	*0*	*0*	*1*
of which: Large corporate clients	*(24)*	*(10)*	*0*	*(14)*
of which: SME clients	*35*	*9*	*10*	*17*
Model changes[4]	26	17	9	0
Total ECL allowance movements with profit or loss impact[5]	(78)	(4)	25	(100)
Write-offs, FX and other movements (without profit or loss impact)[6]	105	(1)	(2)	108
Balance as of 31 December 2019	(1,029)	(181)	(160)	(688)

1 Represents the increase and decrease in allowances and provisions resulting from financial instruments (including guarantees and facilities) that were newly originated, purchased or renewed and from the final derecognition of loans or facilities on their maturity date or earlier. 2 Represents the remeasurement between 12-month and lifetime ECL due to stage transfers. 3 Represents the change in allowances and provisions related to changes in model inputs or assumptions, including changes in forward-looking macroeconomic conditions, changes in the exposure profile, PD and LGD changes, and unwinding of the time value. 4 Represents the change in the allowances and provisions related to changes in models and methodologies. 5 To align to the table format for the 2020 ECL allowance and provision movement, UBS has adjusted the 2019 table format. Includes ECL movements from new and derecognized transactions, remeasurement changes, model and methodology changes. 6 Represents the decrease in allowances and provisions resulting from write-offs of the ECL allowance against the gross carrying amount when all or part of a financial asset is deemed uncollectible or forgiven and movements in foreign exchange rates.

As explained in Note 1a, the assessment of an SICR considers a number of qualitative and quantitative factors to determine whether a stage transfer between stage 1 and stage 2 is required. The primary assessment considers changes in probability of default (PD) based on rating analyses and economic outlook. Additionally, UBS AG considers counterparties that have moved to a credit watch list and those with payments that are at least 30 days past due.

Stage 2 classification by trigger

	ECL allowances / provisions as of 31 December 2020			
USD million	Stage 2	*of which: PD layer*	*of which: watch list*	*of which: ≥30 days past due*
On-and off-balance sheet	(333)	*(252)*	*(41)*	*(40)*
of which: Private clients with mortgages	*(93)*	*(83)*	*0*	*(11)*
of which: Real estate financing	*(53)*	*(45)*	*(2)*	*(6)*
of which: Large corporate clients	*(110)*	*(89)*	*(20)*	*0*
of which: SME clients	*(38)*	*(16)*	*(16)*	*(5)*
of which: Financial intermediaries and hedge funds	*(19)*	*(19)*	*0*	*0*
of which: Loans to financial advisors	*(5)*	*0*	*(1)*	*(4)*
of which: Credit cards	*(14)*	*0*	*0*	*(14)*
of which: Other	*(2)*	*0*	*(2)*	*0*

Note 20 Expected credit loss measurement (continued)

d) Maximum exposure to credit risk

The tables below and on the following page provide UBS AG's maximum exposure to credit risk for financial instruments subject to ECL requirements and the respective collateral and other credit enhancements mitigating credit risk for these classes of financial instruments.

The maximum exposure to credit risk includes the carrying amounts of financial instruments recognized on the balance sheet subject to credit risk and the notional amounts for off-balance sheet arrangements. Where information is available, collateral is presented at fair value. For other collateral, such as real estate, a reasonable alternative value is used. Credit enhancements, such as credit derivative contracts and guarantees, are included at their notional amounts. Both are capped at the maximum exposure to credit risk for which they serve as security. The "Risk management and control" section of this report describes management's view of credit risk and the related exposures, which can differ in certain respects from the requirements of IFRS.

Maximum exposure to credit risk

	31.12.20								
		Collateral[1]				Credit enhancements[1]			Exposure to credit risk after collateral and credit enhancements
USD billion	Maximum exposure to credit risk	Cash collateral received	Collateralized by securities	Secured by real estate	Other collateral[2]	Netting	Credit derivative contracts	Guarantees	
Financial assets measured at amortized cost on the balance sheet									
Cash and balances at central banks	158.2								158.2
Loans and advances to banks[3]	15.3		0.1						15.2
Receivables from securities financing transactions	74.2	0.0	67.1		7.0				0.0
Cash collateral receivables on derivative instruments[4, 5]	32.7					21.1			11.6
Loans and advances to customers[6]	381.0	27.0	118.2	194.6	21.7		0.0	4.4	15.1
Other financial assets measured at amortized cost	27.2	0.1	0.2	0.0	1.3				25.5
Total financial assets measured at amortized cost	688.7	27.2	185.7	194.6	30.1	21.1	0.0	4.4	225.6
Financial assets measured at fair value through other comprehensive income – debt	8.3								8.3
Total maximum exposure to credit risk reflected on the balance sheet in scope of ECL	697.0	27.2	185.7	194.6	30.1	21.1	0.0	4.4	233.9
Guarantees[7]	17.0	0.7	5.0	0.2	1.7			2.5	7.0
Loan commitments[7]	41.2	0.0	4.2	2.1	6.8		0.4	2.4	25.3
Forward starting transactions, reverse repurchase and securities borrowing agreements	3.2		3.2						0.0
Committed unconditionally revocable credit lines	42.0	0.1	10.3	6.2	2.7			0.0	22.7
Total maximum exposure to credit risk not reflected on the balance sheet, in scope of ECL	103.5	0.8	22.7	8.5	11.2	0.0	0.4	4.9	54.9

	31.12.19								
		Collateral[1]				Credit enhancements[1]			Exposure to credit risk after collateral and credit enhancements
USD billion	Maximum exposure to credit risk	Cash collateral received	Collateralized by securities	Secured by real estate	Other collateral[2]	Netting	Credit derivative contracts	Guarantees	
Financial assets measured at amortized cost on the balance sheet									
Cash and balances at central banks	107.1								107.1
Loans and advances to banks[3]	12.4		0.0						12.3
Receivables from securities financing transactions	84.2		77.6		5.8				0.8
Cash collateral receivables on derivative instruments[4, 5]	23.3					14.4			8.9
Loans and advances to customers[6]	328.0	19.4	101.4	174.7	17.1			1.1	14.3
Other financial assets measured at amortized cost	23.0	0.1	0.4	0.0	1.3				21.2
Total financial assets measured at amortized cost	**578.0**	**19.5**	**179.4**	**174.7**	**24.3**	**14.4**	**0.0**	**1.1**	**164.6**
Financial assets measured at fair value through other comprehensive income – debt	**6.3**								**6.3**
Total maximum exposure to credit risk reflected on the balance sheet in scope of ECL	**584.3**	**19.5**	**179.4**	**174.7**	**24.3**	**14.4**	**0.0**	**1.1**	**171.0**
Guarantees[7]	18.1	1.0	3.0	0.1	1.7			2.5	9.8
Loan commitments[7]	27.5	0.2	1.9	1.3	5.8		0.2	0.2	18.0
Forward starting transactions, reverse repurchase and securities borrowing agreements	1.7		1.7						0.0
Committed unconditionally revocable credit lines	36.9	0.3	8.3	4.9	3.6			0.0	19.8
Total maximum exposure to credit risk not reflected on the balance sheet, in scope of ECL	**84.2**	**1.5**	**14.9**	**6.3**	**11.0**	**0.0**	**0.2**	**2.8**	**47.6**

1 Of which: USD 1,983 million for 31 December 2020 (31 December 2019: USD 1,720 million) relates to total credit-impaired financial assets measured at amortized cost and USD 154 million for 31 December 2020 (31 December 2019: USD 27 million) to total off-balance sheet financial instruments and other credit lines for credit-impaired positions. 2 Includes but is not limited to life insurance contracts, inventory, mortgage loans, gold and other commodities. 3 Loans and advances to banks include amounts held with third-party banks on behalf of clients. The credit risk associated with these balances may be borne by those clients. 4 Included within Cash collateral receivables on derivative instruments are margin balances due from exchanges or clearing houses. Some of these margin balances reflect amounts transferred on behalf of clients who retain the associated credit risk. 5 The amount shown in the "Netting" column represents the netting potential not recognized on the balance sheet. Refer to Note 22 for more information. 6 Collateral arrangements generally incorporate a range of collateral, including cash, securities, property and other collateral. 7 The amount shown in the "Guarantees" column includes sub-participations.

Note 20 Expected credit loss measurement (continued)

e) Financial assets subject to credit risk by rating category

The table below shows the credit quality and the maximum exposure to credit risk based on the Group's internal credit rating system and year-end stage classification. Under IFRS 9, the credit risk rating reflects the Group's assessment of the probability of default of individual counterparties, prior to substitutions. The amounts presented are gross of impairment allowances.

› **Refer to the "Risk management and control" section of this report for more details regarding the Group's internal grading system**

Financial assets subject to credit risk by rating category

USD million	31.12.20								
Rating category[1]	0–1	2–3	4–5	6–8	9–13	Credit-impaired (defaulted)	Total gross carrying amount	ECL allowances	Net carrying amount (maximum exposure to credit risk)
Financial assets measured at amortized cost									
Cash and balances at central banks	156,250	1,981	0	0	0	0	158,231	0	158,231
of which: stage 1	*156,250*	*1,981*	*0*	*0*	*0*	*0*	*158,231*	*0*	*158,231*
Loans and advances to banks	543	12,029	1,344	1,182	260	1	15,360	(16)	15,344
of which: stage 1	*543*	*11,974*	*1,277*	*1,145*	*231*	*0*	*15,170*	*(9)*	*15,160*
of which: stage 2	*0*	*55*	*67*	*37*	*29*	*0*	*189*	*(5)*	*184*
of which: stage 3	*0*	*0*	*0*	*0*	*0*	*1*	*1*	*(1)*	*0*
Receivables from securities financing transactions	22,998	16,009	15,367	17,995	1,842	0	74,212	(2)	74,210
of which: stage 1	*22,998*	*16,009*	*15,367*	*17,995*	*1,842*	*0*	*74,212*	*(2)*	*74,210*
Cash collateral receivables on derivative instruments	8,196	13,477	7,733	3,243	88	0	32,737	0	32,737
of which: stage 1	*8,196*	*13,477*	*7,733*	*3,243*	*88*	*0*	*32,737*	*0*	*32,737*
Loans and advances to customers	5,813	215,755	67,270	69,217	21,038	2,943	382,036	(1,060)	380,977
of which: stage 1	*5,813*	*214,418*	*63,000*	*59,447*	*15,860*	*0*	*358,538*	*(142)*	*358,396*
of which: stage 2	*0*	*1,338*	*4,269*	*9,770*	*5,178*	*0*	*20,556*	*(215)*	*20,341*
of which: stage 3	*0*	*0*	*0*	*0*	*0*	*2,943*	*2,943*	*(703)*	*2,240*
Other financial assets measured at amortized cost	15,404	4,043	280	6,585	481	560	27,352	(133)	27,219
of which: stage 1	*15,404*	*4,040*	*269*	*6,334*	*389*	*0*	*26,435*	*(34)*	*26,401*
of which: stage 2	*0*	*3*	*11*	*251*	*91*	*0*	*357*	*(9)*	*348*
of which: stage 3	*0*	*0*	*0*	*0*	*0*	*560*	*560*	*(90)*	*469*
Total financial assets measured at amortized cost	209,204	263,295	91,993	98,223	23,709	3,505	689,929	(1,211)	688,717
On-balance sheet financial instruments									
Financial assets measured at FVOCI – debt instruments	3,212	5,014	0	32	0	0	8,258	0	8,258
Total on balance sheet financial instruments	212,417	268,309	91,993	98,255	23,709	3,505	698,187	(1,211)	696,976

Off-balance sheet positions subject to expected credit loss by rating category

USD million	31.12.20							
Rating category[1]	0–1	2–3	4–5	6–8	9–13	Credit-impaired (defaulted)	Total off - balance sheet exposure (maximum exposure to credit risk)	ECL provisions
Off-balance sheet financial instruments								
Guarantees	3,482	4,623	3,522	4,293	991	170	17,081	(63)
of which: stage 1	*3,482*	*4,219*	*2,688*	*3,558*	*739*	*0*	*14,687*	*(14)*
of which: stage 2	*0*	*404*	*834*	*736*	*252*	*0*	*2,225*	*(15)*
of which: stage 3	*0*	*0*	*0*	*0*	*0*	*170*	*170*	*(34)*
Irrevocable loan commitments	3,018	14,516	8,583	9,302	5,850	104	41,372	(142)
of which: stage 1	*3,018*	*13,589*	*6,873*	*8,739*	*4,676*	*0*	*36,894*	*(74)*
of which: stage 2	*0*	*927*	*1,711*	*563*	*1,174*	*0*	*4,374*	*(68)*
of which: stage 3	*0*	*0*	*0*	*0*	*0*	*104*	*104*	*0*
Forward starting reverse repurchase and securities borrowing agreements	82	150	0	3,015	0	0	3,247	0
Total off balance sheet financial instruments	6,583	19,289	12,105	16,610	6,840	273	61,700	(205)
Other credit lines								
Committed unconditionally revocable credit lines	574	15,448	5,958	8,488	11,501	108	42,077	(50)
of which: stage 1	*574*	*14,883*	*4,517*	*6,609*	*10,593*	*0*	*37,176*	*(29)*
of which: stage 2	*0*	*565*	*1,441*	*1,879*	*908*	*0*	*4,792*	*(21)*
of which: stage 3	*0*	*0*	*0*	*0*	*0*	*108*	*108*	*0*
Irrevocable committed prolongation of existing loans	14	1,349	931	632	357	0	3,282	(2)
of which: stage 1	*14*	*1,349*	*930*	*630*	*355*	*0*	*3,277*	*(2)*
of which: stage 2	*0*	*1*	*1*	*2*	*1*	*0*	*5*	*0*
of which: stage 3	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
Total other credit lines	588	16,797	6,889	9,119	11,858	109	45,359	(52)

1 Refer to the "Internal UBS rating scale and mapping of external ratings" table in the "Risk management and control" section of this report for more information about rating categories.

Note 20 Expected credit loss measurement (continued)

Financial assets subject to credit risk by rating category

USD million	31.12.19								
Rating category[1]	0–1	2–3	4–5	6–8	9–13	Credit-impaired (defaulted)	Total gross carrying amount	ECL allowances	Net carrying amount (maximum exposure to credit risk)
Financial assets measured at amortized cost									
Cash and balances at central banks	105,195	1,873	0	0	0	0	107,068	0	107,068
of which: stage 1	*105,195*	*1,873*	*0*	*0*	*0*	*0*	*107,068*	*0*	*107,068*
Loans and advances to banks	309	9,764	1,326	687	298	1	12,386	(6)	12,379
of which: stage 1	*309*	*9,764*	*1,326*	*677*	*228*	*0*	*12,303*	*(4)*	*12,298*
of which: stage 2	*0*	*0*	*0*	*10*	*71*	*0*	*81*	*(1)*	*80*
of which: stage 3	*0*	*0*	*0*	*0*	*0*	*1*	*1*	*(1)*	*0*
Receivables from securities financing transactions	21,089	16,889	14,366	28,815	3,088	0	84,246	(2)	84,245
of which: stage 1	*21,089*	*16,889*	*14,366*	*28,815*	*3,088*	*0*	*84,246*	*(2)*	*84,245*
Cash collateral receivables on derivative instruments	4,899	10,553	5,033	2,765	39	0	23,289	0	23,289
of which: stage 1	*4,899*	*10,553*	*5,033*	*2,765*	*39*	*0*	*23,289*	*0*	*23,289*
Loans and advances to customers	1,744	176,189	59,240	70,528	18,748	2,308	328,756	(764)	327,992
of which: stage 1	*1,744*	*175,534*	*56,957*	*62,435*	*14,117*	*0*	*310,787*	*(82)*	*310,705*
of which: stage 2	*0*	*655*	*2,283*	*8,093*	*4,631*	*0*	*15,661*	*(123)*	*15,538*
of which: stage 3	*0*	*0*	*0*	*0*	*0*	*2,308*	*2,308*	*(559)*	*1,749*
Other financial assets measured at amortized cost	13,030	1,592	390	7,158	312	672	23,154	(143)	23,012
of which: stage 1	*13,030*	*1,581*	*381*	*6,747*	*280*	*0*	*22,019*	*(35)*	*21,985*
of which: stage 2	*0*	*11*	*9*	*412*	*32*	*0*	*463*	*(13)*	*451*
of which: stage 3	*0*	*0*	*0*	*0*	*0*	*672*	*672*	*(95)*	*576*
Total financial assets measured at amortized cost	146,267	216,860	80,354	109,952	22,485	2,981	578,899	(915)	577,985
On-balance sheet financial instruments									
Financial assets measured at FVOCI – debt instruments	5,854	450	0	41	0	0	6,345	0	6,345
Total on balance sheet financial instruments	152,120	217,309	80,354	109,994	22,485	2,981	585,245	(915)	584,329

Off-balance sheet positions subject to expected credit loss by rating category

USD million	31.12.19							
Rating category[1]	0–1	2–3	4–5	6–8	9–13	Credit-impaired (defaulted)	Total off - balance sheet exposure (maximum exposure to credit risk)	ECL provisions
Off-balance sheet financial instruments								
Guarantees	857	4,932	6,060	5,450	761	82	18,142	(42)
of which: stage 1	*857*	*4,931*	*6,048*	*5,218*	*704*	*0*	*17,757*	*(8)*
of which: stage 2	*0*	*1*	*12*	*233*	*57*	*0*	*304*	*(1)*
of which: stage 3	*0*	*0*	*0*	*0*	*0*	*82*	*82*	*(33)*
Irrevocable loan commitments	2,548	10,068	4,862	5,859	4,160	50	27,547	(35)
of which: stage 1	*2,548*	*10,068*	*4,862*	*5,722*	*3,878*	*0*	*27,078*	*(30)*
of which: stage 2	*0*	*0*	*0*	*137*	*282*	*0*	*419*	*(5)*
of which: stage 3	*0*	*0*	*0*	*0*	*0*	*50*	*50*	*0*
Forward starting reverse repurchase and securities borrowing agreements	0	672	50	936	0	0	1,657	0
Total off balance sheet financial instruments	3,405	15,672	10,972	12,245	4,922	132	47,347	(77)
Other credit lines								
Committed unconditionally revocable credit lines	632	14,346	6,231	7,169	8,554	46	36,979	(34)
of which: stage 1	*632*	*14,309*	*6,120*	*6,789*	*7,885*	*0*	*35,735*	*(17)*
of which: stage 2	*0*	*37*	*111*	*380*	*669*	*0*	*1,197*	*(17)*
of which: stage 3	*0*	*0*	*0*	*0*	*0*	*46*	*46*	*0*
Irrevocable committed prolongation of existing loans	25	1,399	870	633	359	4	3,289	(3)
of which: stage 1	*25*	*1,399*	*870*	*633*	*359*	*0*	*3,285*	*(3)*
of which: stage 2	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
of which: stage 3	*0*	*0*	*0*	*0*	*0*	*4*	*4*	*0*
Total other credit lines	657	15,745	7,101	7,801	8,913	50	40,268	(37)

1 Refer to the "Internal UBS rating scale and mapping of external ratings" table in the "Risk management and control" section of this report for more information about rating categories.

Note 20 Expected credit loss measurement (continued)

f) Sensitivity information

As outlined in Note 1a, ECL estimates involve significant uncertainties at the time they are made.

ECL model

The models applied to determine point-in-time PDs and LGDs rely on market and statistical data, which has been found to correlate well with historically observed defaults in sufficiently homogeneous segments. The risk sensitivities for each of the IFRS 9 ECL reporting segments to such factors are summarized in Note 9.

Forward-looking scenarios

Depending on the scenario selection and related macroeconomic assumptions for the risk factors, the components of the relevant weighted average ECL change. This is particularly relevant for interest rates, which can move in both directions under a given growth assumption (for example, low growth with high interest rates in a stagflation scenario, versus low growth and falling interest rates in a recession). Management generally look for scenario narratives that reflect the key risk drivers of a given credit portfolio.

As forecasting models are complex, due to the combination of multiple factors, simple what-if analyses involving a change of individual parameters do not necessarily provide realistic information on the exposure of segments to changes in the macroeconomy. Portfolio-specific analyses based on their key risk factors would also not be meaningful, as potential compensatory effects in other segments would be ignored. The table below indicates some sensitivities to ECLs if a key macroeconomic variable for the forecasting period is amended across all scenarios with all other factors remaining unchanged.

Potential effect on stage 1 and stage 2 positions from changing key parameters as at 31 December 2020

USD million	Baseline	Severe downside	Weighted average
Change in key parameters			
Fixed income: 10-year government bonds (absolute change)			
−0.5%	(1.36)	(1.84)	(1.93)
+0.5%	2.10	3.19	3.23
+1.00%	5.69	6.86	7.19
Unemployment rate (absolute change)			
−1.00%	(7.40)	(63.01)	(27.83)
−0.5%	(3.78)	(33.54)	(15.67)
+0.5%	4.15	36.97	16.99
+1.00%	8.50	75.93	33.74
Real GDP growth (relative change)			
-2.00%	3.72	16.14	9.10
-1.00%	1.86	9.84	5.09
+1.00%	(1.46)	(3.30)	(2.36)
+2.00%	(2.97)	(9.44)	(5.93)
House Price Index (relative change)			
−5.00%	8.04	144.34	51.46
−2.50%	3.45	65.80	23.28
+2.50%	(2.79)	(56.60)	(19.09)
+5.00%	(5.16)	(105.61)	(35.29)
Equity (S&P500, EuroStoxx, SMI) (relative change)			
−10.00%	3.94	9.66	6.78
−5.00%	1.91	4.29	3.34
+5.00%	(8.30)	(4.23)	(7.27)
+10.00%	(10.14)	(8.58)	(10.22)

Sensitivities can be more meaningfully assessed in the context of coherent scenarios with consistently developed macroeconomic factors. The table on the previous page outlines favorable and unfavorable effects, based on reasonably possible alternative changes to the economic conditions for stage 1 and stage 2 positions. The ECL impact is calculated for material portfolios and disclosed for each scenario.

The forecasting horizon is limited to three years, with a model-based mean reversion of PD and LGD assumed thereafter. Changes to these timelines may have an effect on ECLs: depending on the cycle, a longer or shorter forecasting horizon will lead to different annualized lifetime PD and average LGD estimations. This is currently not deemed to be material for UBS AG, as a large proportion of loans, including mortgages in Switzerland, have maturities that are within the forecasting horizon.

Scenario weights

ECL is sensitive to changing scenario weights, in particular if narratives and parameters are selected that are not close to the baseline scenario, highlighting the non-linearity of credit losses.

As shown in the table on the bottom of this page, the ECL for stage 1 and stage 2 positions would have been USD 442 million (31 December 2019: USD 234 million) instead of USD 639 million (31 December 2019: USD 341 million) if ECL had been determined solely on the baseline scenario. The weighted average ECL therefore amounts to 145% (31 December 2019: 149%) of the baseline value.

Stage allocation and SICR

The determination of what constitutes a significant increase in credit risk (SICR) is based on management judgment as explained in Note 1a. Changing the SICR trigger will have a direct effect on ECLs, as more or fewer positions would be subject to lifetime ECLs under any scenario.

The relevance of the SICR trigger on overall ECL is demonstrated in the table below with the indication that the ECL allowances and provisions for stage 1 and stage 2 positions would have been USD 1,336 million if all non-impaired positions across the portfolio had been measured for lifetime ECLs irrespective of their actual SICR status. This amount compares to actual stage 1 and 2 allowances and provisions of USD 639 million as of 31 December 2020.

Maturity profile

The maturity profile of the assets is an important driver for changes in ECL due to transfers to stage 2 and from stage 2 to stage 1. The current maturity profile of most lending books is relatively short; hence a movement to stage 2 may have a limited effect on ECLs. A significant portion of our lending to SMEs is documented under multi-purpose credit agreements, which allow for various forms of utilization but are unconditionally cancelable by UBS AG at any time. The relevant maturity for drawings under such agreements with a fixed maturity is the respective term, or a maximum of 12 months in stage 1. For unused credit lines and all drawings that have no fixed maturity (e.g., current accounts), UBS AG generally applies a 12-month maturity from the reporting date, given the credit review policies, which require either continuous monitoring of key indicators and behavioral patterns for smaller positions or an annual formal review for any other limit. The ECLs for these products is sensitive to shortening or extending the maturity assumption.

Potential effect on stage 1 and stage 2 positions from changing scenario weights or moving to an ECL lifetime calculation as at 31 December 2020

	Actual ECL allowances and provisions (as per Note 9)		Pro forma ECL allowances and provisions, assuming application of 100% weighting				Pro forma ECL allowances and provisions, assuming all positions being subject to lifetime ECL	
Scenarios	Weighted average		Baseline		Severe downside		Weighted average	
USD million, except where indicated	ECL	in % of baseline	ECL	in % of baseline	ECL	in % of baseline	ECL	in % of baseline
Segmentation								
Private clients with mortgages	(131)	244	(54)	100	(302)	562	(385)	717
Real estate financing	(76)	138	(55)	100	(123)	224	(131)	237
Large corporate clients	(206)	149	(138)	100	(298)	216	(307)	222
SME clients	(74)	115	(64)	100	(93)	144	(129)	200
Other segments	(152)	116	(131)	100	(183)	140	(385)	294
Total	**(639)**	**145**	**(442)**	**100**	**(999)**	**226**	**(1,336)**	**302**

Note 21 Fair value measurement

a) Valuation principles

All financial and non-financial assets and liabilities measured or disclosed at fair value are categorized into one of three fair value hierarchy levels in accordance with IFRS. The fair value hierarchy is based on the transparency of inputs to the valuation of an asset or liability as of the measurement date. In certain cases, the inputs used to measure fair value may fall within different levels of the fair value hierarchy. For disclosure purposes, the level in the hierarchy within which an instrument is classified in its entirety is based on the lowest level input that is significant to the position's fair value measurement:
- Level 1 – quoted prices (unadjusted) in active markets for identical assets and liabilities;
- Level 2 – valuation techniques for which all significant inputs are, or are based on, observable market data; or
- Level 3 – valuation techniques for which significant inputs are not based on observable market data.

Fair values are determined using quoted prices in active markets for identical assets or liabilities, where available. Where the market for a financial instrument or non-financial asset or liability is not active, fair value is established using a valuation technique, including pricing models. Valuation adjustments may be made to allow for additional factors, including model, liquidity, credit and funding risks, which are not explicitly captured within the valuation technique, but which would nevertheless be considered by market participants when establishing a price. The limitations inherent in a particular valuation technique are considered in the determination of the classification of an asset or liability within the fair value hierarchy. Generally, the unit of account for a financial instrument is the individual instrument, and UBS applies valuation adjustments at an individual instrument level, consistent with that unit of account. However, if certain conditions are met, UBS may estimate the fair value of a portfolio of financial assets and liabilities with substantially similar and offsetting risk exposures on the basis of the net open risks.

› **Refer to Note 21d for more information**

b) Valuation governance

UBS's fair value measurement and model governance framework includes numerous controls and other procedural safeguards that are intended to maximize the quality of fair value measurements reported in the financial statements. New products and valuation techniques must be reviewed and approved by key stakeholders from the risk and finance control functions. Responsibility for the ongoing measurement of financial and non-financial instruments at fair value resides with the business divisions.

Fair value estimates are validated by the risk and finance control functions, which are independent of the business divisions. Independent price verification is performed by Finance through benchmarking the business divisions' fair value estimates with observable market prices and other independent sources. A governance framework and associated controls are in place in order to monitor the quality of third-party pricing sources where used. For instruments where valuation models are used to determine fair value, independent valuation and model control groups within Finance and Risk Control evaluate UBS's models on a regular basis, including valuation and model input parameters, as well as pricing. As a result of the valuation controls employed, valuation adjustments may be made to the business divisions' estimates of fair value to align with independent market data and the relevant accounting standard.

› **Refer to Note 21d for more information**

Note 21 Fair value measurement (continued)

c) Fair value hierarchy

The table below provides the fair value hierarchy classification of financial and non-financial assets and liabilities measured at fair value. The narrative that follows describes valuation techniques used in measuring their fair value of different product types (including significant valuation inputs and assumptions used), and the factors considered in determining their classification within the fair value hierarchy.

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

	31.12.20				31.12.19			
USD million	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	107,526	15,630	2,337	125,492	113,635	12,248	1,812	127,695
of which:								
Equity instruments	*90,327*	*1,101*	*171*	*91,599*	*96,162*	*400*	*226*	*96,788*
Government bills / bonds	*9,028*	*2,207*	*10*	*11,245*	*9,630*	*1,770*	*64*	*11,464*
Investment fund units	*7,374*	*1,794*	*23*	*9,192*	*7,088*	*1,729*	*50*	*8,867*
Corporate and municipal bonds	*789*	*8,432*	*817*	*10,038*	*755*	*6,796*	*542*	*8,093*
Loans	*0*	*1,860*	*1,134*	*2,995*	*0*	*1,180*	*791*	*1,971*
Asset-backed securities	*8*	*236*	*181*	*425*	*0*	*372*	*140*	*512*
Derivative financial instruments	795	157,069	1,754	159,618	356	120,224	1,264	121,843
of which:								
Foreign exchange contracts	*319*	*68,425*	*5*	*68,750*	*240*	*52,228*	*8*	*52,476*
Interest rate contracts	*0*	*50,353*	*537*	*50,890*	*6*	*42,288*	*263*	*42,558*
Equity / index contracts	*0*	*33,990*	*853*	*34,842*	*7*	*22,220*	*597*	*22,825*
Credit derivative contracts	*0*	*2,008*	*350*	*2,358*	*0*	*1,612*	*394*	*2,007*
Commodity contracts	*0*	*2,211*	*6*	*2,217*	*0*	*1,820*	*0*	*1,821*
Brokerage receivables	0	24,659	0	24,659	0	18,007	0	18,007
Financial assets at fair value not held for trading	40,986	35,110	3,942	80,038	40,608	39,065	3,962	83,636
of which:								
Financial assets for unit-linked investment contracts	*20,628*	*101*	*2*	*20,731*	*27,568*	*118*	*0*	*27,686*
Corporate and municipal bonds	*290*	*16,957*	*372*	*17,619*	*653*	*18,732*	*0*	*19,385*
Government bills / bonds	*19,704*	*3,593*	*0*	*23,297*	*12,089*	*3,700*	*0*	*15,790*
Loans	*0*	*7,699*	*862*	*8,561*	*0*	*10,206*	*1,231*	*11,438*
Securities financing transactions	*0*	*6,629*	*122*	*6,751*	*0*	*6,148*	*147*	*6,294*
Auction rate securities	*0*	*0*	*1,527*	*1,527*	*0*	*0*	*1,536*	*1,536*
Investment fund units	*278*	*121*	*105*	*505*	*194*	*140*	*98*	*432*
Equity instruments	*86*	*0*	*544*	*631*	*103*	*4*	*451*	*559*
Other	*0*	*10*	*408*	*418*	*0*	*16*	*499*	*515*
Financial assets measured at fair value through other comprehensive income on a recurring basis								
Financial assets measured at fair value through other comprehensive income	1,144	7,114	0	8,258	1,906	4,439	0	6,345
of which:								
Asset-backed securities	*0*	*6,624*	*0*	*6,624*	*0*	*3,955*	*0*	*3,955*
Government bills / bonds	*1,103*	*47*	*0*	*1,150*	*1,859*	*16*	*0*	*1,875*
Corporate and municipal bonds	*40*	*444*	*0*	*485*	*47*	*468*	*0*	*515*
Non-financial assets measured at fair value on a recurring basis								
Precious metals and other physical commodities	6,264	0	0	6,264	4,597	0	0	4,597
Non-financial assets measured at fair value on a non-recurring basis								
Other non-financial assets[2]	0	1	245	246	0	0	199	199
Total assets measured at fair value	156,716	239,583	8,278	404,576	161,102	193,983	7,237	362,322

Note 21 Fair value measurement (continued)

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

	31.12.20				31.12.19			
USD million	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	26,889	6,652	55	33,595	25,791	4,726	75	30,591
of which:								
Equity instruments	*22,519*	*425*	*40*	*22,985*	*22,526*	*149*	*59*	*22,734*
Corporate and municipal bonds	*31*	*4,048*	*9*	*4,089*	*40*	*3,606*	*16*	*3,661*
Government bills / bonds	*3,642*	*1,036*	*0*	*4,678*	*2,820*	*646*	*0*	*3,466*
Investment fund units	*696*	*1,127*	*5*	*1,828*	*404*	*294*	*0*	*698*
Derivative financial instruments	746	156,884	3,471	161,102	385	118,498	1,996	120,880
of which:								
Foreign exchange contracts	*316*	*70,149*	*61*	*70,527*	*248*	*53,705*	*60*	*54,013*
Interest rate contracts	*0*	*43,389*	*527*	*43,916*	*7*	*36,434*	*130*	*36,571*
Equity / index contracts	*0*	*38,870*	*2,306*	*41,176*	*3*	*24,171*	*1,293*	*25,468*
Credit derivative contracts	*0*	*2,403*	*528*	*2,931*	*0*	*2,448*	*512*	*2,960*
Commodity contracts	*0*	*2,003*	*24*	*2,027*	*0*	*1,707*	*0*	*1,707*
Financial liabilities designated at fair value on a recurring basis								
Brokerage payables designated at fair value	0	38,742	0	38,742	0	37,233	0	37,233
Debt issued designated at fair value	0	50,273	9,595	59,868	0	56,943	9,649	66,592
Other financial liabilities designated at fair value	0	29,682	2,091	31,773	0	35,119	1,039	36,157
of which:								
Financial liabilities related to unit-linked investment contracts	*0*	*20,975*	*0*	*20,975*	*0*	*28,145*	*0*	*28,145*
Securities financing transactions	*0*	*7,317*	*0*	*7,317*	*0*	*5,742*	*0*	*5,742*
Over-the-counter debt instruments	*0*	*1,363*	*697*	*2,060*	*0*	*1,231*	*791*	*2,022*
Total liabilities measured at fair value	27,635	282,233	15,212	325,080	26,176	252,518	12,759	291,452

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 the periods presented. 2 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.

Valuation techniques

UBS uses widely recognized valuation techniques for determining the fair value of financial and non-financial instruments that are not actively traded and quoted. The most frequently applied valuation techniques include discounted value of expected cash flows, relative value and option pricing methodologies.

Discounted value of expected cash flows is a valuation technique that measures fair value using estimated expected future cash flows from assets or liabilities and then discounts these cash flows using a discount rate or discount margin that reflects the credit and / or funding spreads required by the market for instruments with similar risk and liquidity profiles to produce a present value. When using such valuation techniques, expected future cash flows are estimated using an observed or implied market price for the future cash flows or by using industry standard cash flow projection models. The discount factors within the calculation are generated using industry-standard yield curve modeling techniques and models.

Relative value models measure fair value based on the market prices of equivalent or comparable assets or liabilities, making adjustments for differences between the characteristics of the observed instrument and the instrument being valued.

Option pricing models incorporate assumptions regarding the behavior of future price movements of an underlying referenced asset or assets to generate a probability-weighted future expected payoff for the option. The resulting probability-weighted expected payoff is then discounted using discount factors generated from industry-standard yield curve modeling techniques and models. The option pricing model may be implemented using a closed-form analytical formula or other mathematical techniques (e.g., binomial tree or Monte Carlo simulation).

Where available, valuation techniques use market-observable assumptions and inputs. If such data is not available, inputs may be derived by reference to similar assets in active markets, from recent prices for comparable transactions or from other observable market data. In such cases, the inputs selected are based on historical experience and practice for similar or analogous instruments, derivation of input levels based on similar products with observable price levels, and knowledge of current market conditions and valuation approaches.

For more complex instruments, fair values may be estimated using a combination of observed transaction prices, consensus pricing services and relevant quotes. Consideration is given to the nature of the quotes (e.g., indicative or firm) and the relationship of recently evidenced market activity to the prices provided by consensus pricing services. UBS also uses internally developed models, which are typically based on valuation methods and techniques recognized as standard within the industry. Assumptions and inputs used in valuation techniques include benchmark interest rate curves, credit and funding spreads used in estimating discount rates, bond and equity prices, equity index prices, foreign exchange rates, levels of market volatility and correlation. Refer to Note 21f for more information. The discount curves used by UBS incorporate the funding and credit characteristics of the instruments to which they are applied.

Financial instruments excluding derivatives: valuation and classification in the fair value hierarchy

Product	Valuation and classification in the fair value hierarchy	
Government bills and bonds	Valuation	– Generally valued using prices obtained directly from the market. – Instruments not priced directly using active-market data are valued using discounted cash flow valuation techniques that incorporate market data for similar government instruments.
	Fair value hierarchy	– Generally traded in active markets with prices that can be obtained directly from these markets, resulting in classification as Level 1, while the remaining positions are classified as Level 2 and Level 3.
Corporate and municipal bonds	Valuation	– Generally valued using prices obtained directly from the market for the security, or similar securities, adjusted for seniority, maturity and liquidity. – When prices are not available, instruments are valued using discounted cash flow valuation techniques incorporating the credit spread of the issuer or similar issuers. – For convertible bonds without directly comparable prices, issuances may be priced using a convertible bond model.
	Fair value hierarchy	– Generally classified as Level 1 or Level 2, depending on the depth of trading activity behind price sources. – Level 3 instruments have no suitable pricing information available.
Traded loans and loans measured at fair value	Valuation	– Valued directly using market prices that reflect recent transactions or quoted dealer prices, where available. – Where no market price data is available, loans are valued by relative value benchmarking using pricing derived from debt instruments in comparable entities or different products in the same entity, or by using a credit default swap valuation technique, which requires inputs for credit spreads, credit recovery rates and interest rates. Recently originated commercial real estate loans are measured using a securitization approach based on rating agency guidelines.
	Fair value hierarchy	– Instruments with suitably deep and liquid pricing information are classified as Level 2. – Positions requiring the use of valuation techniques, or for which the price sources have insufficient trading depth, are classified as Level 3.

Note 21 Fair value measurement (continued)

Product	Valuation and classification in the fair value hierarchy	
Investment fund units	Valuation	– Predominantly exchange-traded, with readily available quoted prices in liquid markets. – Where market prices are not available, fair value may be measured using net asset values (NAVs).
	Fair value hierarchy	– Listed units are classified as Level 1, provided there is sufficient trading activity to justify active-market classification, while other positions are classified as Level 2. – Positions for which NAVs are not available are classified as Level 3.
Asset-backed securities (ABS)	Valuation	– For liquid securities, the valuation process will use trade and price data, updated for movements in market levels between the time of trading and the time of valuation. Less liquid instruments are measured using discounted expected cash flows incorporating price data for instruments or indices with similar risk profiles.
	Fair value hierarchy	– RMBS, CMBS and other ABS are generally classified as Level 2. However, if significant inputs are unobservable, or if market or fundamental data is not available, they are classified as Level 3.
Auction rate securities (ARS)	Valuation	– Effective from the fourth quarter of 2020, ARS are valued utilizing a discounted cash flow methodology. The model captures interest rate risk emanating from the note coupon, credit risk attributable to the underlying closed-end fund investments, liquidity risk as a function of the level of trading volume in these positions, and extension risk as ARS are perpetual instruments that require an assumption regarding their maturity or issuer redemption date. – Previously, ARS were valued using market prices that reflected recent transactions after applying an adjustment for trade size or quoted dealer prices, where available. However, due to significant deterioration in the volume and size of transactions in relevant ARS markets following the outbreak of the COVID-19 pandemic, a model-based approach provides a superior indication of orderly exit prices until such time as markets re-develop.
	Fair value hierarchy	– Granular and liquid pricing information is generally not available for ARS. As a result, these securities are classified as Level 3.
Equity instruments	Valuation	– Listed equity instruments are generally valued using prices obtained directly from the market. – Unlisted equity holdings, including private equity positions, are initially marked at their transaction price and are revalued when reliable evidence of price movement becomes available or when the position is deemed to be impaired.
	Fair value hierarchy	– The majority of equity securities are actively traded on public stock exchanges where quoted prices are readily and regularly available, resulting in Level 1 classification.
Financial assets for unit-linked investment contracts	Valuation	– The majority of assets are listed on exchanges and fair values are determined using quoted prices.
	Fair value hierarchy	– Most assets are classified as Level 1 if actively traded, or Level 2 if trading is not active. – Instruments for which prices are not readily available are classified as Level 3.
Securities financing transactions	Valuation	– These instruments are valued using discounted expected cash flow techniques. The discount rate applied is based on funding curves that are relevant to the collateral eligibility terms.
	Fair value hierarchy	– Collateral funding curves for these instruments are generally observable and, as a result, these positions are classified as Level 2. – Where the collateral terms are non-standard, the funding curve may be considered unobservable and these positions are classified as Level 3.
Brokerage receivables and payables	Valuation	– Fair value is determined based on the value of the underlying balances.
	Fair value hierarchy	– Due to their on-demand nature, these receivables and payables are deemed as Level 2.
Amounts due under unit-linked investment contracts	Valuation	– The fair values of investment contract liabilities are determined by reference to the fair value of the corresponding assets.
	Fair value hierarchy	– The liabilities themselves are not actively traded, but are mainly referenced to instruments that are actively traded and are therefore classified as Level 2.

Derivative instruments: valuation and classification in the fair value hierarchy

The curves used for discounting expected cash flows in the valuation of collateralized derivatives reflect the funding terms associated with the relevant collateral arrangement for the instrument being valued. These collateral arrangements differ across counterparties with respect to the eligible currency and interest terms of the collateral. The majority of collateralized derivatives are measured using a discount curve that is based on funding rates derived from overnight interest in the cheapest eligible currency for the respective counterparty collateral agreement.

Uncollateralized and partially collateralized derivatives are discounted using the LIBOR (or equivalent) curve for the currency of the instrument. As described in Note 21d, the fair value of uncollateralized and partially collateralized derivatives is then adjusted by credit valuation adjustments (CVAs), debit valuation adjustments (DVAs) and funding valuation adjustment (FVAs), as applicable, to reflect an estimation of the effect of counterparty credit risk, UBS's own credit risk, and funding costs and benefits.

› **Refer to Note 10 for more information about derivative instruments**

Derivative product	Valuation and classification in the fair value hierarchy	
Interest rate contracts	Valuation	– Interest rate swap contracts are valued by estimating future interest cash flows and discounting those cash flows using a rate that reflects the appropriate funding rate for the position being measured. The yield curves used to estimate future index levels and discount rates are generated using market-standard yield curve models using interest rates associated with current market activity. The key inputs to the models are interest rate swap rates, forward rate agreement rates, short-term interest rate futures prices, basis swap spreads and inflation swap rates. – Interest rate option contracts are valued using various market-standard option models, using inputs that include interest rate yield curves, inflation curves, volatilities and correlations. – When the maturity of an interest rate swap or option contract exceeds the term for which standard market quotes are observable for a significant input parameter, the contracts are valued by extrapolation from the last observable point using standard assumptions or by reference to another observable comparable input parameter to represent a suitable proxy for that portion of the term.
	Fair value hierarchy	– The majority of interest rate swaps are classified as Level 2 as the standard market contracts that form the inputs for yield curve models are generally traded in active and observable markets. – Options are generally treated as Level 2 as the calibration process enables the model output to be validated to active-market levels. Models calibrated in this way are then used to revalue the portfolio of both standard options and more exotic products. – Interest rate swap or option contracts are classified as Level 3 when the terms exceed standard market-observable quotes. – Exotic options for which appropriate volatility or correlation input levels cannot be implied from observable market data are classified as Level 3.
Credit derivative contracts	Valuation	– Credit derivative contracts are valued using industry-standard models based primarily on market credit spreads, upfront pricing points and implied recovery rates. Where a derivative credit spread is not directly available, it may be derived from the price of the reference cash bond. – Asset-backed credit derivatives are valued using a valuation technique similar to that of the underlying security with an adjustment to reflect the funding differences between cash and synthetic form.
	Fair value hierarchy	– Single-entity and portfolio credit derivative contracts are classified as Level 2 when credit spreads and recovery rates are determined from actively traded observable market data. Where the underlying reference name(s) are not actively traded and the correlation cannot be directly mapped to actively traded tranche instruments, these contracts are classified as Level 3. – Asset-backed credit derivatives follow the characteristics of the underlying security and are therefore distributed across Level 2 and Level 3.

Note 21 Fair value measurement (continued)

Derivative product	Valuation and classification in the fair value hierarchy	
Foreign exchange contracts	Valuation	– Open spot FX contracts are valued using the FX spot rate observed in the market. – Forward FX contracts are valued using the FX spot rate adjusted for forward pricing points observed from standard market-based sources. – OTC FX option contracts are valued using market-standard option valuation models. The models used for shorter-dated options (i.e., maturities of five years or less) tend to be different than those used for longer-dated options because the models needed for longer-dated OTC FX contracts require additional consideration of interest rate and FX rate interdependency. – The valuation for multi-dimensional FX options uses a multi-local volatility model, which is calibrated to the observed FX volatilities for all relevant FX pairs.
	Fair value hierarchy	– The markets for FX spot and FX forward pricing points are both actively traded and observable and therefore such FX contracts are generally classified as Level 2. – A significant proportion of OTC FX option contracts are classified as Level 2 as inputs are derived mostly from standard market contracts traded in active and observable markets. – OTC FX option contracts classified as Level 3 include multi-dimensional FX options and long-dated FX exotic option contracts where there is no active market from which to derive volatility or correlation inputs.
Equity / index contracts	Valuation	– Equity forward contracts have a single stock or index underlying and are valued using market-standard models. The key inputs to the models are stock prices, estimated dividend rates and equity funding rates (which are implied from prices of forward contracts observed in the market). Estimated cash flows are then discounted using market-standard discounted cash flow models using a rate that reflects the appropriate funding rate for that portion of the portfolio. When no market data is available for the instrument maturity, they are valued by extrapolation of available data, use of historical dividend data, or use of data for a related equity. – Equity option contracts are valued using market-standard models that estimate the equity forward level as described for equity forward contracts and incorporate inputs for stock volatility and for correlation between stocks within a basket. The probability-weighted expected option payoff generated is then discounted using market-standard discounted cash flow models applying a rate that reflects the appropriate funding rate for that portion of the portfolio. When volatility, forward or correlation inputs are not available, they are valued using extrapolation of available data, historical dividend, correlation or volatility data, or the equivalent data for a related equity.
	Fair value hierarchy	– As inputs are derived mostly from standard market contracts traded in active and observable markets, a significant proportion of equity forward contracts are classified as Level 2. – Equity option positions for which inputs are derived from standard market contracts traded in active and observable markets are also classified as Level 2. Level 3 positions are those for which volatility, forward or correlation inputs are not observable.
Commodity contracts	Valuation	– Commodity forward and swap contracts are measured using market-standard models that use market forward levels on standard instruments. – Commodity option contracts are measured using market-standard option models that estimate the commodity forward level as described for commodity forward and swap contracts, incorporating inputs for the volatility of the underlying index or commodity. For commodity options on baskets of commodities or bespoke commodity indices, the valuation technique also incorporates inputs for the correlation between different commodities or commodity indices.
	Fair value hierarchy	– Individual commodity contracts are typically classified as Level 2, because active forward and volatility market data is available.

d) Valuation adjustments

The output of a valuation technique is always an estimate of a fair value that cannot be measured with complete certainty. As a result, valuations are adjusted, where appropriate and when such factors would be considered by market participants in estimating fair value, to reflect close-out costs, credit exposure, model-driven valuation uncertainty, funding costs and benefits, trading restrictions and other factors.

Deferred day-1 profit or loss reserves

For new transactions where the valuation technique used to measure fair value requires significant inputs that are not based on observable market data, the financial instrument is initially recognized at the transaction price. The transaction price may differ from the fair value obtained using a valuation technique, where any such difference is deferred and not initially recognized in the income statement.

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 pricing of equivalent products or the underlying parameters becomes observable or when the transaction is closed out.

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

Deferred day-1 profit or loss reserves

USD million	2020	2019	2018
Reserve balance at the beginning of the year	146	255	338
Profit / (loss) deferred on new transactions	362	171	341
(Profit) / loss recognized in the income statement	(238)	(278)	(417)
Foreign currency translation	0	(2)	(6)
Reserve balance at the end of the year	269	146	255

Own credit

Own credit risk is reflected in the valuation of UBS's fair value option liabilities where this component is considered relevant for valuation purposes by UBS's counterparties and other market participants.

Changes in the fair value of financial liabilities designated at fair value through profit or loss related to own credit are recognized in *Other comprehensive income* directly within *Retained earnings,* with no reclassification to the income statement in future periods. This presentation does not create or increase an accounting mismatch in the income statement, as UBS does not hedge changes in own credit.

Own credit is estimated using own credit adjustment (OCA) curves, which incorporate observable market data, including market-observed secondary prices for UBS's debt, UBS's credit default swap spreads and debt curves of peers. In the table below the change in unrealized own credit consists of changes in fair value that are attributable to the change in UBS's credit spreads, as well as the effect of changes in fair values attributable to factors other than credit spreads, such as redemptions, effects from time decay and changes in interest and other market rates. Realized own credit is recognized when an instrument with an associated unrealized own credit adjustment is repurchased prior to the contractual maturity date. Life-to-date amounts reflect the cumulative unrealized change since initial recognition.

› **Refer to Note 16 for more information about debt issued designated at fair value**

Own credit adjustments on financial liabilities designated at fair value

	Included in Other comprehensive income		
	For the year ended		
USD million	31.12.20	31.12.19	31.12.18
Recognized during the period:			
Realized gain / (loss)	2	8	(3)
Unrealized gain / (loss)	(295)	(408)	519
Total gain / (loss), before tax	(293)	(400)	517

	As of		
USD million	31.12.20	31.12.19	31.12.18
Recognized on the balance sheet as of the end of the period:			
Unrealized life-to-date gain / (loss)	(381)	(88)	320

Note 21 Fair value measurement (continued)

Credit valuation adjustments

In order to measure the fair value of OTC derivative instruments, including funded derivative instruments that are classified as *Financial assets at fair value not held for trading,* CVAs are necessary to reflect the credit risk of the counterparty inherent in these instruments. This amount represents the estimated fair value of protection required to hedge the counterparty credit risk of such instruments. A CVA is determined for each counterparty, considering all exposures with that counterparty, and is dependent on the expected future value of exposures, default probabilities and recovery rates, applicable collateral or netting arrangements, break clauses, funding spreads and other contractual factors.

Funding valuation adjustments

FVAs reflect the costs and benefits of funding associated with uncollateralized and partially collateralized derivative receivables and payables and are calculated as the valuation effect from moving the discounting of the uncollateralized derivative cash flows from LIBOR to OCA using the CVA framework, including the probability of counterparty default. An FVA is also applied to collateralized derivative assets in cases where the collateral cannot be sold or repledged.

Debit valuation adjustments

A DVA is estimated to incorporate own credit in the valuation of derivatives where an FVA is not already recognized. The DVA calculation is effectively consistent with the CVA framework, being determined for each counterparty, considering all exposures with that counterparty and taking into account collateral netting agreements, expected future mark-to-market movements and UBS's credit default spreads.

Other valuation adjustments

Instruments that are measured as part of a portfolio of combined long and short positions are valued at mid-market levels to ensure consistent valuation of the long- and short-component risks. A liquidity valuation adjustment is then made to the overall net long or short exposure to move the fair value to bid or offer as appropriate, reflecting current levels of market liquidity. The bid–offer spreads used in the calculation of this valuation adjustment are obtained from market transactions and other relevant sources and are updated periodically.

Uncertainties associated with the use of model-based valuations are incorporated into the measurement of fair value through the use of model reserves. These reserves reflect the amounts that UBS estimates should be deducted from valuations produced directly by models to incorporate uncertainties in the relevant modeling assumptions, in the model and market inputs used, or in the calibration of the model output to adjust for known model deficiencies. In arriving at these estimates, UBS considers a range of market practices, including how it believes market participants would assess these uncertainties. Model reserves are reassessed periodically in light of data from market transactions, consensus pricing services and other relevant sources.

Valuation adjustments on financial instruments

	As of	
Life-to-date gain / (loss), USD million	31.12.20	31.12.19
Credit valuation adjustments[1]	(66)	(48)
Funding valuation adjustments[2]	(73)	(93)
Debit valuation adjustments	0	1
Other valuation adjustments	(820)	(566)
of which: liquidity	*(340)*	*(300)*
of which: model uncertainty	*(479)*	*(266)*

1 Amounts do not include reserves against defaulted counterparties. 2 Includes FVAs on structured financing transactions of USD 6 million as of 31 December 2020 and USD 43 million as of 31 December 2019.

e) Transfers between Level 1 and Level 2

The amounts disclosed in this section reflect transfers between Level 1 and Level 2 for instruments that were held for the entire reporting period.

Assets and liabilities transferred from Level 2 to Level 1 during 2020 were not material. Assets and liabilities transferred from Level 1 to Level 2 during 2020 were also not material.

Note 21 Fair value measurement (continued)

f) 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, the inputs used in a given valuation technique that are considered significant as of 31 December 2020 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's estimates and assumptions, but rather the different underlying characteristics of the relevant assets and liabilities held by UBS. The ranges will therefore vary from period to period and parameter to parameter based on characteristics of the instruments held at each balance sheet date. Furthermore, the ranges of unobservable inputs may differ across other financial institutions, reflecting the diversity of the products in each firm's inventory.

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

	Fair value						Range of inputs						
	Assets		Liabilities				31.12.20			31.12.19			
USD billion	31.12.20	31.12.19	31.12.20	31.12.19	Valuation technique(s)	Significant unobservable input(s)[1]	low	high	weighted average[2]	low	high	weighted average[2]	unit[1]
Financial assets and liabilities at fair value held for trading and Financial assets at fair value not held for trading													
Corporate and municipal bonds	*1.2*	*0.5*	*0.0*	*0.0*	Relative value to market comparable	Bond price equivalent	1	143	100	0	143	101	points
					Discounted expected cash flows	Discount margin	268	268					basis points
Traded loans, loans measured at fair value, loan commitments and guarantees	*2.4*	*2.4*	*0.0*	*0.0*	Relative value to market comparable	Loan price equivalent	0	101	99	0	101	99	points
					Discounted expected cash flows	Credit spread	190	800		225	530		basis points
					Market comparable and securitization model	Credit spread	40	1,858	333	45	1,412	244	basis points
Auction rate securities[3]	*1.5*	*1.5*			Relative value to market comparable	Bond price equivalent				79	98	88	points
					Discounted expected cash flows	Credit spread	100	188	140				basis points
Investment fund units[4]	*0.1*	*0.1*	*0.0*	*0.0*	Relative value to market comparable	Net asset value							
Equity instruments[4]	*0.7*	*0.7*	*0.0*	*0.1*	Relative value to market comparable	Price							
Debt issued designated at fair value[5]			*9.6*	*9.6*									
Other financial liabilities designated at fair value			*2.1*	*1.0*	Discounted expected cash flows	Funding spread	42	175		44	175		basis points
Derivative financial instruments													
Interest rate contracts	*0.5*	*0.3*	*0.5*	*0.1*	Option model	Volatility of interest rates	29	69		15	63		basis points
Credit derivative contracts	*0.3*	*0.4*	*0.5*	*0.5*	Discounted expected cash flows	Credit spreads	1	489		1	700		basis points
						Bond price equivalent	0	100		0	100		points
Equity / index contracts	*0.9*	*0.6*	*2.3*	*1.3*	Option model	Equity dividend yields	0	13		0	14		%
						Volatility of equity stocks, equity and other indices	4	100		4	105		%
						Equity-to-FX correlation	(34)	65		(45)	71		%
						Equity-to-equity correlation	(16)	100		(17)	98		%

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 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 derivative contracts, as this would not be meaningful. 3 Bond price equivalent prior to the fourth quarter of 2020; discounted cash flow model thereafter. 4 The range of inputs is not disclosed as there is a dispersion of values given the diverse nature of the investments. 5 Debt issued designated at fair value is composed primarily of UBS 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 21 Fair value measurement (continued)

Significant unobservable inputs in Level 3 positions

This section discusses the significant unobservable inputs used in the valuation of Level 3 instruments and assesses the potential effect that a change in each unobservable input in isolation may have on a fair value measurement. Relationships between observable and unobservable inputs have not been included in the summary below.

Input	Description
Bond price equivalent	– Where market prices are not available for a bond, fair value is measured by comparison with observable pricing data from similar instruments. Factors considered when selecting comparable instruments include credit quality, maturity and industry of the issuer. Fair value may be measured either by a direct price comparison or by conversion of an instrument price into a yield (either as an outright yield or as a spread to LIBOR). – For corporate and municipal bonds, the range represents the range of prices from reference issuances used in determining fair value. Bonds priced at 0 are distressed to the point that no recovery is expected, while prices significantly in excess of 100 or par relate to inflation-linked or structured issuances that pay a coupon in excess of the market benchmark as of the measurement date. – For credit derivatives, the bond price range represents the range of prices used for reference instruments, which are typically converted to an equivalent yield or credit spread as part of the valuation process.
Loan price equivalent	– Where market prices are not available for a traded loan, fair value is measured by comparison with observable pricing data for similar instruments. Factors considered when selecting comparable instruments include industry segment, collateral quality, maturity and issuer-specific covenants. Fair value may be measured either by a direct price comparison or by conversion of an instrument price into a yield. The range represents the range of prices derived from reference issuances of a similar credit quality used to measure fair value for loans classified as Level 3. Loans priced at 0 are distressed to the point that no recovery is expected, while a current price of 100 represents a loan that is expected to be repaid in full.
Credit spread	– Valuation models for many credit derivatives require an input for the credit spread, which is a reflection of the credit quality of the associated referenced underlying. The credit spread of a particular security is quoted in relation to the yield on a benchmark security or reference rate, typically either US Treasury or LIBOR, and is generally expressed in terms of basis points. An increase / (decrease) in credit spread will increase / (decrease) the value of credit protection offered by credit default swaps and other credit derivative products. The income statement effect from such changes depends on the nature and direction of the positions held. Credit spreads may be negative where the asset is more creditworthy than the benchmark against which the spread is calculated. A wider credit spread represents decreasing creditworthiness. The range represents a diverse set of underlyings, with the lower end of the range representing credits of the highest quality (e.g., approximating the risk of LIBOR) and the upper end of the range representing greater levels of credit risk.
Discount margin	– The discount margin (DM) spread represents the discount rates applied to present value cash flows of an asset to reflect the market return required for uncertainty in the estimated cash flows. DM spreads are a rate or rates applied on top of a floating index (e.g., LIBOR) to discount expected cash flows. Generally, a decrease / (increase) in the DM in isolation would result in a higher / (lower) fair value. – The high end of the range relates to securities that are priced low within the market relative to the expected cash flow schedule. This indicates that the market is pricing an increased risk of credit loss into the security that is greater than what is being captured by the expected cash flow generation process. The low ends of the ranges are typical of funding rates on better-quality instruments.
Funding spread	– Structured financing transactions are valued using synthetic funding curves that best represent the assets that are pledged as collateral for the transactions. They are not representative of where UBS can fund itself on an unsecured basis, but provide an estimate of where UBS can source and deploy secured funding with counterparties for a given type of collateral. The funding spreads are expressed in terms of basis points over or under LIBOR, and if funding spreads widen, this increases the effect of discounting. – A small proportion of structured debt instruments and non-structured fixed-rate bonds within financial liabilities designated at fair value had an exposure to funding spreads that was longer in duration than the actively traded market.
Volatility	– Volatility measures the variability of future prices for a particular instrument and is generally expressed as a percentage, where a higher number reflects a more volatile instrument, for which future price movements are more likely to occur. Volatility is a key input into option models, where it is used to derive a probability-based distribution of future prices for the underlying instrument. The effect of volatility on individual positions within the portfolio is driven primarily by whether the option contract is a long or short position. In most cases, the fair value of an option increases as a result of an increase in volatility and is reduced by a decrease in volatility. Generally, volatility used in the measurement of fair value is derived from active-market option prices (referred to as implied volatility). A key feature of implied volatility is the volatility "smile" or "skew", which represents the effect of pricing options of different option strikes at different implied volatility levels. – Volatilities of low interest rates tend to be much higher than volatilities of high interest rates. In addition, different currencies may have significantly different implied volatilities.

Note 21 Fair value measurement (continued)

Input	Description
Correlation	– Correlation measures the interrelationship between the movements of two variables. It is expressed as a percentage between –100% and +100%, where +100% represents perfectly correlated variables (meaning a movement of one variable is associated with a movement of the other variable in the same direction) and –100% implies that the variables are inversely correlated (meaning a movement of one variable is associated with a movement of the other variable in the opposite direction). The effect of correlation on the measurement of fair value depends on the specific terms of the instruments being valued, reflecting the range of different payoff features within such instruments. – Equity-to-FX correlation is important for equity options based on a currency other than the currency of the underlying stock. Equity-to-equity correlation is particularly important for complex options that incorporate, in some manner, different equities in the projected payoff.
Equity dividend yields	– The derivation of a forward price for an individual stock or index is important for measuring fair value for forward or swap contracts and for measuring fair value using option pricing models. The relationship between the current stock price and the forward price is based on a combination of expected future dividend levels and payment timings, and, to a lesser extent, the relevant funding rates applicable to the stock in question. Dividend yields are generally expressed as an annualized percentage of the share price, with the lowest limit of 0% representing a stock that is not expected to pay any dividend. The dividend yield and timing represents the most significant parameter in determining fair value for instruments that are sensitive to an equity forward price.

g) 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 favorable and unfavorable alternative assumptions would change fair value significantly, and the estimated effect thereof. The table below does not represent the estimated effect of stress scenarios. Interdependencies between Level 1, 2 and 3 parameters have not been incorporated in the table. Furthermore, direct interrelationships between the Level 3 parameters discussed below are not a significant element of the valuation uncertainty.

Sensitivity data is estimated using a number of techniques, including the estimation of price dispersion among different market participants, variation in modeling approaches and reasonably possible changes to assumptions used within the fair value measurement process. The sensitivity ranges are not always symmetrical around the fair values, as the inputs used in valuations are not always precisely in the middle of the favorable and unfavorable range.

Sensitivity data is determined at a product or parameter level and then aggregated assuming no diversification benefit. Diversification would incorporate estimated correlations across different sensitivity results and, as such, would result in an overall sensitivity that would be less than the sum of the individual component sensitivities. However, UBS believes that the diversification benefit is not significant to this analysis.

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

	31.12.20		31.12.19	
USD million	Favorable changes	Unfavorable changes	Favorable changes	Unfavorable changes
Traded loans, loans designated at fair value, loan commitments and guarantees	29	(28)	46	(21)
Securities financing transactions	40	(52)	11	(11)
Auction rate securities	105	(105)	87	(87)
Asset-backed securities	41	(41)	35	(40)
Equity instruments	129	(96)	140	(80)
Interest rate derivative contracts, net	11	(16)	8	(17)
Credit derivative contracts, net[2]	10	(14)	31	(35)
Foreign exchange derivative contracts, net	20	(15)	12	(8)
Equity / index derivative contracts, net	318	(294)	183	(197)
Other	91	(107)	47	(51)
Total	794	(768)	600	(547)

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, resulting from a move to use issuer-specific proxy credit default swap curves rather than generic curves.

Note 21 Fair value measurement (continued)

h) Level 3 instruments: movements during the period

The table below presents additional information about material movements in Level 3 assets and liabilities measured at fair value on a recurring basis, excluding any related hedging activity.

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.

Movements of Level 3 instruments[1]

		Total gains / losses included in comprehensive income									
USD billion	**Balance as of 31 December 2018**	Net gains / losses included in income[2]	*of which: related to Level 3 instruments held at the end of the reporting period*	Purchases	Sales	Issuances	Settlements	Transfers into Level 3	Transfers out of Level 3	Foreign currency translation	**Balance as of 31 December 2019**
Financial assets at fair value held for trading	2.0	(0.1)	*0.0*	0.5	(1.3)	1.0	0.0	0.2	(0.4)	0.0	1.8
of which:											
Investment fund units	*0.4*	*0.0*	*0.0*	*0.0*	*(0.2)*	*0.0*	*0.0*	*0.0*	*(0.2)*	*0.0*	*0.0*
Corporate and municipal bonds	*0.7*	*0.0*	*0.0*	*0.3*	*(0.2)*	*0.0*	*0.0*	*0.0*	*(0.2)*	*0.0*	*0.5*
Loans	*0.7*	*(0.1)*	*0.0*	*0.0*	*(0.8)*	*1.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.8*
Other	*0.2*	*0.0*	*(0.1)*	*0.1*	*0.0*	*0.0*	*0.0*	*0.2*	*0.0*	*0.0*	*0.4*
Derivative financial instruments – assets	1.4	(0.1)	*0.0*	0.0	0.0	0.4	(0.2)	0.1	(0.3)	0.0	1.3
of which:											
Interest rate contracts	*0.4*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*(0.2)*	*0.0*	*0.3*
Equity / index contracts	*0.5*	*0.0*	*0.1*	*0.0*	*0.0*	*0.1*	*0.0*	*0.1*	*(0.1)*	*0.0*	*0.6*
Credit derivative contracts	*0.5*	*(0.1)*	*(0.1)*	*0.0*	*0.0*	*0.2*	*(0.1)*	*0.0*	*(0.1)*	*0.0*	*0.4*
Other	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
Financial assets at fair value not held for trading	4.4	0.0	*0.0*	1.2	(0.6)	0.0	0.0	0.1	(1.2)	0.0	4.0
of which:											
Loans	*1.8*	*0.0*	*0.0*	*0.7*	*(0.1)*	*0.0*	*0.0*	*0.1*	*(1.2)*	*0.0*	*1.2*
Auction rate securities	*1.7*	*0.0*	*0.0*	*0.0*	*(0.1)*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*1.5*
Equity instruments	*0.5*	*0.0*	*0.0*	*0.1*	*(0.2)*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.5*
Other	*0.5*	*0.0*	*0.0*	*0.5*	*(0.2)*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.7*
Derivative financial instruments – liabilities	2.2	0.1	*0.1*	0.0	0.0	0.2	(0.4)	0.2	(0.3)	0.0	2.0
of which:											
Interest rate contracts	*0.2*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*(0.1)*	*0.0*	*0.1*
Equity / index contracts	*1.4*	*0.3*	*0.2*	*0.0*	*0.0*	*0.0*	*(0.3)*	*0.1*	*(0.2)*	*0.0*	*1.3*
Credit derivative contracts	*0.5*	*(0.1)*	*(0.1)*	*0.0*	*0.0*	*0.2*	*0.0*	*0.0*	*(0.1)*	*0.0*	*0.5*
Other	*0.1*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.1*
Debt issued designated at fair value	11.0	0.8	*0.7*	0.0	0.0	5.6	(5.4)	0.7	(3.1)	0.0	9.6
Other financial liabilities designated at fair value	1.0	0.2	*0.1*	0.0	0.0	0.5	(0.7)	0.0	0.0	0.0	1.0

1 Effective 1 January 2020, UBS has enhanced its disclosure of Level 3 movements by excluding from the table the impacts of instruments purchased during the period and sold prior to the end of the period. Prior-period comparatives have been restated accordingly. 2 Net gains / losses included in comprehensive income are composed of Net interest income, Other net income from financial instruments measured at fair value through profit or loss and Other income. 3 Total Level 3 assets as of 31 December 2020 were USD 8.3 billion (31 December 2019: USD 7.2 billion). Total Level 3 liabilities as of 31 December 2020 were USD 15.2 billion (31 December 2019: USD 12.8 billion).

Note 21 Fair value measurement (continued)

	Total gains / losses included in comprehensive income									
Balance as of 31 December 2019[3]	Net gains / losses included in income[2]	*of which: related to Level 3 instruments held at the end of the reporting period*	Purchases	Sales	Issuances	Settlements	Transfers into Level 3	Transfers out of Level 3	Foreign currency translation	Balance as of 31 December 2020[3]
1.8	(0.1)	(0.1)	0.8	(1.4)	1.0	0.0	0.3	0.0	0.0	2.3
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.5	0.0	0.0	0.7	(0.5)	0.0	0.0	0.1	0.0	0.0	0.8
0.8	0.0	(0.1)	0.0	(0.7)	1.0	0.0	0.1	0.0	0.0	1.1
0.4	0.0	0.0	0.1	(0.3)	0.0	0.0	0.2	0.0	0.0	0.4
1.3	0.3	0.4	0.0	0.0	0.7	(0.5)	0.1	(0.2)	0.1	1.8
0.3	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5
0.6	0.1	0.1	0.0	0.0	0.6	(0.3)	0.0	(0.1)	0.0	0.9
0.4	0.0	0.0	0.0	0.0	0.1	(0.2)	0.1	0.0	0.0	0.3
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4.0	0.0	0.1	0.8	(0.9)	0.0	0.0	0.1	0.0	0.0	3.9
1.2	0.0	0.0	0.3	(0.7)	0.0	0.0	0.0	0.0	0.0	0.9
1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5
0.5	0.0	0.0	0.1	(0.1)	0.0	0.0	0.0	0.0	0.0	0.5
0.7	0.0	0.0	0.4	(0.2)	0.0	0.0	0.0	0.0	0.0	1.0
2.0	1.3	1.2	0.0	0.0	1.2	(0.9)	0.4	(0.6)	0.1	3.5
0.1	0.3	0.3	0.0	0.0	0.3	(0.2)	0.2	(0.2)	0.0	0.5
1.3	1.0	0.8	0.0	0.0	0.8	(0.6)	0.1	(0.2)	0.0	2.3
0.5	0.0	0.0	0.0	0.0	0.1	(0.1)	0.1	(0.2)	0.0	0.5
0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
9.6	0.0	(0.2)	0.0	0.0	6.6	(5.6)	0.5	(1.7)	0.2	9.6
1.0	0.2	0.2	0.0	0.0	1.4	(0.6)	0.0	0.0	0.0	2.1

Note 21 Fair value measurement (continued)

i) Maximum exposure to credit risk for financial instruments measured at fair value

The tables below provide UBS AG's maximum exposure to credit risk for financial instruments measured at fair value and the respective collateral and other credit enhancements mitigating credit risk for these classes of financial instruments.

The maximum exposure to credit risk includes the carrying amounts of financial instruments recognized on the balance sheet subject to credit risk and the notional amounts for off-balance sheet arrangements. Where information is available, collateral is presented at fair value. For other collateral, such as real estate, a reasonable alternative value is used. Credit enhancements, such as credit derivative contracts and guarantees, are included at their notional amounts. Both are capped at the maximum exposure to credit risk for which they serve as security. The "Risk management and control" section of this report describes management's view of credit risk and the related exposures, which can differ in certain respects from the requirements of IFRS.

Maximum exposure to credit risk

	31.12.20								
		Collateral				Credit enhancements			Exposure to credit risk after collateral and credit enhancements
USD billion	Maximum exposure to credit risk	Cash collateral received	Collateral-ized by securities	Secured by real estate	Other collateral	Netting	Credit derivative contracts	Guarantees	
Financial assets measured at fair value on the balance sheet									
Financial assets at fair value held for trading – debt instruments[1,2]	24.7								24.7
Derivative financial instruments[3,4]	159.6		6.0			138.4			15.2
Brokerage receivables	24.7		24.4						0.3
Financial assets at fair value not held for trading – debt instruments[5]	58.2		13.2						45.0
Total financial assets measured at fair value	267.2	0.0	43.6	0.0	0.0	138.4	0.0	0.0	85.2
Guarantees[6]	0.5				0.1			0.3	0.0

	31.12.19								
		Collateral				Credit enhancements			Exposure to credit risk after collateral and credit enhancements
USD billion	Maximum exposure to credit risk	Cash collateral received	Collateral-ized by securities	Secured by real estate	Other collateral	Netting	Credit derivative contracts	Guarantees	
Financial assets measured at fair value on the balance sheet									
Financial assets at fair value held for trading – debt instruments[1,2]	22.0								22.0
Derivative financial instruments[3,4]	121.8		3.3			107.4			11.1
Brokerage receivables	18.0	0.0	17.8						0.2
Financial assets at fair value not held for trading – debt instruments[5]	55.0	0.1	16.3		0.1				38.6
Total financial assets measured at fair value	**216.8**	**0.1**	**37.4**	**0.0**	**0.1**	**107.4**	**0.0**	**0.0**	**71.9**
Guarantees[6]	1.0							0.3	0.7

1 These positions are generally managed under the market risk framework. For the purpose of this disclosure, collateral and credit enhancements were not considered. 2 Does not include investment fund units. 3 Includes USD 0 million (31 December 2019: USD 0 million) fair values of loan commitments and forward starting reverse repurchase agreements classified as derivatives. The full contractual committed amount of forward starting reverse repurchase agreements (generally highly collateralized) of USD 21.9 billion (31 December 2019: USD 20.3 billion) and derivative loan commitments (generally unsecured) of USD 9.4 billion, of which USD 0.8 billion has been sub-participated (31 December 2019: USD 6.3 billion, of which USD 0.8 billion had been sub-participated) is presented in Note 10 under notional amounts. 4 The amount shown in the "Netting" column represents the netting potential not recognized on the balance sheet. Refer to Note 22 for more information. 5 Financial assets at fair value not held for trading collateralized by securities consisted of structured loans and reverse repurchase and securities borrowing agreements. 6 The amount shown in the "Guarantees" column largely relates to sub-participations.

Note 21 Fair value measurement (continued)

j) Financial instruments not measured at fair value

The table below provides the estimated fair values of financial instruments not measured at fair value.

Financial instruments not measured at fair value

	31.12.20						31.12.19					
	Carrying amount	Fair value					Carrying amount	Fair value				
USD billion	Total	Carrying amount approximates fair value[1]	Level 1	Level 2	Level 3	Total	Total	Carrying amount approximates fair value[1]	Level 1	Level 2	Level 3	Total
Assets[2]												
Cash and balances at central banks	158.2	158.1	0.1	0.0	0.0	158.2	107.1	107.0	0.1	0.0	0.0	107.1
Loans and advances to banks	15.3	14.6	0.0	0.6	0.1	15.3	12.4	11.7	0.0	0.5	0.2	12.4
Receivables from securities financing transactions	74.2	64.9	0.0	7.6	1.7	74.2	84.2	74.0	0.0	8.6	1.6	84.2
Cash collateral receivables on derivative instruments	32.7	32.7	0.0	0.0	0.0	32.7	23.3	23.3	0.0	0.0	0.0	23.3
Loans and advances to customers	381.0	173.1	0.0	34.2	174.9	382.3	328.0	152.5	0.0	25.7	152.2	330.3
Other financial assets measured at amortized cost	27.2	5.4	9.4	10.9	2.3	28.0	23.0	5.8	8.4	6.4	2.8	23.3
Liabilities												
Amounts due to banks	11.0	8.5	0.0	2.6	0.0	11.1	6.6	5.6	0.0	0.9	0.0	6.6
Payables from securities financing transactions	6.3	6.0	0.0	0.2	0.0	6.3	7.8	7.5	0.0	0.3	0.0	7.8
Cash collateral payables on derivative instruments	37.3	37.3	0.0	0.0	0.0	37.3	31.4	31.4	0.0	0.0	0.0	31.4
Customer deposits	527.9	521.8	0.0	6.2	0.0	528.0	450.6	440.5	0.0	10.2	0.0	450.7
Funding from UBS Group AG and its subsidiaries	54.0	0.0	0.0	55.6	0.0	55.6	47.9	0.0	0.0	49.6	0.0	49.6
Debt issued measured at amortized cost	85.4	16.4	0.0	70.0	0.0	86.3	62.8	8.7	0.0	55.5	0.0	64.3
Other financial liabilities measured at amortized cost[3]	6.6	6.6	0.0	0.0	0.1	6.7	6.5	6.5	0.0	0.0	0.0	6.5

1 Includes certain financial instruments where the carrying amount is a reasonable approximation of the fair value due to the instruments' short-term nature (instruments that are receivable or payable on demand, or with a remaining maturity (excluding the effects of callable features) of three months or less). 2 As of 31 December 2020, USD 0 billion of Loans and advances to banks, USD 1 billion of Receivables from securities financing transactions, USD 163 billion of Loans and advances to customers and USD 20 billion of Other financial assets measured at amortized cost were expected to be recovered or settled after 12 months. As of 31 December 2019, USD 0 billion of Loans and advances to banks, USD 1 billion of Receivables from securities financing transactions, USD 140 billion of Loans and advances to customers and USD 16 billion of Other financial assets measured at amortized cost were expected to be recovered or settled after 12 months. 3 Excludes lease liabilities.

The fair values included in the table above have been calculated for disclosure purposes only. The valuation techniques and assumptions described below relate only to the fair value of UBS's financial instruments not measured at fair value. Other institutions may use different methods and assumptions for their fair value estimations, and therefore such fair value disclosures cannot necessarily be compared from one financial institution to another. The following principles were applied when determining fair value estimates for financial instruments not measured at fair value:

– For financial instruments with remaining maturities greater than three months, the fair value was determined from quoted market prices, if available.
– Where quoted market prices were not available, the fair values were estimated by discounting contractual cash flows using current market interest rates or appropriate yield curves for instruments with similar credit risk and maturity. These estimates generally include adjustments for counterparty credit risk or UBS's own credit.
– For short-term financial instruments with remaining maturities of three months or less, the carrying amount, which is net of credit loss allowances, is generally considered a reasonable estimate of fair value.

Note 22 Offsetting financial assets and financial liabilities

UBS AG enters into netting agreements with counterparties to manage the credit risks associated primarily with repurchase and reverse repurchase transactions, securities borrowing and lending, over-the-counter derivatives and exchange-traded derivatives. These netting agreements and similar arrangements generally enable the counterparties to set off liabilities against available assets received in the ordinary course of business and / or in the event that the counterparties to the transaction are unable to fulfill their contractual obligations. The right of setoff is a legal right to settle or otherwise eliminate all or a portion of an amount due by applying an amount receivable from the same counterparty against it, thus reducing credit exposure.

The table below provides a summary of financial assets subject to offsetting, enforceable master netting arrangements and similar agreements, as well as financial collateral received to mitigate credit exposures for these financial assets. The gross financial assets of UBS AG that are subject to offsetting, enforceable netting arrangements and similar agreements are reconciled to the net amounts presented within the associated balance sheet line, after giving effect to financial liabilities with the same counterparties that have been offset on the balance sheet and other financial assets not subject to an enforceable netting arrangement or similar agreement, as well as other out-of-scope items. Furthermore, related amounts for financial liabilities and collateral received that are not offset on the balance sheet are shown so as to arrive at financial assets after consideration of netting potential.

UBS AG engages in a variety of counterparty credit risk mitigation strategies in addition to netting and collateral arrangements. Therefore, the net amounts presented in the tables on this and on the next page do not purport to represent their actual credit risk exposure.

Financial assets subject to offsetting, enforceable master netting arrangements and similar agreements

	Assets subject to netting arrangements								
	Netting recognized on the balance sheet			Netting potential not recognized on the balance sheet[3]			Assets not subject to netting arrangements[4]	Total assets	
As of 31.12.20, USD billion	Gross assets before netting	Netting with gross liabilities[2]	Net assets recognized on the balance sheet	Financial liabilities	Collateral received	Assets after consideration of netting potential	Assets recognized on the balance sheet	Total assets after consideration of netting potential	Total assets recognized on the balance sheet
Receivables from securities financing transactions	70.3	(13.4)	57.0	(1.7)	(55.3)	0.0	17.3	17.3	74.2
Derivative financial instruments	156.9	(5.0)	151.9	(117.2)	(27.2)	7.5	7.7	15.2	159.6
Cash collateral receivables on derivative instruments[1]	31.9	0.0	31.9	(19.6)	(1.5)	10.8	0.8	11.6	32.7
Financial assets at fair value not held for trading	85.6	(79.1)	6.5	(0.8)	(5.8)	0.0	73.5	73.5	80.0
of which: reverse repurchase agreements	*85.6*	*(79.1)*	*6.5*	*(0.8)*	*(5.8)*	*0.0*	*0.2*	*0.2*	*6.7*
Total assets	344.8	(97.5)	247.3	(139.3)	(89.8)	18.3	99.3	117.6	346.6
As of 31.12.19, USD billion									
Receivables from securities financing transactions	83.2	(14.0)	69.2	(1.2)	(68.0)	0.0	15.0	15.0	84.2
Derivative financial instruments	120.2	(3.4)	116.8	(89.3)	(21.4)	6.1	5.0	11.1	121.8
Cash collateral receivables on derivative instruments[1]	26.4	(4.0)	22.4	(13.3)	(1.1)	8.0	0.9	8.9	23.3
Financial assets at fair value not held for trading	83.1	(77.5)	5.6	0.0	(5.6)	0.0	78.0	78.0	83.6
of which: reverse repurchase agreements	*83.0*	*(77.5)*	*5.4*	*0.0*	*(5.4)*	*0.0*	*0.9*	*0.9*	*6.3*
Total assets	**313.0**	**(98.9)**	**214.0**	**(103.8)**	**(96.1)**	**14.1**	**99.0**	**113.1**	**313.0**

1 The net amount of Cash collateral receivables on derivative instruments recognized on the balance sheet includes certain OTC derivatives that are net settled on a daily basis either legally or in substance under IAS 32 principles and exchange-traded derivatives that are economically settled on a daily basis. 2 The logic of the table results in amounts presented in the "Netting with gross liabilities" column corresponding directly to the amounts presented in the "Netting with gross assets" column in the liabilities table presented on the following page. Netting in this column for reverse repurchase agreements presented within the lines "Receivables from securities financing transactions" and "Financial assets at fair value not held for trading" taken together corresponds to the amounts presented for repurchase agreements in the "Payables from securities financing transactions" and "Other financial liabilities designated at fair value" lines in the liabilities table presented on the following page. 3 For the purpose of this disclosure, the amounts of financial instruments and cash collateral presented have been capped so as not to exceed the net amount of financial assets presented on the balance sheet; i.e., over-collateralization, where it exists, is not reflected in the table. 4 Includes assets not subject to enforceable netting arrangements and other out-of-scope items.

Note 22 Offsetting financial assets and financial liabilities (continued)

The table below provides a summary of financial liabilities subject to offsetting, enforceable master netting arrangements and similar agreements, as well as financial collateral pledged to mitigate credit exposures for these financial liabilities. The gross financial liabilities of UBS AG that are subject to offsetting, enforceable netting arrangements and similar agreements are reconciled to the net amounts presented within the associated balance sheet line, after giving effect to financial assets with the same counterparties that have been offset on the balance sheet and other financial liabilities not subject to an enforceable netting arrangement or similar agreement. Furthermore, related amounts for financial assets and collateral pledged that are not offset on the balance sheet are shown so as to arrive at financial liabilities after consideration of netting potential.

Financial liabilities subject to offsetting, enforceable master netting arrangements and similar agreements

	Liabilities subject to netting arrangements						Liabilities not subject to netting arrangements[4]	Total liabilities	
	Netting recognized on the balance sheet			Netting potential not recognized on the balance sheet[3]					
As of 31.12.20, USD billion	Gross liabilities before netting	Netting with gross assets[2]	Net liabilities recognized on the balance sheet	Financial assets	Collateral pledged	Liabilities after consideration of netting potential	Liabilities recognized on the balance sheet	Total liabilities after consideration of netting potential	Total liabilities recognized on the balance sheet
Payables from securities financing transactions	18.2	(13.3)	4.9	(1.6)	(3.3)	0.0	1.4	1.4	6.3
Derivative financial instruments	157.1	(5.0)	152.1	(117.2)	(23.9)	10.9	9.0	19.9	161.1
Cash collateral payables on derivative instruments[1]	35.6	0.0	35.6	(19.6)	(2.1)	13.9	1.7	15.7	37.3
Other financial liabilities designated at fair value	87.0	(79.2)	7.8	(0.8)	(6.3)	0.7	24.0	24.7	31.8
of which: repurchase agreements	*86.2*	*(79.2)*	*7.0*	*(0.8)*	*(6.3)*	*0.0*	*0.3*	*0.3*	*7.3*
Total liabilities	297.8	(97.5)	200.3	(139.2)	(35.5)	25.6	36.2	61.7	236.5
As of 31.12.19, USD billion									
Payables from securities financing transactions	19.8	(14.0)	5.8	(0.8)	(5.0)	0.0	2.0	2.0	7.8
Derivative financial instruments	118.1	(3.4)	114.8	(89.3)	(16.8)	8.6	6.1	14.8	120.9
Cash collateral payables on derivative instruments[1]	34.2	(4.0)	30.1	(16.5)	(1.7)	12.0	1.3	13.3	31.4
Other financial liabilities designated at fair value	83.5	(77.6)	5.9	(0.4)	(5.6)	0.0	30.2	30.2	36.2
of which: repurchase agreements	*83.1*	*(77.6)*	*5.5*	*(0.4)*	*(5.2)*	*0.0*	*0.2*	*0.2*	*5.7*
Total liabilities	**255.6**	**(98.9)**	**156.6**	**(107.0)**	**(29.0)**	**20.6**	**39.6**	**60.2**	**196.2**

1 The net amount of Cash collateral payables on derivative instruments recognized on the balance sheet includes certain OTC derivatives that are net settled on a daily basis either legally or in substance under IAS 32 principles and exchange-traded derivatives that are economically settled on a daily basis. 2 The logic of the table results in amounts presented in the "Netting with gross assets" column corresponding to the amounts presented in the "Netting with gross liabilities" column in the assets table presented on the previous page. Netting in this column for repurchase agreements presented within the lines "Payables from securities financing transactions" and "Other financial liabilities designated at fair value" taken together corresponds to the amounts presented for reverse repurchase agreements in the "Receivables from securities financing transactions" and "Financial assets at fair value not held for trading" lines in the assets table presented on the previous page. 3 For the purpose of this disclosure, the amounts of financial instruments and cash collateral presented have been capped so as not to exceed the net amount of financial liabilities presented on the balance sheet; i.e., over-collateralization, where it exists, is not reflected in the table. 4 Includes liabilities not subject to enforceable netting arrangements and other out-of-scope items.

Note 23 Restricted and transferred financial assets

This Note provides information about restricted financial assets (Note 23a), transfers of financial assets (Note 23b and 23c) and financial assets that are received as collateral with the right to resell or repledge these assets (Note 23d).

a) Restricted financial assets

Restricted financial assets consist of assets pledged as collateral against an existing liability or contingent liability and other assets that are otherwise explicitly restricted such that they cannot be used to secure funding.

Financial assets are mainly pledged as collateral in securities lending transactions, in repurchase transactions, against loans from Swiss mortgage institutions and in connection with the issuance of covered bonds. UBS AG generally enters into repurchase and securities lending arrangements under standard market agreements. For securities lending, the cash received as collateral may be more or less than the fair value of the securities loaned, depending on the nature of the transaction. For repurchase agreements, the fair value of the collateral sold under an agreement to repurchase is generally in excess of the cash borrowed. Pledged mortgage loans serve as collateral for existing liabilities against Swiss central mortgage institutions and for existing covered bond issuances of USD 12,456 million as of 31 December 2020 (31 December 2019: USD 11,206 million).

Other restricted financial assets include assets protected under client asset segregation rules, assets held by UBS AG's insurance entities to back related liabilities to the policy holders, assets held in certain jurisdictions to comply with explicit minimum local asset maintenance requirements and assets held in consolidated bankruptcy remote entities, such as certain investment funds and other structured entities. The carrying amount of the liabilities associated with these other restricted financial assets is generally equal to the carrying amount of the assets, with the exception of assets held to comply with local asset maintenance requirements, for which the associated liabilities are greater.

Restricted financial assets

USD million	31.12.20	31.12.19
Financial assets pledged as collateral		
Financial assets at fair value held for trading	64,418	56,548
of which: assets pledged as collateral that may be sold or repledged by counterparties	*47,098*	*41,285*
Loans and advances to customers	20,361	18,399
of which: mortgage loans[1]	*18,191*	*18,399*
Financial assets at fair value not held for trading	2,140	188
of which: assets pledged as collateral that may be sold or repledged by counterparties	*2,140*	*188*
Debt securities classified as Other financial assets measured at amortized cost	2,506	1,212
of which: assets pledged as collateral that may be sold or repledged by counterparties	*2,506*	*1,212*
Financial assets measured at fair value through other comprehensive income	149	0
of which: assets pledged as collateral that may be sold or repledged by counterparties	*149*	*0*
Total financial assets pledged as collateral[2]	89,574	76,347
Other restricted financial assets		
Loans and advances to banks	3,730	2,353
Financial assets at fair value held for trading	741	242
Cash collateral receivables on derivative instruments	3,765	2,986
Loans and advances to customers	756	620
Financial assets at fair value not held for trading	22,917	29,368
Financial assets measured at fair value through other comprehensive income	0	176
Other	110	382
Total other restricted financial assets	32,019	36,126
Total financial assets pledged and other restricted financial assets	121,593	112,474

1 All related to mortgage loans that serve as collateral for existing liabilities toward Swiss central mortgage institutions and for existing covered bond issuances. Of these pledged mortgage loans, approximately USD 2.7 billion for 31 December 2020 (31 December 2019: approximately USD 6.3 billion) could be withdrawn or used for future liabilities or covered bond issuances without breaching existing collateral requirements. 2 Does not include assets placed with central banks related to undrawn credit lines and for payment, clearing and settlement purposes (31 December 2020: USD 1.3 billion; 31 December 2019: USD 0.6 billion).

Note 23 Restricted and transferred financial assets (continued)

In addition to restrictions on financial assets, UBS AG and its subsidiaries are, in certain cases, subject to regulatory requirements that affect the transfer of dividends and capital within UBS AG, as well as intercompany lending. Supervisory authorities also may require entities to measure capital and leverage ratios on a stressed basis, such as the Federal Reserve Board's Comprehensive Capital Analysis and Review (CCAR) process, which may limit the relevant subsidiaries' ability to make distributions of capital based on the results of those tests.

Supervisory authorities generally have discretion to impose higher requirements or to otherwise limit the activities of subsidiaries.

Non-regulated subsidiaries are generally not subject to such requirements and transfer restrictions. However, restrictions can also be the result of different legal, regulatory, contractual, entity- or country-specific arrangements and / or requirements.

› **Refer to the "Financial and regulatory key figures for our significant regulated subsidiaries and sub-groups" section of this report for financial information about significant regulated subsidiaries of UBS AG**

b) Transferred financial assets that are not derecognized in their entirety

The table below presents information for financial assets that have been transferred but are subject to continued recognition in full, as well as recognized liabilities associated with those transferred assets.

Transferred financial assets subject to continued recognition in full

USD million	31.12.20		31.12.19	
	Carrying amount of transferred assets	Carrying amount of associated liabilities recognized on balance sheet	Carrying amount of transferred assets	Carrying amount of associated liabilities recognized on balance sheet
Financial assets at fair value held for trading that may be sold or repledged by counterparties	47,098	18,874	41,285	16,671
relating to securities lending and repurchase agreements in exchange for cash received	*19,177*	*18,874*	*16,945*	*16,671*
relating to securities lending agreements in exchange for securities received	*27,595*	*0*	*24,082*	*0*
relating to other financial asset transfers	*326*	*0*	*258*	*0*
Financial assets at fair value not held for trading that may be sold or repledged by counterparties	2,140	1,378	188	187
Debt securities classified as Other financial assets measured at amortized cost that may be sold or repledged by counterparties[1]	2,506	1,963	1,212	690
Financial assets measured at fair value through other comprehensive income that may be sold or repledged by counterparties	149	148	0	0
Total financial assets transferred[1]	51,893	22,363	42,685	17,548

1 Comparative information has been amended to include Debt securities classified as Other financial assets measured at amortized cost that may be sold or repledged by counterparties.

Transactions in which financial assets are transferred, but continue to be recognized in their entirety on UBS AG's balance sheet include securities lending and repurchase agreements, as well as other financial asset transfers. Repurchase and securities lending arrangements are, for the most part, conducted under standard market agreements and are undertaken with counterparties subject to UBS AG's normal credit risk control processes.

› **Refer to Note 1a item 2e for more information about repurchase and securities lending agreements**

As of 31 December 2020, approximately 40% of the transferred financial assets were assets held for trading transferred in exchange for cash, in which case the associated recognized liability represents the amount to be repaid to counterparties. For securities lending and repurchase agreements, a haircut between 0% and 15% is generally applied to the transferred assets, which results in associated liabilities having a carrying amount below the carrying amount of the transferred assets. The counterparties to the associated liabilities presented in the table above have full recourse to UBS AG.

In securities lending arrangements entered into in exchange for the receipt of other securities as collateral, neither the securities received nor the obligation to return them are recognized on UBS AG's balance sheet, as the risks and rewards of ownership are not transferred to UBS AG. In cases where such financial assets received are subsequently sold or repledged in another transaction, this is not considered to be a transfer of financial assets.

Other financial asset transfers primarily include securities transferred to collateralize derivative transactions, for which the carrying amount of associated liabilities is not provided in the table above, because those replacement values are managed on a portfolio basis across counterparties and product types, and therefore there is no direct relationship between the specific collateral pledged and the associated liability.

Transferred financial assets that are not subject to derecognition in full but remain on the balance sheet to the extent of UBS AG's continuing involvement were not material as of 31 December 2020 and as of 31 December 2019.

Note 23 Restricted and transferred financial assets (continued)

c) Transferred financial assets that are derecognized in their entirety with continuing involvement

Continuing involvement in a transferred and fully derecognized financial asset may result from contractual provisions in the transfer agreement or from a separate agreement with the counterparty or a third party entered into in connection with the transfer.

The fair value and carrying amount of UBS AG's continuing involvement from transferred positions as of 31 December 2020 and 31 December 2019 was not material. Life-to-date losses reported in prior periods primarily relate to legacy positions in securitization vehicles which have been fully marked down, with no remaining exposure to loss.

d) Off-balance sheet assets received

The table below presents assets received from third parties that can be sold or repledged and that are not recognized on the balance sheet, but that are held as collateral, including amounts that have been sold or repledged.

Off-balance sheet assets received

USD million	31.12.20	31.12.19
Fair value of assets received that can be sold or repledged	500,689	475,726
received as collateral under reverse repurchase, securities borrowing and lending arrangements, derivative and other transactions[1]	*487,904*	*466,045*
received in unsecured borrowings	*12,785*	*9,681*
Thereof sold or repledged[2]	367,258	351,327
in connection with financing activities	*315,603*	*306,212*
to satisfy commitments under short sale transactions	*33,595*	*30,591*
in connection with derivative and other transactions[1]	*18,059*	*14,524*

1 Includes securities received as initial margin from its clients that UBS AG is required to remit to central counterparties, brokers and deposit banks through its exchange-traded derivative clearing and execution services. 2 Does not include off-balance sheet securities (31 December 2020: USD 18.9 billion; 31 December 2019: USD 19.6 billion) placed with central banks related to undrawn credit lines and for payment, clearing and settlement purposes for which there are no associated liabilities or contingent liabilities.

Note 24 Maturity analysis of financial liabilities

The contractual maturities for non-derivative and non-trading financial liabilities as of 31 December 2020 are based on the earliest date on which UBS AG could be contractually required to pay. The total amounts that contractually mature in each time band are also shown for 31 December 2019. Derivative positions and trading liabilities, predominantly made up of short sale transactions, are assigned to the column *Due within 1 month,* as this provides a conservative reflection of the nature of these trading activities. The contractual maturities may extend over significantly longer periods.

Maturity analysis of financial liabilities

	31.12.20					
USD billion	Due within 1 month	Due between 1 and 3 months	Due between 3 and 12 months	Due between 1 and 5 years	Due after 5 years	Total
Financial liabilities recognized on balance sheet[1]						
Amounts due to banks	6.1	2.4	2.1	0.5	0.0	11.1
Payables from securities financing transactions	5.6	0.4	0.3	0.0	0.0	6.3
Cash collateral payables on derivative instruments	37.3					37.3
Customer deposits	514.0	7.8	3.5	2.8	0.2	528.2
Funding from UBS Group AG and its subsidiaries[2]	0.1	0.3	6.2	29.1	24.8	60.5
Debt issued measured at amortized cost[2]	8.8	7.8	38.2	24.5	8.9	88.2
Other financial liabilities measured at amortized cost	5.3	0.1	0.5	2.0	1.8	9.6
of which: lease liabilities	*0.1*	*0.1*	*0.5*	*2.0*	*1.8*	*4.4*
Total financial liabilities measured at amortized cost	577.2	18.9	50.7	58.8	35.8	741.3
Financial liabilities at fair value held for trading[3,4]	33.6					33.6
Derivative financial instruments[3,5]	161.1					161.1
Brokerage payables designated at fair value	38.7					38.7
Debt issued designated at fair value[6]	21.9	16.8	7.1	9.2	6.0	61.0
Other financial liabilities designated at fair value	27.9	0.6	0.6	0.7	4.6	34.3
Total financial liabilities measured at fair value through profit or loss	283.2	17.4	7.7	9.8	10.6	328.8
Total	860.3	36.3	58.4	68.6	46.4	1,070.0
Guarantees, commitments and forward starting transactions						
Loan commitments[7]	40.5	0.5	0.4	0.0		41.4
Guarantees	17.5					17.5
Forward starting transactions, reverse repurchase and securities borrowing agreements[7]	3.2					3.2
Total	61.3	0.5	0.4	0.0	0.0	62.2

Note 24 Maturity analysis of financial liabilities (continued)

	31.12.19					
USD billion	Due within 1 month	Due between 1 and 3 months	Due between 3 and 12 months	Due between 1 and 5 years	Due after 5 years	Total
Financial liabilities recognized on balance sheet[1]						
Amounts due to banks	5.4	0.3	0.4	0.5	0.0	6.6
Payables from securities financing transactions	7.4	0.1	0.3		0.0	7.8
Cash collateral payables on derivative instruments	31.4					31.4
Customer deposits	423.9	16.5	7.3	3.5	0.0	451.2
Funding from UBS Group AG and its subsidiaries[2]	0.0	0.2	2.3	29.0	24.6	56.2
Debt issued measured at amortized cost[2]	4.3	4.7	27.8	20.7	9.0	66.5
Other financial liabilities measured at amortized cost	5.2	0.1	0.5	1.9	2.0	9.6
of which: lease liabilities	*0.1*	*0.1*	*0.5*	*1.9*	*2.0*	*4.5*
Total financial liabilities measured at amortized cost	477.6	22.0	38.5	55.6	35.6	629.3
Financial liabilities at fair value held for trading[3,4]	30.6					30.6
Derivative financial instruments[3,5]	120.9					120.9
Brokerage payables designated at fair value	37.2					37.2
Debt issued designated at fair value[6]	21.3	17.4	9.5	12.7	7.1	68.0
Other financial liabilities designated at fair value	34.0	0.4	0.5	0.4	0.9	36.1
Total financial liabilities measured at fair value through profit or loss	244.0	17.8	9.9	13.1	8.0	292.9
Total	**721.6**	**39.9**	**48.4**	**68.7**	**43.6**	**922.2**
Guarantees, commitments and forward starting transactions						
Loan commitments[7]	26.8	0.5	0.3	0.0		27.5
Guarantees	19.1					19.1
Forward starting transactions, reverse repurchase and securities borrowing agreements[7]	1.6		0.0			1.7
Total	**47.5**	**0.5**	**0.3**	**0.0**	**0.0**	**48.3**

1 Except for financial liabilities at fair value held for trading and derivative financial instruments (see footnote 3), the amounts presented generally represent undiscounted cash flows of future interest and principal payments. 2 The time-bucket Due after 5 years includes perpetual loss-absorbing additional tier 1 capital instruments. 3 Carrying amount is fair value. Management believes that this best represents the cash flows that would have to be paid if these positions had to be settled or closed out. 4 Contractual maturities of financial liabilities at fair value held for trading are: USD 32.6 billion due within 1 month (2019: USD 30 billion), USD 1.0 billion due between 1 month and 1 year (2019: USD 0.6 billion) and USD 0 billion due between 1 and 5 years (2019: USD 0 billion). 5 Includes USD 32 million (2019: 0 million) related to fair values of derivative loan commitments and forward starting reverse repurchase agreements classified as derivatives, presented within "Due within 1 month." The full contractual committed amount of USD 31.3 billion (2019: USD 26.6 billion) is presented in Note 10 under notional amounts. 6 Future interest payments on variable-rate liabilities are determined by reference to the applicable interest rate prevailing as of the reporting date. Future principal payments that are variable are determined by reference to the conditions existing at the reporting date. 7 Excludes derivative loan commitments and forward starting reverse repurchase agreements measured at fair value. The committed amounts of these instruments were previously presented in the former Note 34 (refer to the "Consolidated financial statements" section of the Annual Report 2019 for more information). Starting with this report, they are presented in Note 10 under notional amounts and prior-period information in this table has been amended to ensure comparability.

Derivatives designated in hedge accounting relationships

UBS AG applies hedge accounting to interest rate risk and foreign exchange risk including structural foreign exchange risk related to net investments in foreign operations.

› **Refer to "Market risk" in the "Risk management and control" section of this report for more information about how risks arise and how they are managed by the UBS AG**

Hedging instruments and hedged risk

Interest rate swaps are designated in fair value hedges or cash flow hedges of interest rate risk arising solely from changes in benchmark interest rates. Fair value changes arising from such risk are usually the largest component of the overall change in the fair value of the hedged position in transaction currency.

Cross-currency swaps are designated as fair value hedges of foreign exchange risk. FX forwards and FX swaps are mainly designated as hedges of structural foreign exchange risk related to net investments in foreign operations. In both cases the hedged risk arises solely from changes in spot foreign exchange rate.

The notional of the designated hedging instruments matches the notional of the hedged items, except when the interest rate swaps are re-designated in cash flow hedges, in which case the hedge ratio designated is determined based on the swap sensitivity.

Hedged items and hedge designation

Fair value hedges of interest rate risk related to debt instruments

Fair value hedges of interest rate risk related to debt instruments involve swapping fixed cash flows associated with the debt issued or debt securities held to floating cash flows by entering into interest rate swaps that receive fixed and pay floating cash flows or that pay fixed and receive floating cash flows, respectively. The variable future cash flows are based on the following benchmark rates: USD LIBOR, CHF LIBOR, EURIBOR, GBP LIBOR, AUD LIBOR, JPY LIBOR and SGD LIBOR.

Fair value hedges of portfolio interest rate risk related to loans designated under IAS 39

UBS AG hedges an open portfolio of long-term fixed-rate mortgage loans in CHF using interest rate swaps that pay a fixed rate of interest and receive a floating rate of interest. Both the hedged portfolio and the hedging instruments are adjusted on a monthly basis to reflect changes in size and the maturity profile of the hedged portfolio. The existing hedge relationship is discontinued and a new one is designated. Changes in the portfolio are driven by new loans originated or existing loans repaid.

Cash flow hedges of forecast transactions

UBS AG hedges forecast cash flows on non-trading financial assets and liabilities that bear interest at variable rates or are expected to be refinanced or reinvested in the future, due to movements in future market rates. The amounts and timing of future cash flows, representing both principal and interest flows, are projected on the basis of contractual terms and other relevant factors, including estimates of prepayments and defaults. The aggregate principal balances and interest cash flows across all portfolios over time form the basis for identifying the non-trading interest rate risk of UBS AG, which is hedged with interest rate swaps, the maximum maturity of which is 10 years. Cash flow forecasts and risk exposures are monitored and adjusted on an ongoing basis, and consequently additional hedging instruments are traded and designated, or are alternatively terminated resulting in a hedge discontinuance.

Fair value hedges of foreign exchange risk related to debt instruments

Debt instruments denominated in currencies other than the US dollar are designated in fair value hedges of spot foreign exchange risk, in addition to and separate from the fair value hedges of interest rate risk. Cross currency swaps economically convert debt denominated in currencies other than the US dollar to US dollars. This hedge accounting program started on 1 January 2020, with the adoption of the hedge accounting requirements of IFRS 9, *Financial Instruments,* by UBS.

› **Refer to Note 1b for more information**

Hedges of net investments in foreign operations

UBS AG applies hedge accounting for certain net investments in foreign operations, which include subsidiaries, branches and associates. Upon maturity of hedging instruments, typically two months, the hedge relationship is terminated and new designations are made to reflect any changes in the net investments in foreign operations.

Note 25 Hedge accounting (continued)

Economic relationship between hedged item and hedging instrument

For hedges designated under IFRS 9, the economic relationship between the hedged item and the hedging instrument is determined based on a qualitative analysis of their critical terms. In cases where hedge designation takes place after origination of the hedging instrument, a quantitative analysis of the possible behavior of hedging derivative and the hedged item during their respective terms is also performed.

For the fair value hedge of portfolio interest rate risk related to loans, designated under IAS 39, hedge effectiveness is assessed by comparing changes in the fair value of the hedged portfolio of loans attributable to changes in the designated benchmark interest rate with the changes in the fair value of the interest rate swaps.

Sources of hedge ineffectiveness

In hedges of interest rate risk, hedge ineffectiveness can arise from mismatches of critical terms and / or the use of different curves to discount the hedged item and instrument, or from entering into a hedge relationship after the trade date of the hedging derivative.

In hedges of foreign exchange risk related to debt issued, hedge ineffectiveness can arise due to the discounting of the hedging instruments and undesignated risk components and lack of such discounting and risk components in the hedged items.

In hedges of net investments in foreign operations, ineffectiveness is unlikely unless the hedged net assets fall below the designated hedged amount. The exceptions are hedges where the hedging currency is not the same as the currency of the foreign operation, where the currency basis may cause ineffectiveness.

Derivatives not designated in hedge accounting relationships

Non-hedge accounted derivatives are mandatorily held for trading with all fair value movements taken to *Other net income from financial instruments measured at fair value through profit or loss*, even when held as an economic hedge or to facilitate client clearing. The one exception relates to forward points on certain short- and long-duration foreign exchange contracts acting as economic hedges, which are reported in *Net interest income.*

All hedges: designated hedging instruments and hedge ineffectiveness

	As of or for the year ended 31.12.20					
		Carrying amount				
USD million	Notional amount	Derivative financial assets	Derivative financial liabilities	Changes in fair value of hedging instruments[1]	Changes in fair value of hedged items[1]	Hedge ineffectiveness recognized in Other net income from financial instruments measured at fair value through profit or loss
Interest rate risk						
Fair value hedges	80,759		12	1,231	(1,247)	(16)
Cash flow hedges	72,732	18		2,213	(2,012)	201
Foreign exchange risk						
Fair value hedges[2,3]	21,555	449	7	(1,735)	1,715	(20)
Hedges of net investments in foreign operations	13,634	3	193	(939)	938	(2)

	As of or for the year ended 31.12.19					
		Carrying amount				
USD million	Notional amount	Derivative financial assets	Derivative financial liabilities	Changes in fair value of hedging instruments[1]	Changes in fair value of hedged items[1]	Hedge ineffectiveness recognized in Other net income from financial instruments measured at fair value through profit or loss
Interest rate risk						
Fair value hedges	69,750	33	14	1,389	(1,376)	13
Cash flow hedges	69,443	16		1,639	(1,571)	68
Foreign exchange risk						
Hedges of net investments in foreign operations	11,875	9	170	(153)	144	(8)

1 Amounts used as the basis for recognizing hedge ineffectiveness for the period. 2 Fair value hedges of foreign exchange risk started on 1 January 2020. 3 The foreign currency basis spread of cross-currency swaps designated as hedging derivatives is excluded from the hedge accounting designation and accounted for as a cost of hedging with amounts deferred in Other comprehensive income within Equity.

Note 25 Hedge accounting (continued)

Fair value hedges: designated hedged items

USD million	31.12.20		31.12.19
	Interest rate risk	FX risk[2]	Interest rate risk
Debt issued measured at amortized cost			
Carrying amount of designated debt issued	24,247	10,889	26,120
of which: accumulated amount of fair value hedge adjustment	*761*		*574*
Funding from UBS Group AG and its subsidiaries			
Carrying amount of designated debt instruments	46,182	10,666	41,258
of which: accumulated amount of fair value hedge adjustment	*1,640*		*525*
Other financial assets measured at amortized cost – debt securities			
Carrying amount of designated debt securities	3,242		
of which: accumulated amount of fair value hedge adjustment	*(38)*		
Loans and advances to customers designated in fair value hedges of portfolio interest rate risk under IAS 39			
Carrying amount of designated loans	10,374		4,494
of which: accumulated amount of fair value hedge adjustment on the portfolio that was subject to hedge accounting [1]	*100*		*117*
of which: accumulated amount of fair value hedge adjustment subject to amortization attributable to the portion of the portfolio that ceased to be part of hedge accounting [1]	*111*		*172*

1 Amounts presented within Other financial assets measured at amortized cost and Other financial liabilities measured at amortized cost. 2 Fair value hedges of foreign exchange risk started on 1 January 2020.

Fair value hedges related to debt issued and debt securities: profile of the timing of the nominal amount of the hedging instrument

	31.12.20					
USD billion	Due within 1 month	Due between 1 and 3 months	Due between 3 and 12 months	Due between 1 and 5 years	Due after 5 years	Total
Interest rate swaps	0	4	9	46	12	70
Cross-currency swaps[1]	0	0	4	16	2	22

	31.12.19					
USD billion	Due within 1 month	Due between 1 and 3 months	Due between 3 and 12 months	Due between 1 and 5 years	Due after 5 years	Total
Interest rate swaps		3	9	40	14	65

1 Fair value hedges of foreign exchange risk using cross-currency swaps started on 1 January 2020.

Cash flow hedge reserve on a pre-tax basis

USD million	31.12.20	31.12.19
Amounts related to hedge relationships for which hedge accounting continues to be applied	2,560	1,596
Amounts related to hedge relationships for which hedge accounting is no longer applied	296	(43)
Total other comprehensive income recognized directly in equity related to cash flow hedges, on a pre-tax basis	2,856	1,554

Foreign currency translation reserve on a pre-tax basis

USD million	31.12.20	31.12.19
Amounts related to hedge relationships for which hedge accounting continues to be applied	(569)	377
Amounts related to hedge relationships for which hedge accounting is no longer applied	268	257
Total other comprehensive income recognized directly in equity related to hedging instruments designated as net investment hedges, on a pre-tax basis	(302)	634

Note 25 Hedge accounting (continued)

Interest rate benchmark reform

UBS AG continues to apply the relief provided by *Interest Rate Benchmark Reform* (amendments to IFRS 9, IAS 39 and IFRS 7), published by the IASB in September 2019.

The interest rate benchmarks subject to interest rate benchmark reforms to which UBS AG's hedge relationships are exposed are USD LIBOR, CHF LIBOR, GBP LIBOR, AUD LIBOR, JPY LIBOR, HKD LIBOR, SGD LIBOR and EONIA. Existing financial instruments designated in hedge relationships referencing these interest rate benchmarks will transition to alternative reference rates (ARRs) unless they mature before the transition takes place.

UBS AG's hedge relationships are also exposed to Euro Interbank Offered Rate (EURIBOR), for which there is no uncertainty arising from the interest rate benchmark reform. EURIBOR is expected to continue to exist as a benchmark rate for the foreseeable future. Thus, UBS AG does not consider its hedges involving the EURIBOR benchmark interest rate to be directly affected by the interest rate benchmark reform.

UBS AG established a cross-divisional, cross-regional governance structure and change program to address the scale and complexity of this transition.

Apart from EURIBOR hedges, UBS AG applies the relief to all its fair value hedges of interest rate risk and to those cash flow hedge relationships where the hedged risk is LIBOR or EONIA. The following table provides details on the notional amount and carrying amount of the hedging instruments in those hedge relationships maturing after 31 December 2021 or 30 June 2023 for USD LIBOR hedges, which are the expected cessation dates of the applicable interest rate benchmarks. The comparative information in the table below has been amended to consistently reflect this approach.

Hedges of net investments in foreign operations are not affected by the amendments.

› **Refer to Note 1a item 2j for more information about the relief provided by the amendments to IFRS 9, IAS 39 and IFRS 7 related to interest rate benchmark reform**

Hedging instruments referencing LIBOR

	31.12.20			31.12.19		
		Carrying amount			Carrying amount	
USD million	Notional amount	Derivative financial assets	Derivative financial liabilities	Notional amount	Derivative financial assets	Derivative financial liabilities
Interest rate risk						
Fair value hedges	37,146	1	(12)	26,355	1	(14)
Cash flow hedges	11,179	0	0	5,895	0	0

Note 26 Post-employment benefit plans

The table below provides a breakdown of expenses related to pension and other post-employment benefit plans recognized in the income statement within *Personnel expenses*.

Income statement – expenses related to post-employment benefit plans

USD million	31.12.20	31.12.19	31.12.18
Net periodic expenses for defined benefit plans	306	291	140
of which: related to major plans [1]	*289*	*271*	*141*
of which: Swiss pension plan [2]	*269*	*248*	*108*
of which: UK pension plan	*3*	*3*	*11*
of which: US and German pension plans	*18*	*21*	*22*
of which: related to remaining plans and other expenses [3]	*17*	*19*	*(1)*
Expenses for defined contribution plans[4]	291	278	223
of which: UK plans	*36*	*34*	*35*
of which: US plan	*190*	*173*	*127*
of which: remaining plans	*65*	*71*	*61*
Total post-employment benefit plan expenses[5]	**597**	**569**	**363**

1 Refer to Note 26a for more information. 2 Changes to the Swiss pension plan announced in 2018 resulted in a pre-tax gain of USD 132 million related to past service. Refer to Note 26a for more information on these changes. 3 Other expenses include differences between actual and estimated performance award accruals. 4 Refer to Note 26b for more information. 5 Refer to Note 6.

The table below provides a breakdown of amounts recognized in *Other comprehensive income* for defined benefit plans.

Other comprehensive income – gains / (losses) on defined benefit plans

USD million	31.12.20	31.12.19	31.12.18
Major plans[1]	(219)	(128)	(79)
of which: Swiss pension plan	*(172)*	*(15)*	*(201)*
of which: UK pension plan	*(61)*	*(78)*	*130*
of which: US and German pension plans	*14*	*(35)*	*(8)*
Remaining plans	(3)	(1)	9
Gains / (losses) recognized in other comprehensive income, before tax	(222)	(129)	(70)
Tax (expense) / benefit relating to defined benefit plans recognized in other comprehensive income	88	(41)	245
Gains / (losses) recognized in other comprehensive income, net of tax[2]	**(134)**	**(170)**	**175**

1 Refer to Note 26a for more information. 2 Refer to the "Statement of comprehensive income."

The table below provides a breakdown of the assets and liabilities recognized on the balance sheet within *Other non-financial assets* and *Other non-financial liabilities* related to defined benefit plans.

Balance sheet – net defined benefit asset

USD million	31.12.20	31.12.19
Major plans[1]	42	9
of which: Swiss pension plan [2]	*0*	*0*
of which: UK pension plan	*0*	*4*
of which: US and German pension plans	*42*	*5*
Total net defined benefit asset	**42**	**9**

1 Refer to Note 26a for more information. 2 As of 31 December 2020 and 31 December 2019, the Swiss pension plan was in a surplus situation. No net defined benefit asset was recognized on the balance sheet due to the IFRS asset ceiling restriction. Refer to Note 26a for more information.

Balance sheet – net defined benefit liability

USD million	31.12.20	31.12.19
Major plans[1]	599	527
of which: UK pension plan	*13*	*0*
of which: US and German pension plans [2]	*586*	*527*
Remaining plans	112	103
Total net defined benefit liability[3]	**711**	**629**

1 Refer to Note 26a for more information. 2 Of the total liability recognized as of 31 December 2020, USD 88 million related to US plans and USD 498 million related to German plans (31 December 2019: USD 111 million and USD 416 million, respectively). 3 Refer to Note 19c.

Note 26 Post-employment benefit plans (continued)

a) Defined benefit plans

UBS AG has established defined benefit plans for its employees in various jurisdictions in accordance with local regulations and practices. The major plans are located in Switzerland, the UK, the US and Germany. The level of benefits depends on the specific plan rules.

For the funded plans, the plan assets are invested in a diversified portfolio of financial assets. Volatility arises in each plan's net asset / liability position because the fair value of the plan's financial assets is not fully correlated to movements in the value of the plan's defined benefit obligation (DBO). UBS AG's general principle is to ensure that the plans are adequately funded on the basis of actuarial valuations. Local pension regulations are the primary drivers for determining when contributions are required.

Swiss pension plan

The Swiss pension plan covers employees of UBS AG and employees of companies having close economic or financial ties with UBS AG, and exceeds the minimum benefit requirements under Swiss pension law.

In 2017, a significant number of employees transferred from UBS AG to UBS Business Solutions AG, which is a directly held subsidiary of UBS Group AG. There continues to be one pooled pension plan in Switzerland covering the employees of UBS AG and those transferred to UBS Business Solutions AG. UBS AG and UBS Business Solutions AG both are legal sponsors of UBS's Swiss pension plan. Since the date of the employee transfer, UBS AG and UBS Business Solutions AG apply proportionate defined benefit accounting, i.e., the net pension cost and the net pension asset / liability of the Swiss pension plan are allocated proportionally between UBS AG and UBS Business Solutions AG based on the aggregated net pension cost and defined benefit obligations related to their employees.

The Swiss plan offers retirement, disability and survivor benefits and is governed by a Pension Foundation Board. The responsibilities of this board are defined by Swiss pension law and the plan rules.

Savings contributions to the Swiss plan are paid by both employer and employee. Depending on the age of the employee, UBS AG pays a savings contribution that ranges between 6.5% and 27.5% of contributory base salary and between 2.8% and 9% of contributory variable compensation. UBS AG also pays risk contributions that are used to fund disability and survivor benefits. Employees can choose the level of savings contributions paid by them, which vary between 2.5% and 13.5% of contributory base salary and between 0% and 9% of contributory variable compensation, depending on age and choice of savings contribution category.

The plan offers to members at the normal retirement age of 65 a choice between a lifetime pension and a partial or full lump sum payment. Participants can choose to draw early retirement benefits starting from the age of 58, but can also continue employment and remain active members of the plan until the age of 70. Employees have the opportunity to make additional purchases of benefits to fund early retirement benefits.

The pension amount payable to a participant is calculated by applying a conversion rate to the accumulated balance of the participant's retirement savings account at the retirement date. The balance is based on credited vested benefits transferred from previous employers, purchases of benefits, and the employee and employer contributions that have been made to the participant's retirement savings account, as well as the interest accrued. The interest rate is defined annually by the Pension Foundation Board.

Although the Swiss plan is based on a defined contribution promise under Swiss pension law, it is accounted for as a defined benefit plan under IFRS, primarily because of the obligation to accrue interest on the participants' retirement savings accounts and the payment of lifetime pension benefits.

An actuarial valuation in accordance with Swiss pension law is performed regularly. Should an underfunded situation on this basis occur, the Pension Foundation Board is required to take the necessary measures to ensure that full funding can be expected to be restored within a maximum period of 10 years. If a Swiss plan were to become significantly underfunded on a Swiss pension law basis, additional employer and employee contributions could be required. In this situation, the risk is shared between employer and employees, and the employer is not legally obliged to cover more than 50% of the additional contributions required. As of 31 December 2020, the Swiss plan had a technical funding ratio under Swiss pension law of 132.6% (31 December 2019: 127.1%).

The investment strategy of the Swiss plan complies with Swiss pension law, including the rules and regulations relating to diversification of plan assets. These rules, among others, specify restrictions on the composition of plan assets; e.g., there is a limit of 50% for investments in equities. The investment strategy of the Swiss plan is aligned with the defined risk budget set out by the Pension Foundation Board. The risk budget is determined on the basis of regularly performed asset and liability management analyses. In order to implement the risk budget, the Swiss plan may use direct investments, investment funds and derivatives. To mitigate foreign currency risk, a specific currency hedging strategy is in place. The Pension Foundation Board strives for a medium- and long-term balance between assets and liabilities.

As of 31 December 2020, the Swiss plan was in a surplus situation on an IFRS measurement basis, as the fair value of the plan's assets exceeded the DBO by USD 2,739 million (31 December 2019: a surplus of USD 2,099 million). However, a surplus is only recognized on the balance sheet to the extent that it does not exceed the estimated future economic benefit, which equals the difference between the present value of the estimated future net service cost and the present value of the estimated future employer contributions. As of both 31 December 2020 and 31 December 2019, the estimated future economic benefit was zero and hence no net defined benefit asset was recognized on the balance sheet.

In the first quarter of 2020, UBS AG adopted an enhanced methodology for measuring the estimated future economic benefits available under the Swiss pension plan, whereby future net service cost is measured individually for each future year, considering the individually applicable discount rate. In addition, an enhanced discount curve methodology was adopted, utilizing the FINMA-published ultimate forward rate, which represents the average long-term historical real rate plus expected inflation over the long-dated periods where discount rates are unobservable. No changes have been made to the methodology for measuring the defined benefit obligation.

Changes to the Swiss pension plan

As a result of the effects of continuing low and in some cases negative interest rates, diminished investment return expectations and increasing life expectancy, the pension fund of UBS AG in Switzerland and UBS AG agreed to measures that took effect from the start of 2019 to support the long-term financial stability of the Swiss pension fund. As a result, the conversion rate was lowered, the regular retirement age was increased from 64 to 65, employee contributions were increased, and savings contributions started from age 20 instead of 25. Pensions already in payment on 1 January 2019 were not affected.

To mitigate the effects of the reduction of the conversion rate on future pensions, UBS AG committed to pay an extraordinary contribution of up to CHF 450 million (USD 508 million based on the closing exchange rate as of 31 December 2020) in three installments in 2020, 2021 and 2022. In accordance with IFRS, these measures led to a reduction in the pension obligation recognized by UBS AG, resulting in a pre-tax gain of USD 132 million in 2018. This effect was recognized as a reduction in Personnel expenses with a corresponding effect in Other comprehensive income (OCI). The first installment of USD 143 million was paid in 2020 and reduced OCI with no effect on the income statement. If the Swiss plan remains in an asset ceiling position, the two payments in 2021 and 2022, adjusted for expected forfeitures, are expected to reduce OCI by USD 262 million, with no effect on the income statement.

The second installment of USD 152 million was paid in January 2021 and the regular employer contributions expected to be made to the Swiss plan in 2021 are estimated to be USD 292 million.

UK pension plan

The UK plan is a career-average revalued earnings scheme, and benefits increase automatically based on UK price inflation. The normal retirement age for participants in the UK plan is 60. The plan provides guaranteed lifetime pension benefits to plan participants upon retirement. Since 2000, the UK plan has been closed to new entrants and, since 2013, plan participants are no longer accruing benefits for current or future service. Instead, employees participate in the UK defined contribution plan.

The governance responsibility for the UK plan lies jointly with the Pension Trustee Board and UBS AG. The employer contributions to the pension fund reflect agreed-upon deficit funding contributions, which are determined on the basis of the most recent actuarial valuation using assumptions agreed by the Pension Trustee Board and UBS AG. In the event of underfunding, UBS AG and the Pension Trustee Board must agree on a deficit recovery plan within statutory deadlines. In 2020, UBS AG made deficit funding contributions of USD 46 million to the UK plan. In 2019, UBS AG made deficit funding contributions of USD 242 million.

Note 26 Post-employment benefit plans (continued)

The plan assets are invested in a diversified portfolio of financial assets. In 2020, the UK Pension Trustee Board entered into a longevity swap with an external insurance company, which is recognized as a plan asset. The longevity swap enables the UK pension plan to hedge the risk between expected and actual longevity, which should mitigate volatility in the net defined benefit asset / liability. The longevity swap had nil value on 31 December 2020.

In 2019, UBS AG and the Pension Trustee Board entered into an arrangement whereby a collateral pool was established to provide security for the pension fund. The value of the collateral pool as of 31 December 2020 was USD 347 million (31 December 2019: USD 364 million) and includes corporate bonds, government-related debt instruments and other financial assets. The arrangement provides the Pension Trustee Board dedicated access to a pool of assets in the event of UBS AG's insolvency or not paying a required deficit funding contribution.

In 2021, no contributions are expected to be made to the UK defined benefit plan, subject to regular funding reviews during the year.

US pension plans

There are two distinct major defined benefit plans in the US, both with a normal retirement age of 65. Since 1998 and 2001, respectively, the plans have been closed to new entrants, who instead can participate in defined contribution plans.

One of the defined benefit plans is a contribution-based plan in which each participant accrues a percentage of salary in a retirement savings account. The retirement savings account is credited annually with interest based on a rate that is linked to the average yield on one-year US government bonds. For the other defined benefit plan, retirement benefits accrue based on the career-average earnings of each individual plan participant. Former employees with vested benefits have the option to take a lump sum payment or a lifetime annuity.

As required under applicable pension laws, both plans have fiduciaries who, together with UBS AG, are responsible for the governance of the plans. UBS AG regularly reviews the contribution strategy for these plans, considering statutory funding rules and the cost of any premiums that must be paid to the Pension Benefit Guaranty Corporation for having an underfunded plan.

The plan assets for both plans are invested in a diversified portfolio of financial assets. Each plan's fiduciaries are responsible for the investment decisions with respect to the plan assets.

The employer contributions expected to be made to the US defined benefit plans in 2021 are estimated at USD 10 million.

German pension plans

There are two defined benefit plans in Germany, and both are contribution-based plans. No plan assets are set aside to fund these plans, and benefits are paid directly by UBS AG. The normal retirement age for the participants in the German plans is 65. Within the larger of the two plans, each participant accrues a percentage of salary in a retirement savings account. The accumulated account balance of the plan participant is credited on an annual basis with guaranteed interest at a rate of 5%. In the other plan, amounts are accrued annually based on employee elections related to variable compensation. For this plan, the accumulated account balance is credited on an annual basis with a guaranteed interest rate of 6% for amounts accrued before 2010, of 4% for amounts accrued from 2010 to 2017 and of 0.9% for amounts accrued after 2017. Both plans are subject to German pension law, whereby the responsibility to pay pension benefits when they are due resides entirely with UBS AG. A portion of the pension payments is directly increased in line with price inflation.

The benefits expected to be paid by UBS AG to the participants of the German plans in 2021 are estimated at USD 11 million.

Financial information by plan

The tables on the following pages provide an analysis of the movement in the net asset / liability recognized on the balance sheet for defined benefit plans, as well as an analysis of amounts recognized in net profit and in *Other comprehensive income*.

Note 26 Post-employment benefit plans (continued)

Defined benefit plans

USD million	Swiss pension plan		UK pension plan		US and German pension plans		Total	
	2020	2019	2020	2019	2020	2019	2020	2019
Defined benefit obligation at the beginning of the year	13,809	13,774	3,654	3,192	1,820	1,679	19,283	18,645
Current service cost	262	243	0	0	6	6	268	249
Interest expense	40	122	73	92	45	59	159	273
Plan participant contributions	159	149	0	0	0	0	159	149
Remeasurements	677	(61)	449	361	105	185	1,231	485
of which: actuarial (gains) / losses due to changes in demographic assumptions	*(53)*	*(125)*	*(14)*	*(26)*	*(34)*	*3*	*(101)*	*(148)*
of which: actuarial (gains) / losses due to changes in financial assumptions	*565*	*1,006*	*505*	*421*	*134*	*179*	*1,204*	*1,605*
of which: experience (gains) / losses [1,2]	*165*	*(942)*	*(42)*	*(34)*	*5*	*4*	*127*	*(972)*
Past service cost related to plan amendments	0	0	3	0	0	0	3	0
Benefit payments	(641)	(624)	(148)	(135)	(108)	(102)	(898)	(860)
Other movements	(4)	0	0	0	0	0	(4)	0
Foreign currency translation	1,317	206	132	144	37	(8)	1,486	342
Defined benefit obligation at the end of the year	**15,619**	**13,809**	**4,162**	**3,654**	**1,905**	**1,820**	**21,686**	**19,283**
of which: amounts owed to active members	*8,290*	*7,073*	*159*	*164*	*245*	*235*	*8,694*	*7,472*
of which: amounts owed to deferred members	*0*	*0*	*1,879*	*1,559*	*743*	*675*	*2,622*	*2,233*
of which: amounts owed to retirees	*7,329*	*6,735*	*2,124*	*1,931*	*917*	*911*	*10,370*	*9,577*
Fair value of plan assets at the beginning of the year	15,908	15,772	3,658	3,032	1,299	1,168	20,864	19,972
Return on plan assets excluding interest income[2]	962	(30)	388	284	118	150	1,469	403
Interest income	48	142	73	89	38	47	159	278
Employer contributions	436	271	46	242	17	38	499	550
Plan participant contributions	159	149	0	0	0	0	159	149
Benefit payments	(641)	(624)	(148)	(135)	(108)	(102)	(898)	(860)
Administration expenses, taxes and premiums paid	(8)	(7)	0	0	(4)	(2)	(11)	(9)
Foreign currency translation	1,495	235	132	146	0	0	1,626	381
Fair value of plan assets at the end of the year	**18,358**	**15,908**	**4,149**	**3,658**	**1,360**	**1,299**	**23,867**	**20,864**
Asset ceiling effect at the beginning of the year	2,099	1,998	0	0	0	0	2,099	1,998
Interest expense on asset ceiling effect	7	18	0	0	0	0	7	18
Asset ceiling effect excluding interest expense and foreign currency translation on asset ceiling effect	457	46	0	0	0	0	457	46
Foreign currency translation	176	36	0	0	0	0	176	36
Asset ceiling effect at the end of the year	**2,739**	**2,099**	**0**	**0**	**0**	**0**	**2,739**	**2,099**
Net defined benefit asset / (liability)	**0**	**0**	**(13)**	**4**	**(545)**	**(521)**	**(558)**	**(518)**
Movement in the net asset / (liability) recognized on the balance sheet								
Net asset / (liability) recognized on the balance sheet at the beginning of the year	0	0	4	(160)	(521)	(511)	(518)	(671)
Net periodic expenses recognized in net profit	(269)	(248)	(3)	(3)	(18)	(21)	(289)	(271)
Gains / (losses) recognized in other comprehensive income	(172)	(15)	(61)	(78)	14	(35)	(219)	(128)
Employer contributions	436	271	46	242	17	38	499	550
Other movements	4	0	0	0	0	0	4	0
Foreign currency translation	1	(8)	0	2	(37)	8	(35)	2
Net asset / (liability) recognized on the balance sheet at the end of the year	**0**	**0**	**(13)**	**4**	**(545)**	**(521)**	**(558)**	**(518)**
Funded and unfunded plans								
Defined benefit obligation from funded plans	15,619	13,809	4,162	3,654	1,319	1,319	21,100	18,782
Defined benefit obligation from unfunded plans	0	0	0	0	586	501	586	501
Plan assets	18,358	15,908	4,149	3,658	1,360	1,299	23,867	20,864
Surplus / (deficit)	**2,739**	**2,099**	**(13)**	**4**	**(545)**	**(521)**	**2,181**	**1,582**
Asset ceiling effect	**2,739**	**2,099**	**0**	**0**	**0**	**0**	**2,739**	**2,099**
Net defined benefit asset / (liability)	**0**	**0**	**(13)**	**4**	**(545)**	**(521)**	**(558)**	**(518)**

1 Experience (gains) / losses are a component of actuarial remeasurements of the defined benefit obligation that reflect the effects of differences between the previous actuarial assumptions and what has actually occurred. 2 Includes the effect from employees transferring between UBS AG and UBS Business Solutions during the period.

Note 26 Post-employment benefit plans (continued)

Analysis of amounts recognized in net profit

USD million	Swiss pension plan		UK pension plan		US and German pension plans		Total	
For the year ended	31.12.20	31.12.19	31.12.20	31.12.19	31.12.20	31.12.19	31.12.20	31.12.19
Current service cost	262	243	0	0	6	6	268	249
Interest expense related to defined benefit obligation	40	122	73	92	45	59	159	273
Interest income related to plan assets	(48)	(142)	(73)	(89)	(38)	(47)	(159)	(278)
Interest expense on asset ceiling effect	7	18	0	0	0	0	7	18
Administration expenses, taxes and premiums paid	8	7	0	0	4	2	11	9
Past service cost related to plan amendments	0	0	3	0	0	0	3	0
Net periodic expenses recognized in net profit	269	248	3	3	18	21	289	271

Analysis of amounts recognized in other comprehensive income (OCI)

USD million	Swiss pension plan		UK pension plan		US and German pension plans		Total	
For the year ended	31.12.20	31.12.19	31.12.20	31.12.19	31.12.20	31.12.19	31.12.20	31.12.19
Remeasurement of defined benefit obligation	(677)	61	(449)	(361)	(105)	(185)	(1,231)	(485)
of which: change in discount rate assumption	*(447)*	*(1,156)*	*(504)*	*(552)*	*(141)*	*(166)*	*(1,092)*	*(1,874)*
of which: change in rate of salary increase assumption	*(132)*	*2*	*0*	*0*	*0*	*0*	*(132)*	*2*
of which: change in rate of pension increase assumption	*0*	*0*	*(1)*	*132*	*1*	*(4)*	*0*	*128*
of which: change in rate of interest credit on retirement savings assumption	*15*	*149*	*0*	*0*	*24*	*18*	*39*	*167*
of which: change in life expectancy	*84*	*0*	*22*	*21*	*50*	*4*	*156*	*25*
of which: change in other actuarial assumptions	*(33)*	*125*	*(8)*	*5*	*(34)*	*(33)*	*(75)*	*97*
of which: experience gains / (losses)[1,2]	*(165)*	*942*	*42*	*34*	*(5)*	*(4)*	*(127)*	*972*
Return on plan assets excluding interest income	962	(30)	388	284	118	150	1,469	403
Asset ceiling effect excluding interest expense and foreign currency translation	(457)	(46)	0	0	0	0	(457)	(46)
Total gains / (losses) recognized in other comprehensive income, before tax	(172)	(15)	(61)	(78)	14	(35)	(219)	(128)

1 Experience (gains) / losses are a component of actuarial remeasurements of the defined benefit obligation that reflect the effects of differences between the previous actuarial assumptions and what has actually occurred. 2 Includes the effect from employees transferring between UBS AG and UBS Business Solutions during the period.

The table below provides information about the duration of the DBO and the timing for expected benefit payments.

	Swiss pension plan		UK pension plan		US and German pension plans[1]	
	31.12.20	31.12.19	31.12.20	31.12.19	31.12.20	31.12.19
Duration of the defined benefit obligation (in years)	16.2	15.2	19.0	20.2	10.2	10.1
Maturity analysis of benefits expected to be paid						
USD million						
Benefits expected to be paid within 12 months	710	687	114	93	122	121
Benefits expected to be paid between 1 and 3 years	1,442	1,383	232	209	235	228
Benefits expected to be paid between 3 and 6 years	2,100	2,048	406	384	346	346
Benefits expected to be paid between 6 and 11 years	3,408	3,232	744	748	532	548
Benefits expected to be paid between 11 and 16 years	3,184	2,899	758	807	413	455
Benefits expected to be paid in more than 16 years	11,186	9,136	3,206	3,913	541	721

1 The duration of the defined benefit obligation represents a weighted average across US and German plans.

Note 26 Post-employment benefit plans (continued)

Actuarial assumptions

The measurement of each plan's DBO considers different actuarial assumptions. Changes in these assumptions lead to volatility in the DBO. The actuarial assumptions used for the defined benefit plans are based on the economic conditions prevailing in the jurisdiction in which they are offered. Changes in the defined benefit obligation are most sensitive to changes in the discount rate. The discount rate is based on the yield of high-quality corporate bonds quoted in an active market in the currency of the respective plan. A decrease in the discount curve increases the DBO and an increase in the discount curve decreases the DBO. UBS AG regularly reviews the actuarial assumptions used in calculating the DBO to determine their continuing relevance.

› **Refer to Note 1a item 6 for a description of the accounting policy for defined benefit plans**

The tables below show the significant actuarial assumptions used in calculating the DBO at the end of the year.

Significant actuarial assumptions

	Swiss pension plan		UK pension plan		US and German pension plans[1]	
In %	31.12.20	31.12.19	31.12.20	31.12.19	31.12.20	31.12.19
Discount rate	0.10	0.29	1.42	2.07	1.62	2.58
Rate of salary increase	2.00	1.50	0.00	0.00	2.25	2.37
Rate of pension increase	0.00	0.00	2.89	2.92	1.70	1.80
Rate of interest credit on retirement savings	0.60	0.49	0.00	0.00	1.12	2.57

1 Represents weighted average assumptions across US and German plans.

Mortality tables and life expectancies for major plans

		Life expectancy at age 65 for a male member currently			
		aged 65		aged 45	
Country	Mortality table	31.12.20	31.12.19	31.12.20	31.12.19
Switzerland	BVG 2020 G with CMI 2019 projections[1]	21.7	21.6	23.2	23.1
UK	S3PA with CMI 2019 projections[2]	23.4	23.3	24.6	24.5
USA	Pri-2012 with MP-2020 projection scale[3]	21.8	22.8	23.2	24.3
Germany	Dr. K. Heubeck 2018 G	20.8	20.7	23.6	23.5

		Life expectancy at age 65 for a female member currently			
		aged 65		aged 45	
Country	Mortality table	31.12.20	31.12.19	31.12.20	31.12.19
Switzerland	BVG 2020 G with CMI 2019 projections[1]	23.4	23.6	24.9	25.1
UK	S3PA with CMI 2019 projections[2]	24.9	25.1	26.3	26.4
USA	Pri-2012 with MP-2020 projection scale[3]	23.2	24.4	24.5	25.9
Germany	Dr. K. Heubeck 2018 G	24.3	24.2	26.5	26.4

1 In 2019, BVG 2015 G with CMI 2016 projections was used. 2 In 2019, S2PA with CMI 2018 projections was used. 3 In 2019, RP-2014 WCHA with MP-2019 projection scale was used.

Note 26 Post-employment benefit plans (continued)

Sensitivity analysis of significant actuarial assumptions

The table below presents a sensitivity analysis for each significant actuarial assumption, showing how the DBO would have been affected by changes in the relevant actuarial assumption that were reasonably possible at the balance sheet date. Unforeseen circumstances may arise, which could result in variations that are outside the range of alternatives deemed reasonably possible. Caution should be used in extrapolating the sensitivities below on the DBO as the sensitivities may not be linear.

Sensitivity analysis of significant actuarial assumptions[1]

Increase / (decrease) in defined benefit obligation	Swiss pension plan		UK pension plan		US and German pension plans	
USD million	31.12.20	31.12.19	31.12.20	31.12.19	31.12.20	31.12.19
Discount rate						
Increase by 50 basis points	(1,030)	(853)	(370)	(346)	(91)	(86)
Decrease by 50 basis points	1,181	972	423	395	99	93
Rate of salary increase						
Increase by 50 basis points	74	49	–[2]	–[2]	1	1
Decrease by 50 basis points	(71)	(47)	–[2]	–[2]	(1)	(1)
Rate of pension increase						
Increase by 50 basis points	793	673	358	331	8	7
Decrease by 50 basis points	–[3]	–[3]	(316)	(299)	(7)	(7)
Rate of interest credit on retirement savings						
Increase by 50 basis points	142	107	–[4]	–[4]	9	9
Decrease by 50 basis points	(113)[5]	(62)	–[4]	–[4]	(8)	(9)
Life expectancy						
Increase in longevity by one additional year	566	459	182	154	60	51

1 The sensitivity analyses are based on a change in one assumption while holding all other assumptions constant, so that interdependencies between the assumptions are excluded. 2 As the plan is closed for future service, a change in assumption is not applicable. 3 As the assumed rate of pension increase was 0% as of 31 December 2020 and as of 31 December 2019, a downward change in assumption is not applicable. 4 As the UK plan does not provide interest credits on retirement savings, a change in assumption is not applicable. 5 As of 31 December 2020, 17.7% of retirement savings were subject to a legal minimum rate of 1.00%.

Note 26 Post-employment benefit plans (continued)

Fair value of plan assets

The tables below provide information about the composition and fair value of plan assets of the Swiss, the UK and the US pension plans.

Composition and fair value of plan assets

Swiss pension plan

	31.12.20				31.12.19			
	Fair value			Plan asset allocation %	Fair value			Plan asset allocation %
USD million	Quoted in an active market	Other	Total		Quoted in an active market	Other	Total	
Cash and cash equivalents	123	0	123	1	90	0	90	1
Real estate / property								
Domestic	0	2,018	2,018	11	0	1,720	1,720	11
Foreign	0	186	186	1	0	90	90	1
Investment funds								
Equity								
Domestic	465	0	465	3	395	0	395	2
Foreign	3,540	1,103	4,642	25	3,433	932	4,365	27
Bonds[1]								
Domestic, AAA to BBB–	2,096	0	2,096	11	1,825	0	1,825	11
Foreign, AAA to BBB–	3,462	0	3,462	19	3,315	0	3,315	21
Foreign, below BBB–	734	0	734	4	563	0	563	4
Other	1,894	2,097	3,991	22	904	2,230	3,134	20
Other investments	373	266	640	3	301	109	411	3
Total fair value of plan assets	12,688	5,670	18,358	100	10,827	5,081	15,908	100

	31.12.20	31.12.19
Total fair value of plan assets	18,358	15,908
of which:[2]		
Bank accounts at UBS AG	*130*	*90*
UBS AG debt instruments	*19*	*4*
UBS Group AG shares	*13*	*12*
Securities lent to UBS AG[3]	*796*	*748*
Property occupied by UBS AG	*54*	*50*
Derivative financial instruments, counterparty UBS AG[3]	*84*	*6*

1 The bond credit ratings are primarily based on Standard & Poor's credit ratings. Ratings AAA to BBB– and below BBB– represent investment grade and non-investment grade ratings, respectively. In cases where credit ratings from other rating agencies were used, these were converted to the equivalent rating in Standard & Poor's rating classification. 2 Bank accounts at UBS AG encompass accounts in the name of the Swiss pension fund. The other positions disclosed in the table encompass both direct investments in UBS AG instruments and UBS Group AG shares and indirect investments, i.e., those made through funds that the pension fund invests in. 3 Securities lent to UBS AG and derivative financial instruments are presented gross of any collateral. Securities lent to UBS AG were fully covered by collateral as of 31 December 2020 and 31 December 2019. Net of collateral, derivative financial instruments amounted to negative USD 9 million as of 31 December 2020 (31 December 2019: positive USD 3 million).

Note 26 Post-employment benefit plans (continued)

Composition and fair value of plan assets (continued)

UK pension plan

	31.12.20				31.12.19			
	Fair value			Plan asset allocation %	Fair value			Plan asset allocation %
USD million	Quoted in an active market	Other	Total		Quoted in an active market	Other	Total	
Cash and cash equivalents	195	0	195	5	141	0	141	4
Bonds[1]								
Domestic, AAA to BBB–	2,150	0	2,150	52	1,810	0	1,810	49
Foreign, AAA to BBB–	53	0	53	1	0	0	0	0
Investment funds								
Equity								
Domestic	34	3	37	1	33	0	33	1
Foreign	1,077	0	1,077	26	916	0	916	25
Bonds[1]								
Domestic, AAA to BBB–	919	131	1,050	25	610	117	727	20
Domestic, below BBB–	47	0	47	1	22	0	22	1
Foreign, AAA to BBB–	149	0	149	4	310	0	310	8
Foreign, below BBB–	110	0	110	3	108	0	108	3
Real estate								
Domestic	98	16	114	3	103	18	122	3
Foreign	0	37	37	1	0	19	19	1
Other	(86)	0	(86)	(2)	0	0	0	0
Insurance contracts	0	8	8	0	0	7	7	0
Derivatives	(3)	0	(3)	0	3	0	3	0
Asset-backed securities	0	6	6	0	0	6	6	0
Other investments[2]	(803)	9	(794)	(19)	(572)	7	(565)	(15)
Total fair value of plan assets	3,940	209	4,149	100	3,483	175	3,658	100

1 The bond credit ratings are primarily based on Standard & Poor's credit ratings. Ratings AAA to BBB– and below BBB– represent investment grade and non-investment grade ratings, respectively. In cases where credit ratings from other rating agencies were used, these were converted to the equivalent rating in Standard & Poor's rating classification. 2 Mainly relates to repurchase arrangements on UK treasury bonds.

Note 26 Post-employment benefit plans (continued)

Composition and fair value of plan assets (continued)

US pension plans

	31.12.20				31.12.19			
	Fair value			Plan asset allocation %	Fair value			Plan asset allocation %
USD million	Quoted in an active market	Other	Total		Quoted in an active market	Other	Total	
Cash and cash equivalents	38	0	38	3	27	0	27	2
Bonds[1]								
Domestic, AAA to BBB–	490	0	490	36	475	0	475	37
Domestic, below BBB–	7	0	7	0	2	0	2	0
Foreign, AAA to BBB–	99	0	99	7	99	0	99	8
Foreign, below BBB–	1	0	1	0	3	0	3	0
Investment funds								
Equity								
Domestic	210	0	210	15	208	0	208	16
Foreign	169	0	169	12	161	0	161	12
Bonds[1]								
Domestic, AAA to BBB–	195	0	195	14	176	0	176	14
Domestic, below BBB–	34	0	34	2	28	0	28	2
Foreign, AAA to BBB–	19	0	19	1	17	0	17	1
Foreign, below BBB–	3	0	3	0	3	0	3	0
Real estate								
Domestic	0	14	14	1	0	13	13	1
Other	79	0	79	6	69	0	69	5
Insurance contracts	0	1	1	0	0	18	18	1
Total fair value of plan assets	1,345	15	1,360	100	1,268	31	1,299	100

1 The bond credit ratings are primarily based on Standard & Poor's credit ratings. Ratings AAA to BBB– and below BBB– represent investment grade and non-investment grade ratings, respectively. In cases where credit ratings from other rating agencies were used, these were converted to the equivalent rating in Standard & Poor's rating classification.

Note 26 Post-employment benefit plans (continued)

b) Defined contribution plans

UBS AG sponsors a number of defined contribution plans, with the most significant plans in the US and the UK. UBS AG's obligation is limited to its contributions made in accordance with the plan, which may include direct contributions as well as matching contributions. Employer contributions to defined contribution plans are recognized as an expense, which, for 2020, 2019 and 2018, amounted to USD 291 million, USD 278 million and USD 223 million, respectively.

c) Related-party disclosure

UBS AG is the principal provider of banking services for the pension fund of UBS AG in Switzerland. In this capacity, UBS AG is engaged to execute most of the pension fund's banking activities. These activities can include, but are not limited to, trading, securities lending and borrowing and derivative transactions. The non-Swiss UBS AG pension funds do not have a similar banking relationship with UBS AG.

Also, UBS AG leases certain properties that are owned by the Swiss pension fund. As of 31 December 2020, the minimum commitment toward the Swiss pension fund under the related leases was approximately USD 6 million (31 December 2019: USD 8 million).

› **Refer to the "Composition and fair value of plan assets" table in Note 26a for more information about fair value of investments in UBS AG and UBS Group AG instruments held by the Swiss pension fund**

The following amounts have been received or paid by UBS AG from and to the post-employment benefit plans located in Switzerland, the UK and the US in respect of these banking activities and arrangements.

Related-party disclosure

	For the year ended		
USD million	31.12.20	31.12.19	31.12.18
Received by UBS AG			
Fees	19	19	22
Paid by UBS AG			
Rent	3	2	3
Dividends, capital repayments and interest	10	10	10

The transaction volumes in UBS Group AG shares and UBS AG debt instruments and the balances of UBS Group AG shares held as of 31 December were:

Transaction volumes – UBS Group AG shares and UBS AG debt instruments

	For the year ended	
	31.12.20	31.12.19
Financial instruments bought by pension funds		
UBS Group AG shares (in thousands of shares)	1,677	929
UBS AG debt instruments (par values, USD million)	16	1
Financial instruments sold by pension funds or matured		
UBS Group AG shares (in thousands of shares)	2,556	1,778
UBS AG debt instruments (par values, USD million)	4	5

UBS Group AG shares held by post-employment benefit plans

	31.12.20	31.12.19
Number of shares (in thousands of shares)	14,112	14,991
Fair value (USD million)	199	189

Note 27 Employee benefits: variable compensation

a) Plans offered

UBS has several share-based and other deferred compensation plans that align the interests of Group Executive Board (GEB) members and other employees with the interests of investors.

Share based payment awards are granted in the form of notional shares and, where permitted, carry a dividend equivalent that may be paid in notional shares or cash and that vest on the same terms and conditions as the award. Awards are settled by delivering UBS shares at vesting, except in jurisdictions where this is not permitted for legal or tax reasons.

Deferred compensation awards are generally forfeitable upon, among other circumstances, voluntary termination of employment with UBS. These compensation plans are also designed to meet regulatory requirements and include special provisions for regulated employees.

The most significant deferred compensation plans are described below.

For the majority of variable compensation awards granted under such plans to employees of UBS AG, the grantor entity is UBS Group AG. Expenses associated with these awards are charged by UBS Group AG to UBS AG. For the purpose of this Note, references to shares refer to UBS Group AG shares.

› **Refer to Note 1a item 5 for a description of the accounting policy related to share-based and other deferred compensation plans**

Mandatory deferred compensation plans

Equity Ownership Plan (EOP)

The EOP is a mandatory deferred share-based compensation plan for all employees whose total annual compensation exceeds a specified threshold, other than GEB members, Group Managing Directors (GMDs) and Group or Divisional Vice Chair role holders who are granted share-based awards under the new Long-Term Incentive Plan (LTIP) first granted in 2020. Awards generally vest in equal installments after two and three years following grant, provided that vesting conditions are satisfied. Awards granted to GEB members in 2019 and prior years generally vest three, four and five years after grant.

EOP awards granted to GEB members and GMDs in 2019 and prior years, as well as EOP awards granted to certain other employees will only vest if certain performance measures both for the Group and the applicable business division are met.

In order to align deferred compensation of certain Asset Management employees with the performance of the investment funds they manage, awards are granted to such employees in the form of cash-settled notional investment funds. The amount delivered depends on the value of the underlying investment funds at the time of vesting.

Certain awards, such as replacement awards issued outside the normal performance year cycle, may take the form of deferred cash under the EOP plan rules.

Long-Term Incentive Plan

The LTIP is a mandatory deferred share-based compensation plan for GEB members, GMDs and Group or Divisional Vice Chair role holders.

The final number of notional shares delivered at vesting depends on two equally-weighted performance metrics: reported return on common equity tier 1 capital (RoCET1) and relative total shareholder return (rTSR), which measures the performance of the UBS share against an index consisting of Global Systemically Important Banks as determined by the Financial Stability Board.

The final number of shares as determined at the end of the three-year performance period will vest in three equal installments in each of the three years following the performance period for GEB members, and cliff vest in the first year following the performance period for GMDs and Vice Chair role holders.

Deferred Contingent Capital Plan (DCCP)

The DCCP is a mandatory deferred compensation plan for all employees whose total annual compensation exceeds a specified threshold.

DCCP awards take the form of notional additional tier 1 (AT1) capital instruments, which, at the discretion of UBS, can be settled in either a cash payment or a perpetual, marketable AT1 capital instrument. DCCP awards vest in full after five years, and up to seven years for certain regulated employees, unless there is a trigger event.

Awards are forfeited if a viability event occurs, i.e., if FINMA notifies the firm in writing that the DCCP awards must be written down to prevent an insolvency, bankruptcy or failure of UBS, or if UBS receives a commitment of extraordinary support from the public sector that is necessary to prevent such an event. DCCP awards are also written down for GEB members if the Group's CET1 capital ratio falls below 10% and for all other employees if it falls below 7%. As an additional performance condition, GEB members forfeit 20% of their award for each loss-making year during the vesting period.

Interest payments on DCCP awards are paid at the discretion of UBS. Where interest payments are not permitted, such as for certain regulated employees, the DCCP award reflects the fair value of the granted non-interest-bearing award.

Note 27 Employee benefits: variable compensation (continued)

Financial advisor variable compensation

In line with market practice for US wealth management businesses, the compensation for US financial advisors in Global Wealth Management is composed of production payout and deferred compensation awards. Production payout is primarily based on compensable revenue.

Financial advisors may also qualify for deferred compensation awards, which generally vest over a six-year period. The awards are based on strategic performance measures, including production, length of service with the firm and net new business. Production payout rates and deferred compensation awards may be reduced for, among other things, errors, negligence or carelessness, or a failure to comply with the firm's rules, standards, practices and / or policies and / or applicable laws and regulations.

Other compensation plans

Equity Plus Plan

The Equity Plus Plan is a voluntary employee share purchase program that allows eligible employees to purchase UBS shares at market price and receive one additional notional share for every three shares purchased, up to a maximum annual limit. Additional shares vest after a maximum of three years, provided the employee remains employed with UBS and has retained the purchased shares throughout the holding period.

Role-based allowances

Some employees may receive a role-based allowance in addition to their base salary. This allowance reflects the market value of a specific role and is fixed, non-forfeitable compensation. Unlike salary, a role-based allowance is paid only as long as the employee is in a specific role. Role-based allowances consist of a cash portion and, where applicable, a blocked UBS share award. The compensation expense is recognized in the year of grant.

Discontinued deferred compensation plans

PartnerPlus

Through performance year 2016, financial advisor strategic objective awards were partly granted under the PartnerPlus deferred cash plan, which included amounts awarded by UBS, as well as voluntary participant contributions. Company contributions and voluntary contributions were credited with interest in accordance with the terms of the plan, or upon election credited with notional earnings based on the performance of various mutual funds. Company contributions and interest on both company and voluntary contributions ratably vest in 20% installments 6 to 10 years following grant date. Company contributions and interest on notional earnings on both company and voluntary contributions are forfeitable under certain circumstances.

GrowthPlus

GrowthPlus is a compensation plan for selected financial advisors whose revenue production and length of service exceeded defined thresholds from 2010 through 2017. Awards were granted in 2010, 2011, 2015 and 2018. The awards are cash-based and are distributed over seven years, with the exception of 2018 awards, which are distributed over five years.

Note 27 Employee benefits: variable compensation (continued)

b) Effect on the income statement

Effect on the income statement for the financial year and future periods

The table below provides information about compensation expenses related to total variable compensation, including financial advisor variable compensation, that were recognized in the financial year ended 31 December 2020, as well as expenses that were deferred and will be recognized in the income statement for 2021 and later. The majority of expenses deferred to 2021 and later that are related to the 2020 performance year pertain to awards granted in February 2021. The total unamortized compensation expense for unvested share-based awards granted up to 31 December 2020 will be recognized in future periods over a weighted average period of 2.9 years.

During the third quarter of 2020, UBS AG modified the conditions for continued vesting of certain outstanding deferred compensation awards for qualifying employees, resulting in the recognition of USD 303 million in expenses for variable compensation – performance awards. The full year effect was an expense of approximately USD 240 million. Refer to Note 1b for more information.

Variable compensation including financial advisor variable compensation

	Expenses recognized in 2020			Expenses deferred to 2021 and later[1]		
USD million	Related to the 2020 performance year	Related to prior performance years	Total	Related to the 2020 performance year	Related to prior performance years	Total
Non-deferred cash	1,948	(29)	1,920	0	0	0
Deferred compensation awards	329	704	1,034	734	277	1,011
of which: Equity Ownership Plan	*131*	*315*	*446*	*298*	*67*	*365*
of which: Deferred Contingent Capital Plan	*108*	*339*	*448*	*271*	*189*	*459*
of which: Long-Term Incentive Plan	*41*	*11*	*52*	*46*	*9*	*55*
of which: Asset Management EOP	*49*	*39*	*88*	*120*	*12*	*132*
Variable compensation – performance awards	**2,278**	**675**	**2,953**	**734**	**277**	**1,011**
Variable compensation – other[2]	**109**	**92**	**201**	**176**	**189**	**364**
Total variable compensation excluding financial advisor variable compensation	**2,387**	**768**	**3,155**	**909**	**465**	**1,375**
Financial advisor variable compensation	3,356	233	3,589	350	602	952
of which: non-deferred cash	*3,154*	*0*	*3,154*	*0*	*0*	*0*
of which: deferred share-based awards	*69*	*50*	*119*	*79*	*135*	*214*
of which: deferred cash-based awards	*133*	*183*	*316*	*271*	*467*	*738*
Compensation commitments with recruited financial advisors[3]	22	480	502	473	1,682	2,155
Total FA variable compensation	**3,378**	**713**	**4,091**	**822**	**2,284**	**3,106**
Total variable compensation including FA variable compensation	**5,765**	**1,481**	**7,246[4]**	**1,732**	**2,749**	**4,481**

1 Estimate as of 31 December 2020. Actual amounts to be expensed in future periods may vary, e.g., due to forfeiture of awards. 2 Comprised of replacement payments, forfeiture credits, severance payments, retention plan payments and interest expense related to the Deferred Contingent Capital Plan. 3 Reflects expenses related to compensation commitments with financial advisors entered into at the time of recruitment that are subject to vesting requirements. Amounts reflected as deferred expenses represent the maximum deferred exposure as of the balance sheet date. 4 Includes USD 666 million in expenses related to share-based compensation (performance awards: USD 498 million; other variable compensation: USD 49 million; financial advisor compensation: USD 119 million). A further USD 88 million in expenses related to share-based compensation was recognized within other expense categories included in Note 6 (salaries: USD 4 million related to role-based allowances; social security: USD 51 million; other personnel expenses: USD 34 million related to the Equity Plus Plan).

Financial statements

Note 27 Employee benefits: variable compensation (continued)

Variable compensation including financial advisor variable compensation (continued)

	Expenses recognized in 2019			Expenses deferred to 2020 and later[1]		
USD million	Related to the 2019 performance year	Related to prior performance years	Total	Related to the 2019 performance year	Related to prior performance years	Total
Non-deferred cash	1,706	(24)	1,682	0	0	0
Deferred compensation awards	287	576	863	413	592	1,005
of which: Equity Ownership Plan	*115*	*294*	*410*	*198*	*213*	*412*
of which: Deferred Contingent Capital Plan	*109*	*256*	*365*	*166*	*356*	*521*
of which: Long-Term Incentive Plan	*38*	*0*	*38*	*23*	*0*	*23*
of which: Asset Management EOP	*25*	*26*	*51*	*26*	*23*	*49*
Variable compensation – performance awards	**1,993**	**553**	**2,545**	**413**	**592**	**1,005**
Variable compensation – other[2]	**140**	**85**	**225**	**115**	**228**	**343**
Total variable compensation excluding financial advisor variable compensation	**2,133**	**638**	**2,770**	**528**	**820**	**1,348**
Financial advisor variable compensation	3,233	268	3,501	197	710	907
of which: non-deferred cash	*3,064*	*0*	*3,064*	*0*	*0*	*0*
of which: deferred share-based awards	*57*	*48*	*106*	*54*	*130*	*183*
of which: deferred cash-based awards	*112*	*219*	*331*	*144*	*580*	*724*
Compensation commitments with recruited financial advisors[3]	32	510	542	350	1,617	1,967
Total FA variable compensation	**3,265**	**778**	**4,043**	**548**	**2,327**	**2,874**
Total variable compensation including FA variable compensation	**5,398**	**1,416**	**6,814[4]**	**1,076**	**3,146**	**4,222**

1 Estimate as of 31 December 2019. Actual amounts expensed may vary, e.g., due to forfeiture of awards. 2 Comprised of replacement payments, forfeiture credits, severance payments, retention plan payments and interest expense related to the Deferred Contingent Capital Plan. 3 Reflects expenses related to compensation commitments with financial advisors entered into at the time of recruitment that are subject to vesting requirements. Amounts reflected as deferred expenses represent the maximum deferred exposure as of the balance sheet date. 4 Includes USD 595 million in expenses related to share-based compensation (performance awards: USD 448 million; other variable compensation: USD 42 million; financial advisor compensation: USD 106 million). A further USD 54 million in expenses related to share-based compensation was recognized within other expense categories included in Note 6 (salaries: USD 10 million related to role-based allowances; social security: USD 23 million; other personnel expenses: USD 22 million related to the Equity Plus Plan).

Variable compensation including financial advisor variable compensation (continued)

	Expenses recognized in 2018			Expenses deferred to 2019 and later[1]		
USD million	Related to the 2018 performance year	Related to prior performance years	Total	Related to the 2018 performance year	Related to prior performance years	Total
Non-deferred cash	1,896	(26)	1,870	0	0	0
Deferred compensation awards	360	564	924	570	638	1,208
of which: Equity Ownership Plan	*208*	*299*	*507*	*316*	*238*	*554*
of which: Deferred Contingent Capital Plan	*126*	*235*	*361*	*232*	*373*	*605*
of which: Asset Management EOP	*25*	*28*	*53*	*22*	*26*	*48*
of which: other performance awards	*0*	*2*	*2*	*0*	*1*	*1*
Variable compensation – performance awards	**2,256**	**538**	**2,794**	**570**	**638**	**1,208**
Variable compensation – other[2]	**144**	**75**	**220**	**178**	**264**	**442**
Total variable compensation excluding financial advisor variable compensation	**2,400**	**613**	**3,013**	**748**	**902**	**1,650**
Financial advisor variable compensation	3,233	237	3,470	128	639	767
of which: non-deferred cash	*3,089*	*0*	*3,089*	*0*	*0*	*0*
of which: deferred share-based awards	*51*	*44*	*95*	*52*	*131*	*183*
of which: deferred cash-based awards	*93*	*193*	*286*	*76*	*507*	*584*
Compensation commitments with recruited financial advisors[3]	33	551	584	357	1,883	2,240
Total FA variable compensation	**3,266**	**789**	**4,054**	**484**	**2,522**	**3,006**
Total variable compensation including FA variable compensation	**5,666**	**1,402**	**7,068[4]**	**1,233**	**3,424**	**4,656**

1 Estimate as of 31 December 2018. Actual amounts expensed may vary, e.g., due to forfeiture of awards. 2 Comprised of replacement payments, forfeiture credits, severance payments, retention plan payments and interest expense related to the Deferred Contingent Capital Plan. 3 Reflects expenses related to compensation commitments with financial advisors entered into at the time of recruitment that are subject to vesting requirements. Amounts reflected as deferred expenses represent the maximum deferred exposure as of the balance sheet date. 4 Includes USD 612 million in expenses related to share-based compensation (performance awards: USD 507 million; other variable compensation: USD 10 million; financial advisor compensation: USD 95 million). A further USD 44 million in expenses related to share-based compensation was recognized within other expense categories included in Note 6 (salaries: USD 15 million related to role-based allowances; social security: USD 7 million; other personnel expenses: USD 22 million related to the Equity Plus Plan).

Note 27 Employee benefits: variable compensation (continued)

c) Outstanding share-based compensation awards

Share and performance share awards

Movements in outstanding share-based awards under the EOP during 2020 and 2019 are provided in the table below. The awards presented are granted by UBS AG, but are based on UBS Group AG shares.

Movements in outstanding share-based compensation awards

	Number of shares 2020	Weighted average grant date fair value (USD)	Number of shares 2019	Weighted average grant date fair value (USD)
Outstanding, at the beginning of the year	90,443	14	201,793	15
Awarded during the year	19,229	11	29,092	11
Distributed during the year	(55,114)	14	(140,441)	14
Forfeited during the year	0	0	0	0
Outstanding, at the end of the year	54,557	13	90,443	14
of which: shares vested for accounting purposes	*53,216*		*56,492*	

The total carrying amount of the liability related to cash-settled share-based awards as of 31 December 2020 and 31 December 2019 was USD 1 million.

d) Valuation

UBS share awards

UBS measures compensation expense based on the average market price of the UBS share on the grant date as quoted on the SIX Swiss Exchange, taking into consideration post-vesting sale and hedge restrictions, non-vesting conditions and market conditions, where applicable. The fair value of the share awards subject to post-vesting sale and hedge restrictions is discounted on the basis of the duration of the post-vesting restriction and is referenced to the cost of purchasing an at-the-money European put option for the term of the transfer restriction. The weighted average discount for share and performance share awards granted during 2020 was approximately 23.8% (2019: 22.6%) of the market price of the UBS share. The grant date fair value of notional shares without dividend entitlements also includes a deduction for the present value of future expected dividends to be paid between the grant date and distribution.

Note 28 Interests in subsidiaries and other entities

a) Interests in subsidiaries

UBS AG defines its significant subsidiaries as those entities that, either individually or in aggregate, contribute significantly to UBS AG's financial position or results of operations, based on a number of criteria, including the subsidiaries' equity and their contribution to UBS AG's total assets and profit or loss before tax, in accordance with the requirements set by IFRS 12, Swiss regulations and the rules of the US Securities and Exchange Commission (SEC).

Individually significant subsidiaries

The table below lists UBS AG's individually significant subsidiaries as of 31 December 2020. Unless otherwise stated, the subsidiaries listed below have share capital consisting solely of ordinary shares that are held entirely by UBS AG, and the proportion of ownership interest held is equal to the voting rights held by UBS AG.

The country where the respective registered office is located is also the principal place of business. UBS AG operates through a global network of branches and a significant proportion of its business activity is conducted outside Switzerland, including in the UK, the US, Singapore, Hong Kong and other countries. UBS Europe SE has branches and offices in a number of EU Member States, including Germany, Italy, Luxembourg, Spain and Austria. Share capital is provided in the currency of the legally registered office.

Individually significant subsidiaries of UBS AG as of 31 December 2020[1]

Company	Registered office	Primary business	Share capital in million		Equity interest accumulated in %
UBS Americas Holding LLC	Wilmington, Delaware, USA	Group Functions	USD	3,150.0[2]	100.0
UBS Americas Inc.	Wilmington, Delaware, USA	Group Functions	USD	0.0	100.0
UBS Asset Management AG	Zurich, Switzerland	Asset Management	CHF	43.2	100.0
UBS Bank USA	Salt Lake City, Utah, USA	Global Wealth Management	USD	0.0	100.0
UBS Europe SE	Frankfurt, Germany	Global Wealth Management	EUR	446.0	100.0
UBS Financial Services Inc.	Wilmington, Delaware, USA	Global Wealth Management	USD	0.0	100.0
UBS Securities LLC	Wilmington, Delaware, USA	Investment Bank	USD	1,283.1[3]	100.0
UBS Switzerland AG	Zurich, Switzerland	Personal & Corporate Banking	CHF	10.0	100.0

1 Includes direct and indirect subsidiaries of UBS AG. 2 Consists of common share capital of USD 1,000 and non-voting preferred share capital of USD 3,150,000,000. 3 Consists of common share capital of USD 100,000 and non-voting preferred share capital of USD 1,283,000,000.

Note 28 Interests in subsidiaries and other entities (continued)

Other subsidiaries

The table below lists other direct and indirect subsidiaries of UBS AG that are not individually significant but that contribute to UBS AG's total assets and aggregated profit before tax thresholds and are thereby disclosed in accordance with the requirements set by the SEC.

Other subsidiaries of UBS AG as of 31 December 2020

Company	Registered office	Primary business	Share capital in million		Equity interest accumulated in %
UBS Asset Management (Americas) Inc.	Wilmington, Delaware, USA	Asset Management	USD	0.0	100.0
UBS Asset Management (Hong Kong) Limited	Hong Kong, Hong Kong	Asset Management	HKD	254.0	100.0
UBS Asset Management Life Ltd	London, United Kingdom	Asset Management	GBP	15.0	100.0
UBS Asset Management Switzerland AG	Zurich, Switzerland	Asset Management	CHF	0.5	100.0
UBS Asset Management (UK) Ltd	London, United Kingdom	Asset Management	GBP	125.0	100.0
UBS Business Solutions US LLC	Wilmington, Delaware, USA	Group Functions	USD	0.0	100.0
UBS Credit Corp.	Wilmington, Delaware, USA	Global Wealth Management	USD	0.0	100.0
UBS (France) S.A.	Paris, France	Global Wealth Management	EUR	133.0	100.0
UBS Fund Management (Luxembourg) S.A.	Luxembourg, Luxembourg	Asset Management	EUR	13.0	100.0
UBS Fund Management (Switzerland) AG	Basel, Switzerland	Asset Management	CHF	1.0	100.0
UBS (Monaco) S.A.	Monte Carlo, Monaco	Global Wealth Management	EUR	49.2	100.0
UBS Realty Investors LLC	Boston, Massachusetts, USA	Asset Management	USD	9.0	100.0
UBS Securities Australia Ltd	Sydney, Australia	Investment Bank	AUD	0.3[1]	100.0
UBS Securities Hong Kong Limited	Hong Kong, Hong Kong	Investment Bank	HKD	3,154.2	100.0
UBS Securities Japan Co., Ltd.	Tokyo, Japan	Investment Bank	JPY	32,100.0	100.0
UBS Securities Pte. Ltd.	Singapore, Singapore	Investment Bank	SGD	420.4	100.0

1 Includes a nominal amount relating to redeemable preference shares.

Consolidated structured entities

UBS AG consolidates a structured entity (an SE) if it has power over the relevant activities of the entity, exposure to variable returns and the ability to use its power to affect its returns. Consolidated SEs include certain investment funds, securitization vehicles and client investment vehicles. UBS AG has no individually significant subsidiaries that are SEs.

In 2020 and 2019, UBS AG did not enter into any contractual obligation that could require UBS AG to provide financial support to consolidated SEs. In addition, UBS AG did not provide support, financial or otherwise, to a consolidated SE when UBS AG was not contractually obligated to do so, nor does UBS AG have any intention to do so in the future. Furthermore, UBS AG did not provide support, financial or otherwise, to a previously unconsolidated SE that resulted in UBS AG controlling the SE during the reporting period.

Note 28 Interests in subsidiaries and other entities (continued)

b) Interests in associates and joint ventures

As of 31 December 2020 and 2019, no associate or joint venture was individually material to UBS AG. In addition, there were no significant restrictions on the ability of associates or joint ventures to transfer funds to UBS AG or its subsidiaries in the form of cash dividends or to repay loans or advances made. There were no quoted market prices for any associates or joint ventures of UBS AG.

In the third quarter of 2020, UBS AG completed the sale of a 51.2% stake in Fondcenter AG to Clearstream and deconsolidated the entity in accordance with IFRS 10, *Consolidated Financial Statements*. The retained minority shareholding of 48.8% is accounted for as an investment in an associate with a carrying amount of USD 399 million as of 31 December 2020.

› **Refer to Note 29 for more information**

Investments in associates and joint ventures

USD million	2020	2019
Carrying amount at the beginning of the year	1,051	1,099
Additions[1]	388	0
Disposals	0	0
Share of comprehensive income	83	25
of which: share of net profit[2]	*84*	*46*
of which: share of other comprehensive income[3]	*(1)*	*(21)*
Share of changes in retained earnings	(40)	0
Dividends received	(33)	(83)
Impairment	0	(1)
Foreign currency translation	108	11
Carrying amount at the end of the year	1,557	1,051
of which: associates	*1,513*	*1,010*
of which: SIX Group AG, Zurich[4]	*965*	*887*
of which: Clearstream Fund Centre AG, Zurich[1]	*399*	
of which: other associates	*150*	*123*
of which: joint ventures	*44*	*41*

1 On 30 September 2020, UBS AG completed the sale of a 51.2% stake in Fondcenter AG to Clearstream and deconsolidated the entity in accordance with IFRS 10, Consolidated Financial Statements. The retained minority shareholding of 48.8% is accounted for as an associate and increased the investments in associates by USD 385 million upon completion of the transaction. Refer to Note 29 for more information. 2 For 2020, consists of USD 64 million from associates and USD 19 million from joint ventures. For 2019, consists of USD 28 million from associates and USD 18 million from joint ventures. 3 For 2020, consists of negative USD 1 million from associates. For 2019, consists of negative USD 22 million from associates and USD 1 million from joint ventures. 4 In 2020, UBS AG's equity interest amounts to 17.31%. UBS AG is represented on the Board of Directors.

Note 28 Interests in subsidiaries and other entities (continued)

c) Interests in unconsolidated structured entities

UBS AG is considered to sponsor another entity if, in addition to ongoing involvement with the entity, it had a key role in establishing that entity or in bringing together relevant counterparties for the transaction facilitated by the entity. During 2020, UBS AG sponsored the creation of various SEs and interacted with a number of non-sponsored SEs, including securitization vehicles, client vehicles and certain investment funds, that UBS AG did not consolidate as of 31 December 2020 because it did not control these entities.

The table below presents UBS AG's interests in and maximum exposure to loss from unconsolidated SEs as well as the total assets held by the SEs in which UBS AG had an interest as of year-end, except for investment funds sponsored by third parties, for which the carrying amount of UBS AG's interest as of year-end has been disclosed.

Interests in unconsolidated structured entities

	31.12.20				
USD million, except where indicated	Securitization vehicles	Client vehicles	Investment funds	Total	Maximum exposure to loss[1]
Financial assets at fair value held for trading	375	131	7,595	8,101	8,101
Derivative financial instruments	6	49	158	213	211
Loans and advances to customers			179	179	179
Financial assets at fair value not held for trading	35	1[2]	73	109	109
Financial assets measured at fair value through other comprehensive income		6,624		6,624	6,624
Other financial assets measured at amortized cost		0[2]		0	250
Total assets	416[3]	6,805	8,005	15,227	
Derivative financial instruments	3[4]	11	376	390	0
Total liabilities	3	11	376	390	
Assets held by the unconsolidated structured entities in which UBS had an interest (USD billion)	39[5]	136[6]	484[7]		

	31.12.19				
USD million, except where indicated	Securitization vehicles	Client vehicles	Investment funds	Total	Maximum exposure to loss[1]
Financial assets at fair value held for trading	462	130	5,874	6,466	6,466
Derivative financial instruments	9	9	36	55	53
Loans and advances to customers			174	174	174
Financial assets at fair value not held for trading	81	8[2]	62	151	902
Financial assets measured at fair value through other comprehensive income		3,955		3,955	3,955
Other financial assets measured at amortized cost	335	16[2]		351	1,372
Total assets	888[3]	4,118	6,147	11,152	
Derivative financial instruments	2[4]	225	324	552	1
Total liabilities	2	225	324	552	
Assets held by the unconsolidated structured entities in which UBS had an interest (USD billion)	55[5]	73[6]	413[7]		

1 For the purpose of this disclosure, maximum exposure to loss amounts do not consider the risk-reducing effects of collateral or other credit enhancements. 2 Represents the carrying amount of loan commitments. The maximum exposure to loss for these instruments is equal to the notional amount. 3 As of 31 December 2020, USD 0.2 billion of the USD 0.4 billion (31 December 2019: USD 0.6 billion of the USD 0.9 billion) was held in Group Functions – Non-core and Legacy Portfolio. 4 Comprised of credit default swap liabilities and other swap liabilities. The maximum exposure to loss for credit default swap liabilities is equal to the sum of the negative carrying amount and the notional amount. For other swap liabilities, no maximum exposure to loss is reported. 5 Represents the principal amount outstanding. 6 Represents the market value of total assets. 7 Represents the net asset value of the investment funds sponsored by UBS and the carrying amount of UBS's interests in the investment funds not sponsored by UBS.

Note 28 Interests in subsidiaries and other entities (continued)

UBS AG retains or purchases interests in unconsolidated SEs in the form of direct investments, financing, guarantees, letters of credit, derivatives and through management contracts.

UBS AG's maximum exposure to loss is generally equal to the carrying amount of UBS AG's interest in the SE, with the exception of guarantees, letters of credit and credit derivatives, for which the contract's notional amount, adjusted for losses already incurred, represents the maximum loss that UBS AG is exposed to. In addition, the current fair value of derivative swap instruments with a positive replacement value only, such as total return swaps, is presented as the maximum exposure to loss. Risk exposure for these swap instruments could change over time with market movements.

The maximum exposure to loss disclosed in the table on the previous page does not reflect UBS AG's risk management activities, including effects from financial instruments that may be used to economically hedge the risks inherent in the unconsolidated SE or the risk-reducing effects of collateral or other credit enhancements.

In 2020 and 2019, UBS AG did not provide support, financial or otherwise, to an unconsolidated SE when not contractually obligated to do so, nor does UBS AG have any intention to do so in the future.

In 2020 and 2019, income and expenses from interests in unconsolidated SEs primarily resulted from mark-to-market movements recognized in *Other net income from financial instruments measured at fair value through profit of loss*, which have generally been hedged with other financial instruments, as well as fee and commission income received from UBS-sponsored funds.

Interests in securitization vehicles

As of 31 December 2020 and 31 December 2019, UBS AG held interests, both retained and acquired, in various securitization vehicles, half of which are held within Group Functions – Non-core and Legacy Portfolio. The Investment Bank also retained interests in securitization vehicles related to financing, underwriting, secondary market and derivative trading activities.

The numbers outlined in the table on the previous page may differ from the securitization positions presented in the 31 December 2020 Pillar 3 report under "Pillar 3 disclosures" at *ubs.com/investors,* for the following reasons: (i) exclusion of synthetic securitizations transacted with entities that are not SEs and transactions in which UBS AG did not have an interest because it did not absorb any risk; (ii) a different measurement basis in certain cases (e.g., IFRS carrying amount within the previous table compared with net exposure amount at default for Pillar 3 disclosures); and (iii) different classification of vehicles viewed as sponsored by UBS AG versus sponsored by third parties.

› **Refer to the 31 December 2020 Pillar 3 report under "Pillar 3 disclosures" at *ubs.com/investors* for more information**

Interests in client vehicles

Client vehicles are established predominantly for clients to invest in specific assets or risk exposures. As of 31 December 2020 and 31 December 2019, UBS AG retained interests in client vehicles sponsored by UBS and third parties that relate to financing and derivative activities, and to hedge structured product offerings. Included within these investments are securities guaranteed by US government agencies.

Interests in investment funds

Investment funds have a collective investment objective, and are managed by an investment manager. UBS AG holds interests in a number of investment funds, primarily resulting from seed investments or in order to hedge structured product offerings. In addition to the interests disclosed in the table on the previous page, UBS AG manages the assets of various pooled investment funds and receives fees that are based, in whole or part, on the net asset value of the fund and / or the performance of the fund. The specific fee structure is determined on the basis of various market factors and considers the nature of the fund and the jurisdiction of incorporation, as well as fee schedules negotiated with clients. These fee contracts represent an interest in the fund as they align UBS AG's exposure with investors, providing a variable return that is based on the performance of the entity. Depending on the structure of the fund, these fees may be collected directly from the fund assets and / or from the investors. Any amounts due are collected on a regular basis and are generally backed by the assets of the fund. UBS AG did not have any material exposure to loss from these interests as of 31 December 2020 or as of 31 December 2019. The total net asset value of the funds sponsored by UBS are included in the table on the previous page.

Note 28 Interests in subsidiaries and other entities (continued)

Sponsored unconsolidated structured entities in which UBS did not have an interest

For several sponsored SEs, no interest was held by UBS AG at year-end. However, during the respective reporting period UBS AG transferred assets, provided services and held instruments that did not qualify as an interest in these sponsored SEs, and accordingly earned income or incurred expenses from these entities. The table below presents the income earned and expenses incurred directly from these entities during the year, as well as corresponding asset information. The table does not include income earned and expenses incurred from risk management activities, including income and expenses from financial instruments used to economically hedge instruments transacted with the unconsolidated SEs.

The majority of the fee income arose from investment funds that are sponsored and administrated by UBS AG, but managed by third parties. As UBS AG does not provide any investment management services, UBS AG was not exposed to risk from the performance of these entities and was therefore deemed not to have an interest in them. In certain structures, the fees receivable may be collected directly from the investors and have therefore not been included in the table below.

UBS AG also recorded other net income from financial instruments measured at fair value through profit or loss from mark-to-market movements arising primarily from derivatives, such as interest rate and currency swaps, as well as credit derivatives, through which UBS AG purchases protection, and financial liabilities designated at fair value, which do not qualify as interests because UBS AG does not absorb variability from the performance of the entity. Total income reported does not reflect economic hedges or other mitigating effects from UBS AG's risk management activities.

During 2020, UBS AG and third parties did not transfer any assets into sponsored securitization vehicles created in the year (2019: USD 1 billion and USD 1 billion, respectively). UBS AG and third parties transferred assets, alongside deposits and debt issuances, of USD 0 billion and USD 9 billion, respectively, into sponsored client vehicles created in the year (2019: USD 0 billion and USD 1 billion, respectively). For sponsored investment funds, transfers arose during the period as investors invested and redeemed positions, thereby changing the overall size of the funds, which, when combined with market movements, resulted in a total closing net asset value of USD 37 billion (31 December 2019: USD 42 billion).

Sponsored unconsolidated structured entities in which UBS did not have an interest at year-end

	As of or for the year ended			
	31.12.20			
USD million, except where indicated	Securitization vehicles	Client vehicles	Investment funds	Total
Net interest income	1	12	2	15
Net fee and commission income		1	58	60
Other net income from financial instruments measured at fair value through profit or loss	0	17	(15)	2
Total income	1	30	45	76
Asset information (USD billion)	0[1]	9[2]	37[3]	

	As of or for the year ended			
	31.12.19			
USD million, except where indicated	Securitization vehicles	Client vehicles	Investment funds	Total
Net interest income	(1)	0	(1)	(2)
Net fee and commission income		13	50	63
Other net income from financial instruments measured at fair value through profit or loss	19	(18)	9	11
Total income	19	(5)	58	72
Asset information (USD billion)	2[1]	1[2]	42[3]	

1 Represents the amount of assets transferred to the respective securitization vehicles. 2 Represents the amount of assets transferred to the respective client vehicles. 3 Represents the total net asset value of the respective investment funds.

Note 29 Changes in organization and acquisitions and disposals of subsidiaries and businesses

Disposals of subsidiaries and businesses

Sale of a majority stake in Fondcenter AG

In the third quarter of 2020, UBS AG completed the sale of a 51.2% stake in Fondcenter AG to Clearstream, Deutsche Börse Group's post-trade services provider, and deconsolidated the entity in accordance with IFRS 10, *Consolidated Financial Statements*. The sale resulted in a post-tax gain of USD 631 million, which was recognized in *Other income*. Fondcenter AG has been combined with Clearstream's Fund Desk business to form Clearstream Fund Centre. UBS AG retains a 48.8% shareholding in the entity and accounts for this minority interest as an investment in an associate with a carrying amount of USD 399 million as of 31 December 2020.

Banking partnership with Banco do Brasil

In the third quarter of 2020, UBS AG completed the transaction with Banco do Brasil, establishing a strategic investment banking partnership in Brazil and selected countries in South America. The partnership was established by UBS AG issuing a 49.99% stake in UBS Brasil Serviços in exchange for exclusive access to Banco do Brasil's corporate clients. This resulted in UBS AG recognizing an intangible asset of USD 147 million. UBS AG retains a controlling interest of 50.01% in UBS Brasil Serviços and continues to consolidate the entity. Upon completion, UBS AG's equity attributable to non-controlling interests increased by USD 115 million, with no material effect on UBS AG's equity attributable to shareholders.

Strategic partnership with Sumitomo Mitsui Trust Holdings

In 2019, UBS AG entered into a strategic wealth management partnership in Japan with Sumitomo Mitsui Trust Holdings, Inc. (SuMi Trust Holdings). In January 2020, the first phase was launched, with operations commencing in the newly established joint venture, UBS SuMi TRUST Wealth Advisory, which is owned equally by UBS Securities Japan and SuMi Trust Holdings and is accounted for as an investment in a joint venture by UBS AG. UBS AG and SuMi Trust Holdings have also started offering each other's products and services to their respective current clients.

The second phase of the partnership is expected to launch in the second half of 2021 with the establishment of a new entity which will be 51% owned and controlled by UBS AG, requiring UBS AG to consolidate this entity. UBS AG does not expect a material effect on shareholders' equity upon closing.

Sale of wealth management business in Austria in 2021

In December 2020, UBS AG signed an agreement to sell its domestic wealth management business in Austria to LGT. The agreement includes the transition of employees, client relationships, products and services of the wealth management business of UBS Austria. The transaction is subject to customary closing conditions and is expected to close in the third quarter of 2021. UBS AG expects to record a pre-tax gain of approximately USD 0.1 billion upon closing of the transaction.

Note 30 Finance lease receivables

UBS AG acts as a lessor and leases a variety of assets to third parties under finance leases, such as industrial equipment and aircraft. At the end of the respective lease term, assets may be sold to third parties or further leased. Lessees may participate in any sales proceeds achieved. Lease payments cover the cost of the assets (net of their residual value), as well as financing costs. As of 31 December 2020, unguaranteed residual values of USD 185 million (31 December 2019: USD 246 million) had been accrued.

The ECL stage 3 allowance for uncollectible minimum lease payments receivable was USD 7 million (31 December 2019: USD 6 million). No contingent rents were received in 2020. Amounts in the table below are disclosed on a gross basis. The finance lease receivables in Note 14a of USD 1,447 million are presented net of expected credit loss allowances.

Lease receivables

USD million	31.12.20		
	Total minimum lease payments	Unearned finance income	Present value
2021	450	25	426
2022–2025	856	31	825
Thereafter	215	4	210
Total	**1,521**	**60**	**1,461**

USD million	31.12.19		
	Total minimum lease payments	Unearned finance income	Present value
2020	448	31	417
2021–2024	874	52	822
Thereafter	221	6	215
Total	**1,544**	**89**	**1,455**

Note 31 Related parties

UBS AG defines related parties as associates (entities that are significantly influenced by UBS), joint ventures (entities in which UBS shares control with another party), post-employment benefit plans for UBS AG employees, key management personnel, close family members of key management personnel and entities that are, directly or indirectly, controlled or jointly controlled by key management personnel or their close family members. Key management personnel is defined as members of the Board of Directors (BoD) and Executive Board (EB).

a) Remuneration of key management personnel

The Chairman of the BoD has a specific management employment contract and receives pension benefits upon retirement. Total remuneration of the Chairman of the BoD and all EB members is included in the table below.

Remuneration of key management personnel

USD million, except where indicated	31.12.20	31.12.19	31.12.18
Base salaries and other cash payments[1]	31	30	25
Incentive awards – cash[2]	17	13	14
Annual incentive award under DCCP	26	20	21
Employer's contributions to retirement benefit plans	2	2	3
Benefits in kind, fringe benefits (at market value)	1	1	2
Equity-based compensation[3]	45	34	38
Total	122	101	102
Total (CHF million)[4]	115	101	100

1 May include role-based allowances in line with market practice and regulatory requirements. 2 The cash portion may also include blocked shares in line with regulatory requirements. 3 Compensation expense is based on the share price on grant date taking into account performance conditions. Refer to Note 27 for more information. For EB members, equity-based compensation for 2020 and 2019 was entirely composed of LTIP awards and equity-based compensation for 2018 was entirely composed of EOP awards. For the Chairman of the BoD, the equity-based compensation for 2020, 2019 and 2018 was entirely composed of UBS shares. 4 Swiss franc amounts disclosed represent the respective US dollar amounts translated at the applicable performance award currency exchange rates (2020: USD / CHF 0.94; 2019: USD / CHF 0.99; 2018: USD / CHF 0.98)

The independent members of the BoD do not have employment or service contracts with UBS AG, and thus are not entitled to benefits upon termination of their service on the BoD. Payments to these individuals for their services as external board members amounted to USD 7.0 million (CHF 6.6 million) in 2020, USD 7.3 million (CHF 7.3 million) in 2019 and USD 7.6 million (CHF 7.4 million) in 2018.

b) Equity holdings of key management personnel

Equity holdings of key management personnel[1]

	31.12.20	31.12.19
Number of shares held by members of the BoD, EB and parties closely linked to them[2]	4,956,640	6,609,848

1 No options were held in 2020 and 2019 by non-independent members of the BoD and any GEB member or any of its related parties. 2 Excludes shares granted under variable compensation plans with forfeiture provisions.

Of the share totals above, no shares were held by close family members of key management personnel on 31 December 2020 and 31 December 2019. No shares were held by entities that are directly or indirectly controlled or jointly controlled by key management personnel or their close family members on 31 December 2020 and 31 December 2019. As of 31 December 2020, no member of the BoD or EB was the beneficial owner of more than 1% of UBS Group AG's shares.

Note 31 Related parties (continued)

c) Loans, advances and mortgages to key management personnel

The non-independent members of the BoD and EB members are granted loans, fixed advances and mortgages in the ordinary course of business on substantially the same terms and conditions that are available to other employees, including interest rates and collateral, and neither involve more than the normal risk of collectability nor contain any other unfavorable features for the firm. Independent BoD members are granted loans and mortgages in the ordinary course of business at general market conditions.

Movements in the loan, advances and mortgage balances are as follows.

Loans, advances and mortgages to key management personnel[1]

USD million, except where indicated	2020	2019
Balance at the beginning of the year	23	28
Additions	13	6
Reductions	(5)	(11)
Balance at the end of the year[2]	31	23
Balance at the end of the year (CHF million)[2, 3]	28	22

1 All loans are secured loans. 2 There were no unused uncommitted credit facilities as of 31 December 2020 and 31 December 2019. 3 Swiss franc amounts disclosed represent the respective US dollar amounts translated at the relevant year-end closing exchange rate.

d) Other related-party transactions with entities controlled by key management personnel

In 2020 and 2019, UBS AG did not enter into transactions with entities that are directly or indirectly controlled or jointly controlled by UBS AG's key management personnel or their close family members and as of 31 December 2020, 31 December 2019 and 31 December 2018, there were no outstanding balances related to such transactions. Furthermore, in 2020 and 2019, entities controlled by key management personnel did not sell any goods or provide any services to UBS AG, and therefore did not receive any fees from UBS AG. UBS AG also did not provide services to such entities in 2020 and 2019, and therefore also received no fees.

Note 31 Related parties (continued)

e) Transactions with associates and joint ventures

Loans to and outstanding receivables from associates and joint ventures

USD million	2020	2019
Carrying amount at the beginning of the year	982	829
Additions	527	145
Reductions	(1,001)	(5)
Foreign currency translation	123	13
Carrying amount at the end of the year	630	982
of which: unsecured loans and receivables	*621*	*971*

Other transactions with associates and joint ventures

	As of or for the year ended	
USD million	31.12.20	31.12.19
Payments to associates and joint ventures for goods and services received	139	124
Fees received for services provided to associates and joint ventures	128	1
Liabilities to associates and joint ventures	91	101
Commitments and contingent liabilities to associates and joint ventures	9	1,598

› **Refer to Note 28 for an overview of investments in associates and joint ventures**

f) Receivables and payables from / to UBS Group AG and other subsidiaries of UBS Group AG

USD million	31.12.20	31.12.19
Receivables		
Loans and advances to customers	1,470	1,255
Financial assets at fair value held for trading	76	180
Other financial assets measured at amortized cost	38	60
Payables		
Customer deposits	3,324	2,314
Funding from UBS Group AG and its subsidiaries	53,979	47,866
Other financial liabilities measured at amortized cost	1,820	1,829
Other financial liabilities designated at fair value[1]	1,375	217

1 Represents funding recognized from UBS Group AG and its subsidiaries that is designated at fair value. Refer to Note 19b for more information.

Note 32 Invested assets and net new money

Invested assets

Invested assets consist of all client assets managed by or deposited with UBS AG for investment purposes. Invested assets include 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. All assets held for purely transactional purposes and custody-only assets, including corporate client assets held for cash management and transactional purposes, are excluded from invested assets as UBS AG only administers the assets and does not offer advice on how the assets should be invested. Also excluded are non-bankable assets (e.g., art collections) and deposits from third-party banks for funding or trading purposes.

Discretionary assets are defined as client assets that UBS AG decides how to invest. Other invested assets are those where the client ultimately decides how the assets are invested. When a single product is created in one business division and sold in another, it is counted in both the business division that manages the investment and the one that distributes it. This results in double counting within UBS AG total invested assets, as both business divisions are independently providing a service to their respective clients, and both add value and generate revenue.

Net new money

Net new money in a reporting period is the amount of invested assets that are entrusted to UBS AG by new and existing clients, less those withdrawn by existing clients and clients who terminated their relationship with UBS AG.

Net new money is calculated using the direct method, under which inflows and outflows to / from invested assets are determined at the client level based on transactions. Interest and dividend income from invested assets are not counted as net new money inflows. Market and currency movements as well as fees, commissions and interest on loans charged are excluded from net new money, as are the effects resulting from any acquisition or divestment of a UBS AG subsidiary or business. Reclassifications between invested assets and custody-only assets as a result of a change in the service level delivered are generally treated as net new money flows. However, where the change in service level directly results from an externally imposed regulation or from a strategic decision by UBS AG to exit a market or specific service offering, the one-time net effect is reported as *Other effects*.

The Investment Bank does not track invested assets and net new money. However, when a client is transferred from the Investment Bank to another business division, this may produce net new money even though client assets were already with UBS AG.

Invested assets and net new money

	As of or for the year ended	
USD billion	31.12.20	31.12.19
Fund assets managed by UBS	397	358
Discretionary assets	1,459	1,209
Other invested assets	2,331	2,040
Total invested assets[1]	4,187	3,607
of which: double counts	*311*	*248*
Net new money[1]	127	51

1 Includes double counts.

Development of invested assets

USD billion	2020	2019
Total invested assets at the beginning of the year[1]	3,607	3,101
Net new money	127	51
Market movements[2]	359	444
Foreign currency translation	96	6
Other effects	(1)	5
of which: acquisitions / (divestments)	*0*	*(1)*
Total invested assets at the end of the year[1]	4,187	3,607

1 Includes double counts. 2 Includes interest and dividend income.

Note 33 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 year ended		
	31.12.20	31.12.19	31.12.20	31.12.19	31.12.18
1 CHF	1.13	1.03	1.07	1.01	1.02
1 EUR	1.22	1.12	1.15	1.12	1.18
1 GBP	1.37	1.32	1.29	1.28	1.33
100 JPY	0.97	0.92	0.94	0.92	0.91

1 Monthly income statement items of operations with a functional currency other than the US dollar are translated with month-end rates into US dollars. Disclosed average rates for a year represent an average of 12 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 34 Events after the reporting period

Events subsequent to the publication of the unaudited fourth quarter 2020 report

The 2020 results and the balance sheet as of 31 December 2020 differ from those presented in the unaudited fourth quarter 2020 report published on 26 January 2021 as a result of events adjusted for after the balance sheet date. Provisions for litigation, regulatory and similar matters increased, which reduced 2020 operating profit before tax and 2020 net profit attributable to shareholders each by USD 72 million.

› **Refer to Note 18 for more information about provisions for litigation, regulatory and similar matters**

Note 35 Main differences between IFRS and Swiss GAAP

The consolidated financial statements of UBS AG are prepared in accordance with International Financial Reporting Standards (IFRS). The Swiss Financial Market Supervisory Authority (FINMA) requires financial groups that present their financial statements under IFRS to provide a narrative explanation of the main differences between IFRS and Swiss GAAP (the FINMA Accounting Ordinance, FINMA Circular 2020/1 "Accounting – banks" and the Banking Ordinance). Included in this Note are the significant differences in the recognition and measurement between IFRS and the provisions of the Banking Ordinance and the guidelines of FINMA governing true and fair view financial statement reporting pursuant to Art. 25 through Art. 42 of the Banking Ordinance.

1. Consolidation

Under IFRS, all entities that are controlled by the holding entity are consolidated.

Under Swiss GAAP, controlled entities that are deemed immaterial to the UBS AG or that are held temporarily only are exempt from consolidation, but instead are recorded as participations accounted for under the equity method of accounting or as financial investments measured at the lower of cost or market value.

2. Classification and measurement of financial assets

Under IFRS, debt instruments are measured at amortized cost, fair value through other comprehensive income (FVOCI) or fair value through profit or loss (FVTPL), depending on the nature of the business model within which the asset is held and the characteristics of the contractual cash flows of the asset. Equity instruments are accounted for at FVTPL by UBS AG.

Under Swiss GAAP, trading assets and derivatives are measured at FVTPL in line with IFRS. However, non-trading debt instruments are generally measured at amortized cost, even when the assets are managed on a fair value basis. In addition, the measurement of financial assets in the form of securities depends on the nature of the asset: debt instruments that are not held to maturity, i.e., instruments which are available for sale, as well as equity instruments with no permanent holding intent, are classified as *Financial investments* and measured at the lower of (amortized) cost or market value. Market value adjustments up to the original cost amount and realized gains or losses upon disposal of the investment are recorded in the income statement as *Other income from ordinary activities.* Equity instruments with a permanent holding intent are classified as participations in *Non-consolidated investments in subsidiaries and other participations* and are measured at cost less impairment.

Impairment losses are recorded in the income statement as *Impairment of investments in non-consolidated subsidiaries and other participations.* Reversals of impairments up to the original cost amount as well as realized gains or losses upon disposal of the investment are recorded as *Extraordinary income / Extraordinary expenses* in the income statement.

3. Fair value option applied to financial liabilities

Under IFRS, UBS AG applies the fair value option to certain financial liabilities not held for trading. Instruments for which the fair value option is applied are accounted for at FVTPL. The amount of change in the fair value that is attributable to changes in UBS AG's own credit is presented in *Other comprehensive income* directly within *Retained earnings*. The fair value option is applied primarily to issued structured debt instruments, certain non-structured debt instruments, certain payables under repurchase agreements and cash collateral on securities lending agreements, amounts due under unit-linked investment contracts, and brokerage payables.

Under Swiss GAAP, the fair value option can only be applied to structured debt instruments that consist of a debt host contract and one or more embedded derivatives that do not relate to own equity. Furthermore, unrealized changes in fair value attributable to changes in UBS AG's own credit are not recognized, whereas realized own credit is recognized in *Net trading income*.

Note 35 Main differences between IFRS and Swiss GAAP (continued)

4. Allowances and provisions for credit losses

Swiss GAAP permits the use of IFRS for the accounting for allowances and provisions for credit losses based on an expected credit loss (ECL) model. UBS AG has chosen to apply the IFRS 9 ECL approach to the substantial majority of exposures in scope of the Swiss GAAP ECL requirements, including all exposures in scope of ECL under both Swiss GAAP and IFRS.

In addition, for a small population of exposures in scope of the Swiss GAAP ECL requirements, which are not subject to ECL under IFRS due to classification and measurements differences, UBS AG applies an alternative approach. Where the Pillar 1 internal ratings-based (IRB) models are applied for measurement of credit risk, ECL for such exposures is determined by the regulatory expected loss (EL), with an add-on for scaling up to the residual maturity of exposures maturing beyond the next 12 months. For detailed information on regulatory EL, refer to the "Risk management and control" section of this report. For exposures for which the Pillar 1 standardized approach (SA) is applied for the measurement of credit risk, ECL is determined using a portfolio approach that derives conservative probability of default (PD) and loss given default (LGD) for the entire portfolio.

5. Hedge accounting

Under IFRS, when cash flow hedge accounting is applied, the fair value gain or loss on the effective portion of the derivative designated as a cash flow hedge is recognized in equity. When fair value hedge accounting is applied, the fair value gains or losses of the derivative and the hedged item are recognized in the income statement.

Under Swiss GAAP, the effective portion of the fair value change of the derivative instrument designated as a cash flow or as a fair value hedge is deferred on the balance sheet as *Other assets* or *Other liabilities*. The carrying amount of the hedged item designated in fair value hedges is not adjusted for fair value changes attributable to the hedged risk.

6. Goodwill and intangible assets

Under IFRS, goodwill acquired in a business combination is not amortized but tested annually for impairment. Intangible assets with an indefinite useful life are also not amortized but tested annually for impairment.

Under Swiss GAAP, goodwill and intangible assets with indefinite useful lives are amortized over a period not exceeding five years, unless a longer useful life, which may not exceed 10 years, can be justified. In addition, these assets are tested annually for impairment.

7. Post-employment benefit plans

Swiss GAAP permits the use of IFRS or Swiss accounting standards for post-employment benefit plans, with the election made on a plan-by-plan basis.

UBS AG has elected to apply IFRS (IAS 19) for the non-Swiss defined benefit plans and Swiss GAAP (FER 16) for the Swiss pension plan in its standalone financial statements. The requirements of Swiss GAAP are better aligned with the specific nature of Swiss pension plans, which are hybrid in that they combine elements of defined contribution and defined benefit plans, but are treated as defined benefit plans under IFRS. Key differences between Swiss GAAP and IFRS include the treatment of dynamic elements, such as future salary increases and future interest credits on retirement savings, which are not considered under the static method used in accordance with Swiss GAAP. Also, the discount rate used to determine the defined benefit obligation in accordance with IFRS is based on the yield of high-quality corporate bonds of the market in the respective pension plan country. The discount rate used in accordance with Swiss GAAP (i.e., the technical interest rate) is determined by the Pension Foundation Board based on the expected returns of the Board's investment strategy.

For defined benefit plans, IFRS requires the full defined benefit obligation net of the plan assets to be recorded on the balance sheet, with changes resulting from remeasurements recognized directly in equity. However, for non-Swiss defined benefit plans for which IFRS accounting is elected, changes due to remeasurements are recognized in the income statement of UBS AG standalone under Swiss GAAP.

Swiss GAAP requires that employer contributions to the pension fund are recognized as personnel expenses in the income statement. Furthermore, Swiss GAAP requires an assessment as to whether, based on the financial statements of the pension fund prepared in accordance with Swiss accounting standards (FER 26), an economic benefit to, or obligation of, the employer arises from the pension fund which is recognized in the balance sheet when conditions are met. Conditions for recording a pension asset or liability would be met if, for example, an employer contribution reserve is available or the employer is required to contribute to the reduction of a pension deficit (on an FER 26 basis).

8. Leasing

Under IFRS, a single lease accounting model applies that requires UBS AG to record a right-of-use (RoU) asset and a corresponding lease liability on the balance sheet when UBS AG is a lessee in a lease arrangement. The RoU asset and the lease liability are recognized when UBS AG acquires control of the physical use of the asset. The lease liability is measured based on the present value of the lease payments over the lease term, discounted using UBS AG's unsecured borrowing rate. The RoU asset is recorded at an amount equal to the lease liability but is adjusted for rent prepayments, initial direct costs, any costs to refurbish the leased asset and/or lease incentives received. The RoU asset is depreciated over the shorter of the lease term or the useful life of the underlying asset.

Under Swiss GAAP, leases that transfer substantially all the risks and rewards, but not necessarily legal title in the underlying assets, are classified as finance leases. All other leases are classified as operating leases. Whereas finance leases are recognized on the balance sheet and measured in line with IFRS, operating lease payments are recognized as *General and administrative expenses* on a straight-line basis over the lease term, which commences with control of the physical use of the asset. Lease incentives are treated as a reduction of rental expense and are recognized on a consistent basis over the lease term.

9. Netting of derivative assets and liabilities

Under IFRS, derivative assets, derivative liabilities and related cash collateral that are not settled to market are reported on a gross basis unless the restrictive IFRS netting requirements are met: i) existence of master netting agreements and related collateral arrangements that are unconditional and legally enforceable, both in the normal course of business and in the event of default, bankruptcy or insolvency of UBS AG and its counterparties; and ii) UBS AG's intention to either settle on a net basis or to realize the asset and settle the liability simultaneously.

Under Swiss GAAP, derivative assets, derivative liabilities and related cash collateral that are not settled to market are generally reported on a net basis, provided the master netting and the related collateral agreements are legally enforceable in the event of default, bankruptcy or insolvency of UBS AG's counterparties.

10. Negative interest

Under IFRS, negative interest income arising on a financial asset does not meet the definition of interest income and, therefore, negative interest on financial assets and negative interest on financial liabilities are presented within interest expense and interest income, respectively.

Under Swiss GAAP, negative interest on financial assets is presented within interest income and negative interest on financial liabilities is presented within interest expense.

11. Extraordinary income and expense

Certain non-recurring and non-operating income and expense items, such as realized gains or losses from the disposal of participations, fixed and intangible assets, as well as reversals of impairments of participations and fixed assets, are classified as extraordinary items under Swiss GAAP. This distinction is not available under IFRS. ▲

Note 36 Supplemental guarantor information required under SEC regulations

Joint liability of UBS Switzerland AG

In 2015, the Personal & Corporate Banking and Wealth Management businesses booked in Switzerland were transferred from UBS AG to UBS Switzerland AG through an asset transfer in accordance with the Swiss Merger Act. Under the terms of the asset transfer agreement, UBS Switzerland AG assumed joint liability for contractual obligations of UBS AG existing on the asset transfer date, including the full and unconditional guarantee of certain registered debt securities issued by UBS AG. To reflect this joint liability, UBS Switzerland AG is presented in a separate column as a subsidiary co-guarantor.

The joint liability of UBS Switzerland AG for contractual obligations of UBS AG decreased in 2020 by USD 7.3 billion to USD 10.1 billion as of 31 December 2020, mainly driven by contractual maturities and, to a lesser extent, early extinguishments of UBS AG liabilities which existed at the date of the asset transfer in the second quarter of 2015.

Supplemental guarantor consolidated income statement

USD million For the year ended 31 December 2020	UBS AG (standalone)[1]	UBS Switzerland AG (standalone)[1]	Other subsidiaries[2]	Elimination entries	UBS AG (consolidated)
Operating income					
Interest income from financial instruments measured at amortized cost and fair value through other comprehensive income	3,386	3,636	2,612	(818)	8,816
Interest expense from financial instruments measured at amortized cost	(3,694)	(513)	(1,261)	1,134	(4,333)
Net interest income from financial instruments measured at fair value through profit or loss	1,103	164	311	(273)	1,305
Net interest income	794	3,288	1,662	43	5,788
Other net income from financial instruments measured at fair value through profit or loss	4,857	911	1,044	118	6,930
Credit loss (expense) / release	(352)	(286)	(56)	0	(695)
Fee and commission income	3,731	4,585	13,651	(984)	20,982
Fee and commission expense	(644)	(829)	(1,263)	961	(1,775)
Net fee and commission income	3,087	3,756	12,388	(23)	19,207
Other income	4,671	233	2,585	(5,941)	1,549
Total operating income	13,057	7,902	17,623	(5,803)	32,780
Operating expenses					
Personnel expenses	3,458	2,017	9,211	0	14,686
General and administrative expenses	3,507	3,313	4,147	(2,481)	8,486
Depreciation and impairment of property, equipment and software	1,008	261	698	(116)	1,851
Amortization and impairment of goodwill and intangible assets	5	0	52	1	57
Total operating expenses	7,978	5,591	14,108	(2,596)	25,081
Operating profit / (loss) before tax	5,079	2,311	3,515	(3,207)	7,699
Tax expense / (benefit)	238	444	912	(107)	1,488
Net profit / (loss)	4,840	1,868	2,603	(3,100)	6,211
Net profit / (loss) attributable to non-controlling interests	0	0	15	0	15
Net profit / (loss) attributable to shareholders	4,840	1,868	2,588	(3,100)	6,196

1 Amounts presented for UBS AG standalone and UBS Switzerland AG standalone represent IFRS standalone information. Refer to the UBS AG standalone and UBS Switzerland AG standalone financial statements under "Complementary financial information" at ubs.com/investors for information prepared in accordance with Swiss GAAP. 2 The "Other subsidiaries" column includes consolidated information for the UBS Americas Holding LLC, UBS Europe SE and UBS Asset Management AG significant sub-groups, as well as standalone information for other subsidiaries.

Note 36 Supplemental guarantor information required under SEC regulations (continued)

Supplemental guarantor consolidated statement of comprehensive income

USD million For the year ended 31 December 2020	UBS AG (standalone)[1]	UBS Switzerland AG (standalone)[1]	Other subsidiaries[2]	Elimination entries	UBS AG (consolidated)
Comprehensive income attributable to shareholders					
Net profit / (loss)	4,840	1,868	2,588	(3,100)	6,196
Other comprehensive income					
Other comprehensive income that may be reclassified to the income statement					
Foreign currency translation, net of tax	81	1,228	690	(969)	1,030
Financial assets measured at fair value through other comprehensive income, net of tax	0	0	137	0	136
Cash flow hedges, net of tax	902	26	101	(18)	1,011
Cost of hedging, net of tax	(13)				(13)
Total other comprehensive income that may be reclassified to the income statement, net of tax	971	1,254	928	(988)	2,165
Other comprehensive income that will not be reclassified to the income statement					
Defined benefit plans, net of tax	(67)	(107)	40	0	(134)
Own credit on financial liabilities designated at fair value, net of tax	(293)				(293)
Total other comprehensive income that will not be reclassified to the income statement, net of tax	(360)	(107)	40	0	(427)
Total other comprehensive income	611	1,147	968	(988)	1,738
Total comprehensive income attributable to shareholders	5,451	3,015	3,556	(4,088)	7,934
Total comprehensive income attributable to non-controlling interests			36		36
Total comprehensive income	5,451	3,015	3,592	(4,088)	7,970

1 Amounts presented for UBS AG standalone and UBS Switzerland AG standalone represent IFRS standalone information. Refer to the UBS AG standalone and UBS Switzerland AG standalone financial statements under "Complementary financial information" at ubs.com/investors for information prepared in accordance with Swiss GAAP. 2 The "Other subsidiaries" column includes consolidated information for the UBS Americas Holding LLC, UBS Europe SE and UBS Asset Management AG significant sub-groups, as well as standalone information for other subsidiaries.

Note 36 Supplemental guarantor information required under SEC regulations (continued)

Supplemental guarantor consolidated balance sheet

USD million As of 31 December 2020	UBS AG (standalone)[1]	UBS Switzerland AG (standalone)[1]	Other subsidiaries[2]	Elimination entries	UBS AG (consolidated)
Assets					
Cash and balances at central banks	34,426	91,638	32,167		158,231
Loans and advances to banks	40,171	6,385	19,465	(50,678)	15,344
Receivables from securities financing transactions	56,568	4,026	43,350	(29,735)	74,210
Cash collateral receivables on derivative instruments	32,771	1,543	10,093	(11,671)	32,737
Loans and advances to customers	99,952	228,279	73,513	(20,767)	380,977
Other financial assets measured at amortized cost	8,411	8,084	13,368	(2,644)	27,219
Total financial assets measured at amortized cost	272,299	339,956	191,957	(115,495)	688,717
Financial assets at fair value held for trading	110,812	55	16,260	(1,634)	125,492
of which: assets pledged as collateral that may be sold or repledged by counterparties	*54,468*	*1*	*6,247*	*(13,617)*	*47,098*
Derivative financial instruments	154,313	6,342	44,005	(45,041)	159,618
Brokerage receivables	16,898		7,763	(2)	24,659
Financial assets at fair value not held for trading	46,198	13,068	36,444	(15,672)	80,038
Total financial assets measured at fair value through profit or loss	328,221	19,464	104,473	(62,350)	389,808
Financial assets measured at fair value through other comprehensive income	187		8,072		8,258
Investments in subsidiaries and associates	53,606	38	439	(52,526)	1,557
Property, equipment and software	6,999	1,335	3,975	(350)	11,958
Goodwill and intangible assets	217		6,234	28	6,480
Deferred tax assets	840	1	8,334	(1)	9,174
Other non-financial assets	6,641	2,063	854	(183)	9,374
Total assets	669,010	362,857	324,337	(230,878)	1,125,327
Liabilities					
Amounts due to banks	41,414	34,096	43,066	(107,527)	11,050
Payables from securities financing transactions	17,247	566	18,407	(29,899)	6,321
Cash collateral payables on derivative instruments	35,875	561	12,495	(11,618)	37,313
Customer deposits	98,441	293,371	112,372	23,745	527,929
Funding from UBS Group AG and its subsidiaries[3]	53,979				53,979
Debt issued measured at amortized cost	75,658	9,687	3	3	85,351
Other financial liabilities measured at amortized cost	5,285	2,567	5,745	(3,175)	10,421
Total financial liabilities measured at amortized cost	327,898	340,848	192,088	(128,470)	732,364
Financial liabilities at fair value held for trading	28,800	335	5,989	(1,529)	33,595
Derivative financial instruments	156,192	5,593	44,359	(45,043)	161,102
Brokerage payables designated at fair value	25,045		13,704	(7)	38,742
Debt issued designated at fair value	58,986		935	(54)	59,868
Other financial liabilities designated at fair value	11,255		23,445	(2,927)	31,773
Total financial liabilities measured at fair value through profit or loss	280,279	5,927	88,433	(49,559)	325,080
Provisions	1,293	301	1,197		2,791
Other non-financial liabilities	2,173	987	3,907	(49)	7,018
Total liabilities	611,643	348,063	285,625	(178,078)	1,067,254
Equity attributable to shareholders	57,367	14,794	38,393	(52,800)	57,754
Equity attributable to non-controlling interests			319		319
Total equity	57,367	14,794	38,712	(52,800)	58,073
Total liabilities and equity	669,010	362,857	324,337	(230,878)	1,125,327

1 Amounts presented for UBS AG standalone and UBS Switzerland AG standalone represent IFRS standalone information. Refer to the UBS AG standalone and UBS Switzerland AG standalone financial statements under "Complementary financial information" at ubs.com/investors for information prepared in accordance with Swiss GAAP. 2 The "Other subsidiaries" column includes consolidated information for the UBS Americas Holding LLC, UBS Europe SE and UBS Asset Management AG significant sub-groups, as well as standalone information for other subsidiaries. 3 Represents funding from UBS Group AG to UBS AG.

Note 36 Supplemental guarantor information required under SEC regulations (continued)

Supplemental guarantor consolidated statement of cash flows

USD million For the year ended 31 December 2020	UBS AG[1]	UBS Switzerland AG[1]	Other subsidiaries[1]	UBS AG (consolidated)
Net cash flow from / (used in) operating activities	(14,883)	24,661	26,804	36,581
Cash flow from / (used in) investing activities				
Purchase of subsidiaries, associates and intangible assets	0	(3)	(43)	(46)
Disposal of subsidiaries, associates and intangible assets[2]	14	0	660	674
Purchase of property, equipment and software	(714)	(162)	(697)	(1,573)
Disposal of property, equipment and software	361	0	3	364
Purchase of financial assets measured at fair value through other comprehensive income	(77)	0	(6,213)	(6,290)
Disposal and redemption of financial assets measured at fair value through other comprehensive income	79	0	4,451	4,530
Net (purchase) / redemption of debt securities measured at amortized cost	(3,021)	132	(1,277)	(4,166)
Net cash flow from / (used in) investing activities	(3,357)	(33)	(3,117)	(6,506)
Cash flow from / (used in) financing activities				
Net short-term debt issued / (repaid)	23,828	17	0	23,845
Distributions paid on UBS AG shares	(3,848)	0	0	(3,848)
Repayment of lease liabilities	(290)	0	(257)	(547)
Issuance of long-term debt, including debt issued designated at fair value	70,987	1,057	229	72,273
Repayment of long-term debt, including debt issued designated at fair value	(82,930)	(776)	(118)	(83,825)
Funding from UBS Group AG and its subsidiaries[3]	4,606	0	0	4,606
Net changes in non-controlling interests	0	0	(6)	(6)
Net activity related to group internal capital transactions and dividends	2,984	(1,307)	(1,677)	0
Net cash flow from / (used in) financing activities	15,336	(1,009)	(1,829)	12,498
Total cash flow				
Cash and cash equivalents at the beginning of the year	39,598	62,551	17,655	119,804
Net cash flow from / (used in) operating, investing and financing activities	(2,905)	23,619	21,859	42,573
Effects of exchange rate differences on cash and cash equivalents	2,706	7,171	1,175	11,053
Cash and cash equivalents at the end of the year[4]	39,400	93,342	40,689	173,430
of which: cash and balances at central banks	*34,283*	*91,638*	*32,167*	*158,088*
of which: loans and advances to banks	*4,085*	*1,695*	*8,148*	*13,928*
of which: money market paper[5]	*1,032*	*9*	*374*	*1,415*

1 Cash flows generally represent a third-party view from a UBS AG consolidated perspective, except for Net activity related to group internal capital transactions and dividends. 2 Includes cash proceeds from the sale of the majority stake in Fondcenter AG of USD 426 million. Also includes dividends received from associates. 3 Represents funding from UBS Group AG to UBS AG. 4 Comprises balances with an original maturity of three months or less. USD 3,828 million of cash and cash equivalents were restricted. 5 Money market paper is included in the balance sheet under Financial assets at fair value held for trading, Financial assets measured at fair value through other comprehensive income, Financial assets at fair value not held for trading and Other financial assets measured at amortized cost.

Note 36 Supplemental guarantor information required under SEC regulations (continued)

Supplemental guarantor consolidated income statement

USD million For the year ended 31 December 2019	UBS AG (standalone)[1,2]	UBS Switzerland AG (standalone)[1]	Other subsidiaries[3]	Elimination entries	UBS AG (consolidated)
Operating income					
Interest income from financial instruments measured at amortized cost and fair value through other comprehensive income	4,864	4,048	3,719	(1,928)	10,703
Interest expense from financial instruments measured at amortized cost	(6,547)	(737)	(2,317)	2,298	(7,303)
Net interest income from financial instruments measured at fair value through profit or loss	1,177	(228)	394	(327)	1,015
Net interest income	(506)	3,083	1,796	42	4,415
Other net income from financial instruments measured at fair value through profit or loss	5,116	924	1,114	(322)	6,833
Credit loss (expense) / release	(51)	7	(33)	0	(78)
Fee and commission income	3,285	4,342	12,527	(997)	19,156
Fee and commission expense	(674)	(819)	(1,188)	986	(1,696)
Net fee and commission income	2,610[4]	3,523[4]	11,338	(11)	17,460
Other income	4,899	259	1,960	(6,442)	677
Total operating income	12,069	7,796	16,176	(6,733)	29,307
Operating expenses					
Personnel expenses	3,251	1,936	8,614	0	13,801
General and administrative expenses	3,467	3,181	4,565	(2,627)	8,586
Depreciation and impairment of property, equipment and software	861	221	602	(108)	1,576
Amortization and impairment of goodwill and intangible assets	94	0	170	(88)	175
Total operating expenses	7,672	5,338	13,951	(2,823)	24,138
Operating profit / (loss) before tax	4,396	2,458	2,225	(3,911)	5,169
Tax expense / (benefit)	175	514	530	(21)	1,198
Net profit / (loss)	4,221	1,944	1,695	(3,890)	3,971
Net profit / (loss) attributable to non-controlling interests	0	0	6	0	6
Net profit / (loss) attributable to shareholders	4,221	1,944	1,689	(3,889)	3,965

1 Amounts presented for UBS AG standalone and UBS Switzerland AG standalone represent IFRS standalone information. Refer to the UBS AG standalone and UBS Switzerland AG standalone financial statements under "Complementary financial information" at ubs.com/investors for information prepared in accordance with Swiss GAAP. 2 Effective from the second quarter of 2020, UBS AG accounts for its investments in associates under the equity method of accounting and no longer at cost less impairment. The new measurement policy will result in more relevant information regarding the value of UBS AG's investments in associates. The change was applied retrospectively to all prior periods presented, resulting in a decrease in Net profit attributable to shareholders for the year ended 31 December 2019 of USD 61 million, almost entirely reflected within Other income. 3 The "Other subsidiaries" column includes consolidated information for the UBS Americas Holding LLC, UBS Europe SE and UBS Asset Management AG significant sub-groups, as well as standalone information for other subsidiaries. 4 Includes the effects of the transfer in 2019 of beneficial ownership of a portion of Global Wealth Management international business booked in Switzerland from UBS Switzerland AG to UBS AG. Refer to "Note 25 Changes in organization and other events affecting comparability" in the "UBS AG standalone financial statements" section of the UBS AG Standalone financial statements and regulatory information for the year ended 31 December 2019.

Note 36 Supplemental guarantor information required under SEC regulations (continued)

Supplemental guarantor consolidated statement of comprehensive income

USD million For the year ended 31 December 2019	UBS AG (standalone)[1,2]	UBS Switzerland AG (standalone)[1]	Other subsidiaries[3]	Elimination entries	UBS AG (consolidated)
Comprehensive income attributable to shareholders					
Net profit / (loss)	4,221	1,944	1,689	(3,889)	3,965
Other comprehensive income					
Other comprehensive income that may be reclassified to the income statement					
Foreign currency translation, net of tax	5	150	39	(102)	92
Financial assets measured at fair value through other comprehensive income, net of tax	0	0	117	0	117
Cash flow hedges, net of tax	870	140	147	(15)	1,143
Total other comprehensive income that may be reclassified to the income statement, net of tax	875	290	303	(117)	1,351
Other comprehensive income that will not be reclassified to the income statement					
Defined benefit plans, net of tax	(89)	(6)	(75)	0	(170)
Own credit on financial liabilities designated at fair value, net of tax	(392)				(392)
Total other comprehensive income that will not be reclassified to the income statement, net of tax	(481)	(6)	(75)	0	(562)
Total other comprehensive income	394	284	228	(117)	789
Total comprehensive income attributable to shareholders	4,616	2,228	1,917	(4,007)	4,754
Total comprehensive income attributable to non-controlling interests			2		2
Total comprehensive income	4,616	2,228	1,919	(4,007)	4,756

1 Amounts presented for UBS AG standalone and UBS Switzerland AG standalone represent IFRS standalone information. Refer to the UBS AG standalone and UBS Switzerland AG standalone financial statements under "Complementary financial information" at ubs.com/investors for information prepared in accordance with Swiss GAAP. 2 Effective from the second quarter of 2020, UBS AG accounts for its investments in associates under the equity method of accounting and no longer at cost less impairment. The new measurement policy will result in more relevant information regarding the value of UBS AG's investments in associates. The change was applied retrospectively to all prior periods presented, resulting in a decrease in Total comprehensive income attributable to shareholders for the year ended 31 December 2019 of USD 56 million, reflecting a decrease of USD 61 million in Net profit attributable to shareholders and a USD 6 million increase in Total other comprehensive income attributable to shareholders. 3 The "Other subsidiaries" column includes consolidated information for the significant sub-groups UBS Americas Holding LLC, UBS Europe SE and UBS Asset Management AG, as well as standalone information for other subsidiaries.

Note 36 Supplemental guarantor information required under SEC regulations (continued)

Supplemental guarantor consolidated balance sheet

USD million As of 31 December 2019	UBS AG (standalone)[1,2]	UBS Switzerland AG (standalone)[1]	Other subsidiaries[3]	Elimination entries	UBS AG (consolidated)
Assets					
Cash and balances at central banks	36,386	60,926	9,756		107,068
Loans and advances to banks	32,888	7,992	17,430	(45,931)	12,379
Receivables from securities financing transactions	56,946	12,536	42,534	(27,771)	84,245
Cash collateral receivables on derivative instruments	22,830	990	8,508	(9,038)	23,289
Loans and advances to customers	88,386	193,543	63,676	(17,612)	327,992
Other financial assets measured at amortized cost	5,723	8,168	11,448	(2,327)	23,012
Total financial assets measured at amortized cost	243,159	284,154	153,351	(102,679)	577,985
Financial assets at fair value held for trading	113,802	53	15,320	(1,479)	127,695
of which: assets pledged as collateral that may be sold or repledged by counterparties	*58,599*	*0*	*5,386*	*(22,701)*	*41,285*
Derivative financial instruments	118,708	4,251	29,782	(30,899)	121,843
Brokerage receivables	11,453		6,556	(1)	18,007
Financial assets at fair value not held for trading	49,525	6,701	41,908	(14,498)	83,636
Total financial assets measured at fair value through profit or loss	293,488	11,004	93,565	(46,877)	351,181
Financial assets measured at fair value through other comprehensive income	176		6,169		6,345
Investments in subsidiaries and associates	52,140	28	39	(51,156)	1,051
Property, equipment and software	7,318	1,144	3,749	(385)	11,826
Goodwill and intangible assets	222		6,212	35	6,469
Deferred tax assets[4]	618	0	8,906		9,524
Other non-financial assets	5,060	1,770	857	(140)	7,547
Total assets	602,181	298,101	272,848	(201,202)	971,927
Liabilities					
Amounts due to banks	55,738	28,240	35,773	(113,181)	6,570
Payables from securities financing transactions	21,326	565	13,583	(27,696)	7,778
Cash collateral payables on derivative instruments	30,571	98	9,773	(9,027)	31,416
Customer deposits	85,954	239,226	86,550	38,861	450,591
Funding from UBS Group AG and its subsidiaries[5]	47,866				47,866
Debt issued measured at amortized cost	54,317	8,583	5	(70)	62,835
Other financial liabilities measured at amortized cost	5,347	2,666	5,204	(2,844)	10,373
Total financial liabilities measured at amortized cost	301,119	279,379	150,888	(113,956)	617,429
Financial liabilities at fair value held for trading	25,292	383	6,233	(1,317)	30,591
Derivative financial instruments	117,597	4,046	30,089	(30,852)	120,880
Brokerage payables designated at fair value	25,358		11,877	(3)	37,233
Debt issued designated at fair value	65,677		952	(38)	66,592
Other financial liabilities designated at fair value	8,571		31,031	(3,445)	36,157
Total financial liabilities measured at fair value through profit or loss	242,495	4,429	80,184	(35,655)	291,452
Provisions	1,101	196	1,641		2,938
Other non-financial liabilities[4]	1,657	931	3,602	21	6,211
Total liabilities	546,372	284,936	236,314	(149,591)	918,031
Equity attributable to shareholders	55,808	13,165	36,359	(51,611)	53,722
Equity attributable to non-controlling interests			174		174
Total equity	55,808	13,165	36,534	(51,611)	53,896
Total liabilities and equity	602,181	298,101	272,848	(201,202)	971,927

1 Amounts presented for UBS AG standalone and UBS Switzerland AG standalone represent IFRS standalone information. Refer to the UBS AG standalone and UBS Switzerland AG standalone financial statements under "Complementary financial information" at ubs.com/investors for information prepared in accordance with Swiss GAAP. 2 Effective from the second quarter of 2020, UBS AG accounts for its investments in associates under the equity method of accounting and no longer at cost less impairment. The new measurement policy will result in more relevant information regarding the value of UBS AG's investments in associates. The change was applied retrospectively to all prior periods presented, resulting in an increase in Investments in subsidiaries and associates as of 31 December 2019 of USD 929 million and an increase in Equity attributable to shareholders as of 31 December 2019 of USD 914 million. 3 The "Other subsidiaries" column includes consolidated information for the UBS Americas Holding LLC, UBS Europe SE and UBS Asset Management AG significant sub-groups, as well as standalone information for other subsidiaries. 4 Comparative-period information has been restated. Refer to Note 1b for more information. 5 Represents funding from UBS Group AG to UBS AG.

Note 36 Supplemental guarantor information required under SEC regulations (continued)

Supplemental guarantor consolidated statement of cash flows

USD million For the year ended 31 December 2019	UBS AG[1]	UBS Switzerland AG[1]	Other subsidiaries[1]	UBS AG (consolidated)
Net cash flow from / (used in) operating activities	17,531	8,882	(7,608)	18,805
Cash flow from / (used in) investing activities				
Purchase of subsidiaries, associates and intangible assets	(6)	0	(20)	(26)
Disposal of subsidiaries, associates and intangible assets[2]	100	0	14	114
Purchase of property, equipment and software	(628)	(173)	(600)	(1,401)
Disposal of property, equipment and software	10	0	1	11
Purchase of financial assets measured at fair value through other comprehensive income	(10)	0	(3,414)	(3,424)
Disposal and redemption of financial assets measured at fair value through other comprehensive income	10	0	3,904	3,913
Net (purchase) / redemption of debt securities measured at amortized cost	(1,045)	437	45	(562)
Net cash flow from / (used in) investing activities	(1,569)	264	(70)	(1,374)
Cash flow from / (used in) financing activities				
Net short-term debt issued / (repaid)	(17,150)	0	0	(17,149)
Distributions paid on UBS AG shares	(3,250)	0	0	(3,250)
Repayment of lease liabilities	(262)	0	(234)	(496)
Issuance of long-term debt, including debt issued designated at fair value	58,437	621	142	59,199
Repayment of long-term debt, including debt issued designated at fair value	(67,113)	(752)	(1,017)	(68,883)
Funding from UBS Group AG and its subsidiaries[3]	5,848	0	0	5,848
Net changes in non-controlling interests	0	0	(8)	(8)
Net activity related to group internal capital transactions and dividends	3,569	(2,055)	(1,514)	0
Net cash flow from / (used in) financing activities	(19,922)	(2,186)	(2,630)	(24,738)

Total cash flow

Cash and cash equivalents at the beginning of the year	42,895	54,757	28,201	125,853
Net cash flow from / (used in) operating, investing and financing activities	(3,960)	6,961	(10,308)	(7,307)
Effects of exchange rate differences on cash and cash equivalents	664	833	(239)	1,258
Cash and cash equivalents at the end of the year[4]	39,598	62,551	17,655	119,804
of which: cash and balances at central banks	*36,275*	*60,926*	*9,756*	*106,957*
of which: loans and advances to banks	*2,697*	*1,127*	*7,493*	*11,317*
of which: money market paper[5]	*626*	*498*	*406*	*1,530*

1 Cash flows generally represent a third-party view from a UBS AG consolidated perspective, except for Net activity related to group internal capital transactions and dividends. 2 Includes dividends received from associates. 3 Represents funding from UBS Group AG to UBS AG. 4 Comprises balances with an original maturity of three months or less. USD 3,192 million of cash and cash equivalents were restricted. 5 Money market paper is included in the balance sheet under Financial assets at fair value held for trading, Financial assets measured at fair value through other comprehensive income, Financial assets at fair value not held for trading and Other financial assets measured at amortized cost.

Note 36 Supplemental guarantor information required under SEC regulations (continued)

Supplemental guarantor consolidated income statement

USD million For the year ended 31 December 2018	UBS AG (standalone)[1,2]	UBS Switzerland AG (standalone)[1]	Other subsidiaries[3]	Elimination entries	UBS AG (consolidated)
Operating income					
Interest income from financial instruments measured at amortized cost and fair value through other comprehensive income	4,532	4,230	3,634	(2,275)	10,121
Interest expense from financial instruments measured at amortized cost	(6,109)	(598)	(2,192)	2,405	(6,494)
Net interest income from financial instruments measured at fair value through profit or loss	1,079	(270)	625	(91)	1,344
Net interest income	(497)	3,363	2,068	38	4,971
Other net income from financial instruments measured at fair value through profit or loss	5,204	889	970	(110)	6,953
Credit loss (expense) / release	(37)	(52)	(9)	(19)	(117)
Fee and commission income	2,655	4,474	13,159	(656)	19,632
Fee and commission expense	(851)	(391)	(1,108)	648	(1,703)
Net fee and commission income	1,804	4,083	12,050	(8)	17,930
Other income	5,248	198	2,110	(6,651)	905
Total operating income	11,722	8,480	17,189	(6,749)	30,642
Operating expenses					
Personnel expenses	3,592	1,890	8,510	0	13,992
General and administrative expenses	4,691	3,471	5,403	(3,490)	10,075
Depreciation and impairment of property, equipment and software	715	21	316	0	1,052
Amortization and impairment of goodwill and intangible assets	3	0	62	0	65
Total operating expenses	9,001	5,382	14,291	(3,490)	25,184
Operating profit / (loss) before tax	2,721	3,098	2,898	(3,259)	5,458
Tax expense / (benefit)	29	670	577	68	1,345
Net profit / (loss)	2,691	2,428	2,321	(3,327)	4,113
Net profit / (loss) attributable to non-controlling interests	0	0	7	0	7
Net profit / (loss) attributable to shareholders	2,691	2,428	2,314	(3,327)	4,107

1 Amounts presented for UBS AG standalone and UBS Switzerland AG standalone represent IFRS standalone information. Refer to the UBS AG standalone and UBS Switzerland AG standalone financial statements under "Complementary financial information" at ubs.com/investors for information prepared in accordance with Swiss GAAP. 2 Effective from the second quarter of 2020, UBS AG accounts for its investments in associates under the equity method of accounting and no longer at cost less impairment. The new measurement policy will result in more relevant information regarding the value of UBS AG's investments in associates. The change was applied retrospectively to all prior periods presented, resulting in an increase in Net profit attributable to shareholders for the year ended 31 December 2018 of USD 521 million, almost entirely reflected within Other income. 3 The "Other subsidiaries" column includes consolidated information for the UBS Americas Holding LLC, UBS Europe SE and UBS Asset Management AG significant sub-groups, as well as standalone information for other subsidiaries.

Note 36 Supplemental guarantor information required under SEC regulations (continued)

Supplemental guarantor consolidated statement of comprehensive income

USD million For the year ended 31 December 2018	UBS AG (standalone)[1,2]	UBS Switzerland AG (standalone)[1]	Other subsidiaries[3]	Elimination entries	UBS AG (consolidated)
Comprehensive income attributable to shareholders					
Net profit / (loss)	2,691	2,428	2,314	(3,327)	4,107
Other comprehensive income					
Other comprehensive income that may be reclassified to the income statement					
Foreign currency translation, net of tax	(452)	(109)	215	(169)	(515)
Financial assets measured at fair value through other comprehensive income, net of tax	0	0	(45)	0	(45)
Cash flow hedges, net of tax	(277)	2	19	(13)	(269)
Total other comprehensive income that may be reclassified to the income statement, net of tax	(729)	(107)	189	(182)	(829)
Other comprehensive income that will not be reclassified to the income statement					
Defined benefit plans, net of tax	89	(126)	212	0	175
Own credit on financial liabilities designated at fair value, net of tax	509				509
Total other comprehensive income that will not be reclassified to the income statement, net of tax	598	(126)	212	0	684
Total other comprehensive income	(131)	(233)	401	(182)	(145)
Total comprehensive income attributable to shareholders	2,560	2,195	2,715	(3,509)	3,961
Total comprehensive income attributable to non-controlling interests			5		5
Total comprehensive income	2,560	2,195	2,721	(3,509)	3,967

1 Amounts presented for UBS AG standalone and UBS Switzerland AG standalone represent IFRS standalone information. Refer to the UBS AG standalone and UBS Switzerland AG standalone financial statements under "Complementary financial information" at ubs.com/investors for information prepared in accordance with Swiss GAAP. 2 Effective from the second quarter of 2020, UBS AG accounts for its investments in associates under the equity method of accounting and no longer at cost less impairment. The new measurement policy will result in more relevant information regarding the value of UBS AG's investments in associates. The change was applied retrospectively to all prior periods presented, resulting in an increase in Total comprehensive income attributable to shareholders for the year ended 31 December 2018 of USD 438 million, reflecting an increase of USD 521 million in Net profit attributable to shareholders and a USD 83 million decrease in Total other comprehensive income attributable to shareholders. 3 The "Other subsidiaries" column includes consolidated information for the significant sub-groups UBS Americas Holding LLC, UBS Europe SE, UBS Asset Management AG and UBS Limited, as well as standalone information for other subsidiaries.

Note 36 Supplemental guarantor information required under SEC regulations (continued)

Supplemental guarantor consolidated statement of cash flows

USD million For the year ended 31 December 2018[1]	UBS AG[2]	UBS Switzerland AG[2]	Other subsidiaries[2]	UBS AG (consolidated)
Net cash flow from / (used in) operating activities	(652)	14,887	13,509	27,744
Cash flow from / (used in) investing activities				
Purchase of subsidiaries, associates and intangible assets	(124)	(5)	(158)	(287)
Disposal of subsidiaries, associates and intangible assets[3]	97	0	40	137
Purchase of property, equipment and software	(822)	(170)	(481)	(1,473)
Disposal of property, equipment and software	111	0	3	114
Purchase of financial assets measured at fair value through other comprehensive income	(170)	0	(1,829)	(1,999)
Disposal and redemption of financial assets measured at fair value through other comprehensive income	20	15	1,325	1,361
Net (purchase) / redemption of debt securities measured at amortized cost	(1,000)	2,111	(4,881)	(3,770)
Net cash flow from / (used in) investing activities	(1,888)	1,951	(5,982)	(5,918)
Cash flow from / (used in) financing activities				
Net short-term debt issued / (repaid)	(12,295)	(3)	53	(12,245)
Distributions paid on UBS AG shares	(3,098)	0	0	(3,098)
Issuance of long-term debt, including debt issued designated at fair value	53,294	872	560	54,726
Repayment of long-term debt, including debt issued designated at fair value	(42,759)	(812)	(772)	(44,344)
Funding from UBS Group AG and its subsidiaries[4]	5,956	0	0	5,956
Net changes in non-controlling interests	0	0	(31)	(31)
Net activity related to group internal capital transactions and dividends	3,000	(2,372)	(628)	0
Net cash flow from / (used in) financing activities	4,098	(2,315)	(820)	963
Total cash flow				
Cash and cash equivalents at the beginning of the year	41,570	40,961	22,256	104,787
Net cash flow from / (used in) operating, investing and financing activities	1,559	14,523	6,707	22,789
Effects of exchange rate differences on cash and cash equivalents	(234)	(726)	(762)	(1,722)
Cash and cash equivalents at the end of the year[5]	42,895	54,757	28,201	125,853
of which: cash and balances at central banks	*36,248*	*53,490*	*18,530*	*108,268*
of which: loans and advances to banks	*4,849*	*1,249*	*9,354*	*15,452*
of which: money market paper[6]	*1,798*	*18*	*318*	*2,133*

1 Upon adoption of IFRS 9 on 1 January 2018, cash flows from certain financial assets previously classified as available-for-sale assets have been reclassified from investing to operating activities as the assets are accounted for at fair value through profit or loss effective 1 January 2018. Refer to Note 1c of the Annual Report 2018 for more information. 2 Cash flows generally represent a third-party view from a UBS AG consolidated perspective, except for Net activity related to group internal capital transactions and dividends. 3 Includes dividends received from associates. 4 Represents funding from UBS Group Funding (Switzerland) AG to UBS AG. 5 Comprises balances with an original maturity of three months or less. USD 5,245 million of cash and cash equivalents were restricted. 6 Money market paper is included in the balance sheet under Financial assets at fair value held for trading, Financial assets measured at fair value through other comprehensive income, Financial assets at fair value not held for trading and Other financial assets measured at amortized cost.

APPENDIX 4 — RISK MANAGEMENT AND CONTROL

The information in this Appendix 4 describes the risk management and control process of UBS AG and references herein to "**UBS**" or the "**Group**" are to UBS AG and its subsidiaries.

The information in this Appendix 4 has been extracted from the Annual Report 2020 as at and for the year ended 31 December 2020. References to page numbers in this Appendix 4 are to pages of such document. The page numbers of such document appear on the bottom left or right hand side of the pages in this Appendix 4.

Risk management and control

Overview of risks arising from our business activities

The scale of our activities depends on the capital available to cover risks, the size of our on- and off-balance sheet assets via their contribution to our capital, leverage and liquidity ratios, and our risk appetite.

While our credit book grew over the course of 2020, our overall credit risk profile was broadly unchanged and we continued to manage market risks at generally low levels.

Operational resilience, conduct and prevention of financial crime remain key focus topics.

The "Risk measures and performance" table on the next page shows risk-weighted assets (RWA), the leverage ratio denominator (LRD) and risk-based capital (RBC), as well as attributed tangible equity, credit loss expenses (CLE), total assets and operating profit before tax for our business divisions and Group Functions. This shows how the activities in our business divisions and Group Functions mentioned above the table are captured in the risk measures, and shows their financial performance in the context of such measures.

› **Refer to the "Capital, liquidity and funding, and balance sheet" section of this report for more information about RWA, LRD and our equity attribution framework**

› **Refer to "Statistical measures" in this section for more information about RBC**

› **Refer to "Credit loss expense / release" in this section for more information about CLE**

› **Refer to the "Performance of our business divisions and Group Functions" table in the "Group performance" section of this report for more information**

Key risks by business division and Group Functions

Business divisions and Group Functions	Key risks arising from business activities
Global Wealth Management	**Credit risk** from lending against securities collateral and mortgages, derivatives trading activity and aircraft financing for Global Wealth Management clients **Market risk** from municipal securities and taxable fixed-income securities
Personal & Corporate Banking	**Credit risk** from retail business, mortgages, secured and unsecured corporate lending, and a small amount of derivatives trading activity Minimal contribution to **market risk**
Asset Management	Small amounts of credit and market risk
Investment Bank	**Credit risk** from lending (take and hold, as well as temporary loan underwriting activities), derivatives trading and securities financing **Market risk** from primary underwriting activities and secondary trading
Group Functions	**Credit** and **market risk** arising from management of the Group's balance sheet, capital, profit or loss and liquidity portfolios

Operational risk, which includes compliance and conduct risks, is an inevitable consequence of being in business, as losses can result from inadequate or failed internal processes, people and systems, or from external events. It can arise as a result of our past and current business activities across all business divisions and Group Functions.

Risk measures and performance

	31.12.20					
USD billion, as of or for the year ended	Global Wealth Management	Personal & Corporate Banking	Asset Management	Investment Bank	Group Functions	Total
Risk-weighted assets[1]	87.2	72.1	6.9	94.3	28.7	289.1
of which: credit and counterparty credit risk	*46.7*	*62.8*	*2.9*	*58.5*	*7.2*	*178.1*
of which: market risk	*1.4*	*0.0*	*0.0*	*9.0*	*1.4*	*11.8*
of which: operational risk	*32.8*	*7.2*	*3.3*	*23.2*	*9.3*	*75.8*
Leverage ratio denominator[1]	371.2	248.3	5.8	315.5	96.2	1,037.1
Risk-based capital[2]	6.6	5.7	0.5	7.1	15.2	35.0
Average attributed tangible equity	12.0	8.9	0.7	12.5	17.4	51.4
Credit loss (expense) / release (USD million)	(88)	(257)	(2)	(305)	(42)	(694)
of which: stage 1 and 2 (USD million)	*(48)*	*(129)*	*0*	*(88)*	*0*	*(266)*
of which: stage 3 (USD million)	*(40)*	*(128)*	*(2)*	*(217)*	*(42)*	*(429)*
Total assets	367.7	231.7	28.6	369.7	128.1	1,125.8
Operating profit / (loss) before tax	4.0	1.3	1.5	2.5	(1.1)	8.2

	31.12.19					
USD billion, as of or for the year ended	Global Wealth Management	Personal & Corporate Banking	Asset Management	Investment Bank	Group Functions	Total
Risk-weighted assets[1]	78.1	67.1	4.6	81.1	28.3	259.2
of which: credit and counterparty credit risk	*35.0*	*57.3*	*1.8*	*50.6*	*8.3*	*153.0*
of which: market risk	*0.8*	*0.0*	*0.0*	*4.6*	*1.1*	*6.6*
of which: operational risk	*35.9*	*7.7*	*2.0*	*22.5*	*9.4*	*77.5*
Leverage ratio denominator[1]	312.7	224.2	5.0	293.2	76.2	911.3
Risk-based capital[2]	6.6	4.9	0.4	7.0	16.1	35.0
Average attributed tangible equity	11.5	8.4	0.4	12.2	15.1	47.6
Credit loss (expense) / release (USD million)	(20)	(21)	0	(30)	(7)	(78)
of which: stage 1 and 2 (USD million)	*3*	*23*	*0*	*(4)*	*0*	*22*
of which: stage 3 (USD million)	*(23)*	*(44)*	*0*	*(26)*	*(7)*	*(100)*
Total assets	309.8	209.4	34.6	315.9	102.6	972.2
Operating profit / (loss) before tax	3.4	1.4	0.5	0.8	(0.6)	5.6

1 Refer to the "Capital, liquidity and funding, and balance sheet" section of this report for more information. 2 Refer to "Statistical measures" in this section for more information about risk-based capital.

Risk categories

We categorize the risk exposures of our business divisions and Group Functions as outlined in the table below.

	Risk managed by	Independent oversight by	Captured in our risk appetite framework
Financial risks			
Audited | **Credit risk:** the risk of loss resulting from the failure of a client or counterparty to meet its contractual obligations toward UBS. This includes settlement risk, loan underwriting risk and step-in risk. ***Settlement risk:*** the risk of loss resulting from transactions that involve exchange of value (e.g., security versus cash) where we must deliver without first being able to determine with certainty that we will receive the countervalue. ***Loan underwriting risk:*** the risk of loss arising during the holding period of financing transactions that are intended for further distribution. ***Step-in risk:*** the risk that UBS may decide to provide financial support to an unconsolidated entity that is facing stress in the absence of, or in excess of, any contractual obligations to provide such support. ▲	Business management	Risk Control	●
Audited | **Market risk (traded and non-traded):** the risk of loss resulting from adverse movements in market variables. Market variables include observable variables, such as interest rates, foreign exchange rates, equity prices, credit spreads and commodity (including precious metal) prices, as well as variables that may be unobservable or only indirectly observable, such as volatilities and correlations. Market risk includes issuer risk and investment risk. ***Issuer risk:*** the risk of loss from changes in fair value resulting from credit-related events affecting an issuer to which we are exposed through tradable securities or derivatives referencing the issuer. ***Investment risk:*** issuer risk associated with positions held as financial investments. ▲	Business management and Group Treasury	Risk Control	●
Country risk: the risk of losses resulting from country-specific events. Includes transfer risk, whereby a country's authorities prevent or restrict the payment of an obligation, as well as systemic risk events arising from country-specific political or macroeconomic developments.	Business management	Risk Control	●
Environmental and social risk: the risk that can arise when UBS supports clients and transactions, or sources products or services from suppliers, that may cause or contribute to severe environmental damage, climate change, or human rights infringements. Physical and transition risks from a changing climate contribute to a structural change across economies and therefore affect banks and the financial sector as a whole. Environmental and social risks may manifest as increasing financial and reputational impacts for UBS.	Business management	Risk Control	●
Treasury risk: the market risks that arise from structural exposures, including pension risks, and the risk of insufficient funding or liquidity. Audited | ***Liquidity risk:*** the risk that the firm will not be able to efficiently meet both expected and unexpected current and forecast cash flows and collateral needs without affecting either daily operations or the financial condition of the firm. ▲ Audited | ***Funding risk:*** the risk that the firm will be unable, on an ongoing basis, to borrow funds in the market on an unsecured (or even secured) basis at an acceptable price to fund actual or proposed commitments; i.e., the risk that UBS's funding capacity is not sufficient to support the firm's current business and desired strategy. ▲ ***Structural foreign exchange risk:*** the risk of decreases in our capital due to changes in foreign exchange rates with an adverse translation effect on capital held in currencies other than the US dollar.	Group Treasury	Risk Control	●
Pension risk: the risk of a negative impact on our capital as a result of deteriorating funded status from decreases in the fair value of assets held in defined benefit pension funds and / or changes in the value of defined benefit pension obligations due to changes in actuarial assumptions (e.g., discount rate, life expectancy, rate of pension increase, etc.) and / or changes to plan designs.	Group Treasury and Human Resources	Risk Control and Finance	
Business risk: the potential negative impact on earnings from lower-than-expected business volumes and / or margins, to the extent they are not offset by a decrease in expenses.	Business management	Finance	●
Non-financial risks			
Operational risk: the risk resulting from inadequate or failed internal processes, people or systems, or from external causes (deliberate, accidental or natural), that have an impact (either financial or non-financial) on UBS, its clients or the markets in which it operates. Events may be direct financial losses or indirect, in the form of revenue forgone as a result of business suspension. They may also result in damage to our reputation and to our franchise that has longer-term financial consequences.	Business management	Group Compliance, Regulatory & Governance (GCRG)	●
Legal risk: the financial or reputational implications resulting from the risk of: (i) being held liable for a breach of applicable laws, rules or regulations; (ii) being held liable for a breach of contractual or other legal obligations; (iii) an inability or failure to enforce or protect contractual rights or non-contractual rights sufficiently to protect UBS's interests, including the risk of being party to a claim in respect of any of the above (and the risk of loss of attorney-client privilege in the context of any such claim); (iv) a failure to adequately develop, supervise and resource legal teams or adequately supervise external legal counsel advising on business legal risk and other matters; and (v) a failure to adequately manage any potential, threatened and commenced litigation and legal proceedings, including civil, criminal, arbitration and regulatory proceedings, and / or litigation risk or any dispute or investigation that may lead to litigation or threat of any litigation.		Legal	
Conduct risk: the risk that the conduct of the firm or its individuals unfairly impacts clients or counterparties, undermines the integrity of the financial system or impairs effective competition to the detriment of consumers.		GCRG	
Employment risk: the risk incurred by the firm by not adhering to the applicable employment law, regulatory requirements and human resources practices, as well as our own internal standards. Such risk is managed by business management, with independent overview by HR.		GCOO	
Compliance risk: the risk incurred by the firm by not adhering to the applicable laws, rules and regulations, and our own internal standards.		GCRG	
Financial crime risk: the risk that UBS fails to detect criminal activities, including internal and external theft and fraud, money laundering, bribery and corruption, fails to comply with sanctions and embargoes, or fails to report or respond to requests from relevant authorities related to these matters.		GCRG	
Cybersecurity and information security risk: the risk of a material impact from an external or internal attack on our information systems with the purpose of data theft, fraud or denial of service. Cyberattacks are manifestations of a cyber threat into an act of aggression or criminal activity causing financial, regulatory or reputational harm or loss.	Business management and Group Technology	GCRG	
Model risk: the risk of adverse consequences via financial loss or non-financial impact (e.g., poor business and / or strategic decision making, or damage to the firm's reputation) resulting from decisions based on incorrect or misused model outputs and reports. Model risk may result from a number of sources: inputs, methodology, implementation or use.	Model owner	Risk Control	●
Reputational risk: the risk of damage to our reputation from the point of view of our stakeholders, such as clients, shareholders, staff and the general public.	All businesses and functions	All control functions	●

Top and emerging risks

The top and emerging risks disclosed below reflect those that we currently think have the potential to materialize within one year and which could significantly affect the Group. Investors should also carefully review all information set out in the "Risk factors" section of this report, where we discuss these and other material risks that we consider could have an effect on our ability to execute our strategy and may affect our business activities, financial condition, results of operations and business prospects.

- The continued widespread COVID-19 pandemic and the governmental measures taken to contain it have significantly affected, and will likely continue to adversely affect, global economic conditions. If the pandemic is prolonged or the actions of governments and central banks are unsuccessful, this detrimental impact on the global economy will deepen, and UBS's results of operations and financial condition in future quarters may be impacted. These effects may materialize through adverse market performance, increased credit risk or negative effects on operational resilience.
- We are exposed to a number of macroeconomic issues, as well as general market conditions. As noted in "Market, credit and macroeconomic risks" in the "Risk factors" section of this report, these external pressures may have a significant adverse effect on our business activities and related financial results, primarily through reduced margins and revenues, asset impairments and other valuation adjustments. Accordingly, these macroeconomic factors are considered in the development of stress testing scenarios for our ongoing risk management activities.
- We are exposed to substantial changes in the regulation of our businesses that could have a material adverse effect on our business, as discussed in the "Regulatory and legal developments" section of this report and in "Regulatory and legal risks" in the "Risk factors" section of this report.
- We have a substantial number of contracts linked to LIBOR rates. In November 2020, the administrator for LIBOR announced a consultation on its intention to cease many LIBOR rates (including all non-USD LIBOR rates) at the end of 2021. Users are urged to plan the transition to alternative reference rates (ARRs), but these do not currently provide a term structure, which will require a change in the contractual terms of products currently indexed on terms other than overnight. In some cases, contracts may contain provisions intended to provide a fallback interest rate in the event of a brief unavailability of the relevant LIBOR. These provisions may not be effective or may produce arbitrary results in the event of a permanent cessation of the relevant LIBOR. In addition, numerous of our internal systems, limits and processes make use of LIBOR as reference rates. Transition to replacement reference rates will require significant investment and effort.
- As a global financial services firm, we are subject to many different legal, tax and regulatory regimes and extensive regulatory oversight. We are exposed to significant liability risk and we are subject to various claims, disputes, legal proceedings and government investigations, as noted in "Regulatory and legal risks" in the "Risk factors" section of this report. Information about litigation, regulatory and similar matters we consider significant is disclosed in "Note 18 Provisions and contingent liabilities" in the "Consolidated financial statements" section of this report.
- One of the most critical risks facing the broader industry is the inability to keep pace with evolving cyber threats, such as data theft and data leakage, disruption of service and cyber fraud, all of which have the potential to significantly affect our business. Additionally, as a result of the operational complexity of all our businesses, we are continually exposed to operational resilience scenarios such as process error, failed execution, system failures and fraud.
- Conduct risks are inherent in our businesses. Achieving fair outcomes for our clients, upholding market integrity and cultivating the highest standards of employee conduct are of critical importance to UBS. Management of conduct risks is an integral part of our operational risk framework.
- Financial crime, including money laundering, terrorist financing, sanctions violation, fraud, bribery and corruption, presents significant risk. Heightened regulatory expectations and attention require investment in people and systems, while emerging technologies and changing geopolitical risks further increase the complexity of identifying and preventing financial crime. Refer to "Operational risk" in this section and "Strategy, management and operational risks" in the "Risk factors" section of this report for more information.

Risk governance

Our risk governance framework operates along three lines of defense.

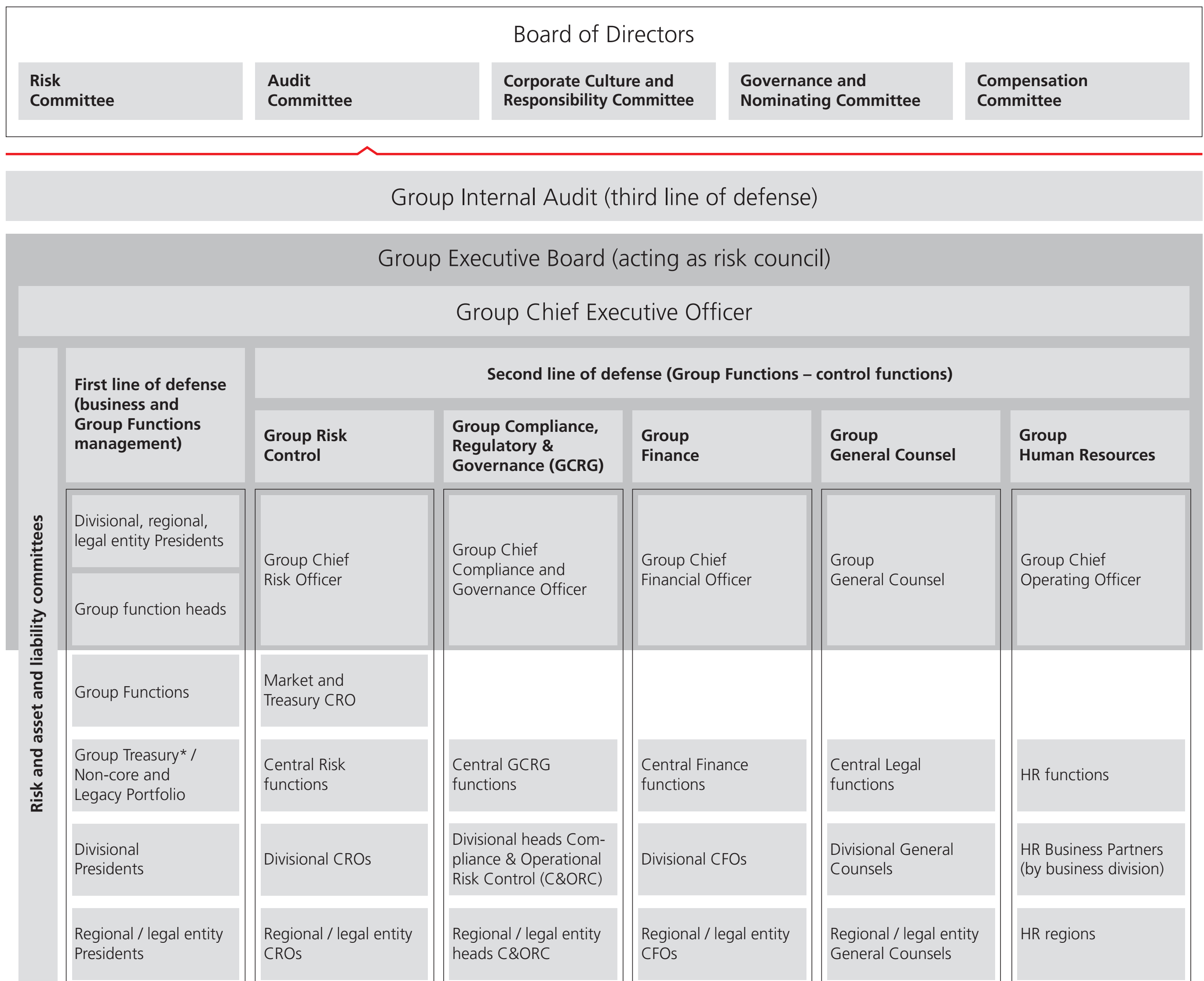
Our first line of defense, business management, owns its risk exposures and is accountable for maintaining effective processes and systems to manage its risks in compliance with applicable laws, external regulations and internal requirements, including identifying control weaknesses and inadequate processes.

Our second line of defense is formed by the control functions, separate from the business and reporting directly to the Group CEO. Control functions provide independent oversight, challenge financial and non-financial risks arising from the firm's business activities, and establish independent frameworks for risk assessment, measurement, aggregation and reporting, protecting against non-compliance with applicable laws and regulations.

Our third line of defense, Group Internal Audit, reports to the Chairman and to the Audit Committee. This function assesses the design and operating effectiveness and sustainability of processes to define risk appetite, governance, risk management, internal controls, remediation activities and processes to comply with legal and regulatory requirements and internal governance requirements.

The key roles and responsibilities for risk management and control are shown in the chart below and described on the following pages.

Audited | **Risk governance**



* Part of Group Finance

Audited I The *Board of Directors* (the BoD) approves the risk management and control framework of the Group, including the Group and business division overall risk appetite. The BoD is supported by its Risk Committee, which monitors and oversees the Group's risk profile and the implementation of the risk framework approved by the BoD, and approves the Group's risk appetite methodology. The Corporate Culture and Responsibility Committee helps the BoD meet its duty to safeguard and advance UBS's reputation for responsible and sustainable conduct, reviewing stakeholder concerns and expectations pertaining to UBS's societal contribution and corporate culture. The Audit Committee aids the BoD with its oversight duty relating to financial reporting and internal controls over financial reporting, and the effectiveness of whistleblowing procedures and the external and internal audit functions.

The *Group Executive Board* (the GEB) has overall responsibility for establishing and implementing a risk management and control framework in the Group, managing the risk profile of the Group as a whole.

The *Group Chief Executive Officer* has responsibility and accountability for the management and performance of the Group, has risk authority over transactions, positions and exposures, and allocates business divisions and Group Functions risk limits approved by the BoD.

The *business division Presidents* and *Group function heads* are responsible for the operation and management of their business divisions, including controlling the dedicated financial resources and risk appetite of the business division.

The *regional Presidents* are responsible for cross-divisional collaboration in their region, and are mandated to inform the GEB of any activities / issues that may give rise to actual or potentially material regulatory or reputational concerns.

The *Group Chief Risk Officer* (the Group CRO) is responsible for developing the Group's risk management and control framework (including risk principles and risk appetite) for credit, market, country, treasury, model, and environmental and social risks. This includes risk measurement and aggregation, portfolio controls and risk reporting. The Group CRO sets risk limits and approves credit and market risk transactions and exposures. Risk Control is also the central function for model risk management and control for all models used in UBS. A framework of policies and authorities support the risk control process.

The *business division CROs* are responsible for the implementation and enforcement of the risk management and control framework in the respective business division. The *regional CROs* provide independent oversight of risks in the respective region.

The *Group Chief Compliance and Governance Officer* is responsible for developing the Group's operational risk framework, which sets the general requirements for identification, management, assessment and mitigation of operational risk, and for ensuring that all non-financial risks are identified, owned and managed according to the operational risk appetite objectives, supported by an effective control framework.

The *Group Chief Financial Officer* is responsible for transparency in assessing the financial performance of the Group and the business divisions, and for managing the Group's financial accounting, controlling, forecasting, planning and reporting. Additional responsibilities include managing UBS's tax affairs, as well as treasury and capital management, including funding and liquidity risk and UBS's regulatory capital ratios.

The *Group General Counsel* is responsible for managing the Group's legal affairs (including litigation involving UBS) and ensuring effective and timely assessment of legal matters impacting the Group or its businesses, and for the management and reporting of all litigation matters.

The Group Chief Operating Officer is responsible for independent oversight and challenge of employment-related risks.

Group Internal Audit (GIA) independently assesses effectiveness of processes to define strategy and risk appetite and overall adherence to the approved strategy. It also assesses the effectiveness of governance processes and risk management, including compliance with legal and regulatory requirements and internal governance documents. The Head GIA reports to the Chairman of the BoD. GIA also has a functional reporting line to the BoD Audit Committee.

Some of these roles and responsibilities are replicated for certain significant legal entities of the Group. The *legal entity risk officers* are responsible for independent oversight and control of financial and non-financial risks for certain significant legal entities of the Group as part of the legal entity control framework, which complements the Group's risk management and control framework. ▲

Risk appetite framework

We have a defined Group level risk appetite, covering all financial and non-financial risk types, via a complementary set of qualitative and quantitative risk appetite statements. This is reviewed and recalibrated annually and presented to the BoD for approval.

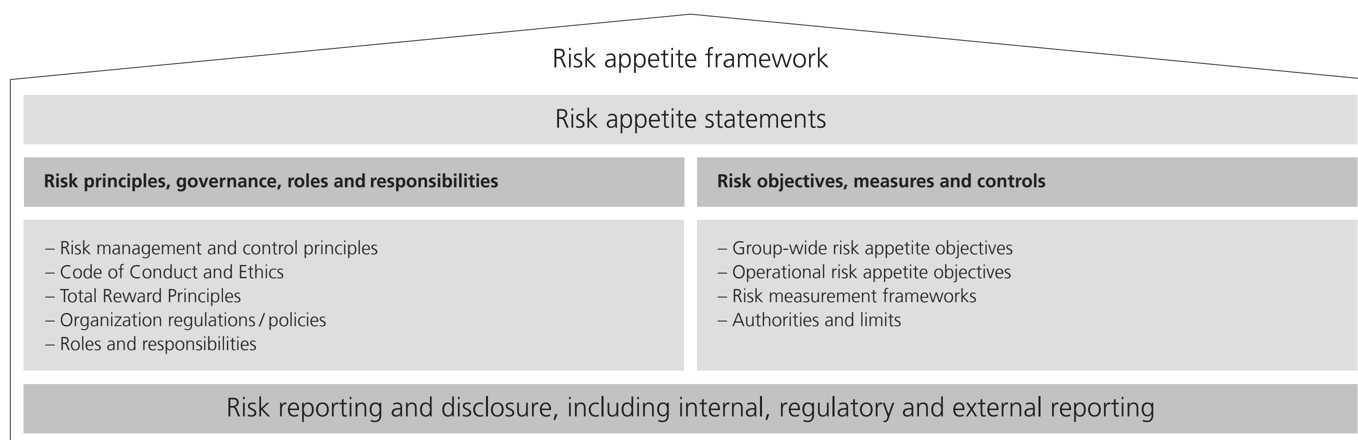
Our risk appetite is defined at the aggregate Group level and reflects the types of risk that we are willing to accept or avoid. It is set via complementary qualitative and quantitative risk appetite statements defined at a firm-wide level and is embedded throughout our business divisions and legal entities by Group, business division and legal entity policies, limits and authorities. UBS is the largest truly global wealth manager and a leading bank in Switzerland. We are subject to consolidated supervision by the Swiss Financial Market Supervisory Authority (FINMA) and related ordinances, which impose, among other requirements, minimum standards for capital, liquidity, risk concentration and internal organization. Our risk appetite is reviewed and recalibrated annually, with an aim of ensuring that risk-taking at every level of the organization is in line with our strategic priorities, our capital and liquidity plans, our pillars, principles and behaviors, and minimum regulatory requirements. The risk appetite statements are critical for maintaining a robust risk culture throughout UBS. The "Risk appetite framework" chart below shows the key elements of the framework, which are described in detail in this section.

Qualitative statements aim to ensure we maintain the desired risk culture. Quantitative risk appetite objectives are designed to enhance UBS's resilience against the effect of potential severe adverse economic or geopolitical events. These risk appetite objectives cover UBS's minimum capital and leverage ratios, solvency, earnings, liquidity, and funding, and are subject to periodic review, including the annual business planning process.

These objectives are complemented by operational risk appetite objectives, which are set for each of our operational risk categories, including market conduct, theft, fraud, data confidentiality and technology risks. A standardized financial firm-wide operational risk appetite has been established at Group level and is embedded throughout our business divisions. Operational risk events exceeding predetermined risk tolerances, expressed as percentages of UBS's operating income, must be escalated as per the firm-wide escalation framework to the respective business division President or higher, as appropriate.

The quantitative risk appetite objectives are supported by a comprehensive suite of risk limits set at a portfolio level. These may apply across the Group, within a business division or business, at legal entity level, or to an asset class. These additional quantitative controls are designed to monitor specific portfolios and to control potential risk concentrations.

Risk appetite framework



Risk reports listing aggregated measures of risk across products and businesses provide insight into the amounts, types, and sensitivities of our portfolios' various risks and aim to ensure adherence to defined limits. Risk officers, senior management and the BoD use this information to understand our risk profile and portfolio performance.

The status of risk appetite objectives is evaluated each month and reported to the BoD and the GEB. As our risk appetite may change over time, portfolio limits and associated approval authorities are subject to periodic reviews and changes, particularly in the context of our annual business planning process.

Our risk appetite framework is governed by a single overarching policy and conforms to the Financial Stability Board's Principles for an Effective Risk Appetite Framework.

Risk principles and risk culture

Maintaining a strong risk culture is a prerequisite for success in today's highly complex operating environment and a source of sustainable competitive advantage. Placing prudent and disciplined risk-taking at the center of every decision aims to achieve three goals: delivering unrivaled client satisfaction; creating long-term value for stakeholders; and making UBS one of the world's most attractive companies to work for.

Our risk appetite framework combines all the important elements of our risk culture, expressed in our *Pillars, Principles and Behaviors*, our risk management and control principles, our Code of Conduct and Ethics, and our Total Reward Principles. Together, these aim to align our decisions with the Group's strategy, principles and risk appetite. They help create a solid foundation for promoting risk awareness, leading to appropriate risk-taking and the establishing of robust risk management and control processes. These principles are supported by a range of initiatives covering employees at all levels, for example the *UBS House View on Leadership*, which is a set of explicit expectations for leaders that establishes consistent leadership standards across UBS. Another example is our Principles of Good Supervision, which establish clear expectations of managers and employees regarding supervisory responsibilities, specifically: to take responsibility; to know and organize their business; to know their employees and what they do; to create a good risk culture; and to respond to and resolve issues.

› **Refer to the foldout pages of this report for more information about our Pillars, Principles and Behaviors**
› **Refer to the Code of Conduct and Ethics of UBS at *ubs.com/code* for more information**

Risk management and control principles

Protection of financial strength	Protecting UBS's financial strength by controlling our risk exposure and avoiding potential risk concentrations at individual exposure levels, at specific portfolio levels and at an aggregate firm-wide level across all risk types
Protection of reputation	Protecting our reputation through a sound risk culture characterized by a holistic and integrated view of risk, performance and reward, and through full compliance with our standards and principles, particularly our Code of Conduct and Ethics
Business management accountability	Maintaining management accountability, whereby business management owns all risks assumed throughout the Group and is responsible for the continuous and active management of all risk exposures to provide for balanced risk and return
Independent controls	Independent control functions that monitor the effectiveness of the businesses' risk management and oversee risk-taking activities
Risk disclosure	Disclosure of risks to senior management, the BoD, investors, regulators, credit rating agencies and other stakeholders with an appropriate level of comprehensiveness and transparency

Whistleblowing policies and procedures exist to support an environment where staff are comfortable raising concerns. There are multiple channels via which individuals may, either openly or anonymously, escalate suspected breaches of laws, regulations, rules and other legal requirements, our Code of Conduct and Ethics, policies, or relevant professional standards. Our program is designed to ensure that whistleblowing concerns are investigated and that appropriate and consistent action is taken. We are committed to ensuring appropriate training for and communication to staff and legal entity representatives are available on an ongoing basis, including with regard to new regulatory requirements.

Mandatory training programs cover various compliance and risk-related topics, including anti-money laundering (AML) and operational risk. Additional specialized training is provided depending on employees' specific roles and responsibilities, e.g., credit risk and market risk training for those working in trading areas. Failure to complete mandatory training sessions within an appropriate timeframe can lead to consequences, including disciplinary action. Our operational risk and conduct risk frameworks aim to identify and manage financial, regulatory and reputational risks, as well as risks to clients and markets.

We want to be the financial provider of choice for clients wishing to direct capital to investments supporting the Sustainable Development Goals and the transition to a low-carbon economy. Our environmental and social risk framework governs all client and supplier relationships, applies firm-wide to all activities, and is integrated in management practices and control principles. We seek to protect our assets from climate change risks by limiting our risk appetite for carbon-related assets.

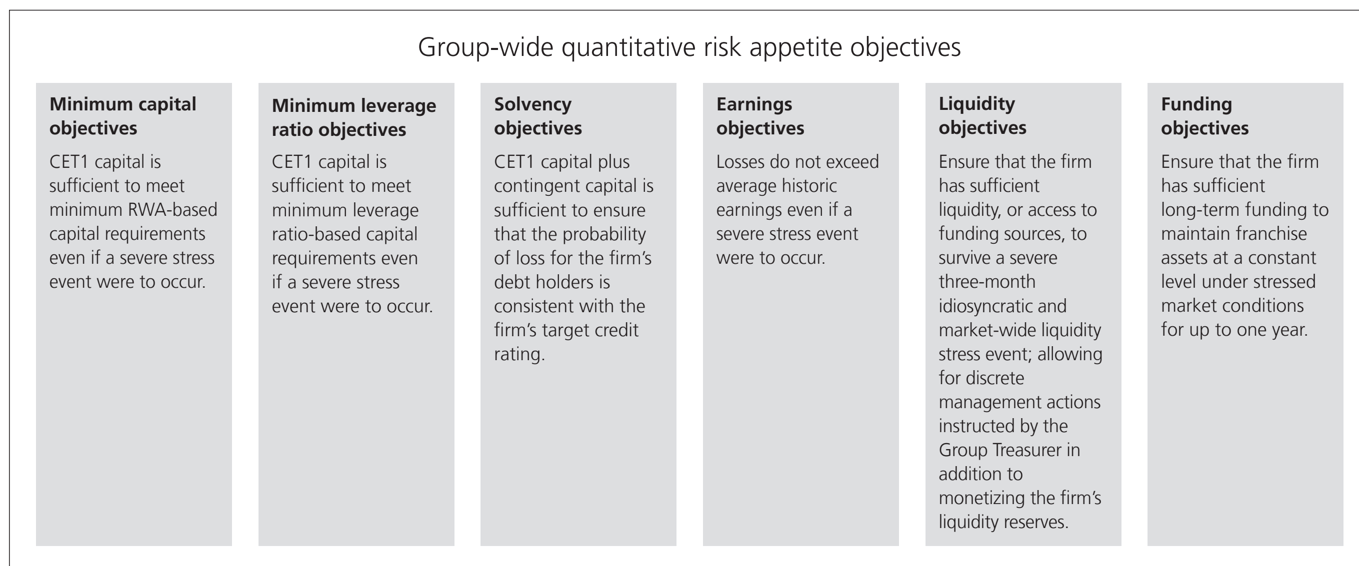
Quantitative risk appetite objectives

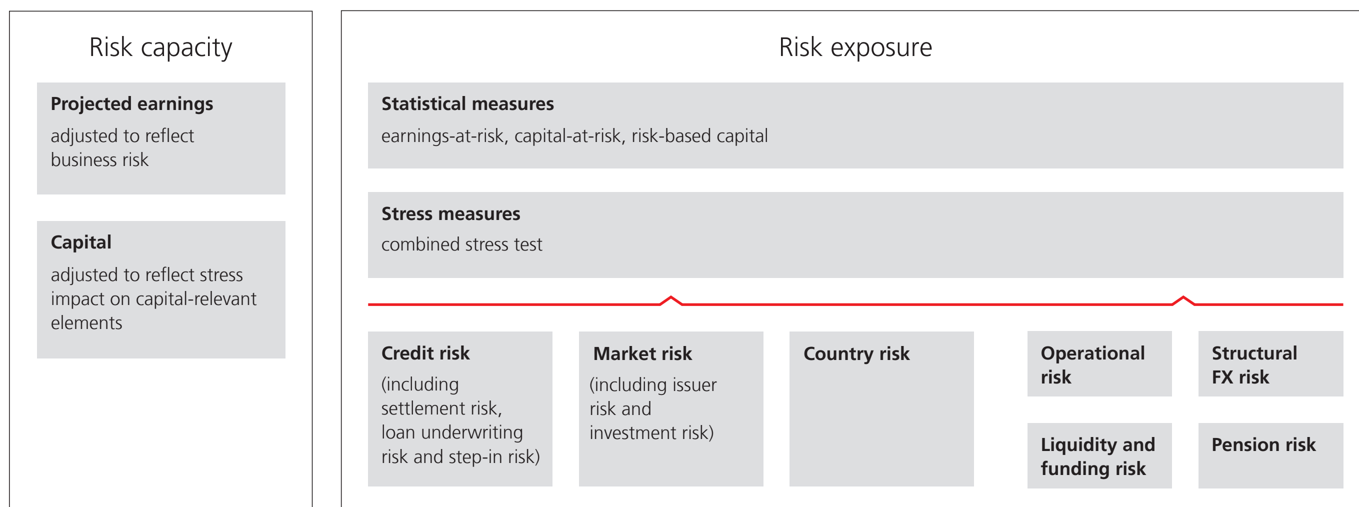
Our quantitative risk appetite objectives aim to ensure that our aggregate risk exposure remains within desired risk capacity, based on capital and business plans. The specific definition of risk capacity for each objective is aimed at ensuring we have sufficient capital, earnings, funding and liquidity to protect our businesses and exceed minimum regulatory requirements under a severe stress event. The risk appetite objectives are evaluated during the annual business planning process and approved by the BoD. The comparison of risk exposure with risk capacity is a key consideration in decisions on potential adjustments to the business strategy and risk profile of UBS and capital returns to shareholders.

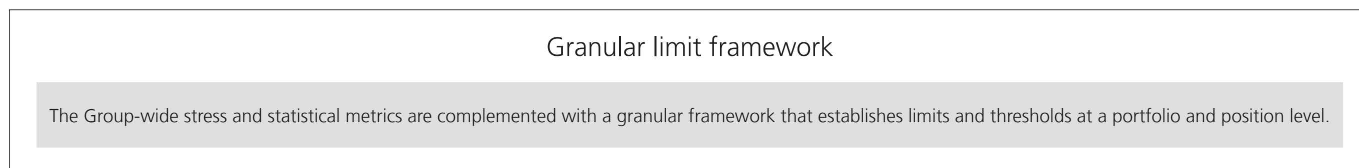
The annual business planning process reviews UBS's business strategy, assesses the risk profile our operations and activities result in, and stress-tests that risk profile. We use both scenario-based stress tests and statistical risk measurement techniques to assess effects of severe stress events at a firm-wide level. These complementary frameworks capture exposures to all material risks across our business divisions and Group Functions.

› **Refer to "Risk measurement" in this section for more information about our stress testing and statistical stress frameworks**

2020 quantitative risk appetite objectives







Our risk capacity is underpinned by performance targets and capital guidance as per our business plan. When determining our risk capacity in case of a severe stress event, we estimate projected earnings under stress, factoring in lower expected income and also lower expenses, including lower variable compensation and financial advisor compensation. We also consider capital impacts under stress from deferred tax assets, pension plan assets and liabilities, and accruals for capital returns to shareholders.

Risk appetite objectives define the aggregate risk exposure acceptable at the firm-wide level, given our risk capacity. The maximum acceptable risk exposure is supported by a full set of risk limits, triggers and targets, which are cascaded to businesses and portfolios. These limits, triggers and targets aim to ensure that our total risks remain in line with risk appetite.

Risk appetite statements at the business division level are derived from the firm-wide risk appetite. They may also include division-specific strategic goals related to that division's activities and risks. Risk appetite statements are also set for certain legal entities, which must be consistent with the firm-wide risk appetite framework and approved in accordance with Group and legal entity regulations. Differences may exist that reflect the specific nature, size, complexity and regulations applicable to the relevant legal entity.

Internal risk reporting

Comprehensive and transparent reporting of risks is central to our risk governance framework's control and oversight responsibilities and required by our risk management and control principles. Accordingly, risks are reported at a frequency and level of detail commensurate with the extent and variability of the risk and the needs of the various governance bodies, regulators and risk authority holders.

The Group Risk Report provides a detailed qualitative and quantitative monthly overview of developments in financial and non-financial risks at the firm-wide level, along with breakdowns of risks at the divisional level, including the status of our risk appetite objectives and the results of firm-wide stress testing. The Group Risk Report is distributed internally to the BoD and the GEB, and senior members of Risk Control, GIA, Finance, and Legal. Risk reports are also produced for significant Group entities (entities subject to enhanced standards of corporate governance) and significant branches.

Granular divisional risk reports are provided to the respective business division CROs and business division Presidents. That monthly reporting is supplemented with daily or weekly reports, at various levels of granularity, covering market and credit risks for the business divisions to enable risk officers and senior management to monitor and control the Group's risk profile.

Our internal risk reporting covers financial and non-financial risks and is supported by risk data and measurement systems that are also used for external disclosure and regulatory reporting. Dedicated units within Risk Control assume responsibility for measurement, analysis and reporting of risk and for overseeing the quality and integrity of risk-related data. Our risk data and measurement systems are subject to periodic review by GIA, following a risk-based audit approach.

Model risk management

Introduction

We rely on models to derive risk management and control decisions, to measure risks or exposures, value instruments or positions, conduct stress testing, assess adequacy of capital, and manage clients' assets and our own assets. Models may also be used to measure and monitor compliance with rules and regulations, for surveillance activities, or to meet financial or regulatory reporting requirements. Promoted by industry-wide advances in technology and data, the depth and breadth of model use across UBS continues to increase.

Model risk is defined as the risk of adverse consequences (e.g., financial losses or reputational damage) resulting from incorrect models.

Model governance framework

Our model governance framework establishes requirements for identifying, measuring, monitoring, reporting, controlling and mitigating model risks. All models that we use are subject to governance and controls throughout their life cycle. This ensures that risks arising from model use are understood, managed, monitored, controlled and reported on both a model-specific and an aggregated level. Before they can be granted approval for use from the model sponsor, all our models are independently validated along four model risk dimensions: (i) model input; (ii) model methodology; (iii) model implementation; and (iv) model use.

Once validated and approved for use, a model is subject to ongoing model performance monitoring and annual model confirmation, ensuring that the model is only used if it remains fit for purpose. All models are subject to periodic model re-validation, with rigor, depth and frequency determined by the model's materiality and complexity.

Our model risk governance framework follows our overarching risk governance framework, with the three lines of defense (LoD) assigned as follows:

- First LoD: model sponsors, model owners and model developers
- Second LoD: Chief Model Risk Officer, Model Risk Management & Control
- Third LoD: Group Internal Audit

An important difference as compared to how LoD are usually defined in financial and non-financial risk is that models can also be owned by the second LoD.

Model risk appetite framework and statement

The model risk appetite framework sets out the model risk appetite statement, defines the relevant metrics and lays out how appropriate adherence is assessed.

Model oversight

Model oversight boards and committees ensure that model risk is overseen at different levels of the organization, appropriate model risk management and control actions are taken and, where necessary, escalated to the next level.

The Group Model Governance Board is our most senior oversight and escalation body for all models in scope of our model governance framework. It is chaired by the Group CRO and the Group CFO and is responsible for: (i) reviewing and approving changes to the framework; (ii) approving the model risk appetite statement; (iii) overseeing adherence to the UBS model risk governance framework; and (iv) monitoring model risk at a firm-wide level.

Risk measurement

Audited | We apply a variety of methodologies and measurements to quantify the risks of our portfolios and potential risk concentrations. Risks that are not fully reflected within standard measures are subject to additional controls, which may include preapproval of specific transactions and the application of specific restrictions. Models to quantify risk are generally developed by dedicated units within control functions and are subject to independent validation. ▲

› **Refer to "Credit risk," "Market risk" and "Operational risk" in this section for more information about model confirmation procedures**

Stress testing

We perform stress testing to estimate losses that could result from extreme yet plausible macroeconomic and geopolitical stress events so as to identify, better understand and manage our potential vulnerabilities and risk concentrations. Stress testing has a key role in our limits framework at the firm-wide, business division, legal entity and portfolio levels. Stress test results are regularly reported to the BoD and the GEB. As described in "Risk appetite framework," stress testing, along with statistical loss measures, has a central role in our risk appetite and business planning processes.

Our stress testing framework has three pillars: (i) combined stress tests; (ii) an extensive set of portfolio- and risk type-specific stress tests; and (iii) reverse stress testing.

Our combined stress test (CST) framework is scenario-based and aims to quantify overall firm-wide losses that could result from various potential global systemic events. The framework captures all material risks, as covered in "Risk categories" above. Scenarios are forward-looking and encompass macroeconomic and geopolitical stress events calibrated to different levels of severity. We implement each scenario through the expected evolution of market indicators and economic variables under that scenario and then estimate the overall loss and capital implications were the scenario to occur. At least once a year, the Risk Committee approves the most relevant scenario, known as the binding scenario, for use as the main scenario for regular CST reporting and for monitoring risk exposure against our minimum capital, earnings and leverage ratio objectives in our risk appetite framework.

We provide detailed stress loss analyses to FINMA and regulators of our legal entities in accordance with their requirements. For example, in addition to CST, we perform a Loss Potential Analysis (LPA) required by FINMA, a Comprehensive Capital Analysis and Review (CCAR) for Americas Holding LLC required by the US Federal Reserve Board, and regular stress tests for UBS Europe SE required by the European Central Bank.

Our Enterprise-wide Stress Committee (the ESC) aims to ensure the consistency and adequacy of the assumptions and scenarios used for firm-wide stress measures. As part of its responsibilities, the ESC seeks to ensure that the set of stress scenarios adequately reflects current and potential developments in the macroeconomic and geopolitical environment, current and planned business activities, and actual or potential risk concentrations and vulnerabilities in our portfolios. The ESC meets at least quarterly and is composed of Group, business division and legal entity representatives of Risk Control. In executing its responsibilities, the ESC considers input from the Think Tank, a panel of senior representatives from the business divisions, Risk Control and economic research that meets quarterly to review the current and possible future market environment so as to identify potential stress scenarios that could materially affect the Group's profitability. This results in a range of internal stress scenarios developing and evolving over time.

Each scenario captures a wide range of macroeconomic variables, including GDP, equity prices, interest rates, foreign exchange rates, commodity prices, property prices and unemployment. We use assumed changes in these macroeconomic and market variables in each scenario to stress the key risk drivers of our portfolios. For example, lower GDP growth and rising interest rates may reduce the income of clients we have lent money to, which changes the credit risk parameters for probability of default, loss given default and exposure at default, and results in higher predicted credit losses within the stress scenario. We also capture the business risk resulting from lower fee, interest and trading income net of lower expenses. These effects are measured for all businesses and material risk types to calculate the aggregate estimated effect of the scenario on profit or loss, other comprehensive income, RWA, LRD and, ultimately, capital and leverage ratios. The assumed changes in macroeconomic variables are updated periodically to account for changes in the current and possible future market environment.

In 2020, the binding scenario for CST was the internal *Global Crisis scenario*, which is characterized by a combined crisis in the Eurozone, US and China and was updated over the course of 2020 to incorporate risks related to COVID-19. In Europe, a lack of confidence in the trajectory of several peripheral European economies leads to a sudden spike in their bond yields, which eventually results in them losing market access, followed by bailouts and debt restructurings; Greece leaves the Eurozone. Protectionist measures and geopolitical tensions contribute to a hard landing in China. This, coupled with a contraction in global trade, weighs on the economic recovery. Attempting to restore confidence and stimulate growth, central banks in the Eurozone, Switzerland and Japan push policy rates further into negative territory; however, that fails to avert a severe global recession.

The incorporation of pandemic-related risks led to severe scenario assumptions, in particular macroeconomic assumptions, such as deteriorating GDP and rising unemployment. Stress testing models are reviewed regularly with subject matter experts and relevant governance bodies. Notwithstanding the market turbulence and economic disruptions caused by the outbreak of COVID-19, the CST risk exposure was broadly stable over 2020, with most of the month-on-month variability arising primarily from changes in volumes of temporary loan underwriting exposure in the Investment Bank.

As part of the CST framework, we routinely monitored four additional stress scenarios throughout 2020:

- The *Failure of a Major Financial Institution* scenario represents renewed financial market turmoil reflecting the failure of a major global financial institution, leading to prolonged financial deleveraging and plunging activity around the globe.
- The *US Monetary Crisis scenario* represents a loss of confidence in the US, which leads to international portfolio repositioning out of US dollar-denominated assets, sparking an abrupt and substantial US dollar sell-off. The US is pushed back into recession, other industrialized countries replicate this pattern and inflationary concerns lead to an overall higher interest rate level.
- The *Global Depression scenario* represents a severe and prolonged Eurozone crisis in which several peripheral countries default and exit the Eurozone, and advanced economies are pulled into a prolonged period of economic stagnation. So as to better monitor the risks related to COVID-19, in mid-2020 the *Global Depression scenario* was put on hold and the *Extreme Coronavirus scenario* was introduced. The *Extreme Coronavirus scenario* represents a return to stringent containment measures at a global level, resulting in a deep and prolonged contraction in economic activity beyond that envisaged in the *Global Depression scenario*. The scenario was selected from a range of new COVID-19 scenarios.
- The *Global Interest Rate Steepening scenario* represents a sudden shift in market sentiment, causing a disorderly sell-off in long-dated bonds and a rapid steepening of the yield curve, exacerbated by a lack of liquidity in financial markets. This in turn triggers a sovereign crisis in Japan and a global recession.

We have updated the binding stress scenario in our CST framework for 2021. The updated *Global Crisis scenario* reflects the weaker fiscal conditions resulting from the COVID-19 pandemic and still focuses on the ensuing Eurozone crisis, China's hard landing and increasing global protectionism.

Portfolio-specific stress tests are measures tailored to the risks of specific portfolios. Our portfolio stress loss measures are derived from data on past events, but also include forward-looking elements; e.g., we derive the expected market movements in our liquidity-adjusted stress metric using a combination of historical market behavior, based on an analysis of historical events, and forward-looking analysis, including consideration of defined scenarios that are not modeled on any historical events. Results of portfolio-specific stress tests may be subject to limits to explicitly control risk-taking, or may be monitored without limits to identify vulnerabilities.

Reverse stress testing starts from a defined stress outcome (e.g., a specified loss amount, reputational damage, a liquidity shortfall or a breach of regulatory capital ratios) and works backward to identify economic or financial scenarios that could result in such an outcome. As such, reverse stress testing is intended to complement scenario-based stress tests by assuming "what if" outcomes that could extend beyond the range normally considered, and thereby potentially challenge assumptions regarding severity and plausibility.

We also routinely analyze the effect of increases or decreases in interest rates and changes in the structure of yield curves.

Within Group Treasury, we also perform stress testing to determine the optimum asset and liability structure allowing us to maintain an appropriately balanced liquidity and funding position under various scenarios. These scenarios differ from those outlined above, because they focus on specific situations that could generate liquidity and funding stress, as opposed to the scenarios used in the CST framework, which focus on the effect on profit or loss and capital.

› **Refer to "Credit risk" and "Market risk" in this section for more information about stress loss measures**

› **Refer to the "Capital, liquidity and funding, and balance sheet" section of this report for more information about stress testing**

Statistical measures

As well as our scenario-based CST measures, we use a statistical stress framework to calculate and aggregate risks using statistical techniques to derive stress events at chosen confidence levels.

This framework is used to derive a distribution of potential earnings based on historically observed market changes in combination with the firm's actual risk exposures, considering effects on both income and expenses. From that, we determine earnings-at-risk (EaR), measuring the potential shortfall in earnings (i.e., the deviation from forecast earnings) at a 95% confidence level and evaluated over a one-year horizon. EaR is used for the assessment of the earnings objectives in our risk appetite framework.

We extend the EaR measure, incorporating the effects of gains and losses recognized through other comprehensive income, to derive a distribution of potential effects of stress events on CET1 capital. From this distribution, we derive our capital-at-risk (CaR) buffer measure at a 95% confidence level to assess our capital and leverage ratio risk appetite objectives, and derive our CaR solvency measure at a 99.9% confidence level to assess our solvency risk appetite objective.

We use the CaR solvency measure as a basis for deriving the contributions of business divisions to risk-based capital (RBC), which is a component of our equity attribution framework. RBC measures the potential capital impairment from an extreme stress event at a 99.9% confidence level.

› **Refer to the "Capital, liquidity and funding, and balance sheet" section of this report for more information about the equity attribution framework**

Portfolio and position limits

UBS maintains a comprehensive set of risk limits across its major risk portfolios. These portfolio limits are set based on our risk appetite and periodically reviewed and adjusted as part of the business planning process.

Firm-wide stress and statistical metrics are complemented by more granular portfolio and position limits, triggers and targets. Combining these measures provides a comprehensive control framework to apply to our business divisions, as well as the significant legal entities, as relevant to the key risks arising from their businesses.

We apply limits to a variety of exposures at portfolio level, using statistical and stress-based measures, such as value-at-risk, liquidity-adjusted stress, loan underwriting limits, economic value sensitivity and portfolio default simulations for loan books. These are complemented with a set of controls for net interest income sensitivity, mark-to-market losses on available-for-sale portfolios, and the effect of foreign exchange movements on capital and capital ratios.

Portfolio measures are supplemented with position-level controls. Risk measures for position controls are based on market risk sensitivities and counterparty-level credit risk exposures. Market risk sensitivities include sensitivities to changes in general market risk factors (e.g., equity indices, foreign exchange rates and interest rates) and sensitivities to issuer-specific factors (e.g., changes in an issuer's credit spread or default risk). We monitor numerous market risk controls for the Investment Bank and Group Functions on a daily basis. Counterparty measures capture the current and potential future exposure to an individual counterparty, taking into account collateral and legally enforceable netting agreements.

› **Refer to "Credit risk" in this section for more information about counterparty limits**
› **Refer to "Risk appetite framework" in this section for more information about the risk appetite framework**

Risk concentrations

Audited | A risk concentration exists where (i) a position is affected by changes in a group of correlated factors, or a group of positions are affected by changes in the same risk factor or a group of correlated factors; and (ii) the exposure could, in the event of large but plausible adverse developments, result in significant losses. The categories where risk concentrations may occur include counterparties, industries, legal entities, countries or geographical regions, products, and businesses.

Identification of risk concentrations requires judgment, as potential future developments cannot be accurately predicted and may vary from period to period. In determining if a risk concentration exists, we consider a number of elements, both individually and collectively. These elements include the shared characteristics of the positions and counterparties, the size of the position or group of positions, the sensitivity of the position or group of positions to changes in risk factors and the volatility, and the correlations of those factors. Also important in our assessment is the liquidity of the markets where the positions are traded, as well as the availability and effectiveness of hedges or other potential risk-mitigating factors. The value of a hedging instrument may not always move in line with the position being hedged; this mismatch is referred to as basis risk. In addition, operational risk concentrations may result from a single issue that is large on its own (i.e., has the potential to produce a single high-impact loss or a number of losses that together are high-impact) or related issues that may link together to create a high impact.

Risk concentrations are subject to increased oversight by Group Risk Control and Group Compliance, Regulatory & Governance and assessed to determine whether they should be reduced or mitigated, depending on available means to do so. It is possible that material losses could occur on asset classes, positions and hedges, particularly if the correlations that emerge in a stressed environment differ markedly from those envisaged by risk models. ▲

› **Refer to "Credit risk" and "Market risk" in this section for more information about the composition of our portfolios**
› **Refer to the "Risk factors" section of this report for more information**

Asset Management fund liquidity risk

Asset management is a fiduciary for its clients' assets and is exposed to fund liquidity risk which can lead to reputational risks. Fund liquidity risk is defined as the risk that a fund could be unable meet redemption requests, while also fulfilling ongoing obligations to its remaining shareholders, including that fund's duty to pursue its stated investment objective, strategies, and policies. Liquidity of funds is monitored using a variety of tools, including third-party liquidity assessment models, covering both the assets (fund holdings) and liabilities (shareholder redemptions), and including a range of market scenario assumptions. Furthermore, reverse stress tests are applied to determine the deterioration required to trigger liquidity considerations. Liquidity events can also be managed via the enactment of liquidity tools available to the funds. Overall, our funds fared well during the heightened market volatility in March 2020.

Credit risk

Key developments

In Global Wealth Management, the Lombard and mortgage books showed significant growth over the course of 2020 while keeping a stable risk profile with regard to concentrations and collateral liquidity, and with no material incurred losses after undergoing a real-life stress test in the first quarter of 2020.

Our Swiss corporate banking products exposure increased over the course of 2020, mainly due to the appreciation of the Swiss franc and COVID-19 facilities guaranteed by the Swiss government, as well as several large single positions. Due to our strong footprint in our home market, we are exposed to the development of the Swiss economy and the effects of the ongoing and highly uncertain COVID-19 pandemic. Within our Swiss corporate book, risks related to certain industries, including the tourism; watches; and culture, sports and education sectors, where we have modest exposure, have increased.

Our Swiss real estate portfolio increased over the course of 2020, mainly due to the appreciation of the Swiss franc. It is of high quality but carefully monitored, due to its materiality. We are paying particularly close attention to the level of risk in our Swiss commercial retail and office real estate portfolio and its resilience to the economic impact of COVID-19.

Our loans to customers in the Investment Bank are modest compared with our Personal & Corporate Banking and Global Wealth Management loan books. Over the course of 2020, we have seen defaults in industries impacted by COVID-19, such as energy, real estate and travel, and we are watchful of further impairments.

Credit loss expense / release

Total net credit loss expenses were USD 694 million in 2020, compared with USD 78 million in the prior year, reflecting net expenses of USD 266 million related to stage 1 and 2 positions and net expenses of USD 429 million related to credit-impaired (stage 3) positions. The most notable contributors to stage 3 credit loss expenses were: USD 81 million in the Investment Bank related to an exposure to a client in the travel sector; USD 59 million in Personal & Corporate Banking related to a case of fraud at a commodity trade finance counterparty, which affected a number of lenders, including UBS; and USD 42 million in Group Functions from an energy-related exposure in Non-core and Legacy Portfolio.

› **Refer to "Note 1 Summary of significant accounting policies," "Note 9 Financial assets at amortized cost and other positions in scope of expected credit loss measurement" and "Note 20 Expected credit loss measurement" in the "Consolidated financial statements" section of this report for more information about IFRS 9 and expected credit losses**

Audited I Main sources of credit risk

- Global Wealth Management predominantly conducts securities-based (Lombard) lending and mortgage lending.
- A substantial portion of lending exposure arises from Personal & Corporate Banking, which offers mortgage loans, secured mainly by residential properties and income-producing real estate, as well as corporate loans, and therefore depends on the performance of the Swiss economy.
- The Investment Bank's credit exposure arises mainly from lending, derivatives trading and securities financing. Derivatives trading and securities financing are mainly investment grade. Loan underwriting activity can be lower rated and give rise to temporary concentrated exposure.
- Credit risk within Non-core and Legacy Portfolio relates to derivative transactions, predominantly carried out on a cash-collateralized basis, and securitized positions. ▲

Credit loss (expense) / release

USD million	Global Wealth Management	Personal & Corporate Banking	Asset Management	Investment Bank	Group Functions	Total
For the year ended 31.12.20						
Stages 1 and 2	(48)	(129)	0	(88)	0	(266)
Stage 3	(40)	(128)	(2)	(217)	(42)	(429)
Total credit loss (expense) / release	**(88)**	**(257)**	**(2)**	**(305)**	**(42)**	**(694)**
For the year ended 31.12.19						
Stages 1 and 2	3	23	0	(4)	0	22
Stage 3	(23)	(44)	0	(26)	(7)	(100)
Total credit loss (expense) / release	**(20)**	**(21)**	**0**	**(30)**	**(7)**	**(78)**
For the year ended 31.12.18						
Stages 1 and 2	0	0	0	(9)	(1)	(9)
Stage 3	(15)	(56)	0	(29)	(8)	(109)
Total credit loss (expense) / release	**(15)**	**(56)**	**0**	**(38)**	**(8)**	**(118)**

Audited | **Overview of measurement, monitoring and management techniques**

- Credit risk from transactions with individual counterparties is based on our estimates of probability of default (PD), exposure at default (EAD) and loss given default (LGD). Limits are established for individual counterparties and groups of related counterparties covering banking and traded products, and for settlement amounts. Risk authorities are approved by the BoD, and are delegated to the Group CEO, the Group CRO and divisional CROs, based on risk exposure amounts, internal credit rating and potential loss.
- Limits apply not only to the current outstanding amount, but also to contingent commitments and the potential future exposure of traded products.
- The Investment Bank monitoring, measurement and limit framework distinguishes between exposures intended to be held to maturity (take-and-hold exposures) and those intended for distribution or risk transfer (temporary exposures).
- We use models to derive portfolio credit risk measures of expected loss, statistical loss and stress loss at Group-wide and business division levels, and to establish portfolio limits.
- Credit risk concentrations can arise if clients are engaged in similar activities, located in the same geographical region or have comparable economic characteristics, e.g., if their ability to meet contractual obligations would be similarly affected by changes in economic, political or other conditions. To avoid credit risk concentrations, we establish limits / operational controls that constrain risk concentrations at portfolio and sub-portfolio levels with regard to sector exposure, country risk and specific product exposures. ▲

Credit risk profile of the Group

The exposures detailed in this section are based on management's view of credit risk, which differs in certain respects from the expected credit loss (ECL) measurement requirements of IFRS.

Internally, we put credit risk exposures into two broad categories: banking products and traded products. Banking products include drawn loans, guarantees and loan commitments, amounts due from banks, balances at central banks, and other financial assets at amortized cost. Traded products include over-the-counter derivatives, exchange-traded derivatives and securities financing transactions, consisting of securities borrowing and lending, and repurchase and reverse repurchase agreements.

Banking products

Breakdowns of banking products exposures in the "Banking and traded products exposure in our business divisions and Group Functions" table on the next page are gross before allowances and provisions for ECLs and credit hedges. Guarantees and loan commitments are shown on a notional basis, without applying credit conversion factors.

The table reflects the total exposures (stages 1–3) in scope of ECL requirements, allowances and provisions by ECL stages and separately credit-impaired exposures, gross (stage 3). Total gross banking products exposure was USD 639 billion as of 31 December 2020, compared with USD 515 billion at the end of the prior year.

The gross exposure for banking products as shown in the table corresponds to an ECL gross exposure of USD 802 billion. The gross exposure shown in the table includes other financial assets measured at amortized cost, but excludes cash, receivables from securities financing transactions, cash collateral receivables on derivative instruments, financial assets at fair value through other comprehensive income (FVOCI), irrevocable committed prolongation of existing loans, unconditionally revocable committed credit lines, and forward starting reverse repurchase and securities borrowing agreements

› **Refer to "Note 1 Summary of significant accounting policies" in the "Consolidated financial statements" section of this report for more information about our accounting policy for allowances and provisions for ECLs**

› **Refer to "Note 9 Financial assets at amortized cost and other positions in scope of expected credit loss measurement" and "Note 20 Expected credit loss measurement" in the "Consolidated financial statements" section of this report for more information about ECL measurement requirements under IFRS**

› **Refer to "Note 14a Other financial assets measured at amortized cost" in the "Consolidated financial statements" section of this report for more details**

Banking and traded products exposure in our business divisions and Group Functions

	31.12.20					
USD million	Global Wealth Management	Personal & Corporate Banking	Asset Management	Investment Bank	Group Functions	Total
Banking products[1,2]						
Gross exposure	300,368	227,139	3,374	56,237	52,199	639,317
of which: loans and advances to customers (on-balance sheet)	*208,324*	*153,975*	*1*	*13,964*	*4,324*	*380,589*
of which: guarantees and loan commitments (off-balance sheet)	*10,153*	*28,814*	*0*	*15,936*	*3,550*	*58,453*
Traded products[2,3]						
Gross exposure	9,919	1,201	0	40,215		51,335
of which: over-the-counter derivatives	*6,946*	*1,182*	*0*	*11,236*		*19,364*
of which: securities financing transactions	*0*	*0*	*0*	*21,753*		*21,753*
of which: exchange-traded derivatives	*2,973*	*19*	*0*	*7,227*		*10,218*
Other credit lines, gross[4]	12,201	24,950	0	2,952	31	40,134
Total credit-impaired exposure, gross (stage 3)[1]	1,324	1,997	0	450	7	3,778
Total allowances and provisions for expected credit losses (stages 1 to 3)	318	842	1	298	10	1,468
of which: stage 1	*103*	*130*	*0*	*70*	*3*	*306*
of which: stage 2	*54*	*216*	*0*	*63*	*0*	*333*
of which: stage 3 (allowances and provisions for credit-impaired exposures)	*160*	*497*	*1*	*165*	*6*	*829*

	31.12.19					
USD million	Global Wealth Management	Personal & Corporate Banking	Asset Management	Investment Bank	Group Functions	Total
Banking products[1,2]						
Gross exposure	239,032	194,395	2,914	48,170	30,570	515,081
of which: loans and advances to customers (on-balance sheet)	*174,510*	*136,572*	*1*	*10,585*	*5,882*	*327,550*
of which: guarantees and loan commitments (off-balance sheet)	*5,578*	*23,142*	*0*	*16,009*	*960*	*45,689*
Traded products[2,3]						
Gross exposure	8,830	841	0	38,233		47,904
of which: over-the-counter derivatives	*6,571*	*804*	*0*	*9,832*		*17,207*
of which: securities financing transactions	*0*	*0*	*0*	*20,821*		*20,821*
of which: exchange-traded derivatives	*2,259*	*36*	*0*	*7,580*		*9,876*
Other credit lines, gross[4]	10,735	20,986	0	3,227	144	35,092
Total credit-impaired exposure, gross (stage 3)[1]	902	1,694	0	91	427	3,113
Total allowances and provisions for expected credit losses (stages 1 to 3)	209	696	0	87	37	1,029
of which: stage 1	*59*	*81*	*0*	*38*	*3*	*181*
of which: stage 2	*34*	*122*	*0*	*3*	*0*	*160*
of which: stage 3 (allowances and provisions for credit-impaired exposures)	*116*	*493*	*0*	*46*	*34*	*688*

1 ECL gross exposure including other financial assets at amortized cost, but excluding cash, receivables from securities financing transactions, cash collateral receivables on derivative instruments, financial assets at FVOCI, irrevocable committed prolongation of existing loans and unconditionally revocable committed credit lines and forward starting reverse repurchase and securities borrowing agreements. 2 Internal management view of credit risk, which differs in certain respects from IFRS. 3 As counterparty risk for traded products is managed at counterparty level, no further split between exposures in the Investment Bank and Group Functions is provided. 4 Unconditionally revocable committed credit lines.

Global Wealth Management

Gross banking products exposure within Global Wealth Management increased to USD 300 billion from USD 239 billion.

Our Global Wealth Management loan portfolio is mainly secured by securities (Lombard loans) and by residential property. Most of the Lombard loans were of high quality, with 92% rated as investment grade based on our internal ratings, and they are typically short term in nature. Moreover, Lombard loans can be canceled immediately, if the collateral quality deteriorates or margin calls are not met. In 2020, the Lombard book increased by 20%, while keeping a stable risk profile with regard to concentrations and collateral liquidity and with no material losses. The increase was mainly driven by higher volumes of loans in Switzerland, the US, and Asia Pacific.

The mortgage book increased by 13%, equally driven by the effects of the US dollar depreciating against the Swiss franc on a mostly Swiss-franc denominated portfolio and a higher volume of mortgage loans in Switzerland and the US, distributed across various clients.

During 2020, aircraft leasing was gradually transitioned to Global Wealth Management from Personal & Corporate Banking, shifting loans of USD 1.8 billion.

Due to negative market movements during the COVID-19 global outbreak, the number of margin calls in Global Wealth Management for Lombard and securities-based loans materially spiked in mid-March. Since mid-April, both the number of margin calls and their volumes were within normal ranges, with no material credit losses.

Global Wealth Management and Personal & Corporate Banking loans and advances to customers, gross

	Global Wealth Management		Personal & Corporate Banking	
USD million	31.12.20	31.12.19	31.12.20	31.12.19
Secured by residential property	60,021	54,383	111,554	100,645
Secured by commercial / industrial property[1]	3,273	2,619	19,623	17,131
Secured by cash	22,722	16,852	2,860	1,569
Secured by securities	104,652	88,684	2,003	1,766
Secured by guarantees and other collateral	15,605	10,591	6,942	5,351
Unsecured loans and advances to customers	2,051	1,381	10,994	10,111
Total loans and advances to customers, gross	208,324	174,510	153,975	136,572
Allowances	(190)	(93)	(676)	(595)
Total loans and advances to customers, net of allowances	208,134	174,417	153,299	135,978

1 Includes exposures with mixed collateral as security, where the primary purpose of the loan is not to finance a specific property.

Personal & Corporate Banking

Gross banking products exposure (excluding exposure re-allocated from Group Treasury) within Personal & Corporate Banking increased to USD 187 billion (CHF 165 billion) from USD 163 billion (CHF 158 billion), predominantly driven by the appreciation of the Swiss franc. Net banking products exposure was USD 186 billion (CHF 165 billion), compared with USD 162 billion (CHF 157 billion), of which approximately 65% was classified as investment grade, compared with 63% in 2019. Around 50% of the exposure is categorized in the lowest LGD bucket of 0–25%, similar to 2019. The size of Personal & Corporate Banking's gross loan portfolio increased to USD 154 billion (CHF 136 billion) from USD 137 billion (CHF 132 billion). This portfolio is predominantly denominated in Swiss francs and thus the increase is largely due to the US dollar depreciating. As of 31 December 2020, 93% of this portfolio was secured by collateral, mainly residential and commercial property. Of the total unsecured amount, 81% related to cash flow-based lending to corporate counterparties and 4% related to lending to public authorities. Based on our internal ratings, 45% of the unsecured loan portfolio was rated as investment grade, compared with 46% in 2019.

Although credit loss expenses for banking products increased significantly in 2020 compared with 2019, they remained within our expectations, considering the COVID-19 pandemic. This was achieved due to our careful risk management, as well as external measures, such as the Swiss federal and cantonal credit programs and *Kurzarbeit* (short-time work benefit), supporting the Swiss economy. Given the credit quality of our portfolio and prudent risk management approach, alongside improved macroeconomic forecasts, we currently do not expect credit loss expense to increase in 2021 from 2020. Our Swiss corporate banking products portfolio, which was USD 35 billion (CHF 31 billion) compared with USD 26 billion (CHF 26 billion) in 2019, consists of loans, guarantees and loan commitments to multi-national and domestic counterparties. The increase compared with 2019 is mainly due to the COVID-19 facilities guaranteed by the Swiss government of CHF 3 billion (USD 3 billion) and several large single positions. The small and medium-sized entity (SME) portfolio, in particular, is well diversified across industries. However, such companies are reliant on the domestic economy and the economies to which they export, in particular the EU and the US. In addition, the change in the EUR / CHF exchange rate is an important risk factor for Swiss corporate clients.

The delinquency ratio was 0.4% for the corporate portfolio, compared with 0.5% at the end of 2019.

› **Refer to "Credit risk models" in this section for more information about loss given default, rating grades and rating agency mappings**

Swiss mortgage loan portfolio

Our Swiss mortgage loan portfolio secured by residential and commercial real estate in Switzerland continues to be our largest loan portfolio. These mortgage loans, totaling USD 170 billion (CHF 150 billion), mainly originate from Personal & Corporate Banking, but also from Global Wealth Management Region Switzerland. USD 153 billion (CHF 136 billion) of those mortgage loans related to residential properties that the borrower was either occupying or renting out, with full recourse to the borrower. Of this USD 153 billion (CHF 136 billion), USD 111 billion (CHF 98 billion) is related to properties occupied by the borrower, with an average loan-to-value (LTV) ratio of 54%, unchanged compared with 31 December 2019. The average LTV for newly originated loans for this portfolio was 67%, compared with 65% in 2019. The remaining USD 43 billion (CHF 38 billion) of the Swiss residential mortgage loan portfolio relates to properties rented out by the borrower and the average LTV of that portfolio was 53%, compared with 54% as of 31 December 2019. The average LTV for newly originated Swiss residential mortgage loans for properties rented out by the borrower was 56%, compared with 58% in 2019.

As illustrated in the "Swiss mortgages: distribution of net exposure at default (EAD) across exposure segments and loan-to-value (LTV) buckets" table on the next page, more than 99% of the aggregate amount of Swiss residential mortgage loans would continue to be covered by the real estate collateral even if the value assigned to that collateral were to decrease by 20%, and 98% would remain covered by the real estate collateral even if the value assigned to that collateral were to decrease by 30%. In this table, the amount of each mortgage loan is allocated across the LTV buckets to indicate the portion at risk at the various value levels shown; for example, a loan of 75 with an LTV ratio of 75% (i.e., a collateral value of 100) would result in allocations of 30 in the less-than-30% LTV bucket, 20 in the 31–50% bucket, 10 in the 51–60% bucket, 10 in the 61–70% bucket and 5 in the 71–80% bucket.

Personal & Corporate Banking: distribution of banking products exposure across internal UBS ratings and loss given default (LGD) buckets[1]

USD million, except where indicated	31.12.20						31.12.19	
		LGD buckets				Weighted average LGD (%)		Weighted average LGD (%)
Internal UBS rating[2]	Exposure	0–25%	26–50%	51–75%	76–100%		Exposure	
Investment grade	121,386	72,522	37,724	9,522	1,617	26	102,491	27
Sub-investment grade	63,266	25,720	23,644	11,891	2,011	33	58,597	34
of which: 6–9	*58,141*	*23,714*	*21,850*	*10,794*	*1,783*	*33*	*53,811*	*34*
of which: 10–13	*5,125*	*2,006*	*1,794*	*1,098*	*228*	*35*	*4,786*	*32*
Defaulted / Credit-impaired	1,997	53	1,702	241	0	41	1,694	40
Total exposure before deduction of allowances and provisions	186,648	98,296	63,070	21,654	3,628	29	162,782	29
Less: allowances and provisions	(795)						(660)	
Net banking products exposure[1]	185,853						162,121	

1 Excluding balances at central banks and Group Treasury reallocations. 2 The ratings of the major credit rating agencies, and their mapping to our internal rating scale, are shown in the "Internal UBS rating scale and mapping of external ratings" table in this section.

Personal & Corporate Banking: unsecured loans by industry sector

	31.12.20		31.12.19	
	USD million	%	USD million	%
Construction	157	1.4	135	1.3
Financial institutions	2,553	23.2	1,873	18.5
Hotels and restaurants	133	1.2	81	0.8
Manufacturing	1,572	14.3	1,536	15.2
Private households	1,648	15.0	1,609	15.9
Public authorities	472	4.3	497	4.9
Real estate and rentals	498	4.5	236	2.3
Retail and wholesale	1,756	16.0	1,981	19.6
Services	1,896	17.3	1,850	18.3
Other	309	2.8	313	3.1
Exposure, gross	10,994	100.0	10,111	100.0

Swiss mortgages: distribution of net exposure at default (EAD) across exposure segments and loan-to-value (LTV) buckets

USD billion, except where indicated		31.12.20								31.12.19
		LTV buckets								
Exposure segment		≤30%	31–50%	51–60%	61–70%	71–80%	81–100%	>100%	Total	Total
Residential mortgages	Net EAD	86.6	38.8	10.9	5.4	1.7	0.4	0.2	143.9	127.7
	as a % of row total	60	27	8	4	1	0	0	100	
Income-producing real estate	Net EAD	14.7	5.8	1.4	0.6	0.2	0.1	0.0	22.8	18.7
	as a % of row total	65	25	6	3	1	0	0	100	
Corporates	Net EAD	6.9	2.6	0.7	0.3	0.1	0.1	0.0	10.8	9.6
	as a % of row total	64	24	6	3	1	1	0	100	
Other segments	Net EAD	0.6	0.2	0.0	0.0	0.0	0.0	0.0	0.8	0.7
	as a % of row total	68	21	5	3	1	1	0	100	
Mortgage-covered exposure	Net EAD	108.8	47.3	13.0	6.4	2.0	0.5	0.2	178.3	156.7
	as a % of total	61	27	7	4	1	0	0	100	
Mortgage-covered exposure 31.12.19	Net EAD	94.6	41.7	11.8	6.1	2.1	0.4	0.1	156.7	
	as a % of total	60	27	8	4	1	0	0	100	

Asset Management

Gross banking products exposure within Asset Management was USD 3.4 billion as of 31 December 2020, compared with USD 2.9 billion as of 31 December 2019. Banking products relate primarily to balances at central banks and to a lesser extent to cash at banks held by individual Asset Management legal entities, liquid assets and receivables.

Investment Bank

The Investment Bank's lending activities are largely associated with corporate and non-bank financial institutions. The business is broadly diversified across industry sectors, but concentrated in North America.

The gross banking products exposure including balances at central banks and Group Treasury reallocations was USD 56 billion as of 31 December 2020, compared with USD 48 billion as of 31 December 2019. Gross banking products exposure excluding balances at central banks and Group Treasury reallocations increased to USD 37 billion from USD 32 billion, mostly driven by increases in loans and advances to customers. Based on our internal ratings, 53% of this gross banking products exposure was classified as investment grade. The vast majority of the gross banking products exposure had an estimated LGD below 50%.

Our loan underwriting business's overall ability to distribute risk remained sound. Total mandated temporary loan underwriting exposure ended 2020 at USD 4.9 billion, compared with USD 4.4 billion at the end of the prior year. Loan underwriting exposures are classified as held for trading, with fair values reflecting market conditions at the end of 2020.

› **Refer to "Credit risk models" in this section for more information about LGD, rating grades and rating agency mappings**

Investment Bank: distribution of banking products exposure across internal UBS ratings and loss given default (LGD) buckets[1]

USD million, except where indicated	31.12.20						31.12.19	
		LGD buckets				Weighted average		Weighted average
Internal UBS rating[2]	Exposure	0–25%	26–50%	51–75%	76–100%	LGD (%)	Exposure	LGD (%)
Investment grade	19,303	6,858	8,478	3,680	288	36	17,541	40
Sub-investment grade	16,785	4,598	5,111	6,957	120	17	14,598	18
of which: 6–9	*12,030*	*3,014*	*2,060*	*6,836*	*120*	*11*	*10,746*	*14*
of which: 10–13	*4,756*	*1,584*	*3,051*	*121*	*0*	*30*	*3,852*	*30*
Defaulted / Credit-impaired	450	92	113	233	12	53	91	40
Banking products exposure[1]	36,538	11,547	13,701	10,870	420	27	32,229	30

1 Excluding balances at central banks and Group Treasury reallocations. 2 The ratings of the major credit rating agencies, and their mapping to our internal rating scale, are shown in the "Internal UBS rating scale and mapping of external ratings" table in this section.

Investment Bank: banking products exposure by geographical region[1]

	31.12.20		31.12.19	
	USD million	%	USD million	%
Asia Pacific	7,216	19.7	5,080	15.8
Latin America	1,584	4.3	844	2.6
Middle East and Africa	428	1.2	467	1.5
North America	15,462	42.3	16,553	51.4
Switzerland	720	2.0	779	2.4
Rest of Europe	11,129	30.5	8,505	26.4
Exposure[1]	36,538	100.0	32,229	100.0

1 Excluding balances at central banks and Group Treasury reallocations.

Investment Bank: banking products exposure by industry sector[1]

	31.12.20		31.12.19	
	USD million	%	USD million	%
Banks	7,286	19.9	5,375	16.7
Chemicals	876	2.4	766	2.4
Electricity, gas, water supply	448	1.2	534	1.7
Financial institutions, excluding banks	13,130	35.9	12,944	40.2
Manufacturing	1,681	4.6	1,705	5.3
Mining	1,558	4.3	1,699	5.3
Public authorities	1,273	3.5	872	2.7
Real estate and construction	1,421	3.9	1,291	4.0
Retail and wholesale	2,041	5.6	1,842	5.7
Technology and communications	3,443	9.4	2,302	7.1
Transport and storage	445	1.2	458	1.4
Other	2,937	8.0	2,441	7.6
Exposure[1]	36,538	100.0	32,229	100.0

1 Excluding balances at central banks and Group Treasury reallocations.

Group Functions

Gross banking products exposure within Group Functions, which arises primarily in connection with treasury activities, increased by USD 22 billion to USD 52 billion. Of this increase, USD 18 billion came from balances at central banks, as the Group increased its liquidity reserves in a volatile market environment.

› **Refer to "Balance sheet assets" in the "Capital, liquidity and funding, and balance sheet" section of this report for more information**

› **Refer to the "Group Functions" section of this report for more information**

Traded products

Audited | Counterparty credit risk arising from traded products, which include over-the-counter (OTC) derivatives, exchange-traded derivatives (ETD) exposures and securities financing transactions (SFTs), originating in the Investment Bank, Non-core and Legacy Portfolio, and Group Treasury is generally managed on a close-out basis. This takes into account possible effects of market movements on the exposure and any associated collateral over the time it would take to close out our positions. In the Investment Bank, limits are applied to the potential future exposure per counterparty, with the size of the limit dependent on the creditworthiness (as determined by Risk Control) of the counterparty. Limit frameworks are also applied to control overall exposure to specific classes or categories of collateral on a portfolio level. Such portfolio limits are monitored and reported to senior management.

Trading in OTC derivatives is conducted through central counterparties (CCPs) where practicable. Where CCPs are not used, we have clearly defined policies and processes for trading on a bilateral basis. Trading is typically conducted under bilateral International Swaps and Derivatives Association (ISDA) or similar master netting agreements, which generally allow for close-out and netting of transactions in case of default, subject to applicable law. For most major market participant counterparties, we use two-way collateral agreements under which either party can be required to provide collateral in the form of cash or marketable securities when the exposure exceeds specified levels. This collateral typically consists of well-rated government debt or other collateral permitted by applicable regulations. For certain counterparties, an initial margin is taken to cover some or all of the calculated close-out exposure. This is in addition to the variation margin taken to settle changes in market value of transactions. Regulations on margining uncleared OTC derivatives continue to evolve. These generally expand the scope of bilateral derivatives activity subject to margining. They will also result in greater amounts of initial margin received from, and posted to, certain bilateral trading counterparties than had been required in the past. These changes should result in lower close-out risk over time. ▲

› **Refer to "Note 10 Derivative instruments" in the "Consolidated financial statements" section of this report for more information about OTC derivatives settled through central counterparties**

› **Refer to "Note 22 Offsetting financial assets and financial liabilities" in the "Consolidated financial statements" section of this report for more information about the effect of netting and collateral arrangements on derivative exposures**

Credit risk arising from traded products, after the effects of master netting agreements but excluding credit valuation adjustments and hedges, increased by USD 3 billion to USD 51 billion as of 31 December 2020. OTC derivatives accounted for USD 19 billion, exposures from SFTs were USD 22 billion, and ETD exposures amounted to USD 10 billion. OTC derivatives exposures are generally measured as net positive replacement values after the application of legally enforceable netting agreements and the deduction of cash and marketable securities held as collateral. SFT exposures are reported taking into account collateral received, and ETD exposures take into account collateral margin calls.

Of the total of USD 51 billion gross traded products exposures, USD 40 billion was within the Investment Bank, Non-core and Legacy Portfolio, and Group Treasury, compared with USD 38 billion therein as of 31 December 2019. As counterparty risk for traded products is managed at the counterparty level, no further split is provided between exposures in the Investment Bank and those in Non-core and Legacy Portfolio and Group Treasury. The tables on the next page provide more information about the OTC derivatives, SFT and ETD exposures of the Investment Bank, Non-core and Legacy Portfolio, and Group Treasury.

Investment Bank, Non-core and Legacy Portfolio and Group Treasury: traded products exposure

USD million	OTC derivatives	SFTs	ETD	Total	Total
		31.12.20			31.12.19
Total exposure, before deduction of credit valuation adjustments and hedges	11,236	21,753	7,227	40,215	38,232
Less: credit valuation adjustments and allowances	(54)	0	0	(54)	(38)
Less: credit protection bought (credit default swaps, notional)	(126)	0	0	(126)	(242)
Net exposure after credit valuation adjustments, allowances and hedges	11,056	21,753	7,227	40,035	37,952

Investment Bank, Non-core and Legacy Portfolio and Group Treasury: distribution of net OTC derivatives and SFT exposure across internal UBS ratings and loss given default (LGD) buckets

USD million, except where indicated	31.12.20						31.12.19	
		LGD buckets						
Internal UBS rating[1]	Exposure	0–25%	26–50%	51–75%	76–100%	Weighted average LGD (%)	Exposure	Weighted average LGD (%)
Net OTC derivatives exposure								
Investment grade	10,436	195	8,343	1,475	423	49	9,247	47
Sub-investment grade	620	113	109	313	85	55	304	56
of which: 6–9	*487*	*93*	*87*	*246*	*61*	*55*	*176*	*57*
of which: 10–12	*114*	*3*	*22*	*67*	*21*	*62*	*112*	*58*
of which: 13 and defaulted	*19*	*17*	*0*	*0*	*2*	*12*	*16*	*19*
Total net OTC derivatives exposure, after credit valuation adjustments and hedges	11,056	307	8,453	1,788	508	49	9,550	47
Net SFT exposure								
Investment grade	21,155	253	18,883	1,518	501	40	20,524	40
Sub-investment grade	598	94	223	84	197	59	297	62
Total net SFT exposure	21,753	347	19,106	1,602	698	40	20,821	40

1 The ratings of the major credit rating agencies, and their mapping to our internal rating scale, are shown in the "Internal UBS rating scale and mapping of external ratings" table in this section.

Investment Bank, Non-core and Legacy Portfolio and Group Treasury: net OTC derivatives and SFT exposure by geographical region

	Net OTC derivatives exposure				Net SFT exposure			
	31.12.20		31.12.19		31.12.20		31.12.19	
	USD million	%	USD million	%	USD million	%	USD million	%
Asia Pacific	2,139	19.3	1,383	14.5	5,123	23.6	5,055	24.3
Latin America	162	1.5	97	1.0	18	0.1	4	0.0
Middle East and Africa	263	2.4	123	1.3	939	4.3	900	4.3
North America	2,539	23.0	2,421	25.3	4,778	22.0	4,714	22.6
Switzerland	667	6.0	1,022	10.7	1,329	6.1	852	4.1
Rest of Europe	5,286	47.8	4,503	47.2	9,566	44.0	9,297	44.7
Exposure	11,056	100.0	9,550	100.0	21,753	100.0	20,821	100.0

Investment Bank, Non-core and Legacy Portfolio and Group Treasury: net OTC derivatives and SFT exposure by industry sector

	Net OTC derivatives exposure				Net SFT exposure			
	31.12.20		31.12.19		31.12.20		31.12.19	
	USD million	%	USD million	%	USD million	%	USD million	%
Banks	5,181	46.9	4,608	48.3	3,796	17.5	3,713	17.8
Chemicals	10	0.1	4	0.0	0	0.0	0	0.0
Electricity, gas, water supply	127	1.2	99	1.0	0	0.0	0	0.0
Financial institutions, excluding banks	3,439	31.1	3,188	33.4	15,907	73.1	15,593	74.9
Manufacturing	68	0.6	67	0.7	0	0.0	0	0.0
Mining	12	0.1	9	0.1	0	0.0	0	0.0
Public authorities	1,339	12.1	1,019	10.7	2,050	9.4	1,514	7.3
Retail and wholesale	44	0.4	17	0.2	0	0.0	0	0.0
Transport, storage and communication	481	4.3	383	4.0	0	0.0	0	0.0
Other	356	3.2	156	1.6	1	0.0	0	0.0
Exposure	11,056	100.0	9,550	100.0	21,753	100.0	20,821	100.0

Credit risk mitigation

Audited | We actively manage credit risk in our portfolios by taking collateral against exposures and by utilizing credit hedging. ▲

Lending secured by real estate

Audited | We use a scoring model as part of a standardized front-to-back process for credit decisions on the originating or modifying of Swiss mortgage loans. The model's two key factors are an affordability calculation relative to gross income and the LTV ratio. ▲

The calculation of affordability takes into account interest payments, minimum amortization requirements, potential property maintenance costs and, for rental properties, the level of rental income. Interest payments are estimated using a predefined framework, which considers the potential for significant interest rates increases over the lifetime of the loan. The interest rate is set at 5% per annum.

For residential properties occupied by the borrower, the maximum LTV for the standard approval process is 80% and 60% for holiday homes and luxury real estate. For other properties, the maximum LTV allowed within the standard approval process ranges from 30% to 80%, depending on the type and age of the property, and the amount of renovation work needed.

Audited | The value we assign to each property is based on the lowest value determined from model-derived valuations, the purchase price and, in some cases, an additional external valuation. ▲

Two separate models provided by a market-leading external vendor are used to derive property valuations for owner-occupied residential properties (ORPs) and income-producing real estate (IPRE). We estimate the current value of an ORP using a regression model (a hedonic model) based on statistical comparison against current transaction data. We derive the property value from the characteristics of the real estate itself, as well as those of its location. In addition to the initial valuation, values for ORPs are updated quarterly over the lifetime of the loan using region-specific real estate price indices. The price indices are sourced from an external vendor and subject to internal validation and benchmarking. We use these valuations quarterly to compute indexed LTV for all ORPs and consider them along with other risk measures (e.g., rating migration and behavioral information) to identify higher-risk loans, which are then each reviewed by client advisors and credit officers, with necessary action taken.

For IPRE, the capitalization rate model is used to determine the property valuation by discounting estimated sustainable future income using a capitalization rate based on various attributes. These attributes consider regional and specific property characteristics, such as market and location data (e.g., vacancy rates), benchmarks (e.g., for running costs) and certain other standardized input parameters (e.g., property condition). Rental income from IPRE is reviewed at least once every three years, but indications of significant changes in the amount of rental income or in the vacancy rate can trigger an interim reappraisal.

To take market developments into account for these models, the external vendor regularly updates the parameters and / or refines the architecture for each model. Model changes and parameter updates are subject to the same validation procedures as our internally developed models.

Audited | We similarly apply underwriting guidelines for our Global Wealth Management Region Americas mortgage loan portfolio, taking into account loan affordability and collateral sufficiency. LTV standards are defined for the various mortgage types, such as residential mortgages or investment properties, based on associated risk factors, such as property type, loan size, and purpose. The maximum LTV allowed within the standard approval process ranges from 45% to 80%. In addition to LTV, other credit risk metrics, such as debt-to-income ratios, credit scores and required client reserves, are also part of our underwriting guidelines.

A risk limit framework is applied to the Global Wealth Management Region Americas mortgage loan portfolio. Limits are set to govern exposures within LTV categories, geographic concentrations, portfolio growth and high-risk mortgage segments, such as interest-only loans. These limits are monitored by a specialized credit risk monitoring team and reported to senior management. Supplementing this limit framework is a real estate lending policy and procedures framework, set up to govern real estate lending activities. Quality assurance and quality control programs monitor compliance with mortgage underwriting and documentation requirements. ▲

› **Refer to "Swiss mortgage loan portfolio" in this section for more information about LTV in our Swiss mortgage portfolio**

Lombard lending

Audited | Lombard loans are secured by pledges of marketable securities, guarantees and other forms of collateral. Eligible financial securities are primarily liquid and actively traded transferable securities (such as bonds and equities), and other transferable securities, such as approved structured products for which regular prices are available and the issuer of the security provides a market. To a lesser degree, less liquid collateral is also used.

We derive lending values by applying discounts (haircuts) to the pledged collateral's market value. Haircuts for marketable securities are calculated to cover possible change in value over a given close-out period and confidence level. Less liquid or more volatile collateral will typically have larger haircuts.

We assess concentration and correlation risks across collateral posted at a counterparty level, and at a divisional level across counterparties. We also perform targeted Group-wide reviews of concentration. Concentration of collateral in single securities, issuers or issuer groups, industry sectors, countries, regions or currencies may result in higher risk and reduced liquidity. In such cases, the lending value of the collateral, margin call and close-out levels are adjusted accordingly. ▲

Exposures and collateral values are monitored daily with the aim of ensuring that the credit exposure is always within the established risk tolerance. A shortfall occurs when the lending value drops below the exposure; if it exceeds a defined trigger level, a margin call is initiated, requiring the client to provide additional collateral, reduce the exposure or take other action to bring exposure in line with the agreed lending value of the collateral. If a shortfall increases and exceeds a further trigger level, or the shortfall is not corrected within the required period, a close-out is initiated, through which collateral is liquidated, open derivative positions are closed and guarantees are called.

We conduct stress testing of collateralized exposures to simulate market events that reduce collateral value, increase exposure of traded products, or do both. For certain classes of counterparties, limits on such calculated stress exposures are applied and controlled at a counterparty level. Also, portfolio limits are applied across certain businesses or collateral types.

› **Refer to "Stress loss" in this section for more information about our stress testing**

Credit hedging

Audited | We use single-name credit default swaps (CDSs), credit-index CDSs, bespoke protection and other instruments to actively manage credit risk in the Investment Bank and Non-core and Legacy Portfolio. The aim is reducing concentrations of risk from specific counterparties, sectors or portfolios and, for counterparty credit risk, the profit or loss effect arising from changes in credit valuation adjustments (CVAs).

We have strict guidelines with regard to taking credit hedges into account for credit risk mitigation purposes. For example, when monitoring exposures against counterparty limits, we do not usually apply certain credit risk mitigants, such as proxy hedges (credit protection on a correlated but different name) or credit-index CDSs, to reduce counterparty exposures. Buying credit protection also creates credit exposure with regard to the protection provider. We monitor and limit exposures to credit protection providers, and also monitor the effectiveness of credit hedges as part of our overall credit exposures to the relevant counterparties. Trading with such counterparties is typically collateralized. For credit protection purchased to hedge the lending portfolio, this includes monitoring mismatches between the maturity of credit protection purchased and the maturity of the associated loan. Such mismatches result in basis risk and may reduce the effectiveness of the credit protection. Mismatches are routinely reported to credit officers and mitigating actions are taken when necessary. ▲

› **Refer to "Note 10 Derivative instruments" in the "Consolidated financial statements" section of this report for more information**

Mitigation of settlement risk

To mitigate settlement risk, we reduce actual settlement volumes by using multi-lateral and bilateral agreements with counterparties including payment netting.

Foreign exchange transactions are our most significant source of settlement risk. We are a member of Continuous Linked Settlement (CLS), an industry utility that provides a multi-lateral framework to settle transactions on a delivery-versus-payment basis, thus reducing foreign exchange-related settlement risk relative to the volume of business. However, mitigation of settlement risk through CLS and other means does not fully eliminate credit risk in foreign exchange transactions resulting from changes in exchange rates prior to settlement, which is managed as part of our overall credit risk management of OTC derivatives.

Credit risk models

Basel III – A-IRB credit risk models

Audited | We have developed tools and models to estimate future credit losses that may be implicit in our current portfolio.

Exposures to individual counterparties are measured using three generally accepted parameters: PD, EAD and LGD. For a given credit facility, the product of these three parameters results in the expected loss. These parameters are the basis for the majority of our internal measures of credit risk, and key inputs for regulatory capital calculation under the advanced internal ratings-based (A-IRB) approach of the Basel III framework. We also use models to derive the portfolio credit risk measures of expected loss, statistical loss and stress loss. ▲

The "Key features of our main credit risk models" table on the next page shows the number and key features of the models we use to derive PD, LGD and EAD for our main portfolios and asset classes, and is followed by more detailed explanations of these models and parameters.

› **Refer to the 31 December 2020 Pillar 3 report, available under "Pillar 3 disclosures" at *ubs.com/investors*, for more information about the regulatory capital calculation under the advanced internal ratings-based approach**

Key features of our main credit risk models

	Portfolio in scope	Asset class	Model approach	Number of main models	Main drivers	Number of years of loss data[1]
Probability of default	Sovereigns and central banks	Central governments and central banks	Scorecard	1	Political, institutional and economic indicators	>10
	Owner-occupied mortgages in Switzerland and the US	Retail: residential mortgages	Scorecard	2	Behavioral data, affordability relative to income, property type, loan-to-value. Separate models for mortgages in Switzerland and the US	26
	Income-producing real estate mortgages	Retail: residential mortgages, Corporates: specialized lending	Scorecard	1	Loan-to-value, debt service coverage, financial data (for large corporates only), behavioral data. Weights of risk drivers differ between corporate and private clients	26
	Lombard lending	Retail: other	Merton type	1	Loan-to-value, historical asset returns, behavioral data	14
	Small and medium-sized enterprises	Corporates: other lending	Scorecard	1	Financial data including balance sheet ratios and profit and loss, behavioral data. Weights of risk drivers differ depending on the corporate client sub-segment	26
	Banks	Banks and securities dealers	Scorecard	4	Financial data including balance sheet ratios and profit and loss. Separate models for banks – developed markets, banks – emerging markets, broker-dealers and investment banks, and private banks	13
	Commodity traders	Corporates: specialized lending	Scorecard	1	Financial data including balance sheet ratios and profit and loss, as well as non-financial criteria	22
	Aircraft financing	Corporates: other lending	Rating template	1	Financial structure of the transaction	14
	Large corporates	Corporates: other lending	Scorecard / market data	3	Financial data including balance sheet ratios and profit and loss, and market data. Separate rating tools for corporates with publicly traded and highly liquid stocks (market intelligence tool), private corporates, and leveraged corporates	13
	Other portfolios	Corporates: other lending, Public-sector entities and multi-lateral development banks	Scorecard / pooled rating approach / rating template	9	Financial data and / or historical portfolio performance for pooled ratings. Separate models for hedge funds, managed funds, insurance companies, commercial real estate loans, mortgage originators, public-sector entities and multi-lateral development banks / supranationals	13
Loss given default	Owner-occupied mortgages in Switzerland and the US	Retail: residential mortgages	Statistical model	2	Loan-to-value, time since last valuation. Separate models for mortgages in Switzerland and the US	11
	Income-producing real estate mortgages	Retail: residential mortgages, Corporates: specialized lending	Statistical model	1	Loan-to-value, time since last valuation, property type, location indicator	11
	Lombard lending	Retail: other	Statistical model, simulation	1	Historical observed loss rates	12
	Small and medium-sized enterprises	Corporates: other lending	Statistical model	2	Separate models for mortgage and non-mortgage LGDs. Mortgage models: loan-to-value, time since last valuation, property type, location indicator. Non-mortgage models: historical observed loss rates	11–17
	Investment Bank – all counterparties	Across the asset classes	Statistical model	2	Counterparty and facility specific, including industry segment, collateral, seniority, legal environment and bankruptcy procedures. Specific model for sovereign LGDs based on econometric modeling of past default events using GDP per capita, government debt, and other quantitative and qualitative factors such as the share of multi-lateral debt service, the size of the banking sector and institutional quality	5–10
Exposure at default	Banking products	Across the asset classes	Statistical model	3	Separate models based on exposure type (committed credit lines, revocable credit lines, contingent products)	>10
	Traded products	Across the asset classes	Statistical model	2	Product-specific market drivers, e.g., interest rates. Separate models for OTC derivatives, ETDs and SFTs that generate the simulation of risk factors used for the credit exposure measure	n/a

1 For sovereign and Investment Bank PD models, the length of internal portfolio history is shown in “Number of years of loss data”.

Audited |

Internal UBS rating scale and mapping of external ratings

Internal UBS rating	*1-year PD range in %*	*Description*	*Moody's Investors Service mapping*	*Standard & Poor's mapping*	*Fitch mapping*
0 and 1	*0.00–0.02*	*Investment grade*	Aaa	AAA	AAA
2	*0.02–0.05*		Aa1 to Aa3	AA+ to AA–	AA+ to AA–
3	*0.05–0.12*		A1 to A3	A+ to A–	A+ to A–
4	*0.12–0.25*		Baa1 to Baa2	BBB+ to BBB	BBB+ to BBB
5	*0.25–0.50*		Baa3	BBB–	BBB–
6	*0.50–0.80*	*Sub-investment grade*	Ba1	BB+	BB+
7	*0.80–1.30*		Ba2	BB	BB
8	*1.30–2.10*		Ba3	BB–	BB–
9	*2.10–3.50*		B1	B+	B+
10	*3.50–6.00*		B2	B	B
11	*6.00–10.00*		B3	B–	B–
12	*10.00–17.00*		Caa		
13	*>17*		Ca to C	CCC to C	CCC to C
Counterparty is in default	*Default*	*Defaulted*		D	D

Probability of default

PD estimates the likelihood of a counterparty defaulting on its contractual obligations over the next 12 months. PD ratings are used for credit risk measurement and are an important input for determining credit risk approval authorities. For calculating RWA, a three-basis-point PD floor is applied to banks, corporates and retail exposures as required under the Basel III framework. We apply an eight-basis-point PD floor for Swiss owner-occupied mortgages and a four-basis-point PD floor for Lombard loans.

PD is assessed using rating tools tailored to the various categories of counterparties. Statistically developed scorecards, based on key attributes of the obligor, are used to determine PD for many corporate clients and loans secured by real estate. Where available, market data may also be used to derive the PD for large corporate counterparties. For low-default portfolios, we take into account available relevant external default data in the rating tool development. For Lombard loans, our rating approach uses Merton-type historical return-based model simulations taking into account potential changes in securities collateral value. These categories are also calibrated to our internal credit rating scale (masterscale), designed to ensure a consistent assessment of default probabilities across counterparties. Our masterscale expresses one-year default probabilities determined using our various rating tools by means of distinct classes, with each class incorporating a range of default probabilities. Counterparties move between rating classes as our assessment of their PD changes.

The ratings of major credit rating agencies, and their mapping to our masterscale and internal PD bands, are shown in the "Internal UBS rating scale and mapping of external ratings" table above. For Moody's and Standard & Poor's, the mapping is based on the long-term average of one-year default rates available from these rating agencies, with Fitch ratings being mapped to the equivalent Standard & Poor's ratings. For each external rating category, average default rate is compared with our internal PD bands to derive a mapping to our internal rating scale. Our internal rating of a counterparty may thus diverge from one or more of the correlated external ratings shown in the table. Observed defaults by rating agencies may vary through economic cycles, and we do not necessarily expect the actual number of defaults in our equivalent rating band to equal the rating agencies' average in any given period. We periodically assess the long-term average default rates of credit rating agencies' ratings, and adjust their mapping to our masterscale as needed to reflect any material changes.

Exposure at default

EAD is the amount we expect to be owed by a counterparty at the time of a possible default. We derive EAD from current exposure to the counterparty and possible future exposure development.

The EAD of an on-balance sheet loan is its notional amount. For off-balance sheet commitments that are not drawn, credit conversion factors (CCFs) are used in order to obtain an expected on-balance sheet amount. Such CCFs are based on historical observations. To comply with regulatory guidance, we floor individual observed CCF values at zero in the CCF model; i.e., we assume that the drawn EAD will be no less than the drawn amount one year prior to default.

For traded products, we derive EAD by modeling the range of possible exposure outcomes at various points in time using scenario and statistical techniques. We assess the net amount that may be owed to us or that we may owe to others, taking into account the effect of market movements over the potential time it would take to close out positions. For ETDs, calculation of EAD takes into account collateral margin calls. When measuring individual counterparty exposure against credit limits, we consider the maximum likely exposure measured to a high level of confidence. However, when aggregating exposures to different counterparties for portfolio risk measurement purposes, we use the expected exposure to each counterparty at a given time period (usually one year) generated by the same model.

We assess exposures where there is a material correlation between the factors driving the credit quality of the counterparty and those driving the potential future value of our traded products exposure (wrong-way risk), and we have established specific controls to mitigate such risks.

Loss given default

LGD is the magnitude of the likely loss if there is a default. Our LGD estimates, which consider downturn conditions, include loss of principal, interest and other amounts (such as workout costs, including the cost of carrying an impaired position during the workout process) less recovered amounts. We determine LGD based on the likely recovery rate of claims against defaulted counterparties, which depends on the type of counterparty and any credit mitigation due to collateral or guarantees. Our estimates are supported by internal loss data and external information, where available. If we hold collateral, such as marketable securities or a mortgage on a property, LTV ratios are typically a key parameter in determining LGD. For low-default portfolios, where available, we take into account relevant external default data in the rating tool development. In RWA calculation, a regulatory LGD floor of 10% is applied for exposures secured by residential properties. Additionally, we apply a 30% LGD floor for Lombard loans in Global Wealth Management outside Region Americas and a 25% LGD floor for Lombard loans in Global Wealth Management Region Americas. All other LGDs are subject to a 5% floor.

Expected loss

Credit losses are an inherent cost of doing business and the occurrence and amount of credit losses can be erratic. We use the concept of expected loss to quantify future credit losses that may be implicit in our current portfolio. The expected loss for a given credit facility is a product of the three components described above, i.e., PD, EAD and LGD. We aggregate the expected loss for individual counterparties to derive our expected portfolio credit losses.

Expected loss (EL) for regulatory and internal risk control purposes is a statistical measure used to estimate the average annual costs we expect to experience from positions that become impaired. EL is the basis for quantifying credit risk in all our portfolios. We use a statistical modeling approach to estimate the loss profile of each of our credit portfolios over a one-year period to a specified level of confidence. The mean value of this loss distribution is the expected loss. EL provides an indication of the level of risk in our portfolio and it may change over time. Some parameters have to be estimated on a conservative basis in order to meet the regulatory requirements for banks applying the internal ratings-based approach to determine RWA.

IFRS 9 – ECL credit risk models

Comparison of Basel III EL and IFRS 9 ECL credit risk models

The IFRS 9 expected credit loss (ECL) concept has a number of key differences from our standard credit risk models, both in the loss estimation process and the result thereof. Most notably, regulatory Basel III EL parameters are through-the-cycle / downturn estimates, which might include a margin of conservatism, while IFRS 9 ECL parameters are typically point-in-time, reflecting current economic conditions and future outlook. The table on the next page summarizes the main differences. Stage 1 and 2 ECL expenses in 2020 were USD 266 million and respective allowances and provisions as of 31 December 2020 were USD 639 million. This includes ECL allowances and provisions of USD 555 million related to positions under the Basel III advanced internal ratings-based approach. Basel III Expected Loss for non-defaulted positions increased by USD 123 million to USD 885 million.

› **Refer to "Note 1 Summary of significant accounting policies" in the "Consolidated financial statements" section of this report for more information about our accounting policy for allowances and provisions for ECL including key definitions relevant for the ECL calculation under IFRS 9**

Expected credit loss

Expected credit losses (ECLs) are defined as the difference between contractual cash flows and those UBS expects to receive, discounted at the effective interest rate (EIR). For loan commitments and other credit facilities in scope of ECL requirements, expected cash shortfalls are determined by considering expected future drawdowns. Rather than focusing on an average through-the-cycle expected annual loss, the purpose of ECL is to estimate the amount of losses inherent in a portfolio based on current conditions and future outlook (a point-in-time measure), whereby such a forecast has to include all information available without undue cost and effort, and address multiple scenarios where there is perceived non-linearity between changes in economic conditions and their effect on credit losses. From a credit risk modeling perspective, ECL parameters are generally derivations of the factors assessed for regulatory Basel III EL.

The table below shows the main differences between the two expected loss measures.

	Basel III EL (advanced internal ratings-based approach)	IFRS 9 ECL
Scope	The Basel III advanced internal ratings-based (A-IRB) approach applies to most credit risk exposures. It includes transactions measured at amortized cost, at fair value through profit or loss and at fair value through OCI, including loan commitments and financial guarantees.	The IFRS 9 expected credit loss (ECL) calculation mainly applies to financial assets measured at amortized cost and debt instruments measured at fair value through OCI, as well as loan commitments and financial guarantees not at fair value through profit or loss.
12-month versus lifetime expected loss	The Basel III A-IRB approach takes into account expected losses resulting from expected default events occurring within the next 12 months.	In the absence of a significant increase in credit risk (SICR), a maximum 12-month ECL is recognized to reflect lifetime cash shortfalls that will result if a default event occurs in the 12 months after the reporting date (or a shorter period if the expected lifetime is less). Once an SICR event has occurred, a lifetime ECL is recognized considering expected default events over the life of the transaction.
Exposure at default (EAD)	EAD is the amount we expect a counterparty to owe us at the time of a possible default. For banking products, EAD equals book value as of the reporting date; for traded products, such as securities financing transactions, EAD is modeled. EAD is expected to remain constant over a 12-month period. For loan commitments, a credit conversion factor is applied to model expected future drawdowns over the 12-month period, irrespective of the actual maturity of a particular transaction. The credit conversion factor includes downturn adjustments.	EAD is generally calculated on the basis of the cash flows that are expected to be outstanding at the individual points in time during the life of the transaction, discounted to the reporting date using the effective interest rate. For loan commitments, a credit conversion factor is applied to model expected future drawdowns over the life of the transaction without including downturn assumptions. In both cases, the time period is capped at 12 months, unless an SICR has occurred.
Probability of default (PD)	PD estimates are determined on a through-the-cycle (TTC) basis. They represent historical average PDs, taking into account observed losses over a prolonged historical period, and therefore are less sensitive to movements in the underlying economy.	PD estimates will be determined on a point-in-time (PIT) basis, based on current conditions and incorporating forecasts for future economic conditions at the reporting date.
Loss given default (LGD)	LGD includes prudential adjustments, such as downturn LGD assumptions and floors. Similar to PD, LGD is determined on a TTC basis.	LGD should reflect the losses that are reasonably expected and prudential adjustments should therefore not be applied. Similar to PD, LGD is determined on the basis of a PIT approach.
Use of scenarios	N/A	Multiple forward-looking scenarios have to be taken into account to determine a probability-weighted ECL.

Further key aspects of credit risk models

Stress loss

We complement our statistical modeling approach with scenario-based stress loss measures. Stress tests are run regularly to monitor potential effects of extreme, but nevertheless plausible, events on our portfolios, under which key credit risk parameters are assumed to deteriorate substantially. Where we consider it appropriate, we apply limits on this basis.

Stress scenarios and methodologies are tailored to portfolios' natures, ranging from regionally focused to global systemic events, and varying in time horizon. For example, for our loan underwriting portfolio, we apply a global market event under which, simultaneously, the market for loan syndication freezes, market conditions significantly worsen, and credit quality deteriorates. Similarly, for Lombard lending we use a range of scenarios representing instantaneous market shocks to all collateral and exposure positions, taking into consideration liquidity and potential concentration. The portfolio-specific stress test for our mortgage lending business in Switzerland reflects a multi-year event, and the overarching stress test for global wholesale and counterparty credit risk exposure to corporations uses a one-year global stress event and takes into account exposure concentration to single counterparties.

› **Refer to "Stress testing" in this section for more information about our stress testing framework**

Credit risk model confirmation

Our approach to model confirmation involves both quantitative methods, e.g., monitoring compositional changes in portfolios and results of backtesting, and qualitative assessments, such as feedback from users on model output as a practical indicator of a model's performance and reliability.

Material changes in portfolio composition may invalidate the conceptual soundness of a model. We therefore perform regular analyses of the evolution of portfolios to identify such changes in the structure and credit quality of portfolios. This includes analyses of changes in key attributes, changes in portfolio concentration measures and changes in RWA.

› **Refer to "Risk measurement" in this section for more information about our approach to model confirmation procedures**

Backtesting

We monitor the performance of models by backtesting and benchmarking them, with model outcomes compared with actual results, based on our internal experience and externally observed results. To assess the predictive power of credit exposure models for traded products, such as OTC derivatives and ETD products, we statistically compare predicted future exposure distributions at different forecast horizons with realized values.

For PD, we use statistical modeling to derive a predicted distribution of the number of defaults. The observed number of defaults is compared with this distribution, letting us derive a statistical level of confidence in the model conservatism. We also derive a lower and upper limit for the average default rate. If the portfolio average PD lies outside the derived interval, the rating tool is, as a general rule, recalibrated.

For LGD, backtesting statistically tests whether the mean difference between the observed and predicted LGD is zero. If the test fails, there is evidence that our predicted LGD is too low. In such cases, and where these differences are outside expectations, models are recalibrated.

Main credit models backtesting by regulatory asset class

	Length of time series used for the calibration (in years)	Actual rates in %			Estimated average rates at the start of 2020 in %
		Average of last 5 years[1]	Min. of last 5 years[2]	Max. of last 5 years[2]	
Probability of default[3]					
Central governments and central banks	>10[4]	0.00	0.00	0.00	0.16
Banks and securities dealers	>10	0.16	0.00	0.53	0.67
Public-sector entities, multi-lateral development banks	>10	0.04	0.00	0.21	0.21
Corporates: specialized lending	>10	0.36	0.20	0.60	1.24
Corporates: other lending	>10	0.28	0.24	0.33	0.41
Retail: residential mortgages	>20	0.22	0.12	0.28	0.55
Retail: other	>10	0.01	0.00	0.01	0.29
Loss given default					
Central governments and central banks	>10				52.20
Banks and securities dealers	>10				48.60
Public-sector entities, multi-lateral development banks	>10				27.20
Corporates: specialized lending	>10	8.00	0.00	34.60	22.90
Corporates: other lending	>10	23.60	5.80	28.00	38.00
Retail: residential mortgages	>20	0.70	0.00	1.70	19.90
Retail: other	>10	17.30	16.70	17.90	28.40
Credit conversion factors					
Corporates	>10	18.60	6.90	37.90	42.60

1 Average of all observations over the last five years. 2 Minimum / maximum annual average of observations in any single year from the last five years. Yearly averages are only calculated where five or more observations occurred during that year. 3 Average PD estimation is based on all rated clients in the portfolio. 4 Sovereign PD model is calibrated to UBS masterscale, length of time series shows span of internal history for this portfolio.

CCFs, used for the calculation of EAD for undrawn facilities with corporate counterparties, are dependent on several credit facility contractual dimensions. We compare the predicted amount drawn with observed historical use of such facilities by defaulted counterparties. If any statistically significant deviation is observed, the relevant CCFs are redefined.

The "Main credit models backtesting by regulatory asset class" table on the previous page compares the current model calibration for PD, LGD and CCFs with historical observed values over the last five years.

Changes to models and model parameters during the period

Part of our continuous efforts to enhance models to reflect market developments and newly available data was updating several models in 2020.

Personal & Corporate Banking introduced a redeveloped PD and LGD model for the commodity trade finance business. The RWA impact of the new model was neutralized, as requested by FINMA, pending further analysis and review of the model's calibration level. We also recalibrated the risk parameters for real estate portfolios and Lombard loans in Personal & Corporate Banking and Global Wealth Management.

A new rating model for debt REITs went live in the Investment Bank. Non-profit organization segment clients have been moved to standardized RWA for capital calculation. Both changes have an immaterial RWA impact.

For counterparty credit risk (CCR) models, we recalibrated the market parameters in the securities financing transactions (SFT) model.

Where required, changes to models and model parameters were approved by FINMA before being made.

› **Refer to "Risk-weighted assets" in the "Capital, liquidity and funding, and balance sheet" section of this report for more information about the effect of the changes to models and model parameters on credit risk RWA**

Future credit risk-related regulatory capital developments

In December 2017, the Basel Committee on Banking Supervision (the BCBS) announced the finalization of the Basel III framework, which we do not expect to become mandatory in Switzerland until after the BCBS target effective date of 1 January 2023. The updated framework makes a number of revisions to the internal ratings-based (IRB) approaches, namely: (i) removing the option of using the A-IRB approach for certain asset classes (including large and medium-sized corporate clients, and banks and other financial institutions); (ii) placing floors on certain model inputs under the IRB approach, e.g., PD and LGD; and (iii) introducing various requirements to reduce RWA variability (e.g., for LGD).

The published framework has a number of requirements that are subject to national discretion. Also, revisions to the CVA framework were published, including the removal of the advanced CVA approach. UBS has a close dialog with FINMA to discuss in detail the implementation objectives and prepare for a smooth transition of the capital regime for credit risk.

› **Refer to "Capital management objectives, planning and activities" in the "Capital, liquidity and funding, and balance sheet" section of this report for more information about the development of RWA**

› **Refer to "Risk measurement" in this section for more information about our approach to model confirmation procedures**

› **Refer to the "Regulatory and legal developments" and "Risk factors" sections of this report for more information**

Credit policies for distressed assets

The "Exposure categorization" chart on the next page shows how we categorize banking products and securities financing transactions as non-performing, defaulted / credit-impaired and purchased or originated credit-impaired.

Non-performing

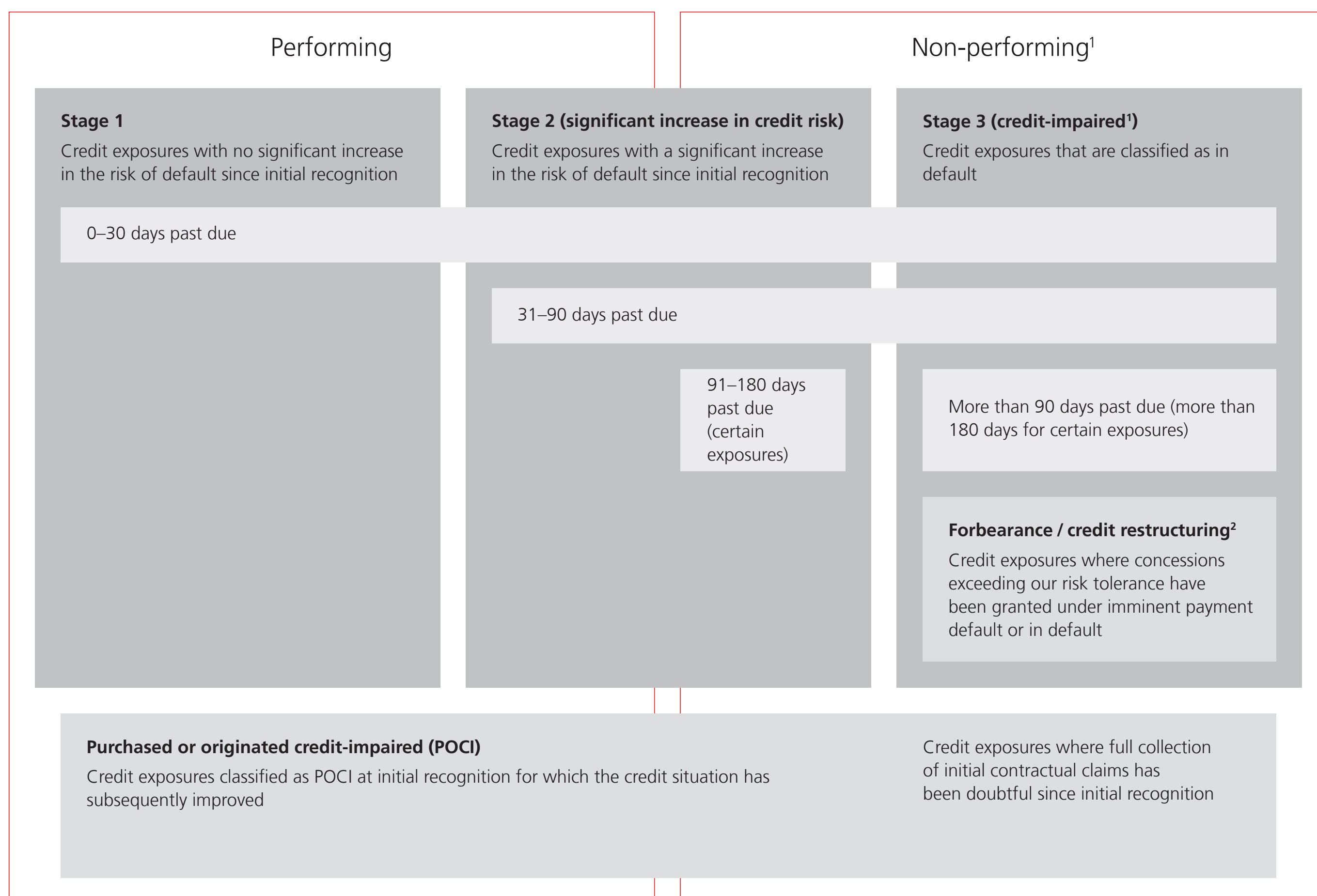
Audited | In line with the regulatory definition, we report a claim as non-performing when: (i) it is more than 90 days past due; (ii) it is subject to restructuring proceedings, where preferential conditions concerning interest rates, subordination, tenor, etc. have been granted in order to avoid default of the counterparty (forbearance); or (iii) the counterparty is subject to bankruptcy / enforced liquidation proceedings in any form, even if there is sufficient collateral to cover the due payment; or (iv) there is other evidence that payment obligations will not be fully met without recourse to collateral.

Default and credit-impaired

UBS uses a single definition of default for classifying assets and determining the PD of its obligors for risk modeling purposes. The definition of default is based on quantitative and qualitative criteria. A counterparty is classified as defaulted when material payments of interest, principal or fees are overdue for more than 90 days, or more than 180 days for certain exposures in relation to loans to private and commercial clients in Personal & Corporate Banking and to private clients of Global Wealth Management Region Switzerland. UBS does not consider the general 90-day presumption for default recognition appropriate for those portfolios, given the cure rates, which show that strict application of the 90-day criterion would not accurately reflect the inherent credit risk. Counterparties are also classified as defaulted when: bankruptcy, insolvency proceedings or enforced liquidation have commenced; obligations have been restructured on preferential terms (forbearance); or there is other evidence that payment obligations will not be fully met without recourse to collateral. The latter may be the case even if, to date, all contractual payments have been made when due. If one claim against a counterparty is defaulted on, generally all claims against the counterparty are treated as defaulted.

An instrument is classified as credit-impaired if the counterparty is classified as defaulted and / or the instrument is identified as purchased or originated credit-impaired (POCI). An instrument is POCI if it has been purchased at a deep discount to its carrying amount following a risk event of the issuer or originated with a defaulted counterparty. Once a financial asset is classified as defaulted / credit-impaired (except POCI), it is reported as a stage 3 instrument and remains as such unless all past due amounts have been rectified, additional payments have been made on time, the position is not classified as credit-restructured, and there is general evidence of credit recovery. A three-month probation period is applied before a transfer back to stages 1 or 2 can be triggered. However, most instruments remain in stage 3 for a longer period. As of 31 December 2020, we have no instruments classified as POCI on our books.▲

Exposure categorization



1 Excluding purchased or originated credit-impaired instruments. 2 May include purchased or originated credit-impaired instruments.

Forbearance (credit restructuring)

Audited | If payment default is imminent or default has already occurred, we may grant concessions to borrowers in financial difficulties that we would otherwise not consider in the normal course of business, such as offering preferential interest rates, extending maturity, modifying the schedule of repayments, debt / equity swap, subordination, etc. When a forbearance measure takes place, each case is considered individually and the exposure is generally classified as defaulted. Forbearance classification remains until the loan is repaid or written off, non-preferential conditions are granted that supersede the preferential conditions or the counterparty has recovered and the preferential conditions no longer exceed our risk tolerance.

Contractual adjustments when there is no evidence of imminent payment default, or where changes to terms and conditions are within our usual risk tolerance, are not considered to be forborne. ▲

Loss history statistics

An instrument is classified as credit-impaired if the counterparty has defaulted. This also includes credit-impaired exposures for which no loss has occurred or for which no allowance has been recognized (e.g., because we expect to fully recover the exposures via collateral held).

The "Loss history statistics" table below provides a five-year history of credit loss experience for loans and advances to banks and customers, and ratios of those credit losses relative to credit-impaired and non-performing loans and advances to banks and customers. For 2016 and 2017, the amounts are based on IAS 37 and IAS 39; for 2018 and onward, the amounts are based on IFRS 9.

Credit-impaired loans and advances to banks and customers (stage 3 pursuant to the IFRS 9 ECL framework) were USD 2.9 billion as of 31 December 2020, compared with USD 2.3 billion as of 31 December 2019.

The majority of the credit-impaired exposure relates to loans and advances in our Swiss domestic business. The ratio of credit-impaired loans and advances to banks and customers to total loans and advances to banks and customers was 0.7%, unchanged compared with 31 December 2019.

› Refer "Note 9 Financial assets at amortized cost and other positions in scope of expected credit loss measurement" and "Note 20 Expected credit loss measurement" in the "Consolidated financial statements" section of this report for more information about ECL measurement

› Refer to "Note 14a Other financial assets measured at amortized cost" in the "Consolidated financial statements" section of this report for more details

Loss history statistics

USD million, except where indicated	31.12.20 IFRS 9	31.12.19 IFRS 9	31.12.18 IFRS 9	31.12.17 IAS 37, IAS 39	31.12.16 IAS 37, IAS 39
Loans and advances to banks and customers (gross)	396,049	340,003	338,000	342,604	314,485
Credit-impaired loans and advances to banks and customers	2,945	2,309	2,300	1,104	958
Non-performing loans and advances to banks and customers	3,176	2,466	2,419	2,149	2,357
ECL allowances and provisions for credit losses[1,2]	1,468	1,029	1,054	712	642
of which: allowances for loans and advances to banks and customers[1]	*1,076*	*770*	*780*	*678*	*589*
Write-offs	356	142	210	101	121
of which: write-offs for loans and advances to banks and customers	*348*	*122*	*192*	*101*	*121*
Credit loss (expense) / release[3]	(694)	(78)	(118)	(131)	(38)
Ratios					
Credit-impaired loans and advances to banks and customers as a percentage of loans and advances to banks and customers (gross)	0.7	0.7	0.7	0.3	0.3
Non-performing loans and advances to banks and customers as a percentage of loans and advances to banks and customers (gross)	0.8	0.7	0.7	0.6	0.7
ECL allowances for loans and advances to banks and customers as a percentage of loans and advances to banks and customers (gross)	0.3	0.2	0.2	0.2	0.2
Write-offs as a percentage of average loans and advances to banks and customers (gross) outstanding during the period	0.1	0.0	0.1	0.0	0.0

1 Includes collective loan loss allowances (until 31 December 2017). Until 31 December 2017 did not include allowances for other receivables (31 December 2017: USD 19 million; 31 December 2016: USD 0 million). 2 Includes provisions for ECL of guarantees and loan commitments and allowances for securities financing transactions. 3 Includes credit loss (expense) / release for other financial assets at amortized cost, guarantees, loan commitments, and securities financing transactions.

Market risk

Key developments

Market risk remained at low levels as a result of our continued focus on managing tail risks. Average management VaR (1-day, 95% confidence level) increased to USD 13 million from USD 11 million in the prior year, mainly driven by the Investment Bank's Global Markets business. The increase was due to unprecedented and sharp market moves across asset classes, as well as updates to the VaR model time series to incorporate the extreme shocks observed in March. The number of negative backtesting exceptions within a 250-business-day window increased from 0 to 3 in March, and remained at 3 as of year-end. The FINMA VaR multiplier for market risk RWA remained unchanged at 3 as of 31 December 2020.

Audited | Main sources of market risk

Market risks arise from both trading and non-trading business activities.

- Trading market risks are mainly connected with primary debt and equity underwriting and securities and derivatives trading for market-making and client facilitation in our Investment Bank, as well as the remaining positions in Non-core and Legacy Portfolio in Group Functions and our municipal securities trading business in Global Wealth Management.
- Non-trading market risks arise predominantly in the form of interest rate and foreign exchange risks connected with personal banking and lending in our wealth management businesses, our Swiss personal and corporate banking business and the Investment Bank's lending business, as well as treasury activities.
- Group Treasury assumes market risks in the process of managing interest rate risk, structural foreign exchange risk and the Group's liquidity and funding profile, including HQLA.
- Equity and debt investments can also give rise to market risks, as can some aspects of employee benefits, such as defined benefit pension schemes. ▲

Audited | Overview of measurement, monitoring and management techniques

- Market risk limits are set for the Group, the business divisions, Group Treasury and Non-core and Legacy Portfolio at granular levels in the various business lines, reflecting the nature and magnitude of the market risks.
- Management VaR measures exposures under the market risk framework, including trading market risks and some non-trading market risks. Non-trading market risks not included in VaR are also covered in the risks controlled by Market & Treasury Risk Control, as set out below.
- Our primary portfolio measures of market risk are liquidity-adjusted stress (LAS) loss and VaR. Both are common to all business divisions and subject to limits that are approved by the Board of Directors (the BoD).
- These measures are complemented by concentration and granular limits for general and specific market risk factors. Our trading businesses are subject to multiple market risk limits, which take into account the extent of market liquidity and volatility, available operational capacity, valuation uncertainty and, for our single-name exposures, issuer credit quality.
- Trading market risks are managed on an integrated basis at portfolio level. As risk factor sensitivities change due to new transactions, transaction expiries or changes in market levels, risk factors are dynamically rehedged to remain within limits. Thus we do not generally seek to distinguish in the trading portfolio between specific positions and associated hedges.
- Issuer risk is controlled by limits applied at business division level based on jump-to-zero measures, which estimate maximum default exposure (the default event loss assuming zero recovery).
- Non-trading foreign exchange risks are managed under market risk limits, with the exception of Group Treasury management of consolidated capital activity.

Our Market & Treasury Risk Control function applies a holistic risk framework, setting the appetite for treasury-related risk-taking activities across the Group. A key element of the framework is an overarching economic value sensitivity limit, set by the BoD. That limit is linked to the level of Basel III common equity tier 1 (CET1) capital, and takes into account risks arising from interest rates, foreign exchange and credit spreads. Also, the sensitivity of net interest income to changes in interest rates is monitored against targets set by the Group CEO, so as to analyze the outlook and volatility of net interest income based on market-expected interest rates. Limits are also set by the BoD to balance the effect of foreign exchange movements on our CET1 capital and CET1 capital ratio. Non-trading interest rate and foreign exchange risks are included in Group-wide statistical and stress testing metrics, which flow into our risk appetite framework.

Equity and debt investments are subject to a range of risk controls, including preapproval of new investments by business management and Risk Control and regular monitoring and reporting. They are also included in Group-wide statistical and stress testing metrics. ▲

› **Refer to "Currency management" in the "Capital, liquidity and funding, and balance sheet" section of this report for more information about Group Treasury's management of foreign exchange risks**

› **Refer to the "Capital, liquidity and funding, and balance sheet" section of this report for more information about the sensitivity of our CET1 capital and CET1 capital ratio to currency movements**

Market risk stress loss

We measure and manage market risks through a comprehensive framework of non-statistical measures and related limits, as well as VaR. This includes an extensive set of stress tests and scenario analyses, continuously evaluated to ensure that losses resulting from an extreme yet plausible event do not exceed our risk appetite.

Liquidity-adjusted stress

LAS is our primary stress loss measure for Group-wide market risk. The LAS framework captures the economic losses that could arise under specified stress scenarios. This is, partially, done by replacing the standard 1-day and 10-day holding period assumptions used for management and regulatory VaR with liquidity-adjusted holding periods, as explained below. Shocks are applied to positions based on expected market movements in the liquidity-adjusted holding periods resulting from the specified scenario.

The holding periods used for LAS are calibrated to reflect the amount of time needed to reduce or hedge the risk of positions in each major risk factor in a stressed environment, assuming maximum utilization of the relevant position limits. We apply minimum holding periods, regardless of observed liquidity levels, as identification of and reaction to a crisis may not always be immediate.

The expected market movements are derived using historical market behavior (based on analysis of historical events) and forward-looking analysis including consideration of defined scenarios that have not occurred in the past.

LAS-based limits apply at several levels: Group, business division, Group Treasury and Non-core and Legacy Portfolio; business area; and sub-portfolio. LAS is also the core market risk component of our combined stress test framework and therefore integral to our overall risk appetite framework.

› **Refer to "Risk appetite framework" in this section for more information**

› **Refer to "Stress testing" in this section for more information about our stress testing framework**

Value-at-risk

VaR definition

Audited | VaR is a statistical measure of market risk, representing the potential market risk losses over a set time horizon (holding period) at an established level of confidence. VaR assumes no change in the Group's trading positions over the set time horizon.

We calculate VaR daily. The profit or loss distribution VaR is derived from our internally developed VaR model, which simulates returns over the holding period for those risk factors to which our trading positions are sensitive, and subsequently quantifies the profit / loss effect of these risk factor returns on trading positions. Risk factor returns associated with general interest rate, foreign exchange and commodities risk factor classes are based on a pure historical simulation approach, using a five-year look-back window. Risk factor returns for selected issuer-based risk factors, e.g., equity price and credit spreads, are split into systematic and residual issuer-specific components using a factor model approach. Systematic returns are based on historical simulation, and residual returns on a Monte Carlo simulation. VaR model profit or loss distribution is derived from the sum of systematic and residual returns in such a way that we consistently capture systematic and residual risk. Correlations among risk factors are implicitly captured via a historical simulation approach. When modeling risk factor returns, we consider the stationarity properties of the historical time series of risk factor changes. Depending on the stationarity properties of the risk factors within a given factor class, we model the factor returns using absolute returns or logarithmic returns. Risk factor return distributions are updated fortnightly.

Our VaR model does not have full revaluation capability, but we source full revaluation grids and sensitivities from front-office systems, enabling us to capture material non-linear profit or loss effects.

We use a single VaR model for both internal management purposes and determining market RWA, although we consider different confidence levels and time horizons. For internal management purposes, we establish risk limits and measure exposures using VaR at a 95% confidence level with a 1-day holding period, aligned to the way we consider the risks associated with our trading activities. The regulatory measure of market risk used to underpin the market risk capital requirement under Basel III requires a measure equivalent to a 99% confidence level using a 10-day holding period. To calculate a 10-day holding period VaR, we use 10-day risk factor returns, with all observations equally weighted.

Additionally, the portfolio population for management and regulatory VaR is slightly different. The one for regulatory VaR meets regulatory requirements for inclusion in regulatory VaR. Management VaR includes a broader range of positions. For example, regulatory VaR excludes credit spread risks from the securitization portfolio, which are treated instead under the securitization approach for regulatory purposes.

We also use stressed VaR (SVaR) for the calculation of market risk RWA. SVaR uses broadly the same methodology as regulatory VaR and is calculated using the same population, holding period (10-day) and confidence level (99%). Unlike regulatory VaR, the historical data set for SVaR is not limited to five years, instead spanning the period from 1 January 2007 to the present. In deriving SVaR, we seek the largest 10-day holding period VaR for the current Group portfolio across all one-year look-back windows from 1 January 2007 to the present. SVaR is computed weekly. ▲

› **Refer to the 31 December 2020 Pillar 3 report, available under "Pillar 3 disclosures" at *ubs.com/investors*, for more information about the regulatory capital calculation under the advanced internal ratings-based approach**

Management VaR for the period

The tables below show minimum, maximum, average and period-end management VaR by business division and Group Functions, and by general market risk type. We continued to maintain management VaR at low levels, with average VaR increasing to USD 13 million from USD 11 million in the prior year.

Audited |

Management value-at-risk (1-day, 95% confidence, 5 years of historical data) of our business divisions and Group Functions by general market risk type[1]

	For the year ended 31.12.20								
USD million					Equity	Interest rates	Credit spreads	Foreign exchange	Commodities
	Min.				3	6	5	2	2
		Max.			29	11	11	7	6
			Average		10	8	7	4	4
				31.12.20	6	8	8	3	3
Total management VaR, Group	8	31	13	11	*Average (per business division and risk type)*				
Global Wealth Management	0	2	1	1	*0*	*1*	*1*	*0*	*0*
Personal & Corporate Banking	0	0	0	0	*0*	*0*	*0*	*0*	*0*
Asset Management	0	0	0	0	*0*	*0*	*0*	*0*	*0*
Investment Bank	7	32	12	10	*10*	*7*	*6*	*4*	*4*
Group Functions	4	7	5	6	*0*	*4*	*3*	*1*	*0*
Diversification effect[2,3]			(5)	(8)	*0*	*(4)*	*(4)*	*(1)*	*0*

	For the year ended 31.12.19								
USD million					Equity	Interest rates	Credit spreads	Foreign exchange	Commodities
	Min.				2	6	3	2	1
		Max.			14	12	8	8	6
			Average		6	9	5	3	2
				31.12.19	5	8	5	3	3
Total management VaR, Group	6	18	11	9	*Average (per business division and risk type)*				
Global Wealth Management	0	1	1	1	*0*	*1*	*1*	*0*	*0*
Personal & Corporate Banking	0	0	0	0	*0*	*0*	*0*	*0*	*0*
Asset Management	0	0	0	0	*0*	*0*	*0*	*0*	*0*
Investment Bank	4	17	9	7	*6*	*7*	*4*	*3*	*2*
Group Functions	4	8	5	5	*1*	*5*	*2*	*1*	*0*
Diversification effect[2,3]			(5)	(4)	*(1)*	*(4)*	*(2)*	*(1)*	*0*

1 Statistics at individual levels may not be summed to deduce the corresponding aggregate figures. The minima and maxima for each level may well occur on different days, and likewise, the VaR for each business line or risk type, being driven by the extreme loss tail of the corresponding distribution of simulated profits and losses for that business line or risk type, may well be driven by different days in the historical time series, rendering invalid the simple summation of figures to arrive at the aggregate total. 2 Difference between the sum of the standalone VaR for the business divisions and Group Functions and the VaR for the Group as a whole. 3 As the minima and maxima for different business divisions and Group Functions occur on different days, it is not meaningful to calculate a portfolio diversification effect.

▲

VaR limitations

Audited | Actual realized market risk losses may differ from those implied by VaR for a variety of reasons.

– VaR is calibrated to a specified level of confidence and may not indicate potential losses beyond this confidence level.
– The 1-day time horizon used for VaR for internal management purposes (10-day for regulatory VaR) may not fully capture market risk of positions that cannot be closed out or hedged within the specified period.
– In some cases, VaR calculations approximate the effect of changes in risk factors on the values of positions and portfolios. This may happen due to the number of risk factors included in the VaR model needing to be limited.
– Effects of extreme market movements are subject to estimation errors, which may result from non-linear risk sensitivities, and the potential for actual volatility and correlation levels to differ from assumptions implicit in VaR calculations.
– Using a five-year window means sudden increases in market volatility will tend not to increase VaR as quickly as the use of shorter historical observation periods, but such increases will affect VaR for a longer period of time. Similarly, after periods of increased volatility, as markets stabilize VaR predictions will remain more conservative for a period of time influenced by the length of the historical observation period.

SVaR is subject to the limitations noted for VaR above, but the use of one-year data sets avoids the smoothing effect of the five-year data set used for VaR, and the absence of the five-year window gives a longer history of potential loss events. Therefore, although the significant period of stress during the 2007–2009 financial crisis is no longer contained in the historical five-year period used for management and regulatory VaR, SVaR continues to use that data. This approach aims to reduce the procyclicality of the regulatory capital requirements for market risks.

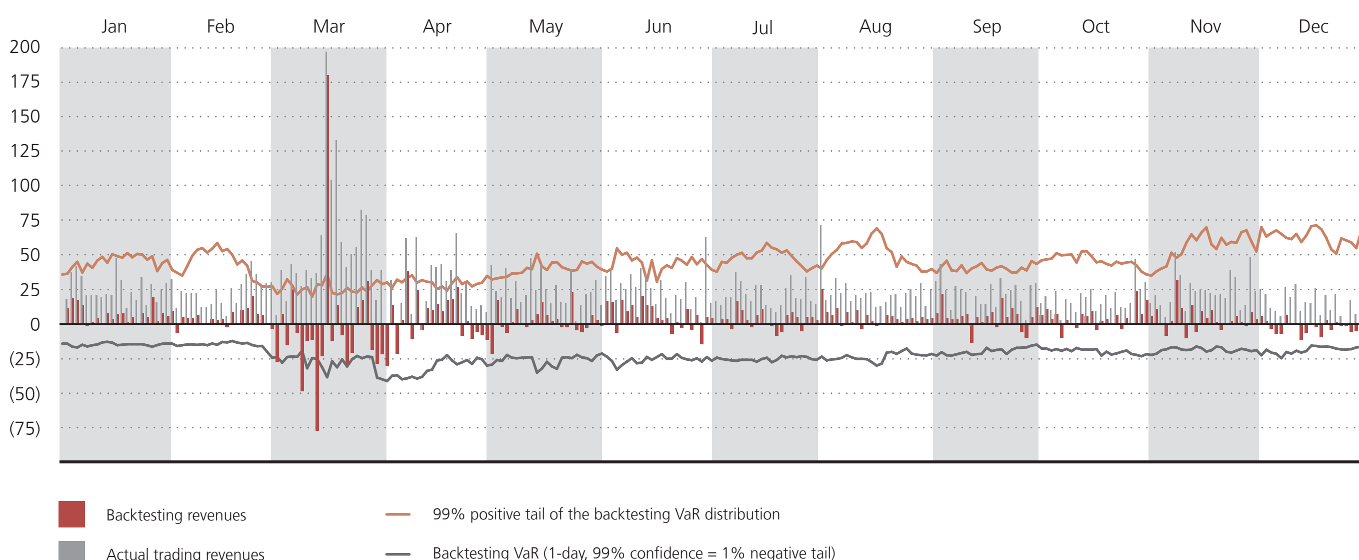
We recognize that no single measure can encompass all risks associated with a position or portfolio. Thus, we use a set of metrics with both overlapping and complementary characteristics to create a holistic framework that aims to ensure material completeness of risk identification and measurement. As a statistical aggregate risk measure, VaR supplements our liquidity-adjusted stress and comprehensive stress testing frameworks.

We also have a framework to identify and quantify potential risks not fully captured by our VaR model and refer to such risks as risks not in VaR. The framework underpins these potential risks with regulatory capital, calculated as a multiple of regulatory VaR and stressed VaR. ▲

Backtesting of VaR

VaR backtesting is a performance measurement process in which a 1-day VaR prediction is compared with the realized 1-day profit or loss (P&L). We compute backtesting VaR using a 99% confidence level and 1-day holding period for the regulatory VaR population. Since 99% VaR at UBS is defined as a risk measure that operates on the lower tail of the P&L distribution, 99% backtesting VaR is a negative number. Backtesting revenues exclude non-trading revenues, such as valuation reserves, fees and commissions, and revenues from intraday trading, to provide for a like-for-like comparison. A backtesting exception occurs when backtesting revenues are lower than the previous day's backtesting VaR.

Group: development of regulatory backtesting revenues[1] and actual trading revenues[2] against backtesting VaR[3] (1-day, 99% confidence)



1 Excludes non-trading revenues, such as valuation reserves, commissions and fees, and revenues from intraday trading. 2 Includes backtesting revenues and revenues from intraday trading. 3 Based on Basel III regulatory VaR, excludes CVA positions and their eligible hedges that are subject to the standalone CVA charge.

Statistically, given the 99% confidence level, two or three backtesting exceptions a year can be expected. More than four exceptions could indicate that the VaR model is not performing appropriately, as could too few exceptions over a long period. However, as noted for VaR limitations above, a sudden increase (or decrease) in market volatility relative to the five-year window could lead to a higher (or lower) number of exceptions. Accordingly, Group-level backtesting exceptions are investigated, as are exceptional positive backtesting revenues, with results reported to senior business management, the Group CRO and the Group Chief Market & Treasury Risk Officer. Internal and external auditors and relevant regulators are also informed of backtesting exceptions.

The "Group: development of regulatory backtesting revenues and actual trading revenues against backtesting VaR" chart on the previous page shows the 12-month development of backtesting VaR against the Group's backtesting revenues and actual trading revenues for 2020. The chart shows both the 99% and the 1% backtesting VaR. The asymmetry between the negative and positive tails is due to the long gamma risk profile historically run in the Investment Bank.

The actual trading revenues include, as well as backtesting revenues, intraday revenues.

The number of negative backtesting exceptions within a 250-business-day window increased from 0 to 3 in March, and remained at 3 as of year-end. The FINMA VaR multiplier for market risk RWA remained unchanged at 3 as of 31 December 2020. FINMA's freeze on backtesting exceptions did not affect this multiplier.

VaR model confirmation

As well as for regulatory-purposes backtesting described above, we conduct extended backtesting for our internal model confirmation purposes. This includes observing model performance across the entire P&L distribution, not just the tails, and at multiple levels within the business division hierarchies.

› **Refer to "Risk measurement" in this section for more information about our approach to model confirmation procedures**

VaR model developments in 2020

Audited I There were no material changes to the VaR model in 2020. ▲

Future market risk-related regulatory capital developments

In January 2019, the Basel Committee on Banking Supervision published the final standards on the minimum capital requirements for market risk (the Fundamental Review of the Trading Book). We do not expect these standards to become mandatory in Switzerland until after the BCBS target effective date of 1 January 2023.

Key elements of the revised market risk framework include: (i) changes to the internal model-based approach, including changes to the model approval and performance measurement process; (ii) changes to the standardized approach with the aim of it being a credible fallback method for an internal model-based approach; and (iii) a revised boundary between trading book and banking book. UBS maintains a close dialog with FINMA to discuss the implementation objectives in more detail and to provide a smooth transition of the capital regime for market risk.

› **Refer to "Risk-weighted assets" in the "Capital, liquidity and funding, and balance sheet" section of this report for more information about the development of RWA**

› **Refer to "Risk measurement" in this section for more information about our approach to model confirmation procedures**

› **Refer to the "Regulatory and legal developments" and "Risk factors" sections of this report for more information**

Interest rate risk in the banking book

Interest rate risk in the banking book disclosure

Our financial reports' interest rate risk in the banking book (IRRBB) disclosure is aligned to the Pillar 3 requirements set by FINMA Circular "2019/2 Interest Rate Risk – Banks," which sets minimum standards for measuring, managing, monitoring and controlling IRRBB. In particular, the economic value of equity (EVE) sensitivity is assessed under the six regulatory rate-shock scenarios set in the FINMA circular, which are currency-specific and not subject to flooring.

Sources of interest rate risk in the banking book

Audited I IRRBB arises from balance sheet positions such as *Loans and advances to banks*, *Loans and advances to customers*, *Financial assets at fair value not held for trading*, *Financial assets measured at amortized cost*, *Customer deposits*, *Debt issued measured at amortized cost*, and derivatives, including those used for cash flow hedging purposes. Fair value changes to these positions may affect other comprehensive income (OCI) or the income statement, depending on their accounting treatment.

Our largest banking book interest rate exposures arise from customer deposits and lending products in Global Wealth Management and Personal & Corporate Banking. The inherent interest rate risks are generally transferred from Global Wealth Management and Personal & Corporate Banking to Group Treasury, to manage them centrally. This enables the netting of interest rate risks across different sources, while leaving the originating businesses with commercial margin and volume management. The residual interest rate risk is mainly hedged with interest rate swaps, to the vast majority of which we apply hedge accounting. Short-term exposures and high-quality liquid assets classified as *Financial assets at fair value not held for trading* are hedged with derivatives accounted for on a mark-to-market basis. Long-term fixed-rate debt issued is hedged with interest rate swaps designated in fair value hedge accounting relationships.

Risk management and governance

IRRBB is measured using several metrics, the most relevant of which are the following.

- Interest rate sensitivities to changes in yield curves, calculated as changes in the present value of future cash flows irrespective of accounting treatment. These are also the key risk factors for statistical and stress-based measures, e.g., value-at-risk and stress scenarios (including EVE sensitivity), and are measured and reported daily. EVE sensitivity is the exposure arising from the most adverse regulatory interest rate scenario after netting across currencies. As well as the regulatory measure, we apply an internal EVE sensitivity metric that includes equity, goodwill, real estate and additional tier 1 (AT1) capital instruments.
- Net interest income (NII) sensitivity assesses NII change over a set time horizon compared with baseline NII, which we internally calculate by assuming interest rates in all currencies develop according to their market-implied forward rates and assuming constant business volumes and no specific management actions. Internal NII sensitivity, which includes the contribution from cash held at central banks, unlike the Pillar 3 disclosure requirements, is measured and reported monthly.

We actively manage IRRBB, aiming to reduce the volatility of NII, while keeping the EVE sensitivity within set internal risk limits.

EVE and NII sensitivity are monitored against limits and triggers, at consolidated and significant legal entity levels. We also assess the sensitivity of EVE and NII under stressed market conditions by applying a suite of parallel and non-parallel interest rate scenarios, as well as specific economic scenarios.

The Interest Rate Risk in the Banking Book Strategy Committee, a sub-committee of the Group Asset and Liability Committee (ALCO), and, where relevant, ALCOs at a legal entity level perform independent oversight over the management of IRRBB. IRRBB is also subject to Group Internal Audit and model governance.

› **Refer to "Group Internal Audit" in the "Corporate governance" section of this report and to "Risk measurement" in this section for more information**

Key modeling assumptions

The cash flows from customer deposits and lending products used in calculation of EVE sensitivity exclude commercial margins and other spread components, are aggregated by daily time-buckets and are discounted using risk-free rates. Our external issuances are discounted using UBS's senior debt curve, and capital instruments are modeled to the first call date. NII sensitivity, which includes commercial margins, is calculated over a one-year time horizon, assuming constant balance sheet structure and volumes, and considers the flooring effect of embedded interest rate options.

The average repricing maturity of non-maturing deposits and loans is determined via replication portfolio strategies designed to protect product margin. Optimal replicating portfolios are determined at granular currency- and product-specific levels by simulating and applying a real-world market rate model to historically calibrated client rate and volume models.

We use an econometric prepayment model to forecast prepayment rates on US mortgage loans in UBS Bank USA and agency mortgage-backed securities (MBSs) held in various liquidity portfolios of UBS Americas Holding LLC consolidated. These prepayment rates are used to forecast both mortgage loan and MBS balances under various macroeconomic scenarios. The prepayment model is used for a variety of purposes, including risk management and regulatory stress testing. Swiss mortgages and fixed-term deposits generally do not carry similar optionality, due to prepayment and early redemption penalties.

Effect of interest rate changes on shareholders' equity and CET1 capital

The "Accounting and capital effect of changes in interest rates" table below shows the effects on shareholders' equity and CET1 capital of gains and losses from changes in interest rates in the main banking book positions. For instruments held at fair value, changes in interest rates result in an immediate fair value gain or loss, recognized either in the income statement or through OCI. Typically, increases in interest rates would lead to immediate reductions in the value of our long-term assets held at fair value, but we would expect such reductions to be offset over time through higher NII on core banking products.

For assets and liabilities measured at amortized cost, changes in interest rates do not result in changes in the carrying amount of the instruments, but could affect the amount of interest income or expense recognized over time in the income statement.

In addition to the differing accounting treatments, banking book positions have different sensitivities to different points on yield curves. For example, portfolios of debt securities, whether measured at amortized cost or at fair value, and interest rate swaps, whether designated as cash flow hedges or transacted as economic hedges, are generally more sensitive to changes in longer-duration interest rates, whereas deposits and a significant portion of loans contributing to NII are more sensitive to short-term rates. These factors are important, as yield curves may not shift on a parallel basis and could, for example, exhibit an initial steepening followed by a flattening over time.

Due to the accounting treatment and yield curve sensitivities outlined above, in a rising rate scenario we would expect to have an initial decrease in shareholders' equity, as a result of fair value losses recognized in OCI. This would be compensated over time by increased NII, as increases in interest rates affect the shorter end of the yield curve in particular. The effect on CET1 capital would be less pronounced, as gains and losses on interest rate swaps designated as cash flow hedges are not recognized for regulatory capital purposes. Fair value losses on instruments designated at fair value should be offset by economic hedges.

Accounting and capital effect of changes in interest rates[1]

	Recognition		Shareholders' equity		CET1 capital	
	Timing	Income statement / OCI	Gains	Losses	Gains	Losses
Loans and deposits at amortized cost[2,3]	Gradual	Income statement	●	●	●	●
Other financial assets and liabilities measured at amortized cost[2]	Gradual	Income statement	●	●	●	●
Debt issued measured at amortized cost[2,3]	Gradual	Income statement	●	●	●	●
Receivables and payables from securities financing transactions[2]	Gradual	Income statement	●	●	●	●
Financial assets at fair value not held for trading	Immediate	Income statement	●	●	●	●
Financial assets at fair value through other comprehensive income	Immediate	OCI	●	●		●
Derivatives designated as cash flow hedges	Immediate	OCI[4]	●	●		
Derivatives designated as fair value hedges[5]	Immediate	Income statement	●	●	●	●
Derivatives transacted as economic hedges	Immediate	Income statement	●	●	●	●

1 Refer to the "Reconciliation of IFRS equity to Swiss SRB common equity tier 1 capital" table in the "Capital, liquidity and funding, and balance sheet" section of this report for more information about the differences between shareholders' equity and CET1 capital. 2 For fixed-rate financial instruments, changes in interest rates affect the income statement when these instruments roll over and reprice. 3 For hedge accounted items, a fair value adjustment is applied in line with the treatment of the hedging derivatives. 4 Excluding hedge ineffectiveness that is recognized in the income statement in accordance with IFRS. 5 The fair value of the derivatives is offset by the fair value adjustment of the hedged items. Under the fair value hedge program applied to cross-currency swaps and foreign currency debt, the foreign currency basis spread is excluded from the hedge designation and accounted for through OCI, which is included in CET1.

Net interest income sensitivity

The NII sensitivity of Global Wealth Management and Personal & Corporate Banking is assessed using a number of scenarios assuming parallel and non-parallel shifts in yield curves, with various degrees of severity. The results are compared with a baseline NII, calculated assuming that interest rates in all currencies develop according to their market-implied forward rates and under the assumption of constant business volumes and no specific management actions.

In addition to the above scenario analysis, we monitor NII sensitivity to immediate parallel shocks of –200 and +200 basis points against the defined thresholds, under the assumption of constant balance sheet volume and structure.

As of 31 December 2020, the baseline NII would have been approximately 8% lower under a parallel shock of –200 basis points, whereas under a parallel +200-basis-point shock the baseline NII would have been approximately 51% higher.

To shelter our NII level from the persistently low and negative interest rate environment, in particular in Swiss francs, we rely on self-funding our lending businesses through our deposit base in Global Wealth Management and Personal & Corporate Banking, along with appropriate additional adjustments to our interest rate-linked product pricing. The loss of such equilibrium on the balance sheet, for example due to unattractive pricing relative to peers for either mortgages or deposits, could lead to our NII decreasing in a persistently low and negative interest rate environment. As we assume constant business volumes, these risks do not appear in the aforementioned interest rate scenarios.

Moreover, should the low and negative interest rate environment worsen, our NII could come under additional pressure and we could face additional costs for holding our Swiss franc HQLA portfolio. A reduction of the Swiss National Bank's deposit exemption threshold for banks would also reduce our NII, as we might not be able to offset higher costs for our cash holdings, for example by passing on some of the costs to our depositors. Should euro interest rates also decline further, that could likewise increase liquidity costs and put NII generated from euro-denominated loans and deposits under pressure. Depending on the overall economic and market environment, sustained and significant negative rates could also lead to Global Wealth Management and Personal & Corporate Banking clients paying down their loans, along with reducing any excess cash they hold with us as deposits. That would reduce the underlying business volume and lower our NII accordingly.

The NII impact of a net decrease in deposits would depend on various factors, including the currency, its interest rate level and the balance sheet situation, as the impact could be offset by a reduction in negative-yielding liquidity portfolios or require alternative funding. If funding were required, the cost would also significantly depend on term and nature of replacement funding, whether such funding is raised in wholesale markets or from swapping with available other currency-denominated funding. Furthermore, imbalances leading to an excess deposit position could require additional investments at negative yields, which our excess deposit balance charging mechanisms might not be able to sufficiently compensate for.

Economic value sensitivity

Audited | Interest rate risk in the banking book is subject to a regulatory EVE sensitivity threshold of 15% of tier 1 capital. The exposure is calculated as the theoretical change in the present value of the banking book under the most adverse of the six FINMA interest rate scenarios.

As of 31 December 2020, the interest rate sensitivity of our banking book to a +1-basis-point parallel shift in yield curves was negative USD 27.2 million. The reported interest rate sensitivity excludes the additional tier 1 (AT1) capital instruments as per FINMA Pillar 3 disclosure requirements, with a sensitivity of USD 4.2 million per basis point, and our equity, goodwill and real estate, with a modeled sensitivity of USD 22.2 million per basis point, of which USD 5.6 million and USD 15.9 million are attributable to the Swiss franc and the US dollar portfolios, respectively.

The most adverse of the six FINMA interest rate scenarios would be the "Parallel up" scenario, which would result in a change in the economic value of equity of negative USD 5.6 billion, representing a pro forma reduction of 10.0% of tier 1 capital, which would be well below the regulatory outlier test of 15% of tier 1 capital. The immediate effect of the "Parallel up" scenario on tier 1 capital as of 31 December 2020 would be a reduction of 1.2%, or USD 0.7 billion, arising from the part of our banking book that is measured at fair value through profit or loss and from the financial assets measured at fair value through OCI. This scenario would, however, have a positive effect on net interest income. ▲

› **Refer to "Note 11 Financial assets measured at fair value through other comprehensive income" in the "Consolidated financial statements" section of this report for more information**

› **Refer to the "Group performance" section of this report for more information about sensitivity to interest rate movements**

Audited |

Interest rate risk – banking book

USD million	+1 bp	Parallel up[1]	Parallel down[1]	Steepener[2]	Flattener[3]	Short-term up[4]	Short-term down[5]
CHF	(5.2)	(735.8)	832.3	(369.6)	225.5	(74.5)	79.0
EUR	(0.9)	(164.9)	163.2	(73.1)	29.9	(20.4)	(4.7)
GBP	0.2	48.7	(42.0)	(31.7)	40.2	56.9	(47.5)
USD	(20.7)	(4,612.8)	3,999.8	(395.5)	(630.5)	(2,188.9)	2,397.9
Other	(0.6)	(140.0)	3.6	20.8	(59.3)	(105.7)	10.5
Total effect on economic value of equity as per Pillar 3 requirement as of 31.12.20	(27.2)	(5,604.8)	4,956.9	(849.1)	(394.1)	(2,332.7)	2,435.2
Additional tier 1 (AT1) capital instruments	4.2	815.1	(868.4)	(92.8)	272.8	573.6	(599.0)
Total including AT1 capital instruments as of 31.12.20	(23.0)	(4,789.7)	4,088.5	(942.0)	(121.2)	(1,759.1)	1,836.2

1 Rates across all tenors move by ±150 bps for Swiss franc, ±200 bps for euro and US dollar and ±250 bps for pound sterling. 2 Short-term rates decrease and long-term rates increase. 3 Short-term rates increase and long-term rates decrease. 4 Short-term rates increase more than long-term rates. 5 Short-term rates decrease more than long-term rates.

▲

Other market risk exposures

Own credit

We are exposed to changes in UBS's own credit reflected in the valuation of financial liabilities designated at fair value when UBS's own credit risk would be considered by market participants, except for fully collateralized liabilities or other obligations for which it is established market practice to not include an own-credit component.

› **Refer to "Note 21 Fair value measurement" in the "Consolidated financial statements" section of this report for more information about own credit**

Structural foreign exchange risk

Upon consolidation, assets and liabilities held in foreign operations are translated into US dollars at the closing foreign exchange rate on the balance sheet date. Value changes (in US dollars) of non-US dollar assets or liabilities due to foreign exchange movements are recognized in OCI and therefore affect shareholders' equity and CET1 capital.

Group Treasury uses strategies to manage this foreign currency exposure, including matched funding of assets and liabilities and net investment hedging.

› **Refer to the "Capital, liquidity and funding, and balance sheet" section of this report for more information about our exposure to and management of structural foreign exchange risk**

› **Refer to "Note 10 Derivative instruments" in the "Consolidated financial statements" section of this report for more information about our hedges of net investments in foreign operations**

Equity investments

Audited | Under International Financial Reporting Standards (IFRS) effective on 31 December 2020, equity investments not in the trading book may be classified as *Financial assets at fair value not held for trading* or *Investments in associates*.

We make direct investments in a variety of entities and buy equity holdings in both listed and unlisted companies, for a variety of purposes, including investments such as exchange and clearing house memberships held to support our business activities. We may also make investments in funds that we manage in order to fund or seed them at inception or to demonstrate that our interests align with those of investors. We also buy, and are sometimes required by agreement to buy, securities and units from funds that we have sold to clients.

The fair value of equity investments tends to be influenced by factors specific to the individual investments. Equity investments are generally intended to be held for the medium or long term and may be subject to lock-up agreements. For these reasons, we generally do not control these exposures by using market risk measures applied to trading activities. However, such equity investments are subject to a different range of controls, including preapproval of new investments by business management and Risk Control, portfolio and concentration limits, and regular monitoring and reporting to senior management. They are also included in our Group-wide statistical and stress testing metrics, which flow into our risk appetite framework.

As of 31 December 2020, we held equity investments totaling USD 3.1 billion, of which USD 1.5 billion was classified as *Financial assets at fair value not held for trading* and USD 1.6 billion as *Investments in associates*. ▲

› **Refer to "Note 21 Fair value measurement" and "Note 28 Interests in subsidiaries and other entities" in the "Consolidated financial statements" section of this report for more information**

› **Refer to "Note 1 Summary of significant accounting policies" in the "Consolidated financial statements" section of this report for more information about the classification of financial instruments**

Debt investments

Audited I Debt investments classified as *Financial assets measured at fair value through OCI* as of 31 December 2020 were measured at fair value with changes in fair value recorded through *Equity*, and can broadly be categorized as money market instruments and debt securities primarily held for statutory, regulatory or liquidity reasons.

The risk control framework applied to debt instruments classified as *Financial assets measured at fair value through OCI* depends on the nature of the instruments and the purpose for which we hold them. Our exposures may be included in market risk limits or be subject to specific monitoring and interest rate sensitivity analysis. They are also included in our Group-wide statistical and stress testing metrics, which flow into our risk appetite framework.

Debt instruments classified as *Financial assets measured at fair value through OCI* had a fair value of USD 8.3 billion as of 31 December 2020 compared with USD 6.3 billion as of 31 December 2019. ▲

› **Refer to "Note 21 Fair value measurement" in the "Consolidated financial statements" section of this report for more information**

› **Refer to "Economic value sensitivity" in this section for more information**

› **Refer to "Note 1 Summary of significant accounting policies" in the "Consolidated financial statements" section of this report for more information about the classification of financial instruments**

Pension risk

We provide a number of pension plans for past and current employees, some classified as defined benefit pension plans under IFRS that can have a material effect on our IFRS equity and CET1 capital.

In order to meet the expected future benefit payments, the plans invest employee and employer contributions in various asset classes. A plan's funded status is the difference between the fair value of its assets and the present value of the expected future benefit payments to plan members, i.e., the defined benefit obligation.

Pension risk is the risk that defined benefit plans' funded status might decrease, negatively affecting our IFRS equity and / or CET1 capital. This can result from falls in the value of a plan's assets or in the investment returns, increases in defined benefit obligations, or combinations of the above.

Important risk factors affecting the fair value of plans' assets include equity market returns, interest rates, bond yields and real estate prices. Important risk factors affecting the present value of expected future benefit payments include high-grade bond yields, interest rates, inflation rates and life expectancy.

Pension risk is included in our Group-wide statistical and stress testing metrics, which flow into our risk appetite framework. The potential effects are thus captured in the post-stress CET1 capital ratio calculation.

› **Refer to "Note 1 Summary of significant accounting policies" and "Note 26 Post-employment benefit plans" in the "Consolidated financial statements" section of this report for more information about defined benefit plans**

UBS own share exposure

Group Treasury holds UBS Group AG shares to hedge future share delivery obligations related to employee share-based compensation awards, and also holds shares purchased under the share repurchase program. In addition, the Investment Bank holds a limited number of UBS Group AG shares, primarily in its capacity as a market-maker with regard to UBS Group AG shares and related derivatives, and to hedge certain issued structured debt instruments.

› **Refer to "UBS shares" in the "Capital, liquidity and funding, and balance sheet" section of this report for more information**

Country risk

Country risk framework

Country risk includes all country-specific events occurring in a sovereign jurisdiction that may lead to impairment of UBS's exposures. It may take the form of: sovereign risk, which is the ability and willingness of a government to honor its financial commitments; transfer risk, which arises if a counterparty or issuer cannot acquire foreign currencies following a moratorium by a central bank on foreign exchange transfers; or "other" country risk. "Other" country risk may manifest itself through, on the one hand, increased and multiple counterparty and issuer default risk (systemic risk) and, on the other hand, events that may affect a country's standing, such as adverse shocks affecting political stability or institutional and legal frameworks. We have a well-established risk control framework to assess the risk profiles of all countries where we have exposure.

We assign a country rating to each country, which reflects our view of the country's creditworthiness and of the probability of a country risk event occurring. Country ratings are mapped to statistically derived default probabilities, described under "Probability of default" in this section. We use this internal analysis to set the credit ratings of governments and central banks, estimate the probability of a transfer event occurring, and establish rules as to how aspects of country risk should be incorporated in counterparty ratings of non-sovereign entities domiciled in the respective country.

Country ratings are also used to define our risk appetite and risk exposure to foreign countries. A country risk limit (i.e., maximum aggregate exposure) applies to exposures to counterparties or issuers of securities and financial investments in the given foreign country. We may limit the extension of credit, transactions in traded products or positions in securities based on a country risk ceiling even if our exposure to a counterparty is otherwise acceptable.

For internal measurement and control of country risk, we also consider the financial effect of market disruptions arising prior to, during and after a country crisis. These may take the form of a severe deterioration in a country's debt, equity or other asset markets or a sharp depreciation of its currency. We use stress testing to assess potential financial effects of severe country or sovereign crises. This involves the developing of plausible stress scenarios for combined stress testing and the identification of countries that may potentially be subject to a crisis event, determining potential losses and making assumptions about recovery rates depending on the types of credit transactions involved and their economic importance to the affected countries.

Our exposures to market risks are subject to regular stress tests covering major global scenarios, which are also used for combined stress testing, where we apply market shock factors to equity indices, interest rates and currency rates in all relevant countries and consider the potential liquidity of the instruments.

Country risk exposure

Country risk exposure measure

The presentation of country risk follows our internal risk view, where the basis for measuring exposures depends on the product category in which we classified the exposures. In addition to the classification of exposures into banking products and traded products, covered in "Credit risk profile of the Group" in this section, in trading inventory we classify issuer risk on securities such as bonds and equities, as well as risk relating to underlying reference assets for derivative positions.

As we manage the trading inventory on a net basis, we net the value of long positions against short positions with the same underlying issuer. Net exposures are, however, floored at zero per issuer in the figures presented in the following tables. As a result, we do not recognize potentially offsetting benefits of certain hedges and short positions across issuers.

We do not recognize any expected recovery values when reporting country exposures as exposure before hedges, except for risk-reducing effects of master netting agreements and collateral held in either cash or portfolios of diversified marketable securities, which we deduct from the positive exposure values. Within banking products and traded products, risk-reducing effects of credit protection is taken into account on a notional basis when determining the net of hedge exposures.

Country risk exposure allocation

In general, exposures are shown against the country of domicile of the contractual counterparty or the issuer of the security. For some counterparties whose economic substance in terms of assets or source of revenues is primarily located in a different country, the exposure is allocated to the risk domicile of those assets or revenues.

We apply a specific approach for banking products exposures to branches of banks that are located in a country other than the legal entity's domicile. In such cases, exposures are recorded in full against the country of domicile of the counterparty and additionally in full against the country in which the branch is located.

In the case of derivatives, we show counterparty risk associated with positive replacement value (PRV) against the counterparty's country of domicile (presented within traded products). In addition, risk associated with instantaneous fall in value of underlying reference assets to zero (assuming no recovery) is shown against the country of domicile of the issuer of the reference asset (presented within trading inventory). This approach allows us to capture both counterparty and, where applicable, issuer elements of risk arising from derivatives and applies comprehensively for all derivatives, including single-name credit default swaps (CDSs) and other credit derivatives.

Exposures to selected Eurozone countries

Our exposure to peripheral European countries, i.e., Greece, Italy, Ireland, Portugal, and Spain, remains limited, but we nevertheless remain watchful of potential broader implications of adverse developments in the Eurozone. As noted under "Stress testing" in this section, a Eurozone crisis remains a core part of the binding *Global Crisis scenario* for combined stress test purposes, making it central to the regular monitoring of risk exposure against minimum capital, earnings and leverage ratio objectives in our risk appetite framework.

The "Exposures to Eurozone countries rated lower than AAA / Aaa by at least one major rating agency" table below provides an overview of our exposures to such countries as of 31 December 2020.

Exposures to Eurozone countries rated lower than AAA / Aaa by at least one major rating agency

USD million	Total		Banking products (loans, guarantees, loan commitments)			Traded products (counterparty risk from derivatives and securities financing) after master netting agreements and net of collateral		Trading inventory (securities and potential benefits / remaining exposure from derivatives)
31.12.20		Net of hedges[1]	Exposure before hedges	Net of hedges[1]	*of which: unfunded*	Exposure before hedges	Net of hedges	Net long per issuer
Austria	1,665	1,664	198	197	*190*	616	616	851
Sovereign, agencies and central bank	671	671	0	0		572	572	99
Local governments	0	0	0	0		0	0	0
Banks	662	662	33	33		34	34	595
Other[2]	333	331	165	164		10	10	157
Belgium	869	869	172	172	*62*	412	412	285
Sovereign, agencies and central bank	249	249	0	0		0	0	249
Local governments	0	0						
Banks	536	536	155	155		380	380	2
Other[2]	84	84	17	17		32	32	35
Finland	394	394	40	40	*4*	65	65	289
Sovereign, agencies and central bank	123	123	0	0		0	0	123
Local governments	153	153	0	0		1	1	152
Banks	106	106	40	40		55	55	11
Other[2]	12	12	0	0		9	9	2
France	7,473	7,344	1,307	1,306	*490*	1,538	1,409	4,628
Sovereign, agencies and central bank	4,299	4,170	0	0		552	424	3,746
Local governments	0	0	0	0		0	0	0
Banks	543	543	249	249		229	229	64
Other[2]	2,632	2,631	1,058	1,057		756	756	818
Greece	23	15	20	12	*11*	0	0	3
Sovereign, agencies and central bank	0	0	0	0		0	0	0
Local governments	0	0						
Banks	20	12	20	12		0	0	0
Other[2]	3	3	0	0		0	0	3
Ireland	938	909	609	580	*23*	61	61	269
Sovereign, agencies and central bank	96	96	0	0		0	0	96
Local governments	0	0						
Banks	43	43	30	30		12	12	0
Other[2]	800	771	579	550		48	48	173
Italy	1,571	1,528	1,328	1,286	*571*	221	220	22
Sovereign, agencies and central bank	614	614	611	610		4	4	0
Local governments	52	51	0	0		52	51	0
Banks	611	601	567	557		39	39	5
Other[2]	295	262	151	119		126	126	18
Portugal	55	55	31	31	*31*	22	21	2
Sovereign, agencies and central bank	0	0	0	0		0	0	0
Local governments	0	0						
Banks	14	14	13	13		1	1	0
Other[2]	41	40	18	18		20	20	2
Spain	822	724	579	481	*393*	60	60	184
Sovereign, agencies and central bank	10	10	0	0		0	0	10
Local governments	0	0						
Banks	86	86	53	53		4	4	29
Other[2]	727	629	526	428		56	56	145
Other[3]	1,096	1,071	1,027	1,002	*6*	41	41	28
Total	14,907	14,573	5,311	5,107	*1,781*	3,035	2,905	6,561

1 Before deduction of IFRS 9 ECL allowances and provisions. 2 Includes corporates, insurance companies and funds. 3 Represents aggregate exposures to Andorra, Cyprus, Estonia, Latvia, Lithuania, Malta, Monaco, Montenegro, San Marino, Slovakia and Slovenia.

CDSs are primarily bought and sold in relation to our trading businesses, and to a much lesser degree used to hedge credit valuation adjustments (CVAs). As of 31 December 2020, and not taking into account risk-reducing effects of master netting agreements, we had purchased USD 5.4 billion gross notional of single-name CDS protection on issuers domiciled in Italy and had sold USD 5.7 billion gross notional of single-name CDS protection. The amount of CDSs bought and sold in relation to Greece, Ireland, Portugal and Spain remains immaterial. All gross protection purchased was from investment grade-rated counterparties (based on our internal ratings) and on a collateralized basis.

Holding CDSs for credit default protection does not necessarily protect the buyer of protection against losses, as contracts only pay out under certain scenarios. The effectiveness of our CDS protection as a hedge of default risk is influenced by a number of factors, including the contractual terms under which a CDS was written. Generally, only occurrence of credit events as defined by the CDS terms (which may include, among other events, failure to pay, restructuring or bankruptcy) result in payments under the purchased credit protection contracts. For CDS contracts on sovereign obligations, repudiation can also be deemed as a default event. The determination as to whether a credit event has occurred is made by the relevant International Swaps and Derivatives Association (ISDA) determination committees (composed of various ISDA member firms) based on the terms of the CDS and the facts and circumstances surrounding the event.

Exposure to emerging market countries

The "Emerging markets net exposure by major geographical region and product type" table on the next page shows the five largest emerging market country exposures in each major geographical area by product type as of 31 December 2020 compared with 31 December 2019. Based on the sovereign rating categories, as of 31 December 2020, 83% of our emerging market country exposure was rated investment grade, compared with 79% as of 31 December 2019.

Our direct net exposure to China was USD 7.4 billion, an increase of USD 2.7 billion compared with the prior year, predominantly driven by banking products and trading inventory across issuer risk and margin loans. Our direct net exposure to South Korea was USD 2.3 billion, an increase of USD 1.1 billion, largely driven by trading inventory.

Emerging markets net exposure[1] by internal UBS country rating category

USD million	31.12.20	31.12.19
Investment grade	19,580	13,693
Sub-investment grade	4,005	3,721
Total	23,585	17,414

1 Net of credit hedges (for banking products and for traded products); net long per issuer (for trading inventory). Before deduction of IFRS 9 ECL allowances and provisions.

Emerging markets net exposures by major geographical region and product type

USD million	Total		Banking products (loans, guarantees, loan commitments)		Traded products (counterparty risk from derivatives and securities financing) after master netting agreements and net of collateral		Trading inventory (securities and potential benefits / remaining exposure from derivatives)	
	Net of hedges[1]		Net of hedges[1]		Net of hedges		Net long per issuer	
	31.12.20	31.12.19	31.12.20	31.12.19	31.12.20	31.12.19	31.12.20	31.12.19
Emerging America	1,597	1,512	723	613	247	368	627	531
Brazil	1,119	1,262	474	498	88	288	557	476
Mexico	187	121	41	22	131	56	14	43
Chile	65	20	22	9	10	8	33	2
Panama	49	18	46	17	2	1	0	0
Peru	49	4	46	3	0	0	3	1
Other	128	87	95	63	15	15	18	9
Emerging Asia	16,566	11,627	5,901	3,306	2,739	2,235	7,927	6,086
China	7,389	4,717	2,551	1,140	1,010	456	3,828	3,121
Hong Kong	2,840	2,850	1,498	1,000	395	823	946	1,027
South Korea	2,259	1,118	426	60	526	403	1,307	655
Thailand	1,494	616	146	62	41	26	1,306	528
Taiwan	958	584	191	133	566	267	200	185
Other	1,627	1,742	1,087	911	201	261	339	570
Emerging Europe	1,962	1,382	1,552	1,076	156	138	253	169
Turkey	871	398	826	359	4	4	41	34
Russia	668	547	447	380	84	93	137	74
Azerbaijan	183	186	146	184	36	0	0	2
Poland	87	42	63	17	8	4	16	21
Croatia	33	5	32	2	0	0	1	3
Other	120	205	38	133	24	37	58	35
Middle East and Africa	3,459	2,893	1,532	1,316	1,202	1,027	725	550
Saudi Arabia	804	556	166	147	438	401	201	7
United Arab Emirates	677	624	431	404	218	215	27	5
Kuwait	457	277	103	56	354	222	1	0
Qatar	416	187	197	120	0	0	219	67
South Africa	339	668	52	176	93	129	194	363
Other	766	581	583	414	99	60	84	108
Total	23,585	17,414	9,708	6,311	4,344	3,767	9,533	7,335

1 Before deduction of IFRS 9 ECL allowances and provisions.

Environmental, social and climate risk

Environmental and social risk

Environmental and social risk (ESR) can arise when UBS supports clients and transactions, or sources products or services from suppliers, that may cause or contribute to severe environmental damage, climate change, or human rights infringements. ESR is gaining importance amid a global drive to meet the Sustainable Development Goals and transition to a low-carbon economy, and further to this, regulators across multiple jurisdictions increasingly focus on climate change impacts. Our broad and wide-ranging ESR framework governs client and supplier relationships, applies firm-wide to all activities, and is integrated in management practices and control principles. The framework includes identifying, assessing, monitoring and reporting environmental and social risks in our standard risk, compliance and operations processes. These include client onboarding, transaction due diligence, product development and investment decision processes, own operations, supply chain management, and portfolio reviews. This framework is geared toward identifying clients, transactions or suppliers potentially in breach of our standards or otherwise subject to significant environmental and human rights controversies, including climate change.

› **Refer to "Environmental and social risk policy framework" in appendix 6 to the Sustainability Report 2020, available from 11 March 2021 under "Annual reporting" at *ubs.com/investors*, for more information**

Climate risk

The physical and transition risks from a changing climate contribute to a structural change across economies and therefore affect banks and the financial sector as a whole. In order to protect our clients' assets and our own assets from climate-related risks, we continue to drive the integration of such risk into our standard risk management framework. We manage climate risk in our own operations, balance sheet, client assets and value chain. We are embedding climate risk into our risk appetite framework and operational risk appetite statement. In 2020, we further integrated climate risk in risk identification, management, stress testing methodology and reporting processes across the organization. We have consistently reduced our exposure to carbon-related assets and continued our multi-year efforts to develop methodologies which enable more robust and transparent disclosure of climate metrics. This work will continue our efforts to ensure we are prepared to respond to increased regulatory requirements on climate risk, align our disclosure with the Task Force on Climate-related Financial Disclosures (the TCFD) recommendations and collaborate within the industry to close gaps.

We have led the effort, together with the United Nations Environment Programme Finance Initiative (UNEP FI) and peer banks, to define an inventory of climate-sensitive activities based on TCFD, regulators' and rating agencies' climate risk definitions. Our current exposure to climate-sensitive activities is summarized in the table below at the sector level.

› **Refer to "Our climate strategy" in the Sustainability Report 2020, available from 11 March 2021 under "Annual reporting" at *ubs.com/investors*, for more information**

UBS corporate lending to climate-sensitive sectors, 2020

Inventory of exposure to transition-risk-sensitive sectors, across the Investment Bank and Personal & Corporate Banking	As of 31.12.20	
USD million, except where indicated	Gross exposure[1]	Share of total exposure to all sectors (%)
Climate-sensitive sector[2]		
Aerospace and defense	962	0.3
Automotive	966	0.3
Chemicals	2,021	0.7
Constructions and materials	3,905	1.4
Food and beverage	1,754	0.6
Industrial materials	151	0.1
Machinery and equipment	2,778	1.0
Mining	3,276	1.2
Oil and gas	4,951	1.7
Plastics and rubber	373	0.1
Primary materials	249	0.1
Textile products and apparel	1,128	0.4
Real estate	13,357	4.7
Transportation	2,337	0.8
Utilities	493	0.2
Total exposure to climate-sensitive sectors	38,700	13.7
Total exposure to all sectors	283,376	100.0

1 Banking products across the Investment Bank and Personal & Corporate Banking. 2 Climate-sensitive sectors defined as business activities that are rated as having high, moderately high, moderate, or moderately low vulnerability to transition risks, including policy, technology, and demand risk factors. Further details on UBS's sub-sector level exposures and exposures by transition risk rating are available in our Sustainability Report 2020, available from 11 March 2021.

Operational risk

Key developments

Operational resilience, conduct and financial crime remain the key non-financial risk themes for UBS and the financial services industry. Operational resilience also continues to be a focus area for regulators globally, with particular emphasis on measures taken to respond to the COVID-19 pandemic.

To address developing regulatory requirements on resilience, we have established a global program to enhance our current capabilities. The existing resilience built into our operations and the effectiveness of our business continuity management and operational risk procedures (including those for third-party service providers) have been critical in handling the ongoing COVID-19 pandemic and enabled us to continue to serve our clients without material impact. We have maintained stable operations while complying with containment requirements imposed in many of our principal locations, and we remain focused on the safety and well-being of our staff.

Increases in the sophistication of COVID-19-themed cyberattacks and frauds are being seen worldwide, and during 2020 we continuously enhanced our monitoring for such COVID-19-related cyber threats. Regular communications were and are provided to remind employees about associated risks, including hints and tips for staying cybersafe with remote working. To date, our security controls have been effective, and no significant cyber incidents affected us during 2020.

Achieving fair outcomes for our clients, upholding market integrity and cultivating the highest standards of employee conduct are of critical importance to the firm. As such, management of conduct risks is an integral part of our operational risk framework. We continue to focus on effectively embedding the conduct risk framework across our activities, enhancing management information and maintaining momentum on fostering a strong culture. Conduct-related management information is reviewed at the business and regional governance levels, providing metrics on employee conduct, clients and markets. Employee conduct is a central consideration in the annual compensation process, where our incentive schemes distinguish clearly between quantitative performance and conduct-related behaviors, so that achievement against financial targets is not the only determinant of our employees' performance assessment. Furthermore, we continue to pursue behavioral initiatives, such as the Principles of Good Supervision, and provide mandatory compliance and risk training.

Suitability risk, product selection, cross-divisional service offerings, quality of advice and price transparency also remain areas of heightened focus for UBS and for the industry as a whole, as low interest rates, market volatility and major legislative change programs (e.g., FIDLEG (the Swiss Financial Services Act) in Switzerland, Regulation Best Interest in the US, and the Markets in Financial Instruments Directive II (MiFID II) in the EU) all significantly impact the industry and require adjustments to control processes on a geographically aligned basis. We regularly monitor our suitability, product and conflicts of interest control frameworks to assess whether they are reasonably designed to facilitate adherence to applicable laws and regulatory expectations.

Financial crime (e.g., money laundering, terrorist financing, sanctions violations, fraud, bribery and corruption) continues to present a major risk, as technological innovation and geopolitical developments increase the complexity of doing business and heightened regulatory attention continues. An effective financial crime prevention program remains essential for UBS. Money laundering and financial fraud techniques are becoming increasingly sophisticated, and geopolitical volatility makes the sanctions landscape more complex, and new risks emerge, such as virtual currencies and related activities or investments.

The Office of the Comptroller of the Currency issued a Cease and Desist Order against UBS in May 2018 relating to this risk category. In response, we initiated a comprehensive program for the purpose of ensuring sustainable remediation of US-relevant Bank Secrecy Act / anti-money-laundering (AML) issues across all our US legal entities. We implemented significant improvement measures in 2019 and 2020, and expect to continue implementing such measures in the first half of 2021, and expect to have delivered the planned enhancements to our AML controls by then.

We continued to focus in 2020 on strategic enhancements for AML, know-your-client (KYC) and sanctions programs on a global scale to cope with evolving risk profiles and regulatory expectations. This includes our significant investments in detection capabilities and systems as part of our financial crime prevention program. We are exploring new technologies to combat financial crime, and implementing more sophisticated rule-based monitoring by applying self-learning systems to identify potentially suspicious transactions. We continue to actively participate in AML public–private partnerships with public-sector stakeholders, including law enforcement, to improve information sharing and better detect financial crimes.

Measures have been taken to respond to the COVID-19 pandemic, including programs to educate clients and employees about fraud risk, and our protocols for interaction to mitigate this risk have been updated. We stay abreast of emerging trends in order to take further mitigating activity as necessary.

Cross-border risk remains an area of regulatory attention for global financial institutions, with a strong focus on fiscal transparency. There is also ongoing high attention on the risk related to permanent establishments as a result of changes to the global economy that could lead tax authorities to assert permanent establishments retrospectively even on the basis of new interpretations of existing law. UBS actively assesses and applies permanent establishment-related controls.

During 2020, thanks to the continued focus on sustainable remediation and resolution of underlying root causes, the portfolio of significant operational risk issues was reduced by more than two-thirds (68%), while the number of new deficiencies discovered decreased by approximately three-quarters (73%) compared with 2019.

Operational risk framework

Operational risk is an inherent part of the firm's business. Losses can result from inadequate or failed internal processes, people and systems, or from external causes. UBS follows a Group-wide operational risk framework (ORF) that establishes requirements for identifying, managing, assessing and mitigating operational risks (including compliance and conduct risks) to achieve an agreed balance between risk and return. It is built on the following pillars:

- classifying inherent risks through the operational risk taxonomy, which defines the universe of material operational risks that can arise as a consequence of the firm's business activities and external factors;
- assessing the design and operating effectiveness of controls through the control assessment process;
- proactively and sustainably remediating identified control deficiencies;
- defining operational risk appetite (including a financial operational risk appetite statement at Group, UBS AG and business division levels for operational risk events) through quantitative metrics and thresholds and qualitative measures, and assessing risk exposure against appetite; and
- assessing inherent and residual risk through risk assessment processes, and determining whether additional remediation plans are required to address identified deficiencies.

Divisional Presidents and legal entity responsible executives are accountable for the effectiveness of operational risk management and for the robustness of the front-to-back control environment within their respective areas. Group function heads are accountable for supporting the divisional Presidents and legal entity responsible executives of our legal entities in the discharge of this responsibility, by confirming completeness and effectiveness of the control environment and operational risk management within their Group function. Collectively, divisional Presidents, central Group function heads and legal entity responsible executives are in charge of implementing the operational risk framework.

Compliance & Operational Risk Control (C&ORC) is responsible for providing an independent and objective view of the adequacy of operational risk management across the Group, and ensuring that operational risks are understood, owned and managed in accordance with the firm's risk appetite. C&ORC-aligned teams sit within the Group Compliance, Regulatory & Governance (GCRG) function, reporting to the Group Chief Compliance and Governance Officer, who is a member of the Group Executive Board. C&ORC teams are integrated, covering both operational risk and compliance and conduct topics. The head of Operational Risk Control, together with dedicated divisional and regional ORC leaders, ensures a coherent global approach to operational risk, fostering strong front-to-back coverage. The ORF forms the common basis for managing and assessing operational risk, and there are additional C&ORC activities intended to ensure UBS is able to demonstrate compliance with applicable laws, rules and regulations.

In 2020, UBS has continued to review and enhance the ORF, considering feedback and input from both internal and external stakeholders, and has implemented strengthened ORF governance and stakeholder management through the setup of the ORF design authority. The Risk Control Self-Assessment process has been enhanced to increase the level of granularity and data to drive front-to-back review and challenge. Ownership of firm-wide risk appetite was transferred to Group Functions that are responsible for management of the underlying processes and associated risks.

All functions within UBS are required to assess the design and operating effectiveness of their internal controls periodically. The output of these assessments forms the basis for the assessment and testing of internal controls over financial reporting as required by the Sarbanes–Oxley Act, Section 404 (SOX 404).

Key control deficiencies identified during the internal control and risk assessment processes must be reported in the operational risk inventory, and sustainable remediation must be defined and executed. These control deficiencies are assigned to owners at senior management level and the remediation progress is reflected in the respective manager's annual performance measurement and management objectives. To assist with prioritizing the most material control deficiencies and measuring aggregated risk exposure, irrespective of origin, a common rating methodology is applied across all three lines of defense, as well as by external audit.

Advanced measurement approach model

The operational risk framework outlined above underpins the calculation of regulatory capital for operational risk, which enables us to quantify operational risk and define effective risk mitigating management incentives as part of the related operational risk capital allocation approach to the business divisions.

We measure Group operational risk exposure and calculate operational risk regulatory capital using the advanced measurement approach (AMA) in accordance with FINMA requirements.

An entity-specific AMA model has been applied for UBS Switzerland AG, while for other regulated entities the basic indicators or standardized approaches are adopted for regulatory capital in agreement with local regulators. Also, the methodology of the Group AMA is leveraged for entity-specific Internal Capital Adequacy Assessment Processes.

Currently, the model includes 16 AMA units of measure (UoM), which are aligned with our operational risk taxonomy as closely as possible. Frequency and severity distributions are calibrated for each of the model's UoM. The modeled distribution functions for both frequency and severity are used to generate the annual loss distribution. The resulting 99.9% quantile of the overall annual operational risk loss distribution across all UoM determines the required regulatory capital. Currently, we do not reflect mitigation through insurance or any other risk transfer mechanism in our AMA model.

AMA model calibration and review

A key assumption when calibrating data-driven frequency and severity distributions is that historical losses form a reasonable proxy for future events. In line with regulatory expectations, the AMA methodology utilizes both historical internal losses and external losses suffered by the broader industry for model calibration.

Initial model outputs driven by loss history are reviewed and adjusted to reflect fast-changing external developments, such as new regulations, geopolitical change, volatile market and economic conditions, and internal factors (e.g., changes in business strategy and control framework enhancements). The resulting baseline data-driven frequency and severity distributions are reviewed by subject matter experts and where necessary adjusted based on a review of qualitative information about the business environment and internal control factors, as well as expert judgment with the aim of forecasting losses.

Our model is reviewed regularly to maintain risk sensitivity and recalibrated at least annually. Any changes to regulatory capital as a result of a recalibration or methodology changes are presented to FINMA for approval prior to use for disclosure purposes.

AMA model governance

The Group and entity-specific AMA models are subject to an independent validation performed by Model Risk Management & Control in line with the Group's model risk management framework.

› **Refer to "Capital planning and activities" in the "Capital, liquidity and funding, and balance sheet" section of this report for more information about the development of risk-weighted assets**

› **Refer to "Risk measurement" in this section for more information about our approach to model confirmation procedures**

› **Refer to the "Regulatory and legal developments" and "Risk factors" sections of this report for more information**

APPENDIX 5 — OPERATING ENVIRONMENT AND STRATEGY

The information in this Appendix 5 describes the operating environment and strategy of UBS AG and references herein to "**UBS**" or the "**Group**" are to UBS AG and its subsidiaries.

The information in this Appendix 5 has been extracted from the Annual Report 2020 as at and for the year ended 31 December 2020. References to page numbers in this Appendix 5 are to pages of such document. The page numbers of such document appear on the bottom left or right hand side of the pages in this Appendix 5.

Risk factors

Certain risks, including those described below, may affect our ability to execute our strategy or our business activities, financial condition, results of operations and prospects. We are inherently exposed to multiple risks, many of which may become apparent only with the benefit of hindsight. As a result, risks that we do not consider to be material or of which we are not currently aware could also adversely affect us. Within each category, the risks that we consider to be most material are presented first.

Market, credit and macroeconomic risks

Our results of operations and financial condition may be adversely affected by the COVID-19 pandemic and the response to it

The continued widespread COVID-19 pandemic and the governmental measures taken to contain it have adversely affected, and will likely continue to adversely affect, global economic conditions, resulting in meaningful contraction in the global economy, substantial volatility in the financial markets, increased unemployment, increased credit and counterparty risk, and operational challenges, such as the temporary closures of businesses, sheltering-in-place directives and increased remote work protocols. Governments and central banks around the world have reacted to the economic crisis caused by the pandemic by implementing stimulus and liquidity programs and cutting interest rates. While these programs have had initial success in mitigating the economic consequences of the pandemic, it is unclear whether these or future actions will be successful in countering the economic disruption caused by the pandemic. If the pandemic is prolonged, vaccine distribution is delayed, or available vaccines prove ineffective against evolving strains of the coronavirus, or the actions of governments and central banks are unsuccessful, the adverse impact on the global economy will deepen, our results of operations and financial condition in future quarters may be adversely affected.

COVID-19 and related lockdown measures have significantly impacted major economies across the world. Uncertainties are still at a high level, making predictions difficult. The COVID-19 pandemic has affected all of our businesses, and these effects could be greater in the future if adverse conditions persist or worsen. These effects have included declines in some asset prices, spikes in volatility, lower or negative interest rates, widening of credit spreads and credit deterioration. These effects have resulted in decreases in the valuation of loans and commitments, an increase in the allowance for credit losses and lower valuations of certain classes of trading assets. While these effects were offset by high levels of client activity in 2020 and a rebound in asset prices in some sectors, this level of activity may not persist.

Should these global market conditions continue or worsen, or the pandemic lead to additional market disruptions, we may experience reduced client activity and demand for our products and services, increased utilization of lending commitments, significantly increased client defaults, continued and increasing credit and valuation losses in our loan portfolios, loan commitments and other assets, and impairments of other financial assets. Declines in interest rates have decreased net interest margins and such declines may continue to sharpen. A decline in invested assets would also reduce recurring fee income in our Global Wealth Management and Asset Management businesses. These factors and other consequences of the COVID-19 pandemic may negatively affect our financial condition, including possible constraints on capital and liquidity, as well as a higher cost of capital, and possible changes or downgrades to our credit ratings.

Although we moved a substantial portion of our workforce to work-from-home solutions, including client-facing and trading staff, if significant portions of our workforce, including key personnel, are unable to work effectively because of illness, government actions, or other restrictions in connection with the pandemic, the adverse effects of the pandemic on our businesses could be exacerbated. In addition, with staff working from outside the offices, we face new challenges and operational risks, including maintenance of supervisory and surveillance controls, as well as increased fraud and data security risks. While we have taken measures to manage these risks, such measures have never been tested on the scale or duration that we are currently experiencing, and there is risk that these measures will not be effective in the current unprecedented operating environment.

The extent to which the pandemic, and the related adverse economic conditions, affect our businesses, results of operations and financial condition, as well as our regulatory capital and liquidity ratios, will depend on future developments, including the scope and duration of the pandemic and any recovery period, the adequacy of vaccine distribution plans and execution of those plans, as well as the efficacy of vaccines against potential virus variants, future actions taken by governmental authorities, central banks and other third parties in response to the pandemic, and the effects on our customers, counterparties, employees and third-party service providers.

Performance in the financial services industry is affected by market conditions and the macroeconomic climate

Our businesses are materially affected by market and macroeconomic conditions. Adverse changes in interest rates, credit spreads, securities prices, market volatility and liquidity, foreign exchange rates, commodity prices, and other market fluctuations, as well as changes in investor sentiment, can affect our earnings and ultimately our financial and capital positions.

A market downturn and weak macroeconomic conditions can be precipitated by a number of factors, including geopolitical events, global trade disruption, changes in monetary or fiscal policy, changes in trade policies, natural disasters, pandemics, civil unrest, acts of violence, war or terrorism. Such developments can have unpredictable and destabilizing effects and, because financial markets are global and highly interconnected, even local and regional events can have widespread effects well beyond the countries in which they occur. Any of these developments may adversely affect our business or financial results.

If individual countries impose restrictions on cross-border payments, trade, or other exchange or capital controls, or change their currency (for example, if one or more countries should leave the Eurozone), we could suffer losses from enforced default by counterparties, be unable to access our own assets, or be unable to effectively manage our risks.

Should the market experience significant volatility, a decrease in business and client activity and market volumes could result, which would adversely affect our ability to generate transaction fees, commissions and margins, particularly in Global Wealth Management and the Investment Bank, as we experienced in the fourth quarter of 2018. A market downturn would likely reduce the volume and valuation of assets that we manage on behalf of clients, which would reduce recurring fee income that is charged based on invested assets in Global Wealth Management and Asset Management and performance-based fees in Asset Management. Such a downturn could also cause a decline in the value of assets that we own and account for as investments or trading positions. In addition, reduced market liquidity or volatility may limit trading opportunities and may therefore reduce transaction-based income and may also impede our ability to manage risks.

We could be materially affected if a crisis develops, regionally or globally, as a result of disruptions in markets due to macroeconomic or political developments, or as a result of the failure of a major market participant. Over time, our strategic plans have become more heavily dependent on our ability to generate growth and revenue in emerging markets, including China, causing us to be more exposed to the risks associated with such markets.

Global Wealth Management derives revenues from all the principal regions, but has a greater concentration in Asia than many peers and a substantial presence in the US, unlike many European peers. The Investment Bank's business is more heavily weighted to Europe and Asia than our peers, while its derivatives business is more heavily weighted to structured products for wealth management clients, in particular with European and Asian underlyings. Our performance may therefore be more affected by political, economic and market developments in these regions and businesses, including the effects of the COVID-19 outbreak, than some other financial service providers.

Our credit risk exposure to clients, trading counterparties and other financial institutions would increase under adverse economic conditions

Credit risk is an integral part of many of our activities, including lending, underwriting and derivatives activities. Adverse economic or market conditions may lead to impairments and defaults on these credit exposures. Losses may be exacerbated by declines in the value of collateral securing loans and other exposures. In our prime brokerage, securities finance and Lombard lending businesses, we extend substantial amounts of credit against securities collateral, the value or liquidity of which may decline rapidly. Our Swiss mortgage and corporate lending portfolios are a large part of our overall lending. We are therefore exposed to the risk of adverse economic developments in Switzerland, including property valuations in the housing market, the strength of the Swiss franc and its effect on Swiss exports, prevailing negative interest rates applied by the Swiss National Bank, economic conditions within the Eurozone or the EU, and the evolution of agreements between Switzerland and the EU or European Economic Area, which represent Switzerland's largest export market. We have exposures related to real estate in various countries, including a substantial Swiss mortgage portfolio. Although we believe this portfolio is prudently managed, we could nevertheless be exposed to losses if a substantial deterioration in the Swiss real estate market were to occur.

As we experienced in 2020, under the IFRS 9 expected credit loss (ECL) regime, credit loss expenses may increase rapidly at the onset of an economic downturn as a result of higher levels of credit impairments (stage 3), as well as higher ECL from stages 1 and 2. These increases may only gradually diminish once the economic outlook improves. Substantial increases in ECL could exceed expected loss for regulatory capital purposes and adversely affect our common equity tier 1 (CET1) capital and regulatory capital ratios.

Low and negative interest rates in Switzerland, the US and the Eurozone and elsewhere could continue to negatively affect our net interest income

The continuing low or negative interest rate environment, particularly in Switzerland, the US and the Eurozone, may further erode interest margins and adversely affect the net interest income generated by the Personal & Corporate Banking and Global Wealth Management businesses. The Swiss National Bank permits Swiss banks to make deposits up to a threshold at zero interest. Any reduction in or limitation on the use of this exemption from the otherwise applicable negative interest rates would exacerbate the effect of negative interest rates in Switzerland on our business.

Low and negative interest rates may also affect customer behavior and hence our overall balance sheet structure. Mitigating actions that we have taken, or may take in the future, such as the introduction of selective deposit fees or minimum lending rates, have resulted and may further result in the loss of customer deposits (a key source of funding for us), net new money outflows and a declining market share in our Swiss lending business.

Our shareholders' equity and capital are also affected by changes in interest rates. In particular, the calculation of our Swiss pension plan's net defined benefit assets and liabilities is sensitive to the applied discount rate and to fluctuations in the value of pension plan assets. Any further reduction in interest rates may lower the discount rates and result in pension plan deficits as a result of the long duration of corresponding liabilities. This could lead to a corresponding reduction in our equity and CET1 capital.

Our plans to ensure uninterrupted business dealings as the UK withdraws from the EU may not be effective

To prepare our business for the UK withdrawal from the EU, in 2019, we completed a merger of UBS Limited, our UK-based subsidiary, into UBS Europe SE, our Germany-headquartered European subsidiary, which is under the direct supervision of the European Central Bank. Our plans to ensure uninterrupted business dealings now that the UK has withdrawn from the EU may not be effective if the EU and the UK do not conclude effective negotiations regarding the handling of the financial sector before temporary equivalence decisions expire or significant divergence in regulatory regimes emerges.

Currency fluctuation may have an adverse effect on our profits, balance sheet and regulatory capital

We are subject to currency fluctuation risks. Although our change from the Swiss franc to the US dollar as our functional and presentation currency in 2018 reduces our exposure to currency fluctuation risks with respect to the Swiss franc, a substantial portion of our assets and liabilities are denominated in currencies other than the US dollar. Additionally, in order to hedge our CET1 capital ratio, our CET1 capital must have foreign currency exposure, which leads to currency sensitivity. As a consequence, it is not possible to simultaneously fully hedge both the amount of capital and the capital ratio. Accordingly, changes in foreign exchange rates may continue to adversely affect our profits, balance sheet and capital, leverage and liquidity coverage ratios.

Regulatory and legal risks

Material legal and regulatory risks arise in the conduct of our business

As a global financial services firm operating in more than 50 countries, we are subject to many different legal, tax and regulatory regimes, including extensive regulatory oversight, and are exposed to significant liability risk. We are subject to a large number of claims, disputes, legal proceedings and government investigations, and we expect that our ongoing business activities will continue to give rise to such matters in the future. The extent of our financial exposure to these and other matters is material and could substantially exceed the level of provisions that we have established. We are not able to predict the financial and non-financial consequences these matters may have when resolved.

We may be subject to adverse preliminary determinations or court decisions that may negatively affect public perception and our reputation, result in prudential actions from regulators, and cause us to record additional provisions for the matter even when we believe we have substantial defenses and expect to ultimately achieve a more favorable outcome. This risk is illustrated by the award of aggregate penalties and damages of EUR 4.5 billion by the court of first instance in France, which we have appealed and is scheduled to be retried in the Court of Appeal in March 2021.

Resolution of regulatory proceedings may require us 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 our participation in them. Failure to obtain such waivers, or any limitation, suspension or termination of licenses, authorizations or participations, could have material adverse consequences for us.

Our settlements with governmental authorities in connection with foreign exchange, London Interbank Offered Rates (LIBOR) and other benchmark interest rates starkly illustrate the significantly increased level of financial and reputational risk now associated with regulatory matters in major jurisdictions. In connection with investigations related to LIBOR and other benchmark rates and to foreign exchange and precious metals, very large fines and disgorgement amounts were assessed against us, and we were required to enter guilty pleas despite our full cooperation with the authorities in the investigations, and despite our receipt of conditional leniency or conditional immunity from anti-trust authorities in a number of jurisdictions, including the US and Switzerland.

Ever since our material losses arising from the 2007–2009 financial crisis, we have been subject to a very high level of regulatory scrutiny and to certain regulatory measures that constrain our strategic flexibility. While we believe we have remediated the deficiencies that led to those losses, as well as to the unauthorized trading incident announced in September 2011, the effects on our reputation, as well as on relationships with regulatory authorities of the LIBOR-related settlements of 2012 and settlements with some regulators of matters related to our foreign exchange and precious metals business, as well as the extensive efforts required to implement new regulatory expectations, have resulted in continued scrutiny.

We are in active dialog with regulators concerning the actions we are taking to improve our operational risk management, risk control, anti-money laundering, data management and other frameworks, and otherwise seek to meet supervisory expectations, but there can be no assurance that our efforts will have the desired effects. As a result of this history, our level of risk with respect to regulatory enforcement may be greater than that of some of our peers.

Our financial results may be negatively affected by changes to assumptions and valuations, as well as changes to accounting standards

We prepare our consolidated financial statements in accordance with International Financial Reporting Standards (IFRS). The application of these accounting standards requires the use of judgment based on estimates and assumptions that may involve significant uncertainty at the time they are made. This is the case, for example, with respect to the measurement of fair value of financial instruments, the recognition of deferred tax assets, the assessment of the impairment of goodwill, expected credit losses and estimation of provisions for contingencies, including litigation, regulatory and similar matters. Such judgments, including the underlying estimates and assumptions, which encompass historical experience, expectations of the future and other factors, are regularly evaluated to determine their continuing relevance based on current conditions. Using different assumptions could cause the reported results to differ. Changes in assumptions, or failure to make the changes necessary to reflect evolving market conditions, may have a significant effect on the financial statements in the periods when changes occur. Estimates of provisions for contingencies may be subject to a wide range of potential outcomes and significant uncertainty. For example, the broad range of potential outcomes in UBS AG's proceeding in France increases the uncertainty associated with assessing the appropriate provision. If the estimates and assumptions in future periods deviate from the current outlook, UBS AG's financial results may also be negatively affected.

Changes to IFRS or interpretations thereof may cause future reported results and financial position to differ from current expectations, or historical results to differ from those previously reported due to the adoption of accounting standards on a retrospective basis. Such changes may also affect our regulatory capital and ratios. For example, the introduction of the expected credit loss (ECL) framework under IFRS 9 in 2018 fundamentally changed how credit risk arising from loans, loan commitments, guarantees and certain revocable facilities is accounted for. Under the regime, credit loss expenses may increase rapidly at the onset of an economic downturn as a result of higher levels of credit impairments (stage 3), as well as higher ECL from stages 1 and 2, only gradually diminishing once the economic outlook improves. As we observed in the first and second quarters of 2020, this effect may be more pronounced in a deteriorating economic environment. Substantial increases in ECL could exceed expected loss for regulatory capital purposes and adversely affect our CET1 capital and regulatory capital ratios.

If we experience financial difficulties, FINMA has the power to open restructuring or liquidation proceedings or impose protective measures in relation to UBS Group AG, UBS AG or UBS Switzerland AG, and such proceedings or measures may have a material adverse effect on our shareholders and creditors

Under the Swiss Banking Act, FINMA is able to exercise broad statutory powers with respect to Swiss banks and Swiss parent companies of financial groups, such as UBS Group AG, UBS AG and UBS Switzerland AG, if there is justified concern that the entity is over-indebted, has serious liquidity problems or, after the expiration of any relevant deadline, no longer fulfills capital adequacy requirements. Such powers include ordering protective measures, instituting restructuring proceedings (and exercising any Swiss resolution powers in connection therewith), and instituting liquidation proceedings, all of which may have a material adverse effect on shareholders and creditors or may prevent UBS Group AG, UBS AG or UBS Switzerland AG from paying dividends or making payments on debt obligations.

UBS would have limited ability to challenge any such protective measures, and creditors and shareholders would have no right under Swiss law or in Swiss courts to reject them, seek their suspension, or challenge their imposition, including measures that require or result in the deferment of payments.

If restructuring proceedings are opened with respect to UBS Group AG, UBS AG or UBS Switzerland AG, the resolution powers that FINMA may exercise include the power to: (i) transfer all or some of the assets, debt and other liabilities, and contracts of the entity subject to proceedings to another entity; (ii) stay for a maximum of two business days (a) the termination of, or the exercise of rights to terminate, netting rights, (b) rights to enforce or dispose of certain types of collateral or (c) rights to transfer claims, liabilities or certain collateral, under contracts to which the entity subject to proceedings is a party; and / or (iii) partially or fully write down the equity capital and, if such equity capital is fully written down, convert into equity or write down the capital and other debt instruments of the entity subject to proceedings. Shareholders and creditors would have no right to reject, or to seek the suspension of, any restructuring plan pursuant to which such resolution powers are exercised. They would have only limited rights to challenge any decision to exercise resolution powers or to have that decision reviewed by a judicial or administrative process or otherwise.

Upon full or partial write-down of the equity and debt of the entity subject to restructuring proceedings, the relevant shareholders and creditors would receive no payment in respect of the equity and debt that is written down, the write-down would be permanent, and the investors would not, at such time or at any time thereafter, receive any shares or other participation rights, or be entitled to any write-up or any other compensation in the event of a potential recovery of the debtor. If FINMA orders the conversion of debt of the entity subject to restructuring proceedings into equity, the securities received by the investors may be worth significantly less than the original debt and may have a significantly different risk profile, and such conversion would also dilute the ownership of existing shareholders. In addition, creditors receiving equity would be effectively subordinated to all creditors of the restructured entity in the event of a subsequent winding up, liquidation or dissolution of the restructured entity, which would increase the risk that investors would lose all or some of their investment.

FINMA has significant discretion in the exercise of its powers in connection with restructuring proceedings. Furthermore, certain categories of debt obligations, such as certain types of deposits, are subject to preferential treatment. As a result, holders of obligations of an entity subject to a Swiss restructuring proceeding may have their obligations written down or converted into equity even though obligations ranking on par with or junior to such obligations are not written down or converted.

Substantial changes in regulation may adversely affect our businesses and our ability to execute our strategic plans

We are subject to significant new regulatory requirements, including recovery and resolution planning, changes in capital and prudential standards, changes in taxation regimes as a result of changes in governmental administrations, as well as new and revised market standards and fiduciary duties. Notwithstanding attempts by regulators to align their efforts, the measures adopted or proposed for banking regulation differ significantly across the major jurisdictions, making it increasingly difficult to manage a global institution. In addition, Swiss regulatory changes with regard to such matters as capital and liquidity have often proceeded more quickly than those in other major jurisdictions, and Switzerland's requirements for major international banks are among the strictest of the major financial centers. This could put Swiss banks, such as UBS, at a disadvantage when competing with peer financial institutions subject to more lenient regulation or with unregulated non-bank competitors.

Our implementation of additional regulatory requirements and changes in supervisory standards, as well as our compliance with existing laws and regulations, continue to receive heightened scrutiny from supervisors. If we do not meet supervisory expectations in relation to these or other matters, or if additional supervisory or regulatory issues arise, we would likely be subject to further regulatory scrutiny as well as measures that may further constrain our strategic flexibility.

Resolvability and resolution and recovery planning: We have moved significant operations into subsidiaries to improve resolvability and meet other regulatory requirements, and this has resulted in substantial implementation costs, increased our capital and funding costs and reduced operational flexibility. For example, we have transferred all of our US subsidiaries under a US intermediate holding company to meet US regulatory requirements, and have transferred substantially all the operations of Personal & Corporate Banking and Global Wealth Management booked in Switzerland to UBS Switzerland AG to improve resolvability.

These changes require significant time and resources to implement, and create operational, capital, liquidity, funding and tax inefficiencies. Our operations in subsidiaries are subject to local capital, liquidity, stable funding, capital planning and stress testing requirements. These requirements have resulted in increased capital and liquidity requirements in affected subsidiaries, which limit our operational flexibility and negatively affect our ability to benefit from synergies between business units and to distribute earnings to the Group.

Under the Swiss too-big-to-fail (TBTF) framework, we are required to put in place viable emergency plans to preserve the operation of systemically important functions in the event of a failure. Moreover, under this framework and similar regulations in the US, the UK, the EU and other jurisdictions in which we operate, we are required to prepare credible recovery and resolution plans detailing the measures that would be taken to recover in a significant adverse event or in the event of winding down the Group or the operations in a host country through resolution or insolvency proceedings. If a recovery or resolution plan that we produce is determined by the relevant authority to be inadequate or not credible, relevant regulation may permit the authority to place limitations on the scope or size of our business in that jurisdiction, or oblige us to hold higher amounts of capital or liquidity or to change our legal structure or business in order to remove the relevant impediments to resolution.

Capital and prudential standards: As an internationally active Swiss systemically relevant bank (an SRB), we are subject to capital and total loss-absorbing capacity (TLAC) requirements that are among the most stringent in the world. Moreover, many of our subsidiaries must comply with minimum capital, liquidity and similar requirements and, as a result, UBS Group AG and UBS AG have contributed a significant portion of their capital and provide substantial liquidity to these subsidiaries. These funds are available to meet funding and collateral needs in the relevant entities, but are generally not readily available for use by the Group as a whole.

We expect our risk-weighted assets (RWA) to further increase as the effective date for additional capital standards promulgated by the Basel Committee on Banking Supervision (the BCBS) draws nearer.

Increases in capital and liquidity standards could significantly curtail our ability to pursue strategic opportunities and to distribute risk.

Market regulation and fiduciary standards: Our wealth and asset management businesses operate in an environment of increasing regulatory scrutiny and changing standards with respect to fiduciary and other standards of care and the focus on mitigating or eliminating conflicts of interest between a manager or advisor and the client, which require effective implementation across the global systems and processes of investment managers and other industry participants. For example, we have made material changes to our business processes, policies and the terms on which we interact with these clients in order to comply with SEC Regulation Best Interest, which is intended to enhance and clarify the duties of brokers and investment advisers to retail customers, the Volcker Rule, which limits our ability to engage in proprietary trading, as well as changes in European and Swiss market conduct regulation. Future changes in the regulation of our duties to customers may require us to make further changes to our businesses, which would result in additional expense and may adversely affect our business. We may also become subject to other similar regulations substantively limiting the types of activities in which we may engage or the way we conduct our operations.

Some of the regulations applicable to UBS AG as a registered swap dealer with the Commodity Futures Trading Commission (the CFTC) in the US, and certain regulations that will be applicable when UBS AG registers as a security-based swap dealer with the US Securities and Exchange Commission (the SEC), apply to UBS AG globally, including those relating to swap data reporting, record-keeping, compliance and supervision. As a result, in some cases, US rules duplicate or may conflict with legal requirements applicable to us elsewhere, including in Switzerland, and may place us at a competitive disadvantage to firms that are not required to register in the US with the SEC or CFTC.

In many instances, we provide services on a cross-border basis, and we are therefore sensitive to barriers restricting market access for third-country firms. In particular, efforts in the EU to harmonize the regime for third-country firms to access the European market may have the effect of creating new barriers that adversely affect our ability to conduct business in these jurisdictions from Switzerland. In addition, a number of jurisdictions are increasingly regulating cross-border activities based on determinations of equivalence of home country regulation, substituted compliance or similar principles of comity. A negative determination with respect to Swiss equivalence could limit our access to the market in those jurisdictions and may negatively influence our ability to act as a global firm. For example, the EU declined to extend its equivalence determination for Swiss exchanges, which lapsed as of 30 June 2019.

UBS experienced cross-border outflows over a number of years as a result of heightened focus by fiscal authorities on cross-border investment and fiscal amnesty programs, in anticipation of the implementation in Switzerland of the global automatic exchange of tax information, and as a result of the measures UBS has implemented in response to these changes. Further changes in local tax laws or regulations and their enforcement, the implementation of cross-border tax information exchange regimes, national tax amnesty or enforcement programs or similar actions may affect our clients' ability or willingness to do business with us and could result in additional cross-border outflows.

Capital strength is a key component of our business model

Capital strength enables us to grow our businesses, and absorb increases in regulatory and capital requirements. It reassures our clients and stakeholders, allows us to maintain our capital return policy and contributes to our credit ratings. Our capital ratios are driven primarily by RWA, the leverage ratio denominator and eligible capital, all of which may fluctuate based on a number of factors, some of which are outside our control. Our ability to maintain our capital ratios is subject to numerous risks, including the financial results of our businesses, the effect of changes to capital standards, methodologies and interpretations that may adversely affect the calculation of our CET1 ratios, the imposition of risk add-ons or capital buffers, and the application of additional capital, liquidity and similar requirements to subsidiaries. The results of our businesses may be adversely affected by events arising from other factors described herein. In some cases, such as litigation and regulatory risk and operational risk events, losses may be sudden and large. These risks could reduce the amount of capital available for return to shareholders and hinder our ability to achieve our capital returns target of a progressive cash dividend coupled with a share repurchase program.

Our eligible capital may be reduced by losses recognized within net profit or other comprehensive income. Eligible capital may also be reduced for other reasons, including acquisitions which change the level of goodwill, changes in temporary differences related to deferred tax assets included in capital, adverse currency movements affecting the value of equity, prudential adjustments that may be required due to the valuation uncertainty associated with certain types of positions, and changes in the value of certain pension fund assets and liabilities or in the interest rate and other assumptions used to calculate the changes in our net defined benefit obligation recognized in other comprehensive income.

RWA are driven by our business activities, by changes in the risk profile of our exposures, by changes in our foreign currency exposures and foreign exchange rates, and by regulation. For instance, substantial market volatility, a widening of credit spreads, adverse currency movements, increased counterparty risk, deterioration in the economic environment or increased operational risk could result in an increase in RWA. We have significantly reduced our market risk and credit risk RWA in recent years. However, increases in operational risk RWA, particularly those arising from litigation, regulatory and similar matters, and regulatory changes in the calculation of RWA, and regulatory add-ons to RWA, have offset a substantial portion of this reduction. Changes in the calculation of RWA, the imposition of additional supplemental RWA charges or multipliers applied to certain exposures and other methodology changes, as well as the implementation of the capital standards promulgated by the Basel Committee on Banking Supervision, which will take effect in 2023, are expected to increase our RWA.

The leverage ratio is a balance sheet-driven measure and therefore limits balance sheet-intensive activities, such as lending, more than activities that are less balance sheet intensive, and it may constrain our business even if we satisfy other risk-based capital requirements. Our leverage ratio denominator is driven by, among other things, the level of client activity, including deposits and loans, foreign exchange rates, interest rates and other market factors. Many of these factors are wholly or partly outside of our control.

The effect of taxes on our financial results is significantly influenced by tax law changes and reassessments of our deferred tax assets

Our effective tax rate is highly sensitive to our performance, our expectation of future profitability and any potential increases or decreases in statutory tax rates, such as the potential increases in corporate tax rates under discussion in the United States. Further, based on prior years' tax losses, we have recognized deferred tax assets (DTAs) reflecting the probable recoverable level based on future taxable profit as informed by our business plans. If our performance is expected to produce diminished taxable profit in future years, particularly in the US, we may be required to write down all or a portion of the currently recognized DTAs through the income statement in excess of anticipated amortization. This would have the effect of increasing our effective tax rate in the year in which any write-downs are taken. Conversely, if we expect the performance of entities in which we have unrecognized tax losses to improve, particularly in the US or the UK, we could potentially recognize additional DTAs. The effect of doing so would be to reduce our effective tax rate in years in which additional DTAs are recognized and to increase our effective tax rate in future years. Our effective tax rate is also sensitive to any future reductions in statutory tax rates, particularly in the US, which would cause the expected future tax benefit from items such as tax loss carry-forwards in the affected locations to diminish in value. This, in turn, would cause a write-down of the associated DTAs. For example, the reduction in the US federal corporate tax rate to 21% from 35% introduced by the US Tax Cuts and Jobs Act resulted in a USD 2.9 billion net write-down in the Group's DTAs in the fourth quarter of 2017.

We generally revalue our DTAs in the fourth quarter of the financial year based on a reassessment of future profitability taking into account our updated business plans. We consider the performance of our businesses and the accuracy of historical forecasts, tax rates and other factors in evaluating the recoverability of our DTAs, including the remaining tax loss carry-forward period and our assessment of expected future taxable profits over the life of DTAs. Estimating future profitability is inherently subjective and is particularly sensitive to future economic, market and other conditions, which are difficult to predict.

Our results in past years have demonstrated that changes in the recognition of DTAs can have a very significant effect on our reported results. Any future change in the manner in which UBS remeasures DTAs could affect UBS's effective tax rate, particularly in the year in which the change is made.

Our full-year effective tax rate could change if aggregate tax expenses in respect of profits from branches and subsidiaries without loss coverage differ from what is expected, or if branches and subsidiaries generate tax losses that we cannot benefit from through the income statement. In particular, losses at entities or branches that cannot offset for tax purposes taxable profits in other group entities, and which do not result in additional DTA recognition, may increase our effective tax rate. In addition, tax laws or the tax authorities in countries where we have undertaken legal structure changes may cause entities to be subject to taxation as permanent establishments or may prevent the transfer of tax losses incurred in one legal entity to newly organized or reorganized subsidiaries or affiliates or may impose limitations on the utilization of tax losses that relate to businesses formerly conducted by the transferor. Were this to occur in situations where there were also limited planning opportunities to utilize the tax losses in the originating entity, the DTAs associated with such tax losses may be required to be written down through the income statement.

Changes in tax law may materially affect our effective tax rate, and, in some cases, may substantially affect the profitability of certain activities. In addition, statutory and regulatory changes, as well as changes to the way in which courts and tax authorities interpret tax laws, including assertions that we are required to pay taxes in a jurisdiction as a result of activities connected to that jurisdiction constituting a permanent establishment or similar theory, and changes in our assessment of uncertain tax positions, could cause the amount of taxes we ultimately pay to materially differ from the amount accrued.

Discontinuance of, or changes to, benchmark rates may require adjustments to our agreements with clients and other market participants, as well as to our systems and processes

Since April 2013, the UK Financial Conduct Authority (the FCA) has regulated LIBOR, and regulators in other jurisdictions have increased oversight of other interbank offered rates (IBORs) and similar benchmark rates.

The UK Prudential Regulation Authority (the PRA) has confirmed the end-of-2021 deadline for transitioning away from LIBOR for most currencies. The ICE Benchmark Administration (IBA), the FCA-regulated and authorized administrator of LIBOR, is consulting on the timing of the cessation of USD LIBOR. IBA expects that one-week and two-month USD LIBOR settings will cease by the end of 2021, and that the remaining USD LIBOR settings will cease by the end of June 2023.

We have a substantial number of contracts linked to IBORs. In some cases, contracts may contain provisions intended to provide a fallback interest rate in the event of a brief unavailability of the relevant IBOR. These provisions may not be effective or may produce arbitrary results in the event of a permanent cessation of the relevant IBOR. While efforts to transition outstanding new transactions, and historical transactions, as well as operational systems, from IBORs to alternative reference rates (ARRs) have made substantial progress, including through industry-wide protocols such as the International Swaps and Derivatives Association (ISDA) IBOR Fallbacks Supplement and IBOR Fallbacks Protocol, there remain substantial volumes of transactions that require modification to effectively transition to ARRs.

Strategy, management and operational risks

We may not be successful in the ongoing execution of our strategic plans

We have transformed UBS to focus on our Global Wealth Management business and our universal bank in Switzerland, complemented by Asset Management and a significantly smaller and more capital-efficient Investment Bank; we have substantially reduced the risk-weighted assets and leverage ratio denominator usage in Group Functions; and made significant cost reductions. Risk remains that going forward we may not succeed in executing our strategy or achieving our performance targets, or may be delayed in doing so. Macroeconomic conditions, geopolitical uncertainty, changes to regulatory requirements and the continuing costs of meeting these requirements have prompted us to adapt our targets and ambitions in the past and we may need to do so again in the future.

To achieve our strategic plans, we expect to continue to make significant expenditures on technology and infrastructure to improve client experience, improve and further enable digital offerings and increase efficiency. Our investments in new technology may not fully achieve our objectives or improve our ability to attract and retain customers. In addition, we face competition in providing digitally enabled offerings from both existing competitors and new financial service providers in various portions of the value chain. For example, technological advances and the growth of e-commerce have made it possible for e-commerce firms and other companies to offer products and services that were traditionally offered only by banks. These advances have also allowed financial institutions and other companies to provide digitally based financial solutions, including electronic securities trading, payments processing and online automated algorithmic-based investment advice at a low cost to their customers. We may have to lower our prices, or risk losing customers as a result. Our ability to develop and implement competitive digitally enabled offerings and processes will be an important factor in our ability to compete.

As part of our strategy, we seek to improve our operating efficiency, in part by controlling our costs. We may not be able to identify feasible cost reduction opportunities that are consistent with our business goals and cost reductions may be realized later or may be smaller than we anticipate. Higher temporary and permanent regulatory costs and higher business demand than anticipated have partly offset cost reductions and delayed the achievement of our past cost reduction targets, and we could continue to be challenged in the execution of our ongoing efforts to improve operating efficiency.

Changes in our workforce as a result of outsourcing, nearshoring, offshoring, insourcing or staff reductions may introduce new operational risks that, if not effectively addressed, could affect our ability to achieve cost and other benefits from such changes, or could result in operational losses.

As we implement effectiveness and efficiency programs, we may also experience unintended consequences, such as the unintended loss or degradation of capabilities that we need in order to maintain our competitive position, achieve our targeted returns or meet existing or new regulatory requirements and expectations.

Operational risks affect our business

Our businesses depend on our ability to process a large number of transactions, many of which are complex, across multiple and diverse markets in different currencies, to comply with requirements of many different legal and regulatory regimes to which we are subject and to prevent, or promptly detect and stop, unauthorized, fictitious or fraudulent transactions. We also rely on access to, and on the functioning of, systems maintained by third parties, including clearing systems, exchanges, information processors and central counterparties. Any failure of our or third-party systems could have an adverse effect on us. Our operational risk management and control systems and processes are designed to help ensure that the risks associated with our activities – including those arising from process error, failed execution, misconduct, unauthorized trading, fraud, system failures, financial crime, cyberattacks, breaches of information security, inadequate or ineffective access controls and failure of security and physical protection – are appropriately controlled. If our internal controls fail or prove ineffective in identifying and remedying these risks, we could suffer operational failures that might result in material losses, such as the substantial loss we incurred from the unauthorized trading incident announced in September 2011.

We use automation as part of our efforts to improve efficiency, reduce the risk of error and improve our client experience. We intend to expand the use of robotic processing, machine learning and artificial intelligence to further these goals. Use of these tools presents their own risks, including the need for effective design and testing; the quality of the data used for development and operation of machine learning and artificial intelligence tools may adversely affect their functioning and result in errors and other operational risks.

We and other financial services firms have been subject to breaches of security and to cyber- and other forms of attack, some of which are sophisticated and targeted attacks intended to gain access to confidential information or systems, disrupt service or destroy data. These attacks may be attempted through the introduction of viruses or malware, phishing and other forms of social engineering, distributed denial of service attacks and other means. These attempts may occur directly, or using equipment or security passwords of our employees, third-party service providers or other users. In addition to external attacks, we have experienced loss of client data from failure by employees and others to follow internal policies and procedures and from misappropriation of our data by employees and others. We may not be able to anticipate, detect or recognize threats to our systems or data and our preventative measures may not be effective to prevent an attack or a security breach. In the event of a security breach, notwithstanding our preventative measures, we may not immediately detect a particular breach or attack. Once a particular attack is detected, time may be required to investigate and assess the nature and extent of the attack. A successful breach or circumvention of security of our systems or data could have significant negative consequences for us, including disruption of our operations, misappropriation of confidential information concerning us or our customers, damage to our systems, financial losses for us or our customers, violations of data privacy and similar laws, litigation exposure and damage to our reputation.

We are subject to complex and frequently changing laws and regulations governing the protection of client and personal data, such as the EU General Data Protection Regulation. Ensuring that we comply with applicable laws and regulations when we collect, use and transfer personal information requires substantial resources and may affect the ways in which we conduct our business. In the event that we fail to comply with applicable laws, we may be exposed to regulatory fines and penalties and other sanctions. We may also incur such penalties if our vendors or other service providers or clients or counterparties fail to comply with these laws or to maintain appropriate controls over protected data. In addition, any loss or exposure of client or other data may adversely damage our reputation and adversely affect our business.

A major focus of US and other countries' governmental policies relating to financial institutions in recent years has been on fighting money laundering and terrorist financing. We are required to maintain effective policies, procedures and controls to detect, prevent and report money laundering and terrorist financing, and to verify the identity of our clients under the laws of many of the countries in which we operate. We are also subject to laws and regulations related to corrupt and illegal payments to government officials by others, such as the US Foreign Corrupt Practices Act and the UK Bribery Act. We have implemented policies, procedures and internal controls that are designed to comply with such laws and regulations. Notwithstanding this, US regulators have found deficiencies in the design and operation of anti-money laundering programs in our US operations. We have undertaken a significant program to address these regulatory findings with the objective of fully meeting regulatory expectations for our programs. Failure to maintain and implement adequate programs to combat money laundering, terrorist financing or corruption, or any failure of our programs in these areas, could have serious consequences both from legal enforcement action and from damage to our reputation. Frequent changes in sanctions imposed and increasingly complex sanctions imposed on countries, entities and individuals increase our cost of monitoring and complying with sanctions requirements and increase the risk that we will not identify in a timely manner previously permissible client activity that is subject to a sanction.

As a result of new and changed regulatory requirements and the changes we have made in our legal structure, the volume, frequency and complexity of our regulatory and other reporting has remained elevated. Regulators have also significantly increased expectations regarding our internal reporting and data aggregation, as well as management reporting. We have incurred and continue to incur significant costs to implement infrastructure to meet these requirements. Failure to meet external reporting requirements accurately and in a timely manner or failure to meet regulatory expectations of internal reporting, data aggregation and management reporting could result in enforcement action or other adverse consequences for us.

Certain types of operational control weaknesses and failures could also adversely affect our ability to prepare and publish accurate and timely financial reports.

In addition, despite the contingency plans that we have in place, our ability to conduct business may be adversely affected by a disruption in the infrastructure that supports our businesses and the communities in which we operate. This may include a disruption due to natural disasters, pandemics, civil unrest, war or terrorism and involve electrical, communications, transportation or other services that we use or that are used by third parties with whom we conduct business.

We may not be successful in implementing changes in our wealth management businesses to meet changing market, regulatory and other conditions

In recent years, inflows from lower-margin segments and markets have been replacing outflows from higher-margin segments and markets, in particular for cross-border clients. This dynamic, combined with changes in client product preferences as a result of which low-margin products account for a larger share of our revenues than in the past, has put downward pressure on Global Wealth Management's margins.

We are exposed to possible outflows of client assets in our asset-gathering businesses and to changes affecting the profitability of Global Wealth Management, in particular. Initiatives that we may implement to overcome the effects of changes in the business environment on our profitability, balance sheet and capital positions may not succeed in counteracting those effects and may cause net new money outflows and reductions in client deposits, as happened with our balance sheet and capital optimization program in 2015. There is no assurance that we will be successful in our efforts to offset the adverse effect of these or similar trends and developments.

We may be unable to identify or capture revenue or competitive opportunities, or retain and attract qualified employees

The financial services industry is characterized by intense competition, continuous innovation, restrictive, detailed, and sometimes fragmented regulation and ongoing consolidation. We face competition at the level of local markets and individual business lines, and from global financial institutions that are comparable to us in their size and breadth. Barriers to entry in individual markets and pricing levels are being eroded by new technology. We expect these trends to continue and competition to increase. Our competitive strength and market position could be eroded if we are unable to identify market trends and developments, do not respond to such trends and developments by devising and implementing adequate business strategies, do not adequately develop or update our technology including our digital channels and tools, or are unable to attract or retain the qualified people needed.

The amount and structure of our employee compensation is affected not only by our business results, but also by competitive factors and regulatory considerations.

In recent years, in response to the demands of various stakeholders, including regulatory authorities and shareholders, and in order to better align the interests of our staff with other stakeholders, we have increased average deferral periods for stock awards, expanded forfeiture provisions and, to a more limited extent, introduced clawback provisions for certain awards linked to business performance. We have also introduced individual caps on the proportion of fixed to variable pay for the Group Executive Board (GEB) members, as well as certain other employees.

Constraints on the amount or structure of employee compensation, higher levels of deferral, performance conditions and other circumstances triggering the forfeiture of unvested awards may adversely affect our ability to retain and attract key employees. The loss of key staff and the inability to attract qualified replacements could seriously compromise our ability to execute our strategy and to successfully improve our operating and control environment, and could affect our business performance. Swiss law requires that shareholders approve the compensation of the Board of Directors (the BoD) and the GEB each year. If our shareholders fail to approve the compensation for the GEB or the BoD, this could have an adverse effect on our ability to retain experienced directors and our senior management.

We depend on our risk management and control processes to avoid or limit potential losses in our businesses

Controlled risk-taking is a major part of the business of a financial services firm. Some losses from risk-taking activities are inevitable, but to be successful over time, we must balance the risks we take against the returns generated. Therefore we must diligently identify, assess, manage and control our risks, not only in normal market conditions but also as they might develop under more extreme, stressed conditions, when concentrations of exposures can lead to severe losses.

As seen during the financial crisis of 2007–2009, we have not always been able to prevent serious losses arising from extreme or sudden market events that are not anticipated by our risk measures and systems. Our risk measures, concentration controls and the dimensions in which we aggregated risk to identify correlated exposures proved inadequate in a historically severe deterioration in financial markets. As a result, we recorded substantial losses on fixed-income trading positions, particularly in 2008 and 2009. We have substantially revised and strengthened our risk management and control framework and increased the capital that we hold relative to the risks that we take. Nonetheless, we could suffer further losses in the future if, for example:

– we do not fully identify the risks in our portfolio, in particular risk concentrations and correlated risks;
– our assessment of the risks identified, or our response to negative trends, proves to be untimely, inadequate, insufficient or incorrect;
– our risk models prove insufficient to predict the scale of financial risks the bank faces;
– markets move in ways that we do not expect – in terms of their speed, direction, severity or correlation – and our ability to manage risks in the resulting environment is, therefore, affected;
– third parties to whom we have credit exposure or whose securities we hold are severely affected by events and we suffer defaults and impairments beyond the level implied by our risk assessment; or
– collateral or other security provided by our counterparties and clients proves inadequate to cover their obligations at the time of default.

We also hold legacy risk positions, primarily in Group Functions, that, in many cases, are illiquid and may again deteriorate in value.

We also manage risk on behalf of our clients. The performance of assets we hold for our clients may be adversely affected by the same factors mentioned above. If clients suffer losses or the performance of their assets held with us is not in line with relevant benchmarks against which clients assess investment performance, we may suffer reduced fee income and a decline in assets under management, or withdrawal of mandates.

Investment positions, such as equity investments made as part of strategic initiatives and seed investments made at the inception of funds that we manage, may also be affected by market risk factors. These investments are often not liquid and generally are intended or required to be held beyond a normal trading horizon. Deteriorations in the fair value of these positions would have a negative effect on our earnings.

As UBS Group AG is a holding company, its operating results, financial condition and ability to pay dividends and other distributions and / or to pay its obligations in the future depend on funding, dividends and other distributions received directly or indirectly from its subsidiaries, which may be subject to restrictions

UBS Group AG's ability to pay dividends and other distributions and to pay its obligations in the future will depend on the level of funding, dividends and other distributions, if any, received from UBS AG and other subsidiaries. The ability of such subsidiaries to make loans or distributions, directly or indirectly, to UBS Group AG may be restricted as a result of several factors, including restrictions in financing agreements and the requirements of applicable law and regulatory, fiscal or other restrictions. In particular, UBS Group AG's direct and indirect subsidiaries, including UBS AG, UBS Switzerland AG, UBS Americas Holding LLC and UBS Europe SE, are subject to laws and regulations that restrict dividend payments, authorize regulatory bodies to block or reduce the flow of funds from those subsidiaries to UBS Group AG, or could affect their ability to repay any loans made to, or other investments in, such subsidiary by UBS Group AG or another member of the Group. For example, in the early stages of the COVID-19 pandemic, the European Central Bank ordered all banks under its supervision to cease dividend distributions and the Federal Reserve Board has limited capital distributions by bank holding companies and intermediate holding companies. Restrictions and regulatory actions of this kind could impede access to funds that UBS Group AG may need to meet its obligations or to pay dividends to shareholders. In addition, UBS Group AG's right to participate in a distribution of assets upon a subsidiary's liquidation or reorganization is subject to all prior claims of the subsidiary's creditors.

Our capital instruments may contractually prevent UBS Group AG from proposing the distribution of dividends to shareholders, other than in the form of shares, if we do not pay interest on these instruments.

Furthermore, UBS Group AG may guarantee some of the payment obligations of certain of the Group's subsidiaries from time to time. These guarantees may require UBS Group AG to provide substantial funds or assets to subsidiaries or their creditors or counterparties at a time when UBS Group AG is in need of liquidity to fund its own obligations.

The credit ratings of UBS Group AG or its subsidiaries used for funding purposes could be lower than the ratings of the Group's operating subsidiaries, which may adversely affect the market value of the securities and other obligations of UBS Group AG or those subsidiaries on a standalone basis.

Our reputation is critical to our success

Our reputation is critical to the success of our strategic plans, business and prospects. Reputational damage is difficult to reverse, and improvements tend to be slow and difficult to measure. Our reputation has been adversely affected by our losses during the financial crisis, investigations into our cross-border private banking services, criminal resolutions of LIBOR-related and foreign exchange matters, as well as other matters. We believe that reputational damage as a result of these events was an important factor in our loss of clients and client assets across our asset-gathering businesses. New events that cause reputational damage could have a material adverse effect on our results of operation and financial condition, as well as our ability to achieve our strategic goals and financial targets.

Liquidity and funding risk

Liquidity and funding management are critical to UBS's ongoing performance

The viability of our business depends on the availability of funding sources, and our success depends on our ability to obtain funding at times, in amounts, for tenors and at rates that enable us to efficiently support our asset base in all market conditions. Our funding sources have generally been stable, but could change in the future because of, among other things, general market disruptions or widening credit spreads, which could also influence the cost of funding. A substantial part of our liquidity and funding requirements are met using short-term unsecured funding sources, including retail and wholesale deposits and the regular issuance of money market securities. A change in the availability of short-term funding could occur quickly.

Moreover, more stringent capital and liquidity and funding requirements will likely lead to increased competition for both secured funding and deposits as a stable source of funding, and to higher funding costs. The addition of loss-absorbing debt as a component of capital requirements, the regulatory requirements to maintain minimum TLAC at UBS's holding company and at subsidiaries, as well as the power of resolution authorities to bail in TLAC and other debt obligations, and uncertainty as to how such powers will be exercised, will increase our cost of funding and could potentially increase the total amount of funding required, in the absence of other changes in our business.

Reductions in our credit ratings may adversely affect the market value of the securities and other obligations and increase our funding costs, in particular with regard to funding from wholesale unsecured sources, and could affect the availability of certain kinds of funding. In addition, as experienced in connection with Moody's downgrade of UBS AG's long-term debt rating in June 2012, rating downgrades can require us to post additional collateral or make additional cash payments under trading agreements. Our credit ratings, together with our capital strength and reputation, also contribute to maintaining client and counterparty confidence, and it is possible that rating changes could influence the performance of some of our businesses.

The requirement to maintain a liquidity coverage ratio of high-quality liquid assets to estimated stressed short-term net cash outflows, and other similar liquidity and funding requirements, oblige us to maintain high levels of overall liquidity, limit our ability to optimize interest income and expense, make certain lines of business less attractive and reduce our overall ability to generate profits. In particular, UBS AG is subjected to increased liquidity coverage requirements under the direction of FINMA. Regulators may consider it necessary to increase these requirements in light of the anticipated economic stresses resulting from the COVID-19 pandemic. The liquidity coverage ratio and net stable funding ratio requirements are intended to ensure that we are not overly reliant on short-term funding and that we have sufficient long-term funding for illiquid assets. The relevant calculations make assumptions about the relative likelihood and amount of outflows of funding and available sources of additional funding in market-wide and firm-specific stress situations. There can be no assurance that in an actual stress situation our funding outflows would not exceed the assumed amounts.

APPENDIX 6 — A BRIEF GUIDE TO CREDIT RATINGS

Information set out in this Appendix 6 is based on, extracted or reproduced from the website of S&P at https://www.spglobal.com/ratings/en/ and the website of Moody's at https://www.moodys.com, as of the day immediately preceding the date of this Base Listing Document. Information appearing on those websites does not form part of this Base Listing Document, and we accept no responsibility for the accuracy or completeness of the information appearing on those websites, except that we have accurately extracted and reproduced such information in this Appendix 6 and take responsibility for such extraction and reproduction. We have not separately verified such information. There can be no assurance that such information will not be revised by the relevant rating agency in the future and we have no responsibility to notify you of such change. If you are unsure about any information provided in this Appendix 6 and/or what a credit rating means, you should seek independent professional advice.

What is a credit rating?

A credit rating is a forward looking opinion by a credit rating agency of a company's overall ability to meet its financial obligations. The focus is on the company's capacity to pay its debts as they become due. The rating does not necessarily apply to any specific obligation.

What do the credit ratings mean?

Below are guidelines issued by S&P and Moody's on what each of their investment-grade ratings means, as of the day immediately preceding the date of this Base Listing Document.

S&P long-term issuer credit ratings

AAA

An obligor rated 'AAA' has extremely strong capacity to meet its financial commitments. 'AAA' is the highest issuer credit rating assigned by S&P.

AA

An obligor rated 'AA' has very strong capacity to meet its financial commitments.

A

An obligor rated 'A' has strong capacity to meet its financial commitments but is somewhat susceptible to adverse economic conditions and changes in circumstances.

BBB

An obligor rated 'BBB' has adequate capacity to meet its financial commitments, but is more subject to adverse economic conditions.

Plus (+) or minus (-)

The above ratings (except for 'AAA') may be modified by the addition of a plus or minus sign to show relative standing within the major rating categories.

Please refer to https://www.spglobal.com/ratings/en/about/understanding-ratings for further details.

Moody's long-term ratings definitions

Aaa

Obligations rated Aaa are judged to be of the highest quality, subject to the lowest level of credit risk.

Aa

Obligations rated Aa are judged to be of high quality and are subject to very low credit risk.

A

Obligations rated A are judged to be upper-medium grade and are subject to low credit risk.

Baa

Obligations rated Baa are judged to be medium-grade and subject to moderate credit risk and as such may possess certain speculative characteristics.

Modifiers "1", "2" and "3"

Moody's appends numerical modifiers 1, 2 and 3 to each of the above generic rating classifications (except for Aaa). The modifier 1 indicates that the obligation ranks in the higher end of its generic rating category; the modifier 2 indicates a mid-range ranking; and the modifier 3 indicates a ranking in the lower end of that generic rating category.

Please refer to https://www.moodys.com/Pages/amr002002.aspx for further details.

Rating Outlooks

A rating outlook is an opinion regarding the likely rating direction over the medium term. A rating outlook issued by S&P or Moody's will usually indicate whether the rating direction is likely to be "positive", "negative", "stable" or "developing". Please refer to the abovementioned websites of the relevant credit rating agencies for further details regarding rating outlooks published by the relevant credit rating agencies.

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