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

CREDIT SUISSE 

Credit Suisse AG

(incorporated with limited liability under the laws of Switzerland)

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 (warrants, CBBCs and such other structured products are collectively, **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. You must ask us if any addenda to this document have been issued.

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.

The structured products are complex products. You should exercise caution in relation to them. You are warned that the prices of structured products may fall in value as rapidly as they may rise and you may sustain a total loss of your investment. You should therefore ensure that you 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 you invest in any structured products.

The structured products constitute general unsecured contractual obligations of us as the Issuer 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 any structured products, you are relying upon the creditworthiness of us, and have no rights under such 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 or any company constituting the 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).

Sponsor and Manager

Credit Suisse (Hong Kong) Limited

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IMPORTANT INFORMATION

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 on 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.

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 an unsecured creditor of the Issuer. 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 the Issuer's credit ratings?

The Issuer's long-term credit ratings are:

<i>Rating agency</i>	<i>Ratings as at the day immediately preceding the date of this document</i>
Moody's Deutschland GmbH (Moody's)	A1 (positive outlook)
S&P Global Ratings Europe Limited (S&P)	A+ (stable outlook)

The long-term credit ratings are only an assessment by the credit rating agencies of the Issuer's overall financial capacity to pay its debts.

A1 is among the top three major credit rating categories and is the fifth highest investment-grade ranking of the ten investment-grade credit 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 credit ratings (including + or - sub-grades) assigned by S&P.

Please refer to the brief guide in appendix 7 to this document to what such credit ratings mean.

Rating agencies usually receive a fee from the companies 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 above date are for reference only. Any downgrading of our 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 the credit quality of the Issuer declines.

The structured products are not rated. The Issuer's credit ratings and credit rating outlooks 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 the Issuer's ratings and outlooks from time to time.

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

We are regulated by the Hong Kong Monetary Authority as a registered institution. We are also, amongst others, regulated by the Swiss Financial Market Supervisory Authority (**FINMA**).

Is the Issuer subject to any litigation?

Except as disclosed in the section headed "Legal Proceedings Information extracted from Credit Suisse Annual Report 2019" set out in appendix 6 of this document, we and our affiliates are not involved in any litigation, claims or arbitration proceedings which are material in the context of the issue of the structured products. Also, we are not aware of any proceedings or claims which are threatened or pending against us or our affiliates which would be of material importance.

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

Save as disclosed in appendices 4-6 of this document, there has been no material adverse change in our financial position since 31 December 2019. You may access our latest publicly available financial information by visiting our website at www.credit-suisse.com.

Do you need to pay any transaction cost?

The stock exchange charges a trading fee of 0.005 per cent. and the Securities and Futures Commission (**SFC**) charges a transaction levy of 0.0027 per cent. in respect of 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?

You may be required to pay stamp duties, taxes and other charges in accordance with the laws and practices of the country of your purchase in addition to the issue price of each structured product. See the section headed "Taxation" for further information.

Authorised representatives and acceptance of service

Our authorised representatives are Ernest Ng and Jenny Lam, both of Level 91, International Commerce Centre, 1 Austin Road West, Kowloon, Hong Kong.

Credit Suisse (Hong Kong) Limited (presently at Level 88, International Commerce Centre, 1 Austin Road West, Kowloon, Hong Kong) has been authorised to accept, on our behalf, service of process and any other notices required to be served on us.

Where can you inspect the relevant documents?

You may inspect copies of the following documents during usual business hours on any weekday (Saturdays, Sundays and holidays excepted) at the offices of Credit Suisse (Hong Kong) Limited, (presently at Level 88, International Commerce Centre, 1 Austin Road West, Kowloon, Hong Kong):

- (a) the consent letters from KPMG AG (our **auditors**) in relation to the inclusion of their reports on our (i) consolidated financial statements; and (ii) the effectiveness of internal control over financial reporting of Credit Suisse Group AG in this document;
- (b) the annual report 2019 of Credit Suisse Group AG & Credit Suisse AG (**Credit Suisse Annual Report 2019**);
- (c) this document and any addenda or successor document 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) a Chinese translation of each of the listing documents.

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

The listing documents are also available on the website of the HKEX at www.hkexnews.hk and our website at <https://warrants-hk.credit-suisse.com/en>.

各上市文件亦可於香港交易所披露易網站 (www.hkexnews.hk) 以及本公司網站 <https://warrants-hk.credit-suisse.com/tc> 及 <https://warrants-hk.credit-suisse.com/sc> 瀏覽。

Have our auditors consented to the inclusion of their reports in this document?

Our auditors have given and have not withdrawn their written consents dated 14 April 2020 regarding the inclusion of their reports dated 25 March 2020 and/or the references to their name in this document, in the form and context in which they are included. Their reports were not prepared for incorporation in this document. Our auditors do not have any shareholding in us, nor do they have the right (whether legally enforceable or not) to subscribe for or to nominate persons to subscribe for our securities.

Placing and sale and grey market dealings

No action has been taken to permit a public offering of structured products or the distribution of this document in any jurisdiction where action would be required for such purposes. The distribution of this document and the offering of any structured products may, in certain jurisdictions, be restricted by law. You must inform yourself of and observe all such restrictions. See the section headed “Placing and Sale” in this document for further details.

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 on the listing date through the website of HKEX at www.hkexnews.hk.

The listing documents are not the sole basis for making your investment decision

The listing documents do not take into account your investment objectives, financial situation or particular needs. The listing documents are not intended to provide the basis of any credit or other evaluation and should not be considered as a recommendation by us or the sponsor, that you should purchase any of the structured

products or the underlying asset of the structured products. We do not imply that there has been no change in the information set out in this document since its publication date.

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 SFC. You are advised to exercise caution in relation to the offer of 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.

How can you get further information about us or the structured products?

You may visit www.credit-suisse.com to obtain further information about us and/or the structured products.

Undefined terms

Unless otherwise specified, terms not defined in this document have the meanings given to them in the general conditions set out in appendix 1 of this document and the relevant product conditions applicable to the relevant series of structured products set out in appendix 2 and appendix 3 of this document (together, **conditions**).

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 or strike level on the expiry date (as the case may be). It usually costs a fraction of the price or level of the underlying asset.

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

A list of eligible underlying assets for derivative warrants is available on the website of the HKEX at http://www.hkex.com.hk/products/securities/derivative-warrants/derivative-warrant-eligible-underlying-assets/eligible-single-hong-kong-stocks-for-derivative-warrant-issuance-in-current-quarter?sc_lang=en.

How and when can you get back your investment?

Our warrants are European style warrants. This means they can only be exercised on the expiry date.

Our warrants will be exercised on the expiry date, entitling you to a cash amount called the **cash settlement amount** (if positive) according to the conditions applicable to our warrants.

For cash settled warrants, you will receive the cash settlement amount (net of exercise expenses) upon expiry. If the cash settlement amount is equal to or less than the exercise expenses, no amount is payable to you upon expiry of your warrants and you will lose all of your investment in the structured products.

How do our warrants work?

Ordinary warrants

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

- (a) for a warrant linked to a share or a unit, the exercise price and the arithmetic mean of the closing prices of such share or unit on the valuation dates (**average price**); or

- (b) for a warrant linked to an index, the strike level and the closing level of such index on the valuation date,

each as described more in the applicable product conditions set out in parts A, B, C and D of appendix 2 of this document.

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 or the closing level is greater than the exercise price or the strike level (as the case may be). The more the average price or the closing level is greater than the exercise price or the strike level (as the case may be), the higher the payoff upon expiry. If the average price or the closing level (as the case may be) is equal to or less than the exercise price or the 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 or the closing level is less than the exercise price or the strike level (as the case may be). The more the average price or the closing level is less than the exercise price or the strike level (as the case may be), the higher the payoff upon expiry. If the average price or the closing level (as the case may be) is equal to or greater than the exercise price or the strike 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 ordinary or exotic warrants.

Further details relating to how a particular series of warrants work will be set out in the relevant launch announcement and supplemental listing document.

Where can you find the general conditions and the product conditions applicable to our warrants?

You should review the general conditions and the product conditions applicable to each type of the warrants before your investment.

The general conditions are set out in appendix 1 of this document and the product conditions applicable to each type of our warrants are set out in appendix 2 of this document (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 warrant generally depends on the prevailing price or level of the underlying asset. However, the price of a warrant will be influenced by a number of factors throughout the warrant term, including:

- (a) the exercise price or the strike level of the derivative warrants;
- (b) the liquidity of the futures contracts relating to the underlying asset;
- (c) the liquidity of the underlying asset;
- (d) 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);
- (e) the time remaining to expiry: generally, the longer the remaining life of the derivative warrant, the greater its value;
- (f) the interim interest rates and expected dividend payments or other distributions on the underlying asset or on any components comprising the index;
- (g) the supply and demand for that warrant;
- (h) the prevailing exchange rate between the underlying currency of the underlying asset and the settlement currency of the derivative warrants (if applicable);
- (i) our related transaction costs; and/or
- (j) our creditworthiness.

What is your maximum loss?

Your maximum loss in our warrants will be limited to your investment amount plus any transaction costs.

How can you get information about the warrants after issue?

You may visit the website of HKEX at http://www.hkex.com.hk/products/securities/derivative-warrants?sc_lang=en to obtain further 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 or unit trusts listed on the stock exchange;
- (b) Hang Seng Index, Hang Seng China Enterprises Index and Hang Seng China H-Financials Index; and/or
- (c) overseas securities, overseas indices, currencies or commodities (such as oil, gold and platinum).

A list of eligible underlying assets for CBBCs is available on the website of the HKEX at http://www.hkex.com.hk/products/securities/callable-bull-bear-contracts/cbbc-eligible-underlying-assets/eligible-single-hong-kong-stocks-for-cbbc-issuance-in-current-quarter?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.

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 for further information.

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. See “Category R CBBCs vs. category N CBBCs” below for further information.

If no mandatory call event occurs, the CBBCs will be exercised automatically on the expiry

date. The cash settlement amount (if any) payable at expiry represents the difference between the closing price or the closing level of the underlying asset on the valuation date and the strike price or the strike level.

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 or the spot level of the underlying asset is:

- (a) at or below the call price or the call level (in the case of a bull CBBC); or
- (b) at or above the call price or the call level (in the case of a bear CBBC), at any time during the observation period.

For CBBCs over underlying assets traded or quoted locally, the observation period starts from and includes the observation commencement date of the relevant CBBCs and ends on and includes 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 after the time at which the mandatory call event occurs; 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 and all manual trades of the CBBCs concluded after the end of the pre-order matching period in such session,

will be invalid and 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 the case of CBBCs over single equities or CBBCs over single unit trusts listed on the stock exchange) 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);
- (b) (in the case of CBBCs over index quoted on the stock exchange) 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); or
- (c) (in the case of CBBCs over other underlying assets), the time as specified in the relevant launch announcement and supplemental listing document,

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 R CBBCs refer to CBBCs for which the call price or the call level is different from the strike price or the 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 the case of a bull CBBC) the difference between the minimum trade price or the minimum index level and the strike price or the strike level of the underlying asset; and
- (b) (in the case of a bear CBBC) the difference between the strike price or the strike level and the maximum trade price or the maximum index level of the underlying asset.

Category N CBBCs refer to CBBCs for which the call price or the call level is equal to their strike price or the 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.

You must read the applicable 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 or the minimum index level of the underlying asset is equal to or less than the strike price or the strike level; or
- (b) in the case of a series of bear CBBCs, the maximum trade price or the maximum index level of the underlying asset is equal to or greater than the strike price or the strike level.

Where can you find the general conditions and the product conditions applicable to our CBBCs?

You should review the general conditions and the product conditions applicable to the CBBCs before you invest.

The general conditions are set out in appendix 1 of this document and the product conditions applicable to our CBBCs are set out in appendix 3 of this document (as may be supplemented by any addendum or the relevant launch announcement and supplemental listing document).

How is the funding cost calculated?

The issue price of a CBBC is set by reference to (a) the difference between the initial reference spot price or spot level of the underlying asset as at the launch date of the CBBC and the strike price or the strike level, plus (b) if applicable, a funding cost.

The issue price of a CBBC includes the initial funding cost (if any) and the initial funding cost applicable to the CBBCs as of the launch date will be specified in the relevant launch announcement and supplemental listing document for the relevant series.

The funding cost is an amount determined by us based on a number of factors, including but not limited to the strike price or the strike level, the prevailing interest rate, the expected life of the CBBCs, any expected notional dividends or distribution in respect of the underlying assets 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 our ability 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?

The price of a CBBC tends to mirror 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).

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

- (a) the strike price or the strike level and the call level or the call price;
- (b) the likelihood of the occurrence of a mandatory call event;
- (c) for category R CBBCs only, the probable range of the residual value payable upon the occurrence of a mandatory call event;
- (d) probable range of cash settlement amount;
- (e) the time remaining to expiry;

- (f) the interim interest rates and expected dividend payments or other distribution on the underlying asset or on any components comprising the underlying index;
- (g) the supply and demand for the CBBCs;
- (h) the liquidity of future contracts relating to the underlying index;
- (i) our related transaction costs; and/or
- (j) our creditworthiness.

What is your maximum loss?

Your maximum loss in the CBBCs will be limited to your investment amount plus any transaction costs.

How can you get information about the CBBCs after issue?

You may visit the website of HKEX at http://www.hkex.com.hk/products/securities/callable-bull-bear-contracts?sc_lang=en to obtain further information on CBBCs or any notice given by us or the stock exchange in relation to our CBBCs.

TAXATION

The information below is of a general nature and is only a summary of the law and practice currently applicable in Switzerland, Hong Kong and the United States of America. The comments relate to the position of persons who are the absolute beneficial owners of the structured products and may not apply equally to all persons. If you are in any doubt as to your tax position on purchase, ownership, transfer or exercise of any structured product, you should consult your own tax advisers as to the Swiss, Hong Kong or the United States of America laws or other tax consequences of the acquisition, ownership and disposition of structured products, including, in particular, the effect of any foreign, state or local tax laws to which you are subject.

Taxation in Switzerland

Gain on sale or redemption

Under present Swiss law, a holder of structured products who is neither a resident of Switzerland nor whose transactions in the structured products are attributable to a permanent establishment within Switzerland during the taxable year will not be subject to any Swiss Federal, Cantonal or Municipal income or other tax on gains realised during that year on the holding, sale, redemption or exercise of a structured product.

Stamp tax

No stamp tax will arise in Switzerland in connection with the issue or sale of the structured products provided that no Swiss Bank or Swiss securities dealer is involved as a counterparty or an intermediary. Swiss stamp tax will not be payable on the exercise of a structured product provided that the structured product is not exercised by or through a Swiss Bank or a Swiss securities dealer.

Taxation in Hong Kong

Profits tax

No tax is payable in Hong Kong by withholding or otherwise in respect of:

- (a) dividends of any company;
- (b) distributions of any trust authorised as a collective investment scheme by the SFC under section 104 of the Securities and Futures Ordinance (Cap 571, The Laws of Hong Kong) or otherwise approved by the SFC which has issued the underlying units; and

- (c) any capital gains, arising on the sale of the underlying securities or structured products, except that Hong Kong profits tax may be chargeable on any such gains in the case of certain persons carrying on a trade, profession or business in Hong Kong.

Stamp duty

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

United States Tax Considerations for Investors

U.S. Foreign Account Tax Compliance Act

Under certain tax information reporting and withholding provisions generally referred to as "FATCA" a 30% withholding tax is imposed on "withholdable payments" and certain "passthru payments" made to (i) a "foreign financial institution" unless the financial institution complies with, among other things, certain information reporting and withholding obligations with respect to its accounts in accordance with applicable rules implementing FATCA in the financial institution's jurisdiction or in accordance with an agreement entered into between the financial institution and the US Internal Revenue Service ("IRS"), and (ii) any other holder or beneficial owner that does not comply with the Issuer's or an intermediary financial institution's request for ownership certifications and identifying information.

"FATCA" means sections 1471 through 1474 of the Code, any final current or future regulations or official interpretations thereof, any agreement entered into pursuant to section 1471(b) of the Code, or any U.S. or non-U.S. fiscal or regulatory legislation, rules or practices adopted pursuant to any intergovernmental agreement entered into in connection with the implementation of such

sections of the Code. The term “withholdable payments” generally includes payments of fixed or determinable annual or periodical gains, profits, and income (“FDAP”), in each case, from sources within the United States, (including payments on securities treated as “dividend equivalents” under section 871(m) of the Code). “Passthru payments” means any withholdable payment and any foreign passthru payment, which is currently not defined. We and other intermediary foreign financial institutions may be required to report information to the IRS regarding the holders of the securities and, in the case of holders or beneficial owners who (i) fail to provide the relevant information, (ii) are foreign financial institutions who are not in compliance with applicable information reporting requirements, or (iii) hold the securities directly or indirectly through such non-compliant foreign financial institutions, we or another withholding agent may be required to withhold tax at a rate of 30% on payments under the securities. FATCA also may require withholding agents making payments to certain foreign entities that do not disclose the name, address, and taxpayer identification number of any substantial U.S. owners (or certify that they do not have any substantial U.S. owners) to withhold tax at a rate of 30%.

Withholding under FATCA may apply without regard to whether the beneficial owner of the payment is a U.S. person, or would otherwise be entitled to an exemption from the imposition of withholding tax pursuant to an applicable tax treaty with the United States or pursuant to U.S. domestic law.

Subject to the exceptions described below, FATCA’s withholding regime applies currently to withholdable payments and with respect to foreign passthru payments, will apply no earlier than the date that is two years after the date on which final U.S. Treasury regulations defining the term “foreign passthru payment” are published. Notwithstanding the foregoing, the provisions of FATCA discussed above generally will not apply to any obligation (other than an instrument that is treated as equity for U.S. tax purposes or that lacks a stated expiration or term) that is outstanding on June 30, 2014 (a “grandfathered obligation”), unless the obligation is materially modified after such date. If a holder holds its securities through a

foreign financial institution or foreign entity, a portion of any of such holder’s payments may be subject to 30% withholding.

The discussion above reflects recently proposed U.S. Treasury regulations. The U.S. Treasury have indicated that taxpayers may rely on the proposed regulations until final regulations are issued, and the discussion above assumes that the proposed regulations will be finalized in their current form.

Substitute Dividend and Dividend Equivalent Payments

Section 871(m) of the Code and regulations thereunder treat a “dividend equivalent” payment as a dividend from sources within the United States. Such payments generally will be subject to U.S. withholding tax at a rate of 30%.

Final regulations provide that a “dividend equivalent” is any payment or deemed payment that references the payment of (i) a dividend from an underlying security pursuant to a securities lending or sale-repurchase transaction, (ii) a dividend from an underlying security pursuant to a specified notional principal contract (a “specified NPC”), (iii) a dividend from an underlying security pursuant to a specified equity-linked instrument (a “specified ELI”), and (iv) any other substantially similar payment. The regulations provide that a payment includes a dividend equivalent payment whether there is an explicit or implicit reference to a dividend with respect to the underlying security. An underlying security is any interest in an entity if a payment with respect to that interest could give rise to a U.S. source dividend pursuant to Treasury regulation section 1.861-3. An NPC is a notional principal contract as defined in Treasury regulation section 1.446-3(c). An equity-linked instrument (“ELI”) is a financial instrument (other than a securities lending or sale-repurchase transaction or an NPC) that references the value of one or more underlying securities, including a futures contract, forward contract, option, debt instrument, or other contractual arrangement. A “section 871(m) transaction” is any securities lending or sale-repurchase transaction, specified NPC, or specified ELI.

Final regulations and administrative guidance provide that for a transaction issued on or after January 1, 2017 and before

January 1, 2023, any NPC or ELI that has a delta of one with respect to an underlying security when the NPC or ELI is issued is a specified NPC or specified ELI, respectively. For a transaction issued on or after January 1, 2023, (a) a “simple” NPC or “simple” ELI that has a delta of 0.8 or greater with respect to an underlying security when the NPC or ELI is issued is a specified NPC or specified ELI, respectively, and (b) a “complex” NPC or “complex” ELI that meets a substantial equivalence test with respect to an underlying security at the time of issuance is a specified NPC or specified ELI, respectively. The delta of a simple contract is determined, and the substantial equivalence test for a complex contract is performed, on the earlier of the date that the potential section 871(m) transaction is priced and the date when the potential section 871(m) transaction is issued; however, the issue date must be used if the potential section 871(m) transaction is priced more than 14 calendar days before it is issued. In addition, the delta or substantial equivalence of securities that are held in inventory prior to their sale to an investor may, in certain cases, be required to be retested at the time of sale or disposition from inventory. If securities sold from inventory are determined to be section 871(m) transactions and the same series of securities sold at issuance were determined not to be section 871(m) transactions, holders of securities sold at issuance may be adversely affected to the extent the Issuer or a withholding agent does not, or is unable to, identify and distinguish securities sold to investors at issuance from those sold out of inventory.

Certain events could cause previously issued securities to be deemed to be issued as new securities for purposes of the effective dates provided in the regulations. For example, it is possible that the IRS could assert that a reconstitution or rebalancing of the underlying is a significant modification of the securities due to an exercise of discretion with respect to such reconstitution or rebalancing and, therefore, a deemed issuance of the securities upon the occurrence of such event. It is also possible that U.S. withholding tax could apply to the securities under these rules if a holder enters, or has entered, into certain other transactions in respect of the underlying equity or the securities. A holder that enters, or has entered, into other transactions in respect of the underlying or the securities

should consult its own tax advisor regarding the application of Code section 871(m) to its securities in the context of its other transactions.

Withholding on payments will be based on actual dividends or, if otherwise notified by the Issuer in accordance with applicable regulations, on estimated dividends used in pricing the security. If a security provides for any payments in addition to estimated dividends to reflect dividend amounts on the underlying security, withholding will be based on the total payments. If an issue of securities is a section 871(m) transaction, information regarding the amount of each dividend equivalent, the delta of the potential 871(m) transaction, the amount of any tax withheld and deposited, the estimated dividend amount and any other information necessary to apply the regulations in respect of such securities will be provided, communicated, or made available to holders of the securities in a manner permitted by the applicable regulations.

Withholding tax may apply even where holders do not receive a concurrent payment on the securities in respect of dividends on the underlying. U.S. tax will be withheld on any portion of a payment or deemed payment (including, if appropriate, the payment of the purchase price) that is a dividend equivalent.

The Issuer’s determination as to whether a security is a transaction subject to withholding under section 871(m) generally is binding on holders. However, it is not binding on the IRS. The IRS may successfully argue that a security is subject to withholding under section 871(m), notwithstanding the Issuer’s determination to the contrary. These regulations are extremely complex. Holders should consult their tax advisors regarding the U.S. federal income tax consequences to them of these regulations and whether payments or deemed payments on the securities constitute dividend equivalent payments.

Foreign Investment in U.S. Real Property

A holder may be subject to U.S. federal income tax on a disposition of a “U.S. real property interest” as defined in Treasury Regulations section 1.897-1(c) (a “USRPI”). Any gain on such disposition is treated as effectively connected with a U.S. trade or business of the non-U.S. holder and is

subject to tax and withholding on the amount realized on the disposition. A USRPI may consist of a direct interest in U.S. real property or an interest in a United States real property holding corporation (a "USRPHC") within the meaning of section 897 of the Code. However, an interest in a USRPHC that does not exceed generally 5% of the corporation's regularly traded stock is not a USRPI.

Thus, a holder who owns directly, indirectly or constructively, shares of any of the underlying that are considered to be a USRPI, or other interests having a return based on the appreciation in the value of, or in the gross or net proceeds or profits generated by, such underlying, may be subject to U.S. federal income tax on the sale or exchange of the securities if such holder owns more than generally 5% of the shares of such underlying when considering the shares or interests of such underlying that are directly, indirectly or constructively owned by such holder. Ownership of the securities may also impact the taxation of such other shares or interests.

We do not intend to determine whether the issuer of shares in any underlying is a USRPHC. It is possible that the issuer of shares in an underlying is a USRPHC, and that the securities constitute an ownership interest in or an option on a USRPI, with the consequences described above. It is also possible that the issuer of shares in such underlying is not a USRPHC.

Each holder, in connection with acquiring the securities, is deemed to represent that it does not own, and will not own, more than 5% of the shares of each of the underlying that is considered to be a USRPHC, either directly, indirectly or constructively. We and any withholding agent will rely on the accuracy of this representation. For purposes of this discussion, any interest other than solely as a creditor within the meaning of Treasury Regulations Section 1.897-1(d) shall be treated as ownership of shares of the underlying. Even if the Issuer does not withhold, there can be no assurances that an intermediary withholding agent will not withhold in respect of a security. Further, holders may have U.S. income tax liability that exceeds amounts withheld, if any.

Holders should consult their own tax advisors on the impact of other shares or interests in the underlying, the impact of ownership of the securities on such other shares or interests, and the consequences of making the representation in the preceding paragraph.

U.S. Federal Estate Tax Treatment

A security may be subject to U.S. federal estate tax if an individual holds the security at the time of his or her death. The gross estate of a holder domiciled outside the United States includes only property situated in the United States. Holders should consult their tax advisors regarding the U.S. federal estate tax consequences of holding the securities at death.

Backup Withholding and Information Reporting

A holder of the securities may be subject to backup withholding with respect to certain amounts paid to such holder unless it provides a correct taxpayer identification number, complies with certain certification procedures establishing that it is not a U.S. holder or establishes proof of another applicable exemption, and otherwise complies with applicable requirements of the backup withholding rules. Backup withholding is not an additional tax. A holder can claim a credit against its U.S. federal income tax liability for amounts withheld under the backup withholding rules, and amounts in excess of its liability are refundable if such holder provides the required information to the IRS in a timely fashion. A holder of the securities may also be subject to information reporting to the IRS with respect to certain amounts paid to such holder unless it (1) provides a properly executed IRS Form W-8 (or other qualifying documentation) or (2) otherwise establishes a basis for exemption. If such withholding applies, we will not be required to pay any additional amounts with respect to amounts withheld.

PLACING AND SALE

General

We have not taken, and will not take, any action that would permit a public offering of the structured products or possession or distribution of any offering material in relation to the structured products in any jurisdiction where action for that purpose is required. No offers, sales 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 will not impose any obligation on us. In the event that we contemplate a placing, placing fees may be payable in connection with any issue and we may at our discretion allow discounts to placees.

United States of America

The structured products have not been and will not be registered under the U.S. Securities Act of 1933 (the "**Securities Act**"), or the securities laws of any state or other jurisdiction of the United States. The structured products or interests therein may not be offered or sold or otherwise transferred, nor may transactions in such structured products be executed, at any time, within the United States or to, or for the account or benefit of, U.S. persons (as defined in Regulation S under the Securities Act ("**Regulation S**")), except in compliance with Regulation S. In purchasing the structured products you hereby warrant that you are not a U.S. person as defined in Regulation S and that you are not purchasing for, or for the account or benefit of, any such person. You further agree to resell such structured products or interests therein only in accordance with the provisions of Regulation S, pursuant to registration under the Securities Act or another available exemption therefrom and agree not to engage in hedging transactions with respect to the structured products unless in compliance with the Securities Act. You acknowledge that any transfer of the structured products or interests therein by you other than in compliance with the preceding sentence is prohibited and will not be effected to the fullest extent permitted by law.

European Economic Area and the United Kingdom

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 or 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 (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, the Prospectus Regulation); 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.

In respect of the United Kingdom, each dealer has represented and agreed, and each further dealer appointed in respect of the structured products will be required to further 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 Financial Services and Markets Act, as amended (the “**FSMA**”) by the Issuer;

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

RISK FACTORS

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. At any given time, the number of our structured products outstanding may be substantial.

Repurchase of our structured products

We may repurchase structured products at any time 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 therefore make any assumption as to the number of structured products in issue at any time.

Our creditworthiness

If you purchase our structured products, you are relying upon our creditworthiness and have no rights under the structured products against:

- (a) any company which issues the underlying shares;
- (b) the trustee or the manager of the underlying unit; or
- (c) the index compiler of the underlying index.

We do not guarantee the repayment of your investment in any structured products. 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).

Any downgrading of our rating by our rating agencies could result in a reduction in the value of the structured products.

Swiss resolution proceedings and resolution planning requirements

Pursuant to Swiss banking laws, the Swiss bank resolution regime applies to a Swiss bank, such as us, and to a Swiss parent company of a financial group, such as Credit Suisse Group AG, amongst others. Under such resolution regime, FINMA is able to exercise its broad statutory powers thereunder with respect to such entities, including its powers to order protective measures, institute restructuring proceedings (and exercise any Swiss resolution powers in connection therewith), and institute liquidation proceedings, if there is justified concern that such entity is over-indebted, has serious liquidity problems or, after the expiry of a deadline, no longer fulfils capital adequacy requirements.

Protective measures may include (a) giving instructions to our governing bodies, (b) appointing an investigating agent, (c) stripping our governing bodies of their power to legally represent us or remove them from office, (d) removing our regulatory or company-law audit firm from office, (e) limiting our business activities, (f) forbidding us to make or accept payments or undertake security trades, (g) closing us down, or (h) except for mortgage-secured receivables of central mortgage bond institutions, ordering a moratorium or deferral of payments. We will have limited ability to challenge any such protective measures. Additionally, creditors, including holders of structured products, would have no right under Swiss law and in Swiss courts to reject, seek the suspension of, or to challenge the imposition of any such protective measures.

Resolution powers that may be exercised during restructuring proceedings with respect to us include the power to (a) transfer the assets, or portions thereof, together with debt and other liabilities, or portions thereof, and contracts, to another entity, (b) stay (for a

maximum of two business days) the termination of, and 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 such restructuring proceedings is a party, and/or (c) partially or fully convert into our equity and/or write-down our liabilities, including with respect to the structured products, if any. Creditors, including holders of the structured products, will have no right to reject, or to seek the suspension of, any restructuring plan pursuant to which such resolution powers are exercised with respect to us. Holders of structured products will have only limited rights to challenge any decision to exercise resolution powers with respect to us or to have that decision reviewed by a judicial or administrative process or otherwise.

We are currently subject to resolution planning requirements in Switzerland, the US and the UK and may face similar requirements in other jurisdictions. If a resolution plan is determined by the relevant authority to be inadequate, relevant regulations may allow the authority to place limitations on the scope or size of our business in that jurisdiction, require us to hold higher amounts of capital or liquidity, require us to divest assets or subsidiaries or to change our legal structure or business to remove the relevant impediments to resolution.

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

For a description of current resolution regime under Swiss banking laws as it applies to us and to Credit Suisse Group AG, please refer to “Regulatory framework — Switzerland — Resolution Regime” under “Information on the Company — Regulation and Supervision” of the Credit Suisse Annual Report 2019.

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.

No deposit liability or debt obligation

We are obliged to deliver to you the cash settlement amount or the entitlement (as the case may be) under the conditions applicable to the relevant structured products upon expiry or exercise. 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.

We are not the ultimate holding company of the group

We are not the ultimate holding company of the group to which we belong and with which our name is identified. The ultimate holding company of the group to which we belong is Credit Suisse Group AG.

Conflicts of interest

Credit Suisse Group AG constitutes a diversified financial services group with relationships in countries around the world. We engage 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,

Credit Suisse Group AG, in connection with our other business activities, may possess or acquire material information about any underlying assets. Such activities and information may involve or otherwise affect the issuers of the underlying assets in a manner that may cause consequences adverse to you or otherwise create conflicts of interests in connection with our issue of structured products. Such actions and conflicts may include, without limitation, the exercise of voting power, the purchase and sale of securities, financial advisory relationships and exercise of creditor rights. Credit Suisse Group AG has no obligation to disclose such information about the underlying assets, baskets of shares and/or indices or such activities. Credit Suisse Group AG and our respective officers and directors may engage in any such activities without regard to our issue of structured products or the effect that such activities may directly or indirectly have on any structured product. In the ordinary course of our business, including without limitation in connection with us or our appointed liquidity provider's market making activities, Credit Suisse Group AG may effect transactions for our own account or for the account of our customers and hold long or short positions in the underlying assets or related derivatives. In addition, in connection with the offering of any structured product, we or any member of Credit Suisse Group AG may enter into one or more hedging transactions with respect to the underlying assets or related derivatives. In connection with such hedging or market making activities or with respect to proprietary or other trading activities by us or any member of Credit Suisse Group AG, we may enter into transactions in the underlying assets or related derivatives which may affect the market price, liquidity or value of the structured products and which may affect your interests in the structured products.

In particular, you should note that we issue a large number of financial instruments, including the structured products, on a global basis. The number of such financial instruments outstanding at any time may be substantial. We have substantially no obligation to any holder of the structured products other than to pay amounts in accordance with the applicable conditions and in the relevant launch announcement and supplemental listing document. We do not in any respect underwrite or guarantee the performance of any structured product. Any profit or loss realised by you in respect of

a structured product upon exercise or otherwise due to changes in the value of such structured product, or the price or level of the underlying asset, is solely for your own account. In addition, we have the absolute discretion to put in place any hedging transaction or arrangement which we consider appropriate in connection with any structured products or the applicable underlying asset. A reduction in our rating, if any, accorded to our outstanding debt securities by any one of our rating agencies could result in a reduction in the trading value of the structured products.

Other risks relating to us

Please refer to the section "Risk factors" in the Credit Suisse Annual Report 2019, an extract of which is reproduced in Appendix 4 to this Base Listing Document for a description of additional risks relating to us.

General risks relating to structured products

You may lose all your investment in the structured product

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 or level of the underlying asset, the volatility of the underlying asset's price or level and the time remaining to expiry of the structured product.

The prices of structured products may fall in value as rapidly as they may rise and you should be prepared to sustain a significant or a total loss of your investment in the structured products. Assuming all other factors are held constant, the more the price or level of the underlying asset 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.

Our structured products are European style and they 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 (net of exercise expenses) 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 upon your investment in the structured products, you must generally be correct about the direction, timing and magnitude of an anticipated change in the price or level of the underlying asset.

Changes in the price or level of an underlying asset can be unpredictable, sudden and large and such changes may result in the price or 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 or 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 or level of the underlying assets

An investment in structured products is not the same as owning the underlying asset 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. For example, for a call warrant, it is possible that while the price or level of the underlying assets is increasing, the value of the structured product is falling.

You should recognise the risks of utilising structured products if you intend to purchase any series of structured products to hedge against the market risk associated with investing in the relevant underlying asset. The value of the structured products may not exactly correlate with the price or 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 in the price or level 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.

Furthermore, it may not be possible to liquidate the structured products at a price or level which directly reflects the price or level of the underlying asset or portfolio of which the underlying asset forms a part. You may therefore suffer substantial losses in the structured products notwithstanding any losses suffered with respect to investments in or exposures to any underlying assets.

Possible illiquidity of secondary market

It is not possible to predict:

- (a) if and to what extent a secondary market may develop in any series of structured products;
- (b) at what price such series of structured products will trade in the secondary market; and
- (c) 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.

We intend to apply to list each series of structured products on the stock exchange. There can be no assurance that the listing of a series of structured products at the stock exchange can be maintained.

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 exercised or 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.

We, acting through our liquidity provider, may be the only market participant for the structured products. Therefore, the secondary market for the structured products may be limited. We and our liquidity provider may at any time purchase the structured products at any price in the open market or by tender or private agreement, subject to the requirements under the listing rules relating to the provision of liquidity, as described further in the relevant launch announcement and supplemental listing document. The more limited the secondary market is for any particular series of the structured products, the more difficult for you to realise the value of your structured products prior to the expiration date.

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.

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 rates 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 at the date of issue of any structured products will be representative of the 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 applicable 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 rates 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 the section headed “Taxation” for further information.

Modification to the conditions

Under the conditions, we may without your consent, effect any modification of terms and conditions of the structured products or the global certificate which, in our opinion, is:

- (a) not materially prejudicial to the interests of the holder of the structured products generally (without considering the circumstances of any individual holder 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) is necessary in order to comply with any 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, it has become or it will become illegal or impracticable for us to perform our obligations under the structured products in whole or in part as a result of our compliance with any applicable law, we may terminate the structured products. In such event, we will, if and to the extent permitted by applicable law, pay an amount calculated by us in good faith and in a commercially reasonable manner to be the fair market value of the structured products prior to such termination notwithstanding the illegality or impracticability less our cost of unwinding any related hedging arrangements. Such amount 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:

- (a) voting rights or rights to receive dividends or other distributions or any other rights that a holder of the shares or units would normally be entitled to; or
- (b) 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 the structured products involve valuation risk in relation to the relevant underlying asset. The price or 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 (where the underlying asset is a share), changes in computation or composition (where the underlying asset is an index), macro economic factors and market trends.

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

Certain events relating to the underlying asset 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. We may, in our sole discretion adjust, among other things, the entitlement, the exercise price, the call price (if applicable) or any other terms (including without limitation the average price or the closing level of the underlying asset) of any series of structured product. However, we are not required to adjust for every event that may affect an underlying asset, such as changes in computation or composition (where the underlying asset is an index), macro economic factors or market trends that affect the underlying asset, in which case the market price of the structured products, and the return upon the expiry of the structured products may be affected.

For structured products linked to an index, the index level may be published by the index compiler at a time when one or more components comprising the index are not trading. If this occurs on a valuation date and there is no market disruption event called under the conditions, then the closing level of the index may be calculated by the index compiler by reference to the remaining components. 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. The value of the structured products will decrease over time as the length of the period remaining to expiration becomes shorter. You should note that in the case of a prolonged suspension period, the market price of the structured products will 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, 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 a company has occurred at any relevant time or that adjustments are required in accordance with the conditions.

The relevant settlement amount may change significantly during any such period, and such movement or movements could decrease or modify the settlement amount.

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 action 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

In the case of structured products linked to 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 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 one 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 RQFII and/or China Connect (“China ETF”)

Where the underlying asset comprises the units of a China ETF issued and traded outside Mainland China with direct investment in the Mainland China’s securities markets through the RMB 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 RQFII and China Connect prescribed by the Mainland China government are new and subject to change, and there may be uncertainty to its implementation. The uncertainty and change of the laws and regulations in Mainland China may adversely impact on the performance of 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) investment by a China ETF in the Mainland China’s securities markets under the RQFII regime is currently subject to its manager’s RQFII quota allocated to such China ETF. In addition, trading of securities invested by the China ETF under the China Connect will be subject to a daily quota which does not belong to such China ETF and is utilised on a first-come-first-serve basis. In the event that the RQFII quota allocated to such China ETF and/or the daily quota under China Connect are reached, the manager may need to suspend creation of further units of such China ETF, and therefore may affect 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. Although the State Administration of Foreign Exchange has announced that the quota restrictions under the RQFII (and Qualified Foreign Institutional Investor) regimes will be removed, the detailed implementation rules and official effective date of the quota removal are not yet available; 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 RQFII 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.
- (c) the trading prices 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 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 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.

The above risks may have a significant impact on the performance of the China ETF and hence the market price of 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 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 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 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

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 REIT and hence the market price of structured products linked to such REIT.

Risks relating to our warrants

Time decay

The settlement amount of a series of warrants at any time prior to expiration may be less than the trading price of such warrants at that time. The difference between the trading price or level and the settlement amount will reflect, among other things, a “time value” of the warrants. The “time value” of the warrants will depend upon, among others, the length of the period remaining to expiration and expectations concerning the range of possible future price or level of the underlying assets. The value of the warrants is likely to decrease over time.

Therefore, the warrants should not be viewed as products for long term investments.

Risks relating to our CBBCs

You may lose all or substantially all of your investment upon the occurrence of a mandatory call event

CBBCs are not suitable for all types of investors. You should not invest in the CBBCs unless you understand the nature of the CBBCs and are prepared to lose all or substantially all of your investment in the CBBCs. The CBBCs will be terminated upon the occurrence of a mandatory call event and you will not be able to benefit from your investment in the CBBCs even if the performance of the underlying asset recovers subsequent to the occurrence of the mandatory call event. When a mandatory call event occurs, payoff for a category N CBBC will be zero and for a category R CBBC, you may lose all of your investment or receive a small amount of residual value payment. Please refer to the section headed “Overview of CBBCs” for more information.

Correlation between the price of a CBBC and the price or level of the underlying asset

When the underlying asset of a CBBC is trading at a price or level close to its call price or 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 with the change in the price or level of the underlying asset.

Mandatory call event is irrevocable

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 the stock exchange (such as the setting up of wrong call price or 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 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 no later than the time specified in the relevant launch announcement and supplemental listing document or such other time as prescribed 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.

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 upon the occurrence of a mandatory call event. You must however be aware that there may be delay in the announcement 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.

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, the resumption of trading of the CBBCs or reinstatement of any post MCE trades cancelled as a result of the reversal of any mandatory call event, notwithstanding that such trading suspension and/or non-recognition of post MCE trades occur as a result of an error in the observation of the event.

Residual value will not include residual funding cost

In respect of 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.

Our hedging activities may adversely affect the price or 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 or 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 any of 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 or any of 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

Our or our affiliates' trading and/or hedging activities related to CBBCs and/or other financial instruments issued by us from time to time may have an impact on the price or 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 or the call level, our unwinding activities may cause a fall or rise (as the case may be) in the trading price or 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 or level of the underlying asset and consequently the residual value for the CBBCs.

Possible early termination for hedging disruption

If we determine that a hedging disruption event has occurred, we may at our absolute discretion terminate the CBBCs. In such event, we will, if and to the extent permitted by applicable law, pay an amount calculated by us to be the fair market value of the CBBCs prior to such termination less our cost of unwinding any related hedging arrangements.

Risks relating to the legal form of the structured products

Each series of structured products will be issued in global registered form and 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 CCASS participant).

The register for the relevant structured products will only record at all times that 100% of such structured products are held by HKSCC Nominees Limited, being the only legal owner. The evidence of your title, as well as the efficiency of ultimate delivery of the cash settlement amount (if any) under the structured products, will be subject to the CCASS Rules.

You should be aware of the following risks:

- (a) you will not receive any definitive certificates representing your beneficial interests in the structured products;
- (b) you may only refer to the records of CCASS or their brokers/custodians and the statements you receive to determine your beneficial interest in the structured products;
- (c) any notices, announcements and/or information relating to meetings in respect of the structured products will only be delivered to you through the CCASS participants in accordance with the General Rules of CCASS and the CCASS Operational Procedures in effect from time to time; and

- (d) our obligations under the conditions of the structured products will be duly performed by the payment of the cash settlement amount to HKSCC Nominees Limited as the registered holder of the structured products, all in accordance with the General Rules of CCASS and the CCASS Operational Procedures in effect from time to time.

Fee arrangements with brokers and conflicts of interest of brokers

We may enter into fee arrangements with brokers and/or any of their affiliates with respect to the placement of the structured products in the primary market. 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 of their clients. The fact that the same broker may deal simultaneously for different clients in competing products in the market place may affect the value of the 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.

GENERAL INFORMATION ABOUT US

Incorporation, registered office and objective

We were established on 5 July 1856 and registered in the Commercial Register of the Canton of Zurich on 27 April 1883 for an unlimited duration under the name of Schweizerische Kreditanstalt. Our name was changed to Credit Suisse First Boston on 11 December 1996 (by entry in the Commercial Register), effective as of 1 January 1997. On 13 May 2005 the Swiss banks Credit Suisse First Boston and Credit Suisse merged. Credit Suisse First Boston was the surviving legal entity, and its name was changed to Credit Suisse by entry into the commercial register. Our name was further changed to Credit Suisse AG, effective as of 9 November 2009. We are a joint stock corporation established under Swiss law. As of 31 December 2019, our share capital amounted to CHF 4,399,680,200, which was divided into 4,399,680,200 fully paid-up registered shares with a par value of CHF 1 each.

Members of our board of directors as of 13 April 2020*

Name	Office held
Urs Rohner	Chairman
Iris Bohnet	Director
Christian Gellerstad	Director
Andreas Gottschling	Chairman, Risk Committee
Alexander Gut	Director
Michael Klein	Director
Shan Li	Director
Seraina Macia	Director
Kai S. Nargolwala	Chairman, Compensation Committee
Ana Paula Pessoa	Director
Joaquin J. Ribeiro	Director
Severin Schwan	Vice-Chair and Lead Independent Director
John Tiner	Chairman, Audit Committee

* *The composition of the boards of directors of Credit Suisse Group AG and Credit Suisse AG is identical.*

ERISA matters

We and certain of our affiliates may each be considered a “party in interest” within the meaning of the Employee Retirement Income Security Act of 1974, as amended (**ERISA**), or a “disqualified person” within the meaning of the United States Internal Revenue Code of 1986, as amended (the **code**) with respect to many employee benefit plans and individual retirement accounts, Keoghs and other plans subject to section 4975 of the code.

Certain transactions between an employee benefit plan and a party in interest or disqualified person may result in “prohibited transactions” within the meaning of ERISA and the code. Accordingly, structured products may not be purchased or held with the assets of (a) an “employee benefit plan” as defined in section 3(3) of ERISA, (b) a “plan” as defined in section 4975 of the code, or (c) an entity whose underlying assets include “plan assets” under US Department of Labor Regulation 29 CFR section 2510.3-101.

Credit Suisse Group AG and Credit Suisse AG

The United States Securities and Exchange Commission (“**SEC**”) filings of Credit Suisse Group AG (the “**Group**”) and Credit Suisse AG (“**CS**”), which may contain their annual and current reports, including interim financial information, or other relevant information, are filed with the SEC from time to time. The SEC filings of the Group and CS are available on the SEC’s website at www.sec.gov and on the Group’s website at <https://www.credit-suisse.com/about-us/en/investor-relations/financial-regulatory-disclosures/sec-filings.html>.

APPENDIX 1 — GENERAL CONDITIONS OF THE STRUCTURED PRODUCTS

These General Conditions relate to each series of Structured Products and must be read in conjunction with, and are subject to, the relevant Product Conditions set out in Appendix 2 and Appendix 3 to this Base Listing Document and the relevant Launch Announcement and Supplemental Listing Document in relation to the particular series of Structured Products. These General Conditions, the relevant Product Conditions and the supplemental provisions contained in the relevant Launch Announcement and Supplemental Listing Document together constitute the Conditions of the relevant Structured Products, and will be endorsed on the Global Certificate representing the relevant Structured Products. The relevant Launch Announcement and Supplemental Listing Document in relation to the issue of any series of Structured Products may specify additional terms and conditions which shall, to the extent so specified or to the extent inconsistent with these General Conditions and the relevant Product Conditions, replace or modify these General Conditions and the relevant Product Conditions for the purpose of such series of Structured Products.

1. Definitions

“Applicable Law” means any applicable present or future law, rule, regulation, judgment, order or directive of any governmental, administrative, legislative or judicial authority or power;

“Base Listing Document” means the base listing document relating to Structured Products dated 14 April 2020 and issued by the Issuer (including any addenda to such base listing document issued by the Issuer from time to time);

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

“Cash Settlement Amount” has the meaning given to it in the relevant Product Conditions;

“CCASS” means the Central Clearing and Settlement System established and operated by Hong Kong Securities Clearing Company Limited;

“CCASS Rules” means the General Rules of CCASS and the CCASS Operational Procedures in effect from time to time;

“CCASS Settlement Date” has the meaning ascribed to the term “Settlement Date” in the CCASS Rules, subject to such modification and amendment presented by Hong Kong Securities Clearing Company Limited from time to time;

“Conditions” means, in respect of a particular series of Structured Products, these General Conditions and the applicable Product Conditions;

“CS Hong Kong” means Credit Suisse (Hong Kong) Limited, which expression shall include any successors to Credit Suisse (Hong Kong) Limited for the purposes of maintaining the Register;

“Global Certificate” means, in respect of the relevant Structured Products, a global certificate by way of deed poll dated the Issue Date executed by the Issuer;

“HKEX” means Hong Kong Exchanges and Clearing Limited;

“Holder” means, in respect of each series of Structured Products, each person who is for the time being shown in the Register as entitled to a particular number of Structured Products and such person shall be treated by the Issuer and CS Hong Kong as the absolute owner and holder of such number of Structured Products;

“Hong Kong” means the Hong Kong Special Administrative Region of the People’s Republic of China;

“Issue Date” means the date specified as such in the relevant Launch Announcement and Supplemental Listing Document;

“Issuer” means Credit Suisse AG;

“Launch Announcement and Supplemental Listing Document” means the launch announcement and supplemental listing document relating to a particular series of Structured Products;

“Product Conditions” means, in respect of each series of Structured Product, the product specific terms and conditions that apply to that Structured Product;

“Register” means the register in respect of the Structured Products maintained by the Registrar under General Condition 3;

“Register Maintenance Agreement” means:

- (a) in respect of Warrants and CBBCs, the base register maintenance and structured product agency agreement (as amended, varied or supplemented from time to time or any successor document) dated 23 April 2003 as supplemented by a Confirmation (as defined in such Register Maintenance Agreement) relating to the Structured Products made between, inter alia, the Issuer and CS Hong Kong; or
- (b) in respect of other structured products, the agreement specified as such in the relevant Launch Announcement and Supplemental Listing Document;

“Registrar” means CS Hong Kong or such other party as specified in the relevant Launch Announcement and Supplemental Listing Document;

“Stock Exchange” means The Stock Exchange of Hong Kong Limited;

“Structured Products” means standard warrants (**“Warrants”**), callable bull/bear contracts (**“CBBCs”**) and other structured products to be issued by the Issuer from time to time. References to **“Structured Products”** are to be construed as references to a particular series of Structured Products and, unless the context otherwise requires, include any further Structured Products issued pursuant to General Condition 9; and

“Transfer Office” means the specified office of CS Hong Kong or such other office as specified in the relevant Launch Announcement and Supplemental Listing Document.

2. Form, Status and Transfer

2.1 Form

The Structured Products are issued in registered form subject to and with the benefit of the Global Certificate and the relevant Register Maintenance Agreement. Copies of the Global Certificate and the relevant Register Maintenance Agreement are available for inspection at the Transfer Office.

The Holders are entitled to the benefit of, are bound by and are deemed to have notice of, all the provisions of the Global Certificate and the relevant Register Maintenance Agreement.

2.2 **Status**

The Structured Products represent general, unsecured, contractual obligations of the Issuer and of no other person and rank pari passu among themselves and (save for certain obligations required to be preferred by law) equally with all other unsecured obligations of the Issuer.

2.3 **Transfer**

Transfers of beneficial interests in the Structured Products may be effected only in Board Lots or integral multiples thereof in CCASS in accordance with the CCASS Rules.

3. **Register and Transfer Office**

3.1 **Maintenance of Register**

- (a) In respect of each series of Structured Products, the Registrar will maintain a Register for that series.

The Issuer reserves the right, subject to the appointment of a successor, at any time to vary or terminate the appointment of the Registrar under the relevant Register Maintenance Agreement provided that it will at all times maintain or arrange for the maintenance of a Register.

Notice of any such termination or appointment and any change in the Transfer Office or the specified office of CS Hong Kong will be given to the Holders in accordance with General Condition 7.

- (b) The Registrar will enter or cause to be entered the name, address and banking details of the Holders, the details of the relevant series of Structured Products held by any Holder including the number of Structured Products held, and any other particulars which it thinks proper.
- (c) The Register will be maintained by the Registrar:
- (i) in respect of a series of Warrants and CBBCs, in Hong Kong; and
 - (ii) in respect of other Structured Products, at such location as the Issuer and the Registrar may agree and specified in the relevant Launch Announcement and Supplemental Listing Document.

3.2 **Registrar is the agent of the Issuer**

The Registrar for each series of Structured Products will be acting as the agent of the Issuer and will not assume any obligation or duty to or any relationship of agency or trust for the Holders.

4. **Purchases**

The Issuer and/or any of its respective affiliates may at any time purchase Structured Products at any price in the open market or by tender or by private treaty. Any Structured Products so purchased may be held or resold or surrendered for cancellation.

5. **Global Certificate**

Each series of the Structured Products is represented by a Global Certificate registered in the name of HKSCC Nominees Limited and deposited with CCASS in accordance with the CCASS Rules. Holders will not be entitled to definitive certificates in respect of any Structured Products issued or transferred to them.

6. Meetings of Holders and Modifications to Conditions

6.1 Meetings of Holders

The relevant Register Maintenance Agreement contains provisions for the convening of meetings of the Holders to consider any matter affecting their interests, including sanctioning by Extraordinary Resolution (as defined in the relevant Register Maintenance Agreement) of a modification of the provisions of the Structured Products or of the Global Certificate.

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 Structured Products 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 Structured Products for the time being remaining unexercised, or at any adjourned meeting two or more persons being or representing Holders whatever the number of Structured Products 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 as, 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.

6.2 Modification

The Issuer may, without the consent of the Holders, effect any modification of the terms and conditions of the Structured Products or the Global Certificate which, in the opinion of the Issuer, is:

- (a) 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);
- (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.

Any such modification shall be binding on the Holders and shall be notified to them by CS Hong Kong as soon as practicable thereafter in accordance with General Condition 7.

7. Notices

All notices to Holders will be validly given if published in English and in Chinese on the website of HKEX. Such notices shall be deemed to have been given on the date of the first such publication. If publication is not practicable, notice will be given in such other manner as the Issuer may determine.

8. Illegality or Impracticability

The Issuer is entitled to terminate the Structured Products 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:

- (a) for it to perform its obligations under the Structured Products in whole or in part as a result of:
 - (i) the adoption of, or any change in, any relevant law or regulation (including any tax law); or
 - (ii) 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 (i) and (ii), a “**Change in Law Event**”); or
- (b) for it or any of its affiliates to maintain the Issuer’s hedging arrangements with respect to the Structured Products 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 Structured Product 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 Holders in accordance with General Condition 7.

9. Further Issues

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

10. Good Faith and Commercially Reasonable Manner

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

11. Contracts (Rights of Third Parties) Ordinance

A person who is not a party to the 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 Structured Products.

12. Governing Law

The Structured Products, the Global Certificate and the relevant Register Maintenance Agreement will be governed by and construed in accordance with the laws of Hong Kong.

The Issuer and each Holder (by its purchase of the Structured Products) shall be deemed to have submitted for all purposes in connection with the Structured Products, the Global Certificate and the relevant Register Maintenance Agreement to the non-exclusive jurisdiction of the courts of Hong Kong.

13. Language

In the event of any inconsistency between the Chinese translation and the English version of these General Conditions and/or the applicable Product Conditions, the English version of these General Conditions and/or the applicable Product Conditions shall prevail.

APPENDIX 2 — PRODUCT CONDITIONS OF THE WARRANTS

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PART A — PRODUCT CONDITIONS OF CALL/PUT WARRANTS OVER SINGLE EQUITIES (CASH SETTLED)

These Product Conditions will, together with the General Conditions and 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 additional terms and conditions which shall, to the extent so specified or to the extent inconsistent with these Product Conditions, replace or modify these Product Conditions for the purpose of such series of Warrants. Capitalised terms used in these Product Conditions and not otherwise defined herein shall have the meaning given to them in the General Conditions and the relevant Launch Announcement and Supplemental Listing Document.

1. Definitions

For the purposes of these Product 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 Product Condition 4 such as capitalisation, rights issue, distribution or the like in respect of each Valuation Date;

“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, in respect of every Board Lot, an amount in the Settlement Currency calculated by the Issuer as:

(a) in the case of a series of call Warrants:

$$\frac{\text{Entitlement} \times (\text{Average Price} - \text{Exercise Price}) \times \text{one Board Lot}}{\text{Number of Warrant(s) per Entitlement}}$$

(b) in the case of a series of put Warrants:

$$\frac{\text{Entitlement} \times (\text{Exercise Price} - \text{Average Price}) \times \text{one Board Lot}}{\text{Number of Warrant(s) per Entitlement}}$$

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

“Designated Bank Account” means the relevant bank account designated by the relevant Holder;

“Entitlement” means the number specified as such in the relevant Launch Announcement and Supplemental Listing Document, subject to any adjustment in accordance with Product Condition 4;

“Exercise Expenses” means any charges or expenses including any taxes or duties which are incurred in respect of the exercise of the Warrants;

“Exercise Price” means the price specified as such in the relevant Launch Announcement and Supplemental Listing Document;

“Expiry Date” has the meaning given to it in the relevant Launch Announcement and Supplemental Listing Document;

“General Conditions” means the general terms and conditions of Structured Products set out in Appendix 1 of the Base Listing Document;

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

“Market Disruption Event” means:

- (a) 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 (i) the Shares; or (ii) 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;
- (b) 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
- (c) a limitation or closure of the Stock Exchange due to any unforeseen circumstances;

“Number of Warrant(s) per Entitlement” means the amount specified as such in the relevant Launch Announcement and Supplemental Listing Document;

“Product Conditions” means these product terms and conditions. These Product Conditions apply to each series of cash settled call/put Warrants over single equities;

“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;

“Settlement Disruption Event” means an event beyond the control of the Issuer as a result of which the Issuer is unable to procure payment of the Cash Settlement Amount electronically through CCASS to the Designated Bank Account;

“Shares” means the shares of the Company 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 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.

2. Warrant Rights and Exercise Expenses

2.1 Warrant Rights

Every Board Lot gives each Holder, upon due exercise and compliance with the General Conditions and these Product Conditions, in particular, Product Condition 3, the right to receive the payment of the Cash Settlement Amount (net of any Exercise Expenses), if any.

2.2 Exercise Expenses

Upon exercise of the Warrants, Holders will be obliged to give an irrevocable authorisation to the Issuer to deduct all Exercise Expenses in accordance with Product Condition 3.

3. Exercise of Warrants

3.1 Exercise of Warrants in Board Lots

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

3.2 Automatic Exercise

Any Warrant will be deemed to be automatically exercised if the Cash Settlement Amount on the Expiry Date is greater than zero (without notice being given to the Holders). The Holders will not be required to deliver any exercise notice and the Issuer or its agent will pay to the Holders the Cash Settlement Amount (net of any Exercise Expenses) (if any) in accordance with Product Condition 3.4.

Any Warrant which has not been automatically exercised in accordance with this Product Condition shall expire immediately without value thereafter and all rights of the Holder and obligations of the Issuer with respect to such Warrant shall cease.

3.3 Cancellation

The Issuer will procure that CS Hong Kong will, with effect from the first Business Day following the Expiry Date, remove from the Register the name of the person in respect of the Warrants which (i) are the subject of a valid exercise pursuant to automatic exercise in accordance with these Product Conditions; or (ii) have expired worthless, and thereby cancel the relevant Warrants.

3.4 **Cash Settlement**

Subject to automatic exercise of Warrants in accordance with these Product Conditions, the Issuer will make a payment in respect of every Board Lot to the relevant Holder equal to the Cash Settlement Amount (net of any Exercise Expenses). If the Cash Settlement Amount is equal to or less than the Exercise Expense, no amount is payable by the Issuer.

The Cash Settlement Amount shall be despatched not later than the Settlement Date by crediting that amount in accordance with the CCASS Rules to the Designated Bank Account.

If, as a result of a 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 the Settlement Disruption Event.

4. **Adjustments**

4.1 **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 will 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:

$$\text{Adjusted Entitlement} = \text{Adjustment Factor} \times E$$

Where:

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

- 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 Shares are traded on a cum-Rights basis
- R: Subscription price per new Share as specified in the Rights Offer plus an amount equal to any dividends or other benefits foregone to exercise the Rights
- 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 adjustment to be made would result in the Entitlement being changed by one per cent. or less, 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 Factor, where the reciprocal of the Adjustment Factor means one divided by the relevant Adjustment Factor. This adjustment shall take effect on the Rights Issue Adjustment Date.

For the purposes of these Product 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).

4.2 **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 will be adjusted on the Business Day on which trading in the Shares becomes ex-entitlement (**“Bonus Issue Adjustment Date”**) in accordance with the following formula:

$$\text{Adjusted Entitlement} = \text{Adjustment Factor} \times E$$

Where:

$$\text{Adjustment Factor} = 1 + N$$

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 existing Shares for each Share held prior to the Bonus Issue

Provided that if the adjustment to be made would result in the Entitlement being changed by one per cent. or less, 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 Factor, where the reciprocal of the Adjustment Factor means one divided by the relevant Adjustment Factor. This adjustment shall take effect on the Bonus Issue Adjustment Date.

4.3 **Subdivisions or 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:

- (a) 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
- (b) 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.

4.4 **Merger or Consolidation**

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 any corporation 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).

The rights attaching to the Warrants after the adjustment 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. 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 Product Condition 4.4 and, where cash is offered in substitution for Shares or is deemed to replace Substituted Securities as described above, references in these Product Conditions to the Shares shall include any such cash.

4.5 **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 (“**Cash Distribution Adjustment Date**”) in accordance with the following formula:

$$\text{Adjusted Entitlement} = \text{Adjustment Factor} \times E$$

Where:

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

- E: The existing Entitlement immediately prior to the Cash Distribution
- S: The closing price of the existing Share as derived from the daily quotation sheet of the Stock Exchange on the Business Day immediately preceding the Cash Distribution Adjustment Date

CD: The amount of Cash Distribution per Share

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

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

4.6 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:

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

4.7 Notice of Determinations

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 or amendment and of the date from which such adjustment or amendment is effective by publication in accordance with General Condition 7.

5. 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 Hong Kong 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, 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.

6. Delisting

6.1 If at any time the Shares cease to be listed on the Stock Exchange, the Issuer shall give effect to the General Conditions and these Product Conditions in such manner and make such adjustments 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 Holders generally are not materially prejudiced as a consequence of such delisting (without considering the individual circumstances of any Holder or the tax or other consequences that may result in any particular jurisdiction).

- 6.2 Without prejudice to the generality of Product Condition 6.1, where the Shares are, or, upon the delisting, become, listed on any other stock exchange, the General Conditions and these Product 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 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.
- 6.3 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 General Condition 7, as soon as practicable after they are determined.

**PART B — PRODUCT CONDITIONS OF INDEX CALL/PUT WARRANTS
(CASH SETTLED)**

These Product Conditions will, together with the General Conditions and 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 additional terms and conditions which shall, to the extent so specified or to the extent inconsistent with these Product Conditions, replace or modify these Product Conditions for the purpose of such series of Warrants. Capitalised terms used in these Product Conditions and not otherwise defined herein shall have the meaning given to them in the General Conditions and the relevant Launch Announcement and Supplemental Listing Document.

1. Definitions

For the purposes of these Product Conditions:

“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, in respect of every Board Lot:

(a) in respect of a series of call Warrants:

$$\frac{(\text{Closing Level} - \text{Strike Level}) \times \text{Index Currency Amount} \times \text{one Board Lot}}{\text{Divisor}}$$

either converted (if applicable) (i) into the Settlement Currency at the Exchange Rate or, as the case may be, (ii) into the Interim Currency at the First Exchange Rate and then converted into the Settlement Currency at the Second Exchange Rate;

(b) in respect of a series of put Warrants:

$$\frac{(\text{Strike level} - \text{Closing Level}) \times \text{Index Currency Amount} \times \text{one Board Lot}}{\text{Divisor}}$$

either converted (if applicable) (i) into the Settlement Currency at the Exchange Rate or, as the case may be, (ii) into the Interim Currency at the First Exchange Rate and then converted into the Settlement Currency at the Second Exchange Rate;

“Closing Level” has the meaning given to it in the relevant Launch Announcement and Supplemental Listing Document, subject to the adjustment in accordance with Product Condition 4;

“Designated Bank Account” means the relevant bank account designated by the relevant Holder;

“Divisor” means the amount 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 the Warrants;

“Expiry Date” has the meaning given to it 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;

“General Conditions” means the general terms and conditions of Structured Products set out in Appendix 1 of the Base Listing Document;

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

“Index Compiler” has the meaning given to it 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” has the meaning given to it 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;

“Market Disruption Event” means:

- (a) 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:
 - (i) the suspension or material limitation of the trading of a material number of constituent securities that comprise the Index; or
 - (ii) 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
 - (iii) the imposition of any exchange controls in respect of any currencies involved in determining the Cash Settlement Amount;

for the purposes of paragraph (a), (i) 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 (ii) 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; or

- (b) 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; or

- (c) a limitation or closure of the Index Exchange due to any unforeseen circumstances; or
- (d) 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 the Conditions or in such other manner as the Issuer considers appropriate at such time after taking into account all the relevant circumstances;

“Price Source”, if applicable, has the meaning given to it in the relevant Launch Announcement and Supplemental Listing Document;

“Product Conditions” means these product terms and conditions. These Product Conditions apply to each series of cash settled index call/put Warrants;

“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;

“Settlement Disruption Event” means an event beyond the control of the Issuer as a result of which the Issuer is unable to procure payment of the Cash Settlement Amount electronically through CCASS to the Designated Bank Account;

“Strike Level” means the level specified as such in the relevant Launch Announcement and Supplemental Listing Document, subject to adjustment in accordance with Product Condition 4; and

“Valuation Date” means the Expiry Date, provided that 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.

2. Warrant Rights and Exercise Expenses

2.1 Warrant Rights

Every Board Lot gives each Holder, upon due exercise and compliance with the General Conditions and these Product Conditions, in particular, Product Condition 3 the right to receive the payment of the Cash Settlement Amount (net of any Exercise Expenses), if any.

2.2 Exercise Expenses

Upon exercise of the Warrants, Holders will be obliged to give an irrevocable authorisation to the Issuer to deduct all Exercise Expenses in accordance with Product Condition 3.

3. Exercise of Warrants

3.1 Exercise of Warrants in Board Lots

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

3.2 **Automatic Exercise**

Any Warrant will be deemed to be automatically exercised if the Cash Settlement Amount on the Expiry Date is greater than zero (without notice being given to the Holders). The Holders will not be required to deliver any exercise notice and the Issuer or its agent will pay to the Holders the Cash Settlement Amount (net of any Exercise Expenses) (if any) in accordance with Product Condition 3.4.

Any Warrant which has not been automatically exercised in accordance with this Product Condition shall expire immediately without value thereafter and all rights of the Holder and obligations of the Issuer with respect to such Warrant shall cease.

3.3 **Cancellation**

The Issuer will procure that CS Hong Kong will, with effect from the first Business Day following the Expiry Date, remove from the Register the name of the person in respect of the Warrants which (i) are the subject of a valid exercise pursuant to automatic exercise in accordance with these Product Conditions; or (ii) have expired worthless, and thereby cancel the relevant Warrants.

3.4 **Cash Settlement**

Subject to automatic exercise of Warrants in accordance with these Product Conditions, the Issuer will make a payment in respect of every Board Lot to the relevant Holder equal to the Cash Settlement Amount (net of any Exercise Expenses). If the Cash Settlement Amount is equal to or less than the Exercise Expense, no amount is payable by the Issuer.

The Cash Settlement Amount shall be despatched not later than the Settlement Date by crediting that amount in accordance with the CCASS Rules to the Designated Bank Account.

If as a result of a 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 the Settlement Disruption Event.

4. **Adjustments to the Index**

4.1 **Successor Index Compiler Calculates and Reports Index**

If the Index is (a) 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 (b) 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.

4.2 *Modification and Cessation of Calculation of Index*

If:

- (a) 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 stock, contracts or commodities and other routine events); or
- (b) 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 on the Valuation Date using, in lieu of a published level for the Index, the level for the Index as at that 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/commodities that comprised the Index immediately prior to that change or failure.

4.3 *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:

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

4.4 *Notice of Determinations*

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 or amendment and of the date from which such adjustment or amendment is effective by publication in accordance with General Condition 7.

PART C — PRODUCT CONDITIONS OF CALL/PUT WARRANTS OVER SINGLE UNIT TRUSTS (CASH SETTLED)

These Product Conditions will, together with the General Conditions and 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 additional terms and conditions which shall, to the extent so specified or to the extent inconsistent with these Product Conditions, replace or modify these Product Conditions for the purpose of such series of Warrants. Capitalised terms used in these Product Conditions and not otherwise defined herein shall have the meaning given to them in the General Conditions and the relevant Launch Announcement and Supplemental Listing Document.

1. Definitions

For the purposes of these Product 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 any event as contemplated in Product Condition 4 such as capitalisation, rights issue, distribution or the like in respect of each Valuation Date;

“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, in respect of every Board Lot, an amount in the Settlement Currency calculated by the Issuer as:

(a) in the case of a series of call Warrants:

$$\frac{\text{Entitlement} \times (\text{Average Price} - \text{Exercise Price}) \times \text{one Board Lot}}{\text{Number of Warrant(s) per Entitlement}}$$

(b) in the case of a series of put Warrants:

$$\frac{\text{Entitlement} \times (\text{Exercise Price} - \text{Average Price}) \times \text{one Board Lot}}{\text{Number of Warrant(s) per Entitlement}}$$

“Designated Bank Account” means the relevant bank account designated by the relevant Holder;

“Entitlement” means the number specified as such in the relevant Launch Announcement and Supplemental Listing Document, subject to any adjustment in accordance with Product Condition 4;

“Exercise Expenses” means any charges or expenses including any taxes or duties which are incurred in respect of the exercise of the Warrants;

“Exercise Price” means the price specified as such in the relevant Launch Announcement and Supplemental Listing Document;

“Expiry Date” has the meaning given to it in the relevant Launch Announcement and Supplemental Listing Document;

“General Conditions” means the general terms and conditions of Structured Products set out in Appendix 1 of the Base Listing Document;

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

“Market Disruption Event” means:

- (a) 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: (i) the Units; or (ii) 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; or
- (b) 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
- (c) a limitation or closure of the Stock Exchange due to any unforeseen circumstances;

“Number of Warrant(s) per Entitlement” means the amount specified as such in the relevant Launch Announcement and Supplemental Listing Document;

“Product Conditions” means these product terms and conditions. These Product Conditions apply to each series of cash settled call/put Warrants over single unit trusts;

“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;

“Settlement Disruption Event” means an event beyond the control of the Issuer as a result of which the Issuer is unable to procure payment of the Cash Settlement Amount electronically through CCASS to the Designated Bank Account;

“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.

2. Warrant Rights and Exercise Expenses

2.1 Warrant Rights

Every Board Lot gives each Holder, upon due exercise and compliance with the General Conditions and these Product Conditions, in particular, Product Condition 3, the right to receive the payment of the Cash Settlement Amount (net of any Exercise Expenses), if any.

2.2 Exercise Expenses

Upon exercise of the Warrants, Holders will be obliged to give an irrevocable authorisation to the Issuer to deduct all Exercise Expenses in accordance with Product Condition 3.

3. Exercise of Warrants

3.1 Exercise of Warrants in Board Lots

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

3.2 Automatic Exercise

Any Warrant will be deemed to be automatically exercised if the Cash Settlement Amount on the Expiry Date is greater than zero (without notice being given to the Holders). The Holders will not be required to deliver any exercise notice and the Issuer or its agent will pay to the Holders the Cash Settlement Amount (net of any Exercise Expenses) (if any) in accordance with Product Condition 3.4.

Any Warrant which has not been automatically exercised in accordance with this Product Condition shall expire immediately without value thereafter and all rights of the Holder and obligations of the Issuer with respect to such Warrant shall cease.

3.3 Cancellation

The Issuer will procure that CS Hong Kong will, with effect from the first Business Day following the Expiry Date, remove from the Register the name of the person in respect of the Warrants which (i) are the subject of a valid exercise pursuant to automatic exercise in accordance with these Product Conditions; or (ii) have expired worthless, and thereby cancel the relevant Warrants.

3.4 **Cash Settlement**

Subject to automatic exercise of Warrants in accordance with these Product Conditions, the Issuer will make a payment in respect of every Board Lot to the relevant Holder equal to the Cash Settlement Amount (net of any Exercise Expenses). If the Cash Settlement Amount is equal to or less than the Exercise Expense, no amount is payable by the Issuer.

The Cash Settlement Amount shall be despatched not later than the Settlement Date by crediting that amount in accordance with the CCASS Rules, to the Designated Bank Account.

If, as a result of a 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 the Settlement Disruption Event.

4. **Adjustments**

4.1 **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 will 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:

$$\text{Adjustment Entitlement} = \text{Adjustment Factor} \times E$$

Where:

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

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 on 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 as specified in the Rights Offer plus an amount equal to any distributions or other benefits foregone to exercise the Rights

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 adjustment to be made would result in the Entitlement being changed by one per cent. or less, 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 Factor, where the reciprocal of the Adjustment Factor means one divided by the relevant Adjustment Factor. This adjustment shall take effect on the Rights Issue Adjustment Date.

For the purposes of these Product 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).

4.2 ***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 will be adjusted on the Business Day on which trading in the Units of the Trust becomes ex-entitlement (**“Bonus Issue Adjustment Date”**) in accordance with the following formula:

$$\text{Adjusted Entitlement} = \text{Adjustment Factor} \times E$$

Where:

$$\text{Adjustment Factor} = 1 + N$$

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 existing Units for each Unit held prior to the Bonus Issue

Provided that if the adjustment to be made would result in the Entitlement being changed by one per cent. or less, 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 Factor, where the reciprocal of the Adjustment Factor means one divided by the relevant Adjustment Factor. This adjustment shall take effect on the Bonus Issue Adjustment Date.

4.3 ***Subdivisions or 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:

- (a) 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
- (b) 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.

4.4 ***Merger or Consolidation***

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 trust 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).

The rights attaching to the Warrants after the adjustment 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. 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 Product Condition 4.4 and, where cash is offered in substitution for Units or is deemed to replace Substituted Securities as described above, references in these Product Conditions to the Units shall include any such cash.

4.5 **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 (“**Cash Distribution Adjustment Date**”) in accordance with the following formula:

$$\text{Adjusted Entitlement} = \text{Adjustment Factor} \times E$$

Where:

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

- E: The existing Entitlement immediately prior to the Cash Distribution
- S: The closing price of an existing Unit as derived from the daily quotation sheet of the Stock Exchange on the Business Day immediately preceding the Cash Distribution Adjustment Date.
- CD: The amount of Cash Distribution per Unit
- OD: The amount of Ordinary Distribution per Unit, provided that the Ordinary Distribution and the Cash Distribution shall have the same ex-entitlement date. For the avoidance of doubt, the OD shall be deemed to be zero if the ex-entitlement dates of the relevant Ordinary Distribution and Cash Distribution are different

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

4.6 **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:

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

4.7 **Notice of Determinations**

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 or amendment and of the date from which such adjustment or amendment is effective by publication in accordance with General Condition 7.

5. **Termination or Liquidation**

5.1 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 Hong Kong 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, 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.

5.2 For the purpose of this Product Condition 5, “**Termination**” means (a) 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; (b) the Trust is held or is conceded by the Trustee or the Manager not to have been constituted or to have been imperfectly constituted; (c) 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 (d) the Trust ceases to be authorised as an authorised collective investment scheme under the Securities and Futures Ordinance (Cap 571, The Laws of Hong Kong).

6. Delisting

- 6.1 If at any time the Units cease to be listed on the Stock Exchange, the Issuer shall give effect to the General Conditions and these Product Conditions in such manner and make such adjustments 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 Holders generally are not materially prejudiced as a consequence of such delisting (without considering the individual circumstances of any Holder or the tax or other consequences that may result in any particular jurisdiction).
- 6.2 Without prejudice to the generality of Product Condition 6.1, where the Units are, or, upon the delisting, become, listed on any other stock exchange, the General Conditions and these Product 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 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.
- 6.3 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 General Condition 7, as soon as practicable after they are determined.

PART D — PRODUCT CONDITIONS OF CALL/PUT WARRANTS OVER SINGLE FOREIGN EQUITIES (CASH SETTLED)

These Product Conditions will, together with the General Conditions and 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 additional terms and conditions which shall, to the extent so specified or to the extent inconsistent with these Product Conditions, replace or modify these Product Conditions for the purpose of such series of Warrants. Capitalised terms used in these Product Conditions and not otherwise defined herein shall have the meaning given to them in the General Conditions and the relevant Launch Announcement and Supplemental Listing Document.

1. Definitions

For the purposes of these Product Conditions:

“**Average Price**” means the arithmetic mean of the official closing prices of one Share, subject to any adjustment to such closing prices as may be necessary to reflect any event as contemplated in Product Condition 4 such as capitalisation, rights issue, distribution or the like in respect of each Valuation Date;

“**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, in respect of every Board Lot, an amount in the Settlement Currency calculated by the Issuer as:

(a) in the case of a series of call Warrants:

$$\frac{\text{Entitlement} \times (\text{Average Price} - \text{Exercise Price}) \times \text{one Board Lot}}{\text{Number of Warrant(s) per Entitlement}}$$

(if applicable) converted from Underlying Currency into the Settlement Currency at the Exchange Rate

(b) in the case of a series of put Warrants:

$$\frac{\text{Entitlement} \times (\text{Exercise Price} - \text{Average Price}) \times \text{one Board Lot}}{\text{Number of Warrant(s) per Entitlement}}$$

(if applicable) converted from Underlying Currency into the Settlement Currency at the Exchange Rate

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

“**Designated Bank Account**” means the relevant bank account designated by the relevant Holder;

“**Entitlement**” means the number specified as such in the relevant Launch Announcement and Supplemental Listing Document, subject to any adjustment in accordance with Product Condition 4;

“**Exchange Rate**” has the meaning given to it 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 the Warrants;

“Exercise Price” means the price specified as such in the relevant Launch Announcement and Supplemental Listing Document;

“Expiry Date” has the meaning given to it in the relevant Launch Announcement and Supplemental Listing Document;

“General Conditions” means the general terms and conditions of Structured Products set out in Appendix 1 of the Base Listing Document;

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

“Market Disruption Event” means:

- (a) 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 Underlying Exchange or otherwise) on the Underlying Exchange in (i) the Shares; or (ii) 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; or
- (b) a closure of the Underlying Exchange or a disruption or limitation in trading on the Underlying Exchange due to any other unforeseen circumstances;

“Number of Warrant(s) per Entitlement” means the amount specified as such in the relevant Launch Announcement and Supplemental Listing Document;

“Product Conditions” means these product terms and conditions. These Product Conditions apply to each series of cash settled call/put Warrants over single foreign equities;

“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;

“Settlement Disruption Event” means an event beyond the control of the Issuer as a result of which the Issuer is unable to procure payment of the Cash Settlement Amount electronically through CCASS to the Designated Bank Account;

“Shares” means the shares of the Company specified as such in the relevant Launch Announcement and Supplemental Listing Document; and

“Underlying Currency” has the meaning given to it in the relevant Launch Announcement and Supplemental Listing Document;

“Underlying Exchange” has the meaning given to it in the relevant Launch Announcement and Supplemental Listing Document;

“Underlying Exchange Business Day” means a day (excluding Saturdays, Sundays or public holidays) on which the Underlying Exchange is scheduled to open for dealings during its regular trading sessions;

“Valuation Date” means each of the five Underlying Exchange 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 Underlying Exchange Business Day on which there is no Market Disruption Event irrespective of whether that postponed Valuation Date would fall on an Underlying Exchange 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 official closing price of the Shares on the first succeeding Underlying Exchange Business Day will be used more than once in determining the Average Price, so that in no event shall there be less than five official 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 Underlying Exchange 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 official 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.

2. Warrant Rights and Exercise Expenses

2.1 Warrant Rights

Every Board Lot gives each Holder, upon due exercise and compliance with the General Conditions and these Product Conditions, in particular, Product Condition 3, the right to receive the payment of the Cash Settlement Amount (net of any Exercise Expenses), if any.

2.2 Exercise Expenses

Upon exercise of the Warrants, Holders will be obliged to give an irrevocable authorisation to the Issuer to deduct all Exercise Expenses in accordance with Product Condition 3.

3. Exercise of Warrants

3.1 Exercise of Warrants in Board Lots

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

3.2 Automatic Exercise

Any Warrant will be deemed to be automatically exercised if the Cash Settlement Amount on the Expiry Date is greater than zero (without notice being given to the Holders). The Holders will not be required to deliver any exercise notice and the Issuer or its agent will pay to the Holders the Cash Settlement Amount (net of any Exercise Expenses) (if any) in accordance with Product Condition 3.4.

Any Warrant which has not been automatically exercised in accordance with this Product Condition shall expire immediately without value thereafter and all rights of the Holder and obligations of the Issuer with respect to such Warrant shall cease.

3.3 **Cancellation**

The Issuer will procure that CS Hong Kong will, with effect from the first Business Day following the Expiry Date, remove from the Register the name of the person in respect of the Warrants which (i) are the subject of a valid exercise pursuant to automatic exercise in accordance with these Product Conditions; or (ii) have expired worthless, and thereby cancel the relevant Warrants.

3.4 **Cash Settlement**

Subject to automatic exercise of Warrants in accordance with these Product Conditions, the Issuer will make a payment in respect of every Board Lot to the relevant Holder equal to the Cash Settlement Amount (net of any Exercise Expenses). If the Cash Settlement Amount is equal to or less than the Exercise Expense, no amount is payable by the Issuer.

The Cash Settlement Amount shall be despatched not later than the Settlement Date by crediting that amount in accordance with the CCASS Rules to the Designated Bank Account.

If, as a result of a 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 the Settlement Disruption Event.

4. **Adjustments**

4.1 **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 will be adjusted to take effect on the Underlying Exchange Business Day on which trading in the Shares becomes ex-entitlement (“**Rights Issue Adjustment Date**”) in accordance with the following formula:

$$\text{Adjusted Entitlement} = \text{Adjustment Factor} \times E$$

Where:

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

E: Existing Entitlement immediately prior to the Rights Offer

S: Cum-Rights Share price being the official closing price of an existing Share on the Underlying Exchange on the last Underlying Exchange Business Day on which Shares are traded on a cum-Rights basis

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

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 adjustment to be made would result in the Entitlement being changed by one per cent. or less, then no adjustment will be made. In addition, the Issuer shall adjust the Exercise Price by the reciprocal of the Adjustment Factor, where the reciprocal of the Adjustment Factor means one divided by the relevant Adjustment Factor. This adjustment shall take effect on the Rights Issue Adjustment Date.

For the purposes of these Product 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).

4.2 ***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 will be adjusted on the Underlying Exchange Business Day on which trading in the Shares becomes ex-entitlement (**“Bonus Issue Adjustment Date”**) in accordance with the following formula:

$$\text{Adjusted Entitlement} = \text{Adjustment Factor} \times E$$

Where:

$$\text{Adjustment Factor} = 1 + N$$

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 existing Shares for each Share held prior to the Bonus Issue

Provided that if the adjustment to be made would result in the Entitlement being changed by one per cent. or less, then no adjustment will be made. In addition, the Issuer shall adjust the Exercise Price by the reciprocal of the Adjustment Factor, where the reciprocal of the Adjustment Factor means one divided by the relevant Adjustment Factor. This adjustment shall take effect on the Bonus Issue Adjustment Date.

4.3 ***Subdivisions or 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:

- (a) in the case of a Subdivision, the Entitlement in effect immediately prior thereto will be increased whereas the Exercise Price will be decreased in the same ratio as the Subdivision; and
- (b) in the case of a Consolidation, the Entitlement in effect immediately prior thereto will be decreased whereas the Exercise Price 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.

4.4 ***Merger or Consolidation***

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 any corporation 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 Underlying Exchange 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).

The rights attaching to the Warrants after the adjustment 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. 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 Product Condition 4.4 and, where cash is offered in substitution for Shares or is deemed to replace Substituted Securities as described above, references in these Product Conditions to the Shares shall include any such cash.

4.5 ***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 official 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 Underlying Exchange Business Day on which trading in the Shares becomes ex- entitlement in respect of the relevant Cash Distribution (“**Cash Distribution Adjustment Date**”) in accordance with the following formula:

$$\text{Adjusted Entitlement} = \text{Adjustment Factor} \times E$$

Where:

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

E: The existing Entitlement immediately prior to the Cash Distribution

S: The official closing price of the existing Share on the Underlying Exchange on the Underlying Exchange Business Day immediately preceding the Cash Distribution Adjustment Date

CD: The amount of Cash Distribution per Share

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

In addition, the Issuer shall adjust the Exercise Price by the reciprocal of the Adjustment Factor, where the reciprocal of the Adjustment Factor means one divided by the relevant Adjustment Factor. The adjustment to the Exercise Price shall take effect on the Cash Distribution Adjustment Date.

4.6 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:

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

4.7 Notice of Determinations

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 or amendment and of the date from which such adjustment or amendment is effective by publication in accordance with General Condition 7.

5. 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, 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.

6. Delisting

6.1 If at any time the Shares cease to be listed on the Underlying Exchange, the Issuer shall give effect to the General Conditions and these Product Conditions in such manner and make such adjustments 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 Holders generally are not materially prejudiced as a consequence of such delisting (without considering the individual circumstances of any Holder or the tax or other consequences that may result in any particular jurisdiction).

- 6.2 Without prejudice to the generality of Product Condition 6.1, where the Shares are, or, upon the delisting, become, listed on any other stock exchange, the General Conditions and these Product 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 Underlying Exchange and the Issuer may, without the consent of the Holders, make such adjustments to the entitlements of 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.
- 6.3 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 General Condition 7, as soon as practicable after they are determined.

APPENDIX 3 — PRODUCT CONDITIONS OF THE CBBCs

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PART A — PRODUCT CONDITIONS OF INDEX CALLABLE BULL/BEAR CONTRACTS (CASH SETTLED)

These Product Conditions will, together with the General Conditions and 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 additional terms and conditions which shall, to the extent so specified or to the extent inconsistent with these Product Conditions, replace or modify these Product Conditions for the purpose of such series of CBBCs. Capitalised terms used in these Product Conditions and not otherwise defined herein shall have the meaning given to them in the General Conditions and the relevant Launch Announcement and Supplemental Listing Document.

1. Definitions

For the purposes of these Product Conditions:

“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 adjustments in accordance with Product Condition 5;

“Cash Settlement Amount” means, in respect of every Board Lot:

(a) following a Mandatory Call Event:

- (i) in respect of a series of Category R CBBCs, the Residual Value; or
- (ii) in respect of a series of Category N CBBCs, zero; and

(b) at expiry:

- (i) in respect of a series of bull CBBCs, an amount calculated by the Issuer equal to:

$$\frac{(\text{Closing Level} - \text{Strike Level}) \times \text{Index Currency Amount} \times \text{one Board Lot}}{\text{Divisor}}$$

either converted (if applicable) (i) into the Settlement Currency at the Exchange Rate or, as the case may be, (ii) into the Interim Currency at the First Exchange Rate and then converted into the Settlement Currency at the Second Exchange Rate; and

- (ii) in respect of a series of bear CBBCs, an amount calculated by the Issuer equal to:

$$\frac{(\text{Strike Level} - \text{Closing Level}) \times \text{Index Currency Amount} \times \text{one Board Lot}}{\text{Divisor}}$$

either converted (if applicable) (i) into the Settlement Currency at the Exchange Rate or, as the case may be, (ii) into the Interim Currency at the First Exchange Rate and then converted into the Settlement Currency at the Second Exchange Rate.

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;

“Closing Level” has the meaning given to it in the relevant Launch Announcement and Supplemental Listing Document, subject to any adjustment in accordance with Product Condition 5;

“Designated Bank Account” means the relevant bank account designated by the relevant Holder;

“Divisor” means the amount specified as such in the relevant Launch Announcement and Supplemental Listing Document;

“Exchange Rate”, if applicable, 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 the CBBCs;

“Expiry Date” has the meaning given to it in the relevant Launch Announcement and Supplemental Listing Document;

“First Exchange Rate”, if applicable, means the rate specified as such in the relevant Launch Announcement and Supplemental Listing Document;

“General Conditions” means the general terms and conditions of Structured Products set out in Appendix 1 of the Base Listing Document;

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

“Index Business Day” means a day on which the Index Exchange is scheduled to open for trading for its regular trading sessions;

“Index Compiler” has the meaning given to it 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” has the meaning given to it in the relevant Launch Announcement and Supplemental Listing Document;

“Interim Currency”, if applicable, 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 if the Spot Level at any time during an Index Business Day in the Observation Period is:

- (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:

- (a) the occurrence or existence, on the 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:
 - (i) the suspension or material limitation of the trading of a material number of constituent securities that comprise the Index; or
 - (ii) 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
 - (iii) the imposition of any exchange controls in respect of any currencies involved in determining the Cash Settlement Amount;

for the purposes of paragraph (a), (i) 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 (ii) 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; or

- (b) 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; or
- (c) a limitation or closure of the Index Exchange due to any unforeseen circumstances; or
- (d) 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 the 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, in respect of Category R CBBCs, the highest Spot Level of the Index during the MCE Valuation Period;

“MCE Valuation Period” means:

- (a) in respect of an Index Exchange located in Hong Kong, the period commencing from and including the moment upon which the Mandatory Call Event occurs (the trading session on the Index Exchange 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 the 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 published by the Index Compiler 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 applicable) of the same day; and
- (B) the afternoon session and the closing auction session (if applicable) of the same day,

shall each be considered as one session only; and

- (b) in respect of an Index Exchange located outside Hong Kong, the period specified in the relevant Launch Announcement and Supplemental Listing Document;

“Minimum Index Level” means, in respect of Category R CBBCs, the lowest Spot Level of the Index during the MCE Valuation Period;

“Observation Commencement Date” has the meaning given to it in the relevant Launch Announcement and Supplemental Listing Document;

“Observation Period” means the period commencing from and including the Observation Commencement Date up to and including the close of trading (Hong Kong time) on 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;

“Price Source”, if applicable, has the meaning given to it in the relevant Launch Announcement and Supplemental Listing Document;

“Product Conditions” means these product terms and conditions. These Product Conditions apply to each series of cash settled index callable bull/bear contracts;

“Residual Value” means, in respect of every Board Lot:

- (a) in respect of a series of bull CBBCs, an amount calculated by the Issuer equal to:

$$\frac{(\text{Minimum Index Level} - \text{Strike Level}) \times \text{Index Currency Amount} \times \text{one Board Lot}}{\text{Divisor}}$$

either converted (if applicable) (i) into the Settlement Currency at the Exchange Rate or, as the case may be, (ii) into the Interim Currency at the First Exchange Rate and then converted into the Settlement Currency at the Second Exchange Rate; and

- (b) in respect of a series of bear CBBCs, an amount calculated by the Issuer equal to:

$$\frac{(\text{Strike Level} - \text{Maximum Index Level}) \times \text{Index Currency Amount} \times \text{one Board Lot}}{\text{Divisor}}$$

either converted (if applicable) (i) into the Settlement Currency at the Exchange Rate or, as the case may be, (ii) into the Interim Currency at the First Exchange Rate and then converted into the Settlement Currency at the Second Exchange Rate;

“Second Exchange Rate”, if applicable, 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);

“Settlement Disruption Event” means an event beyond the control of the Issuer as a result of which the Issuer is unable to procure payment of the Cash Settlement Amount electronically through CCASS to the Designated Bank Account;

“Spot Level” means:

- (a) if no Price Source is specified, the spot level of the Index as compiled and published by the Index Compiler; or
- (b) if a Price Source is specified, the spot level of the Index as published on the Price Source;

“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 adjustment in accordance with Product Condition 5;

“Trading Day” means the day on which the Stock Exchange is scheduled to open for trading for its regular trading sessions; and

“Valuation Date” has the meaning given to it in the relevant Launch Announcement and Supplemental Listing Document, provided that 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.

2. Hedging Disruption

2.1 **Notification:** The Issuer shall as soon as reasonably practicable give notice to the Holders in accordance with General Condition 7 if it determines that a Hedging Disruption Event has occurred. The notice shall specify the consequence of such Hedging Disruption Event as determined by the Issuer pursuant to Product Condition 2.3.

2.2 **Hedging Disruption Event:** A “**Hedging Disruption Event**” occurs if the Issuer determines that it is or has become not reasonably practicable or it has otherwise become undesirable, for any reason, for the Issuer wholly or partially (X) 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 (Y) to freely realise, 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:

- (a) any material illiquidity in the market for the components comprising the Index;
- (b) 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);
- (c) a material decline in the creditworthiness of a party with whom the Issuer has entered into any such Relevant Hedging Transaction; or
- (d) the general unavailability of:
 - (i) market participants who will agree to enter into a Relevant Hedging Transaction; or
 - (ii) market participants who will so enter into a Relevant Hedging Transaction on commercially reasonable terms.

2.3 **Consequences:** The Issuer, in the event of a Hedging Disruption Event, may determine to:

- (a) 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 calculated by it as 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 General Condition 7; or
- (b) make any other adjustment to the Product Conditions as it considers appropriate in order to maintain the theoretical value of the CBBCs after adjusting for the relevant Hedging Disruption Event.

3. CBBC Rights and Exercise Expenses

3.1 CBBC Rights

Every Board Lot gives each Holder, upon due exercise and compliance with Product Condition 4, the right to receive the payment of the Cash Settlement Amount (net of any Exercise Expenses), if any.

3.2 Exercise Expenses

On exercise of the CBBCs, Holders will be obliged to give an irrevocable authorisation to the Issuer to deduct all Exercise Expenses in accordance with Product Condition 4.

4. Exercise of CBBCs

4.1 Exercise of CBBCs in Board Lots

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

4.2 Automatic exercise

If no Mandatory Call Event has occurred during the Observation Period, the CBBCs will be deemed to be automatically exercised on the Expiry Date if the Cash Settlement Amount is greater than zero (without notice being given to the Holders).

4.3 Mandatory Call Event

- (a) Subject to Product Condition 4.3(b) below, following a Mandatory Call Event, the CBBCs will be terminated automatically and the Issuer shall have no further obligation under the CBBCs except for the payment of the Cash Settlement Amount (net of any Exercise Expenses) (if any) on the Settlement Date. The Issuer will notify the Holders of the occurrence of the Mandatory Call Event in accordance with General Condition 7.

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 Stock Exchange or the Issuer.

- (b) A Mandatory Call Event is irrevocable unless it is triggered as a result of any of the following events:
- (i) system malfunction or other technical errors of the Stock Exchange and 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; or
 - (ii) manifest errors caused by the relevant third party where applicable (such as miscalculation of the index level by the Index Compiler) and 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 the time specified in the relevant Launch Announcement and Supplemental Listing Document or such other time as prescribed by the Stock Exchange from time to time.

In both cases, the Mandatory Call Event so triggered will be reversed; and all cancelled trades (if any) will be reinstated and trading of the CBBCs will resume as soon as practicable in accordance with the rules and/or requirements prescribed by the Stock Exchange from time to time.

4.4 Entitlement

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

4.5 Exercise Expenses

Any Exercise Expenses which are not determined by the Issuer by the end of 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 Product 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.

4.6 Cancellation

The Issuer will procure that the Registrar will, with effect from the first Business Day following the MCE Valuation Period or the Expiry Date (as the case may be), remove from the Register the name of the person in respect of the CBBCs which (a) are the subject of a valid exercise in accordance with these Product Conditions or (b) have expired worthless, and thereby cancel the relevant CBBCs.

4.7 Cash Settlement

Upon early termination of the CBBCs following the occurrence of a Mandatory Call Event or an automatic exercise of the CBBCs on the Expiry Date (as the case may be) in accordance with these Product Conditions, the Issuer will make a payment in respect of every Board Lot to the relevant Holder equal to the Cash Settlement Amount (net of any Exercise Expenses). If the Cash Settlement Amount is equal to or less than the Exercise Expense, no amount is payable by the Issuer.

The Cash Settlement Amount shall be despatched not later than the Settlement Date by crediting that amount in accordance with the CCASS Rules to the Designated Bank Account.

If as a result of a 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 the Settlement Disruption Event.

4.8 Responsibility of Issuer and Registrar

None of the Issuer, the Registrar or their respective agents shall have any responsibility for (i) any errors or omissions in the calculation and dissemination of any variables published by a third party; and (ii) any errors or omissions in any calculation made by the Issuer pursuant to the Conditions (including the calculation of the Cash Settlement Amount) if such error or omission in calculation arises from the use of errors or omissions in any variables calculated, disseminated or published by a third party.

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.

4.9 *Liability of Issuer and Registrar*

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 Registrar 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 Registrar 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.

4.10 *Trading in the CBBCs*

Subject to Product Condition 4.3(b), trading in CBBCs on the Stock Exchange shall cease (a) immediately upon the occurrence of a Mandatory Call Event or (b) 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.

5. *Adjustments to the Index*

5.1 *Successor Index Compiler Calculates and Reports Index*

If the Index is (a) 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 (b) 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.

5.2 *Modification and Cessation of Calculation of Index*

If:

- (a) 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 stock, contracts or commodities and other routine events); or
- (b) 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 on the Valuation Date using, in lieu of a published level for the Index, the level for the Index as at that 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/commodities that comprised the Index immediately prior to that change or failure.

5.3 ***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:

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

5.4 ***Notice of Determinations***

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 or amendment and of the date from which such adjustment or amendment is effective by publication in accordance with General Condition 7.

PART B — PRODUCT CONDITIONS OF CALLABLE BULL/BEAR CONTRACTS OVER SINGLE EQUITIES (CASH SETTLED)

These Product Conditions will, together with the General Conditions and 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 additional terms and conditions which shall, to the extent so specified or to the extent inconsistent with these Product Conditions, replace or modify these Product Conditions for the purpose of such series of CBBCs. Capitalised terms used in these Product Conditions and not otherwise defined herein shall have the meaning given to them in the General Conditions and the relevant Launch Announcement and Supplemental Listing Document.

1 Definitions

For the purposes of these Product Conditions:

“**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 Product Condition 5;

“**Cash Settlement Amount**” means, in respect of every Board Lot, an amount in the Settlement Currency calculated by the Issuer as:

(a) following a Mandatory Call Event:

- (i) in respect of a series of Category R CBBCs, the Residual Value; or
- (ii) in respect of a series of Category N CBBCs, zero; and

(b) at expiry:

- (i) in respect of a series of bull CBBCs, an amount equal to:

$$\frac{\text{Entitlement} \times (\text{Closing Price} - \text{Strike Price}) \times \text{one Board Lot}}{\text{Number of CBBC(s) per Entitlement}}$$

and

- (ii) in respect of a series of bear CBBCs, an amount equal to:

$$\frac{\text{Entitlement} \times (\text{Strike Price} - \text{Closing Price}) \times \text{one Board Lot}}{\text{Number of CBBC(s) per Entitlement}}$$

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;

“Closing Price” means the official closing price of the Share (as derived from the daily quotation sheet of the Stock Exchange, subject to any adjustment as may be necessary to reflect any event as contemplated in Product Condition 5 such as capitalisation, rights issue, distribution or the like) on the Valuation Date. If a Market Disruption Event occurs on each of the four Trading Days immediately following the scheduled Valuation Date, then the Issuer shall determine the Closing Price in accordance with the definition of “Valuation Date”;

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

“Designated Bank Account” means the relevant bank account designated by the relevant Holder;

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

“Exercise Expenses” means any charges or expenses including any taxes or duties which are incurred in respect of the exercise of the CBBCs;

“Expiry Date” has the meaning given to it in the relevant Launch Announcement and Supplemental Listing Document;

“General Conditions” means the general terms and conditions of Structured Products set out in Appendix 1 of the Base Listing Document;

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

“Mandatory Call Event” occurs if the Spot Price of the Shares at any time during a Trading Day in the Observation Period is:

- (a) in the case of a series of bull CBBCs, at or below the Call Price; or
- (b) in the case of a series of bear CBBCs, at or above the Call Price;

“Market Disruption Event” means:

- (a) 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: (i) the Shares; or (ii) 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;
- (b) 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
- (c) a limitation or closure of the Stock Exchange due to any other unforeseen circumstances;

“Maximum Trade Price” means, in respect of Category R CBBCs, 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 Product Condition 5 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 on the Stock Exchange 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 for the 2nd Session) does not contain any continuous period of 1 hour or more than 1 hour during which Spot Prices are available, the MCE Valuation Period shall be extended to the end of the subsequent trading session on the Stock Exchange following the 2nd Session during which Spot Prices 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 Trading Days immediately following the day on which the Mandatory Call Event occurs does not contain any continuous period of 1 hour or more than 1 hour during which Spot Prices are available. In that case:

- (a) the period commencing from the 1st Session up to, and including, the last trading session of the fourth Trading Day on the Stock Exchange immediately following the date on which the Mandatory Call Event occurs shall be deemed to be the MCE Valuation Period; and
- (b) 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 applicable) of the same day; and
- (B) the afternoon session and the closing auction session (if applicable) of the same day,

shall each be considered as one session only;

“Minimum Trade Price” means, in respect of Category R CBBCs, 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 Product Condition 5 such as capitalisation, rights issue, distribution or the like) during the MCE Valuation Period;

“Number of CBBC(s) per Entitlement” means the amount specified as such in the relevant Launch Announcement and Supplemental Listing Document;

“Observation Commencement Date” has the meaning given to it in the relevant Launch Announcement and Supplemental Listing Document;

“Observation Period” means the period commencing from and including the Observation Commencement Date up to and including the close of trading (Hong Kong time) on 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;

“Product Conditions” means these product terms and conditions. These Product Conditions apply to each series of cash settled callable bull/bear contracts over single equities;

“Residual Value” means, in respect of every Board Lot:

(a) in respect of a series of bull CBBCs, an amount calculated by the Issuer equal to:

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

and

(b) in respect of a series of bear CBBCs, an amount calculated by the Issuer equal to:

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

“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);

“Settlement Disruption Event” means an event beyond the control of the Issuer as a result of which the Issuer is unable to procure payment of the Cash Settlement Amount electronically through CCASS to the Designated Bank Account;

“Shares” means the shares of the Company 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 of the Stock Exchange 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 (IEP) (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 Product Condition 5;

“Trading Day” means a 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 the Issuer determines, in its sole and absolute discretion, that a Market Disruption Event has occurred, then that day shall be postponed until 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 on the basis of its good faith estimate of the price that would have prevailed on that day but for the occurrence of the Market Disruption Event.

2. Hedging Disruption

2.1 **Notification:** The Issuer shall as soon as reasonably practicable give notice to the Holders in accordance with General Condition 7 if it determines that a Hedging Disruption Event has occurred. The notice shall specify the consequence of such Hedging Disruption Event as determined by the Issuer pursuant to Product Condition 2.3.

2.2 **Hedging Disruption Event:** A **“Hedging Disruption Event”** occurs if the Issuer determines that it is or has become not reasonably practicable or it has otherwise become undesirable, for any reason, for the Issuer wholly or partially (X) 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 or (Y) 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:

- (a) any material illiquidity in the market for the Shares;
- (b) 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);
- (c) a material decline in the creditworthiness of a party with whom the Issuer has entered into any such Relevant Hedging Transaction; or
- (d) the general unavailability of:
 - (i) market participants who will agree to enter into a Relevant Hedging Transaction; or
 - (ii) market participants who will so enter into a Relevant Hedging Transaction on commercially reasonable terms.

2.3 **Consequences:** The Issuer, in the event of a Hedging Disruption Event, may determine to:

- (a) 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 calculated by it as 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 General Condition 7; or
- (b) make any other adjustment to the Product Conditions as it considers appropriate in order to maintain the theoretical value of the CBBCs after adjusting for the relevant Hedging Disruption Event.

3. CBBC Rights and Exercise Expenses

3.1 *CBBC Rights*

Every Board Lot gives each Holder, upon due exercise and compliance with Product Condition 4, the right to receive the payment of the Cash Settlement Amount (net of any Exercise Expenses), if any.

3.2 *Exercise Expenses*

On exercise of the CBBCs, Holders will be obliged to give an irrevocable authorisation to the Issuer to deduct all Exercise Expenses in accordance with Product Condition 4.

4. Exercise of CBBCs

4.1 *Exercise of CBBCs in Board Lots*

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

4.2 *Automatic exercise*

If no Mandatory Call Event has occurred during the Observation Period, the CBBCs will be deemed to be automatically exercised on the Expiry Date if the Cash Settlement Amount is greater than zero (without notice being given to the Holders).

4.3 *Mandatory Call Event*

- (a) Subject to Product Condition 4.3(b) below, following a Mandatory Call Event, the CBBCs will be terminated automatically and the Issuer shall have no further obligation under the CBBCs except for the payment of the Cash Settlement Amount (net of any Exercise Expenses) (if any) on the Settlement Date. The Issuer will notify the Holders of the occurrence of the Mandatory Call Event in accordance with General Condition 7. 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 Stock Exchange or the Issuer.
- (b) A Mandatory Call Event is irrevocable unless it is triggered as a result of any of the following events:
 - (i) system malfunction or other technical errors of the Stock Exchange and 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; or

- (ii) manifest errors caused by the relevant third party where applicable and 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 the time specified in the relevant Launch Announcement and Supplemental Listing Document or such other time as prescribed by the Stock Exchange from time to time.

In both cases, the Mandatory Call Event so triggered will be reversed; and all cancelled trades (if any) will be reinstated and trading of the CBBCs will resume as soon as practicable in accordance with the rules and/or requirements prescribed by the Stock Exchange from time to time.

4.4 Entitlement

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

4.5 Exercise Expenses

Any Exercise Expenses which are not determined by the Issuer by the end of 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 Product 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.

4.6 Cancellation

The Issuer will procure that the Registrar will, with effect from the first Business Day following the MCE Valuation Period or the Expiry Date (as the case may be), remove from the Register the name of the person in respect of the CBBCs which (a) are the subject of an exercise in accordance with these Product Conditions; or (b) have expired worthless, and thereby cancel the relevant CBBCs.

4.7 Cash Settlement

Upon early termination of the CBBCs following the occurrence of a Mandatory Call Event or an automatic exercise of the CBBCs on the Expiry Date (as the case may be) in accordance with these Product Conditions, the Issuer will make a payment in respect of every Board Lot to the relevant Holder equal to the Cash Settlement Amount (net of any Exercise Expenses). If the Cash Settlement Amount is equal to or less than the Exercise Expense, no amount is payable by the Issuer.

The Cash Settlement Amount shall be despatched not later than the Settlement Date by crediting that amount in accordance with the CCASS Rules to the Designated Bank Account.

If, as a result of a 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 the Settlement Disruption Event.

4.8 **Responsibility of Issuer and Registrar**

None of the Issuer, the Registrar or their respective agents shall have any responsibility for (i) any errors or omissions in the calculation and dissemination of any variables published by a third party; and (ii) any errors or omissions in any calculation made by the Issuer pursuant to the Conditions (including the calculation of the Cash Settlement Amount) if such error or omission in calculation arises from the use of errors or omissions in any variables calculated, disseminated or published by a third party.

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.

4.9 **Liability of Issuer and Registrar**

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 Registrar 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 Registrar 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.

4.10 **Trading in the CBBCs**

Subject to Product Condition 4.3(b), trading in CBBCs on the Stock Exchange shall cease (a) immediately upon the occurrence of a Mandatory Call Event or (b) 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.

5. **Adjustments**

5.1 **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:

$$\text{Adjusted Entitlement} = \text{Adjustment Factor} \times E$$

Where:

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

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 Shares are traded on a cum-Rights basis

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

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 adjustment to be made would result in the Entitlement being changed by one per cent. or less, then no adjustment shall be made. In addition, the Issuer shall adjust the Strike Price and the Call Price (each of which shall be rounded to the nearest 0.001) by the reciprocal of the Adjustment Factor, where the reciprocal of the Adjustment Factor means one divided by the relevant Adjustment Factor. This adjustment to the Strike Price and the Call Price shall take effect on the Rights Issue Adjustment Date.

For the purposes of these Product 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).

5.2 ***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 on the Business Day on which trading in the Shares becomes ex-entitlement (**“Bonus Issues Adjustment Date”**) in accordance with the following formula:

$$\text{Adjusted Entitlement} = \text{Adjustment Factor} \times E$$

Where:

$$\text{Adjustment Factor} = 1 + N$$

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 existing Shares for each Share held prior to the Bonus Issue

Provided that if the adjustment to be made would result in the Entitlement being changed by one per cent. or less, then no adjustment shall be made. In addition, the Issuer shall adjust the Strike Price and the Call Price (which shall be rounded to the nearest 0.001) by the reciprocal of the Adjustment Factor, where the reciprocal of the Adjustment Factor means one divided by the relevant Adjustment Factor. This adjustment to the Strike Price and the Call Price shall take effect on the Bonus Issue Adjustment Date.

5.3 ***Subdivisions or 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:

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

- (b) in the case of a Consolidation, the Entitlement in effect immediately prior thereto will be decreased whereas the Strike Price and the Call Price (each of 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.

5.4 **Merger or Consolidation**

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 any corporation 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).

The rights attaching to the CBBCs after the adjustment 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. 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 Product Condition 5.4 and, where cash is offered in substitution for Shares or is deemed to replace Substituted Securities as described above, references in these Product Conditions to the Shares shall include any such cash.

5.5 **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 (“**Cash Distribution Adjustment Date**”) in accordance with the following formula:

$$\text{Adjusted Entitlement} = \text{Adjustment Factor} \times E$$

Where:

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

E: The existing Entitlement immediately prior to the Cash Distribution

S: The closing price of the existing Share as derived from the daily quotation sheet of the Stock Exchange on the Business Day immediately preceding the Cash Distribution Adjustment Date

CD: The amount of Cash Distribution per Share

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

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

5.6 ***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:

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

5.7 ***Notice of Determinations***

All determinations made by the Issuer pursuant hereto shall 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 or amendment and of the date from which such adjustment or amendment is effective by publication in accordance with General Condition 7.

6. **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 Hong Kong 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, 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.

7. Delisting

7.1 *Adjustments following delisting*

If at any time the Shares cease to be listed on the Stock Exchange, the Issuer shall give effect to the General Conditions and these Product Conditions in such manner and make such adjustments to the rights attaching to the CBBs 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 individual circumstances of any Holder or the tax or other consequences that may result in any particular jurisdiction).

7.2 *Listing on another exchange*

Without prejudice to the generality of Product Condition 7.1, where the Shares are, or, upon the delisting, become, listed on any other stock exchange, the General Conditions and these Product 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 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.

7.3 *Adjustments binding*

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 General Condition 7, as soon as practicable after they are determined.

PART C — PRODUCT CONDITIONS OF CALLABLE BULL/BEAR CONTRACTS OVER SINGLE UNIT TRUSTS (CASH SETTLED)

These Product Conditions will, together with the General Conditions and 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 additional terms and conditions which shall, to the extent so specified or to the extent inconsistent with these Product Conditions, replace or modify these Product Conditions for the purpose of such series of CBBCs. Capitalised terms used in these Product Conditions and not otherwise defined herein shall have the meaning given to them in the General Conditions and the relevant Launch Announcement and Supplemental Listing Document.

1. Definitions

For the purposes of these Product Conditions:

“**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 Product Condition 5;

“**Cash Settlement Amount**” means, in respect of every Board Lot, an amount in the Settlement Currency calculated by the Issuer as:

(a) following a Mandatory Call Event:

- (i) in respect of a series of Category R CBBCs, the Residual Value; or
- (ii) in respect of a series of Category N CBBCs, zero; and

(b) at expiry:

- (i) in respect of a series of bull CBBCs, an amount equal to:

$$\frac{\text{Entitlement} \times (\text{Closing Price} - \text{Strike Price}) \times \text{one Board Lot}}{\text{Number of CBBC(s) per Entitlement}}$$

and

- (ii) in respect of a series of bear CBBCs, an amount equal to:

$$\frac{\text{Entitlement} \times (\text{Strike Price} - \text{Closing Price}) \times \text{one Board Lot}}{\text{Number of CBBC(s) per Entitlement}}$$

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;

“Closing Price” means the official closing price of the Unit (as derived from the daily quotation sheet of the Stock Exchange, subject to any adjustment as may be necessary to reflect any event as contemplated in Product Condition 5 such as capitalisation, rights issue, distribution or the like) on the Valuation Date. If a Market Disruption Event occurs on each of the four Trading Days immediately following the scheduled Valuation Date, then the Issuer shall determine the Closing Price in accordance with the definition of “Valuation Date”;

“Designated Bank Account” means the relevant bank account designated by the relevant Holder;

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

“Exercise Expenses” means any charges or expenses including any taxes or duties which are incurred in respect of the exercise of the CBBCs;

“Expiry Date” has the meaning given to it in the relevant Launch Announcement and Supplemental Listing Document;

“General Conditions” means the general terms and conditions of Structured Products set out in Appendix 1 of the Base Listing Document;

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

“Mandatory Call Event” occurs if the Spot Price of the Units at any time during a Trading Day in the Observation Period is:

- (a) in the case of a series of bull CBBCs, at or below the Call Price; or
- (b) in the case of a series of bear CBBCs, at or above the Call Price;

“Market Disruption Event” means:

- (a) 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: (i) the Units; or (ii) 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;
- (b) 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
- (c) a limitation or closure of the Stock Exchange due to any other unforeseen circumstances;

“Maximum Trade Price” means, in respect of Category R CBBCs, 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 Product Condition 5 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 on the Stock Exchange 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 for the 2nd Session) does not contain any continuous period of 1 hour or more than 1 hour during which Spot Prices are available, the MCE Valuation Period shall be extended to the end of the subsequent trading session on the Stock Exchange following the 2nd Session during which Spot Prices 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 Trading Days immediately following the day on which the Mandatory Call Event occurs does not contain any continuous period of 1 hour or more than 1 hour during which Spot Prices are available. In that case:

- (a) the period commencing from the 1st Session up to, and including, the last trading session of the fourth Trading Day on the Stock Exchange immediately following the date on which the Mandatory Call Event occurs shall be deemed to be the MCE Valuation Period; and
- (b) 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 applicable) of the same day; and
- (B) the afternoon session and the closing auction session (if applicable) of the same day,

shall each be considered as one session only;

“Minimum Trade Price” means, in respect of Category R CBBCs, 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 Product Condition 5 such as capitalisation, rights issue, distribution or the like) during the MCE Valuation Period;

“Number of CBBC(s) per Entitlement” means the amount specified as such in the relevant Launch Announcement and Supplemental Listing Document;

“Observation Commencement Date” has the meaning given to it in the relevant Launch Announcement and Supplemental Listing Document;

“Observation Period” means the period commencing from and including the Observation Commencement Date up to and including the close of trading (Hong Kong time) on 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;

“Product Conditions” means these product terms and conditions. These Product Conditions apply to each series of cash settled callable bull/bear contracts over single unit trusts;

“Residual Value” means, in respect of every Board Lot:

(a) in respect of a series of bull CBBCs, an amount calculated by the Issuer equal to:

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

and

(b) in respect of a series of bear CBBCs, an amount calculated by the Issuer equal to:

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

“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);

“Settlement Disruption Event” means an event beyond the control of the Issuer as a result of which the Issuer is unable to procure payment of the Cash Settlement Amount electronically through CCASS to the Designated Bank Account;

“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 of the Stock Exchange 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 (IEP) (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 Product Condition 5;

“Trading Day” means a 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 the Issuer determines, in its sole and absolute discretion, that a Market Disruption Event has occurred, then that day shall be postponed until 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 on the basis of its good faith estimate of the price that would have prevailed on that day but for the occurrence of the Market Disruption Event.

2. Hedging Disruption

2.1 **Notification:** The Issuer shall as soon as reasonably practicable give notice to the Holders in accordance with General Condition 7 if it determines that a Hedging Disruption Event has occurred. The notice shall specify the consequence of such Hedging Disruption Event as determined by the Issuer pursuant to Product Condition 2.3.

2.2 **Hedging Disruption Event:** A **“Hedging Disruption Event”** occurs if the Issuer determines that it is or has become not reasonably practicable or it has otherwise become undesirable, for any reason, for the Issuer wholly or partially (X) 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 CBCs or (Y) 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:

- (a) any material illiquidity in the market for the Units;
- (b) 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);
- (c) a material decline in the creditworthiness of a party with whom the Issuer has entered into any such Relevant Hedging Transaction; or
- (d) the general unavailability of:
 - (i) market participants who will agree to enter into a Relevant Hedging Transaction; or

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

2.3 **Consequences:** The Issuer, in the event of a Hedging Disruption Event, may determine to:

- (a) 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 calculated by it as 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 General Condition 7; or
- (b) make any other adjustment to the Product Conditions as it considers appropriate in order to maintain the theoretical value of the CBBCs after adjusting for the relevant Hedging Disruption Event.

3. CBBC Rights and Exercise Expenses

3.1 *CBBC Rights*

Every Board Lot gives each Holder, upon due exercise and compliance with Product Condition 4, the right to receive the payment of the Cash Settlement Amount (net of any Exercise Expenses), if any.

3.2 *Exercise Expenses*

On exercise of the CBBCs, Holders will be obliged to give an irrevocable authorisation to the Issuer to deduct all Exercise Expenses in accordance with Product Condition 4.

4. Exercise of CBBCs

4.1 *Exercise of CBBCs in Board Lots*

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

4.2 *Automatic exercise*

If no Mandatory Call Event has occurred during the Observation Period, the CBBCs will be deemed to be automatically exercised on the Expiry Date if the Cash Settlement Amount is greater than zero (without notice being given to the Holders).

4.3 *Mandatory Call Event*

- (a) Subject to Product Condition 4.3(b) below, following a Mandatory Call Event, the CBBCs will be terminated automatically and the Issuer shall have no further obligation under the CBBCs except for the payment of the Cash Settlement Amount (net of any Exercise Expenses) (if any) on the Settlement Date. The Issuer will notify the Holders of the occurrence of the Mandatory Call Event in accordance with General Condition 7. 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 Stock Exchange or the Issuer.

- (b) A Mandatory Call Event is irrevocable unless it is triggered as a result of any of the following events:
- (i) system malfunction or other technical errors of the Stock Exchange and 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; or
 - (ii) manifest errors caused by the relevant third party where applicable and 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 the time specified in the relevant Launch Announcement and Supplemental Listing Document or such other time as prescribed by the Stock Exchange from time to time.

In both cases, the Mandatory Call Event so triggered will be reversed; and all cancelled trades (if any) will be reinstated and trading of the CBBCs will resume as soon as practicable in accordance with the rules and/or requirements prescribed by the Stock Exchange from time to time.

4.4 Entitlement

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

4.5 Exercise Expenses

Any Exercise Expenses which are not determined by the Issuer by the end of 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 Product 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.

4.6 Cancellation

The Issuer will procure that the Registrar will, with effect from the first Business Day following the MCE Valuation Period or the Expiry Date (as the case may be), remove from the Register the name of the person in respect of the CBBCs which (a) are the subject of an exercise in accordance with these Product Conditions; or (b) have expired worthless, and thereby cancel the relevant CBBCs.

4.7 Cash Settlement

Upon early termination of the CBBCs following the occurrence of a Mandatory Call Event or an automatic exercise of the CBBCs on the Expiry Date (as the case may be) in accordance with these Product Conditions, the Issuer will make a payment in respect of every Board Lot to the relevant Holder equal to the Cash Settlement Amount (net of any Exercise Expenses). If the Cash Settlement Amount is equal to or less than the Exercise Expense, no amount is payable by the Issuer.

The Cash Settlement Amount shall be despatched not later than the Settlement Date by crediting that amount in accordance with the CCASS Rules to the Designated Bank Account.

If, as a result of a 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 the Settlement Disruption Event.

4.8 **Responsibility of Issuer and Registrar**

None of the Issuer, the Registrar or their respective agents shall have any responsibility for (i) any errors or omissions in the calculation and dissemination of any variables published by a third party; and (ii) any errors or omissions in any calculation made by the Issuer pursuant to the Conditions (including the calculation of the Cash Settlement Amount) if such error or omission in calculation arises from the use of errors or omissions in any variables calculated, disseminated or published by a third party.

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.

4.9 **Liability of Issuer and Registrar**

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 Registrar 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 Registrar 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.

4.10 **Trading in the CBBCs**

Subject to Product Condition 4.3(b), trading in CBBCs on the Stock Exchange shall cease (a) immediately upon the occurrence of a Mandatory Call Event or (b) 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.

5. **Adjustments**

5.1 **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:

$$\text{Adjusted Entitlement} = \text{Adjustment Factor} \times E$$

Where:

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

E: The 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 as specified in the Rights Offer plus an amount equal to any distributions or other benefits foregone to exercise the Rights
- 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 adjustment to be made would result in the Entitlement being changed by one per cent. or less, then no adjustment shall be made. In addition, the Issuer shall adjust the Strike Price and the Call Price (each of which shall be rounded to the nearest 0.001) by the reciprocal of the Adjustment Factor, where the reciprocal of the Adjustment Factor means one divided by the relevant Adjustment Factor. This adjustment to the Strike Price and the Call Price shall take effect on the Rights Issue Adjustment Date.

For the purposes of these Product 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).

5.2 **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 on the Business Day on which trading in the Units becomes ex-entitlement (**“Bonus Issues Adjustment Date”**) in accordance with the following formula:

$$\text{Adjusted Entitlement} = \text{Adjustment Factor} \times E$$

Where:

$$\text{Adjustment Factor} = 1 + N$$

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

Provided that if the adjustment to be made would result in the Entitlement being changed by one per cent. or less, then no adjustment shall be made. In addition, the Issuer shall adjust the Strike Price and the Call Price (each of which shall be rounded to the nearest 0.001) by the reciprocal of the Adjustment Factor, where the reciprocal of the Adjustment Factor means one divided by the relevant Adjustment Factor. This adjustment to the Strike Price and the Call Price shall take effect on the Bonus Issue Adjustment Date.

5.3 *Subdivisions or 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:

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

5.4 *Merger or Consolidation*

If it is announced that the Trust is to or may merge or consolidate 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 trust 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).

The rights attaching to the CBBCs after the adjustment 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. 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 Product Condition 5.4 and, where cash is offered in substitution for Units or is deemed to replace Substituted Securities as described above, references in these Product Conditions to the Units shall include any such cash.

5.5 *Cash Distributions*

No adjustment shall 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 shall 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 Call Price and the Strike Price shall be adjusted to take effect on the Business Day on which trading in the Units becomes ex-entitlement (“**Cash Distribution Adjustment Date**”) in accordance with the following formula:

$$\text{Adjusted Entitlement} = \text{Adjustment Factor} \times E$$

Where:

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

- E: The existing Entitlement immediately prior to the Cash Distribution
- S: The closing price of the existing Unit as derived from the daily quotation sheet of the Stock Exchange on the Business Day immediately preceding the Cash Distribution Adjustment Date
- CD: The amount of Cash Distribution per Unit
- OD: The amount of Ordinary Distribution per Unit, provided that the Ordinary Distribution and the Cash Distribution shall have the same ex-entitlement date. For the avoidance of doubt, the OD shall be deemed to be zero if the ex-entitlement dates of the relevant Ordinary Distribution and Cash Distribution are different

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

5.6 **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:

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

5.7 **Notice of Determinations**

All determinations made by the Issuer pursuant hereto shall 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 or amendment and of the date from which such adjustment or amendment is effective by publication in accordance with General Condition 7.

6. Termination or Liquidation

- 6.1 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 voluntary liquidation, on the effective date of the relevant resolution and, in the case of an involuntary liquidation or dissolution, on the date of the relevant court order or, in the case of the appointment of a liquidator 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.
- 6.2 For the purpose of this Product Condition 6, “**Termination**” means (a) 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; (b) the Trust is held or is conceded by the Trustee or the Manager not to have been constituted or to have been imperfectly constituted; (c) 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 (d) the Trust ceases to be authorised as an authorised collective investment scheme under the Securities and Futures Ordinance (Cap 571, The Laws of Hong Kong).

7. Delisting

7.1 *Adjustments following delisting*

If at any time the Units cease to be listed on the Stock Exchange, the Issuer shall give effect to the General Conditions and these Product Conditions in such manner and make such adjustments 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 individual circumstances of any Holder or the tax or other consequences that may result in any particular jurisdiction).

7.2 *Listing on another exchange*

Without prejudice to the generality of Product Condition 7.1, where the Units are, or, upon the delisting, become, listed on any other stock exchange, the General Conditions and these Product 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 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.

7.3 *Adjustments binding*

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 General Condition 7, as soon as practicable after they are determined.

APPENDIX 4 — OUR GENERAL INFORMATION EXTRACTED FROM CREDIT SUISSE ANNUAL REPORT 2019

We are a wholly owned subsidiary of Credit Suisse Group AG. We have extracted the following sections from the Credit Suisse Annual Report 2019 in this appendix 4. References to the following page numbers in this appendix 4 are to the pages in the Credit Suisse Annual Report 2019 and not to the pages in this document.

- 1 Risk factors (pages 43 - 52);
- 2 Risk management (pages 135 - 173);
- 3 Board of Directors (pages 188 - 209);
- 4 Executive Board (pages 210 - 219); and
- 5 Additional information (pages 220 - 222).

For further information on our general information, we refer you to the complete Credit Suisse Annual Report 2019 on our website at www.credit-suisse.com.

For the purposes of the extracts of the Credit Suisse Annual Report 2019, unless the context otherwise requires, the terms “Credit Suisse Group”, “Credit Suisse”, the “Group”, “we”, “us” and “our” mean Credit Suisse Group AG and its consolidated subsidiaries. The business of Credit Suisse AG, the direct bank subsidiary of the Group, is substantially similar to the Group, these terms are used to refer to both when the subject is the same or substantially similar. The term the “Bank” is used when referring only to Credit Suisse AG and its consolidated subsidiaries. Abbreviations and selected terms are explained in the List of abbreviations and the Glossary in the back of the Credit Suisse Annual Report 2019.

Risk factors

Our businesses are exposed to a variety of risks that could adversely affect our results of operations and financial condition, including, among others, those described below.

Liquidity risk

Liquidity, or ready access to funds, is essential to our business, particularly our investment banking businesses. We seek to maintain available liquidity to meet our obligations in a stressed liquidity environment.

→ Refer to "Liquidity and funding management" in III – Treasury, Risk, Balance sheet and Off-balance sheet for information on our liquidity management.

Our liquidity could be impaired if we were unable to access the capital markets, sell our assets or if our liquidity costs increase

Our ability to borrow on a secured or unsecured basis and the cost of doing so can be affected by increases in interest rates or credit spreads, the availability of credit, regulatory requirements relating to liquidity or the market perceptions of risk relating to us, certain of our counterparties or the banking sector as a whole, including our perceived or actual creditworthiness. An inability to obtain financing in the unsecured long-term or short-term debt capital markets, or to access the secured lending markets, could have a substantial adverse effect on our liquidity. In challenging credit markets our funding costs may increase or we may be unable to raise funds to support or expand our businesses, adversely affecting our results of operations. Following the financial crisis in 2008 and 2009, our costs of liquidity have been significant and we expect to incur ongoing costs as a result of regulatory requirements for increased liquidity.

If we are unable to raise needed funds in the capital markets (including through offerings of equity, regulatory capital securities and other debt), we may need to liquidate unencumbered assets to meet our liabilities. In a time of reduced liquidity, we may be unable to sell some of our assets, or we may need to sell assets at depressed prices, which in either case could adversely affect our results of operations and financial condition.

Our businesses rely significantly on our deposit base for funding

Our businesses benefit from short-term funding sources, including primarily demand deposits, inter-bank loans, time deposits and cash bonds. Although deposits have been, over time, a stable source of funding, this may not continue. In that case, our liquidity position could be adversely affected and we might be unable to meet deposit withdrawals on demand or at their contractual maturity, to repay borrowings as they mature or to fund new loans, investments and businesses.

Changes in our ratings may adversely affect our business

Ratings are assigned by rating agencies. Rating agencies may lower, indicate their intention to lower or withdraw their ratings at

any time. The major rating agencies remain focused on the financial services industry, particularly regarding potential declines in profitability, asset price volatility, the impact from any potential easing or enhancement of regulatory requirements and challenges from increased costs related to compliance and litigation. Any downgrades in our ratings could increase our borrowing costs, limit our access to capital markets, increase our cost of capital and adversely affect the ability of our businesses to sell or market their products, engage in business transactions – particularly financing and derivatives transactions – and retain our clients.

Market and credit risks

The outbreak of COVID-19 may negatively affect our business, operations and financial performance

On March 3, 2020, COVID-19 was characterized as a pandemic by the World Health Organization. Since December 2019, COVID-19 has spread rapidly, with at least 150 countries and territories worldwide with confirmed cases of COVID-19, and a high concentration of cases in certain countries in which we conduct business.

The spread of COVID-19 and resulting tight government controls and travel bans implemented around the world have caused disruption to global supply chains and economic activity, and the market has entered a period of increased volatility. The spread of COVID-19 is expected to have a significant impact on the global economy, at least in the first half of 2020, and is likely to affect our financial performance, including credit loss estimates, trading revenues, net interest income and potential goodwill assessments. The extent of the adverse impact of the pandemic on the global economy and markets will depend, in part, on the length and severity of the measures taken to limit the spread of the virus and, in part, on the size and effectiveness of the compensating measures taken by governments. We are closely monitoring the potential effects and impact on our operations, businesses and financial performance, including liquidity and capital usage, though the extent is difficult to fully predict at this time due to the rapid evolution of this uncertain situation.

We may incur significant losses on our trading and investment activities due to market fluctuations and volatility

Although we continue to strive to reduce our balance sheet and have made significant progress in implementing our strategy over the past few years, we also continue to maintain large trading and investment positions and hedges in the debt, currency and equity markets, and in private equity, hedge funds, real estate and other

assets. These positions could be adversely affected by volatility in financial and other markets, that is, the degree to which prices fluctuate over a particular period in a particular market, regardless of market levels. To the extent that we own assets, or have net long positions, in any of those markets, a downturn in those markets could result in losses from a decline in the value of our net long positions. Conversely, to the extent that we have sold assets that we do not own, or have net short positions, in any of those markets, an upturn in those markets could expose us to potentially significant losses as we attempt to cover our net short positions by acquiring assets in a rising market. Market fluctuations, downturns and volatility can adversely affect the fair value of our positions and our results of operations. Adverse market or economic conditions or trends have caused, and in the future may cause, a significant decline in our net revenues and profitability.

Our businesses and organization are subject to the risk of loss from adverse market conditions and unfavorable economic, monetary, political, legal, regulatory and other developments in the countries in which we operate

As a global financial services company, our businesses are materially affected by conditions in the financial markets, economic conditions generally, geopolitical events and other developments in Europe, the US, Asia and elsewhere around the world (even in countries in which we do not currently conduct business). The recovery from the economic crisis of 2008 and 2009 continues to be slow in several key developed markets. The European sovereign debt crisis as well as US debt levels and the federal budget process have not been permanently resolved. In addition, commodity price volatility and concerns about emerging markets have affected financial markets. Volatility increased in the beginning of 2020 and equity market indices declined amid concerns surrounding the spread of COVID-19. Our financial condition and results of operations could be materially adversely affected if these conditions do not improve, or if they stagnate or worsen. Further, various countries have experienced severe economic disruptions particular to that country or region, including extreme currency fluctuations, high inflation, or low or negative growth, among other negative conditions, which could have an adverse effect on our operations and investments.

Continued concern about weaknesses in the economic and fiscal condition of certain European economies, including the impact related to the refugee crisis and political uncertainty as well as in relation to the UK's withdrawal from the EU, could cause disruptions in market conditions in Europe and around the world and could further have an adverse impact on financial institutions (including us) which lent funds to or did business with or in those countries. We cannot accurately predict the impact of the UK leaving the EU on Credit Suisse or the outcome of the transitional period which is expected to end on December 31, 2020, and such impact may negatively affect our future results of operations and financial condition. Our legal entities that are organized or operate in the UK face limitations on providing services or otherwise conducting business in the EU following the end of the transitional period, which has required us to implement significant changes to our legal entity structure and locations in which we

conduct certain operations, which could result in higher operational, regulatory and compliance costs.

→ Refer to "UK-EU relationship" in Regulation and supervision – Recent regulatory developments and proposals – EU, "Withdrawal of the UK from the EU" in II – Operating and financial review – Credit Suisse – Other Information and "Key risk developments" in III – Treasury, Risk Balance sheet and Off-balance sheet – Risk management for further information.

While the execution of the program evolving the Group's legal entity structure to meet developing and future regulatory requirements has substantially concluded, there remain a number of uncertainties that may affect the feasibility, scope and timing of the intended results relating to the evolution of our legal entity structure. Significant legal and regulatory changes affecting us and our operations may require us to make further changes in our legal structure. The implementation of these changes has required, and may further require, significant time and resources and has increased, and may potentially further increase, operational, capital, funding and tax costs as well as our counterparties' credit risk.

The environment of political uncertainty in continental Europe may also affect our business. The popularity of nationalistic sentiments may result in significant shifts in national policy and a decelerated path to further European integration. Similar uncertainties exist regarding the impact of recent and proposed changes in US policies on trade, immigration and foreign relations. Growing global trade tensions, including between key trading partners such as China, the US and the EU, political uncertainty in areas such as Hong Kong and the spread of COVID-19 may be disruptive to global economic growth and may also negatively affect our business. Other developments such as climate change and related risks and concerns may cause a decrease in client activity, negatively impact the general operating environment, damage our reputation as a result of our or our clients' involvement in certain business activities associated with climate change or otherwise have an adverse effect on our business.

In the past, the low interest rate environment has adversely affected our net interest income and the value of our trading and non-trading fixed income portfolios, and resulted in a loss of customer deposits as well as an increase in the liabilities relating to our existing pension plans. Furthermore, interest rates are expected to remain low for a longer period of time. Future changes in interest rates, including increasing interest rates or changes in the current negative short-term interest rates in our home market, could adversely affect our businesses and results. Recent interest rate cuts by national governments and central banks in response to the COVID-19 outbreak, including in the US, could also adversely impact our net interest income, including in our International Wealth Management and Asia Pacific divisions due to their larger share of US dollar-denominated deposits. In addition, movements in equity markets have affected the value of our trading and non-trading equity portfolios, while the historical strength of the Swiss franc has adversely affected our revenues and net income and exposed us to currency exchange rate risk. Further, diverging monetary policies among the major economies in which we operate, in particular among the Fed, ECB and SNB, may adversely affect our results.

Such adverse market or economic conditions may negatively impact our investment banking and wealth management businesses and adversely affect net revenues we receive from commissions and spreads. These conditions may result in lower investment banking client activity, adversely impacting our financial advisory and underwriting fees. Such conditions may also adversely affect the types and volumes of securities trades that we execute for customers. Cautious investor behavior in response to adverse conditions could result in generally decreased client demand for our products, which could negatively impact our results of operations and opportunities for growth. Unfavorable market and economic conditions have affected our businesses in the past, including the low interest rate environment, continued cautious investor behavior and changes in market structure. These negative factors could be reflected, for example, in lower commissions and fees from our client-flow sales and trading and asset management activities, including commissions and fees that are based on the value of our clients' portfolios.

Our response to adverse market or economic conditions may differ from that of our competitors and an investment performance that is below that of competitors or asset management benchmarks could also result in a decline in assets under management and related fees making it harder to attract new clients. There could be a shift in client demand away from more complex products, which may result in significant client deleveraging, and our results of operations related to private banking and asset management activities could be adversely affected. Adverse market or economic conditions could exacerbate such effects.

In addition, several of our businesses engage in transactions with, or trade in obligations of, governmental entities, including supranational, national, state, provincial, municipal and local authorities. These activities can expose us to enhanced sovereign, credit-related, operational and reputational risks, which may also increase as a result of adverse market or economic conditions. Risks related to these transactions include the risks that a governmental entity may default on or restructure its obligations or may claim that actions taken by government officials were beyond the legal authority of those officials, which could adversely affect our financial condition and results of operations.

Adverse market or economic conditions could also affect our private equity investments since, if a private equity investment substantially declines in value, we may not receive any increased share of the income and gains from such investment (to which we are entitled in certain cases when the return on such investment exceeds certain threshold returns), may be obligated to return to investors previously received excess carried interest payments and may lose our pro rata share of the capital invested. In addition, it could become more difficult to dispose of the investment as even investments that are performing well may prove difficult to exit.

In addition to the macroeconomic factors discussed above, other events beyond our control, including terrorist attacks, cyber attacks, military conflicts, economic or political sanctions, disease pandemics, political unrest or natural disasters, could have a

material adverse effect on economic and market conditions, market volatility and financial activity, with a potential related effect on our businesses and results.

→ Refer to "Non-financial risk" in "III – Treasury, Risk, Balance sheet and Off-balance sheet – Risk management – Risk coverage and management for further information.

Uncertainties regarding the possible discontinuation of benchmark rates may adversely affect our business, financial condition and results of operations and may require adjustments to our agreements with clients and other market participants, as well as to our systems and processes

In July 2017, the FCA, which regulates the London interbank offered rate (LIBOR), announced that the FCA will no longer persuade or compel banks to submit rates for the calculation of the LIBOR benchmark after 2021. As such, it appears highly likely that LIBOR will be discontinued after 2021. Credit Suisse has identified a significant number of its liabilities and assets linked to LIBOR and other benchmark rates across businesses that require transition to alternative reference rates. The discontinuation or future changes in the administration of benchmarks could result in adverse consequences to the return on, value of and market for securities and other instruments whose returns or contractual mechanics are linked to any such benchmark, including those issued and traded by the Group. For example, alternative reference rate-linked products may not provide a term structure, may calculate interest payments differently than benchmark-linked products, which could lead to greater uncertainty with respect to corresponding payment obligations, and would likely require a change in contractual terms of products currently indexed on terms other than overnight. The replacement of LIBOR or any other benchmark with an alternative reference rate could negatively impact the value of and return on existing securities and other contracts and result in mispricing and additional legal, financial, tax, operational, market, compliance, reputational, competitive or other risks to us, our clients and other market participants. For example, we may face a risk of litigation, disputes or other actions from clients, counterparties, customers, investors or others regarding the interpretation or enforcement of related provisions or if we fail to appropriately communicate the effect that the transition to alternative reference rates will have on existing and future products. In addition, any transition to alternative reference rates will require changes to our documentation, methodologies, processes, controls, systems and operations, which will also result in increased effort and cost. There may also be related risks that arise in connection with the transition. For example, our hedging strategy may be negatively impacted or market risk may increase in the event of different alternative reference rates applying to our assets compared to our liabilities.

→ Refer to "Replacement of interbank offered rates" in II – Operating and financial review – Credit Suisse – Other information for further information.

We may incur significant losses in the real estate sector

We finance and acquire principal positions in a number of real estate and real estate-related products, primarily for clients, and originate loans secured by commercial and residential properties. As of

December 31, 2019, our real estate loans as reported to the SNB totaled approximately CHF 148 billion. We also securitize and trade in commercial and residential real estate and real estate-related whole loans, mortgages and other real estate and commercial assets and products, including CMBS and RMBS. Our real estate-related businesses and risk exposures could be adversely affected by any downturn in real estate markets, other sectors and the economy as a whole. In particular, the risk of potential price corrections in the real estate market in certain areas of Switzerland could have a material adverse effect on our real estate-related businesses.

Holding large and concentrated positions may expose us to large losses

Concentrations of risk could increase losses, given that we have sizeable loans to, and securities holdings in, certain customers, industries or countries. Decreasing economic growth in any sector in which we make significant commitments, for example, through underwriting, lending or advisory services, could also negatively affect our net revenues.

We have significant risk concentration in the financial services industry as a result of the large volume of transactions we routinely conduct with broker-dealers, banks, funds and other financial institutions, and in the ordinary conduct of our business, we may be subject to risk concentration with a particular counterparty. In addition, we, and other financial institutions, may pose systemic risk in a financial or credit crisis, and may be vulnerable to market sentiment and confidence, particularly during periods of severe economic stress. We, like other financial institutions, continue to adapt our practices and operations in consultation with our regulators to better address an evolving understanding of our exposure to, and management of, systemic risk and risk concentration to financial institutions. Regulators continue to focus on these risks, and there are numerous new regulations and government proposals, and significant ongoing regulatory uncertainty, about how best to address them. There can be no assurance that the changes in our industry, operations, practices and regulation will be effective in managing these risks.

→ Refer to "Regulation and supervision" for further information.

Risk concentration may cause us to suffer losses even when economic and market conditions are generally favorable for others in our industry.

Our hedging strategies may not prevent losses

If any of the variety of instruments and strategies we use to hedge our exposure to various types of risk in our businesses is not effective, we may incur losses. We may be unable to purchase hedges or be only partially hedged, or our hedging strategies may not be fully effective in mitigating our risk exposure in all market environments or against all types of risk.

Market risk may increase the other risks that we face

In addition to the potentially adverse effects on our businesses described above, market risk could exacerbate the other risks that we face. For example, if we were to incur substantial trading losses, our need for liquidity could rise sharply while our access to liquidity

could be impaired. In conjunction with another market downturn, our customers and counterparties could also incur substantial losses of their own, thereby weakening their financial condition and increasing our credit and counterparty risk exposure to them.

We may suffer significant losses from our credit exposures

Our businesses are subject to the fundamental risk that borrowers and other counterparties will be unable to perform their obligations. Our credit exposures exist across a wide range of transactions that we engage in with a large number of clients and counterparties, including lending relationships, commitments and letters of credit, as well as derivative, currency exchange and other transactions. Our exposure to credit risk can be exacerbated by adverse economic or market trends, as well as increased volatility in relevant markets or instruments. For example, adverse economic effects arising from the COVID-19 outbreak, such as disruptions to economic activity and global supply chains, will likely negatively impact the creditworthiness of certain counterparties and result in increased credit losses for our businesses. In addition, disruptions in the liquidity or transparency of the financial markets may result in our inability to sell, syndicate or realize the value of our positions, thereby leading to increased concentrations. Any inability to reduce these positions may not only increase the market and credit risks associated with such positions, but also increase the level of risk-weighted assets on our balance sheet, thereby increasing our capital requirements, all of which could adversely affect our businesses.

→ Refer to "Credit risk" in III – Treasury, Risk, Balance sheet and Off-balance sheet – Risk management – Risk coverage and management for information on management of credit risk.

Our regular review of the creditworthiness of clients and counterparties for credit losses does not depend on the accounting treatment of the asset or commitment. Changes in creditworthiness of loans and loan commitments that are fair valued are reflected in trading revenues.

Management's determination of the provision for loan losses is subject to significant judgment. Our banking businesses may need to increase their provisions for loan losses or may record losses in excess of the previously determined provisions if our original estimates of loss prove inadequate, which could have a material adverse effect on our results of operations. Credit Suisse adopted the "Measurement of Credit Losses on Financial Instruments" (ASU 2016-13) accounting standard and its subsequent amendments on January 1, 2020 and will incorporate forward-looking information and macroeconomic factors into its credit loss estimates applying the modified retrospective approach. Furthermore, the effects surrounding the outbreak of COVID-19 or other negative economic developments will likely have an adverse effect on the Group's credit loss estimates and goodwill assessments in the future, which could have a significant impact on our results of operations.

→ Refer to "Accounting developments" in II – Operating and financial review – Credit Suisse – Other information, "Credit risk" in III – Treasury, Risk, Balance sheet and Off-balance sheet – Risk management – Risk coverage and management and "Note 1 – Summary of significant accounting policies", "Note 9 – Provision for credit losses" and "Note 19 – Loans, allowance for loan losses and credit quality" in VI – Consolidated financial statements – Credit Suisse Group for further information.

Under certain circumstances, we may assume long-term credit risk, extend credit against illiquid collateral and price derivative instruments aggressively based on the credit risks that we take. As a result of these risks, our capital and liquidity requirements may continue to increase.

Defaults by one or more large financial institutions could adversely affect financial markets generally and us specifically

Concerns, rumors about or an actual default by one institution could lead to significant liquidity problems, losses or defaults by other institutions because the commercial soundness of many financial institutions may be closely related as a result of credit, trading, clearing or other relationships between institutions. This risk is sometimes referred to as systemic risk. Concerns about defaults by and failures of many financial institutions, including those in or with significant exposure to the eurozone, could lead to losses or defaults by financial institutions and financial intermediaries with which we interact on a daily basis, such as clearing agencies, clearing houses, banks, securities firms and exchanges. Our credit risk exposure will also increase if the collateral we hold cannot be realized or can only be liquidated at prices insufficient to cover the full amount of the exposure.

The information that we use to manage our credit risk may be inaccurate or incomplete

Although we regularly review our credit exposure to specific clients and counterparties and to specific industries, countries and regions that we believe may present credit concerns, default risk may arise from events or circumstances that are difficult to foresee or detect, such as fraud. We may also lack correct and complete information with respect to the credit or trading risks of a counterparty or risk associated with specific industries, countries and regions or misinterpret such information that is received or otherwise incorrectly assess a given risk situation. Additionally, there can be no assurance that measures instituted to manage such risk will be effective in all instances.

Strategy risk

We may not achieve all of the expected benefits of our strategic initiatives

At the end of 2018, we completed our three-year restructuring program, which was designed to implement a new strategic direction, structure and organization of the Group. Following the completion of our restructuring program, we have continued our efforts to achieve our strategic objectives, which are based on a number of key assumptions regarding the future economic environment, the economic growth of certain geographic regions, the regulatory landscape, our ability to meet certain financial goals, anticipated interest rates and central bank action, among other things. If any of these assumptions (including but not limited to our ability to meet certain financial goals) prove inaccurate in whole or in part, our ability to achieve some or all of the expected benefits of our strategy could be limited, including our ability to retain key employees, distribute net income to our shareholders

as planned through a sustainable ordinary dividend and share buyback program or achieve our other goals, such as those in relation to return on tangible equity or cost savings. In addition, the Group depends on dividends, distributions and other payments from its subsidiaries to fund external dividends payments and share buybacks. Factors beyond our control, including but not limited to market and economic conditions, changes in laws, rules or regulations, including the application of regulations issued by the US Internal Revenue Service related to BEAT, execution risk related to the implementation of our strategy and other challenges and risk factors discussed in this report, could limit our ability to achieve some or all of the expected benefits of this strategy. Capital payments from subsidiaries might be restricted as a result of regulatory, tax or other constraints. If we are unable to implement our strategy successfully in whole or in part or should the components of the strategy that are implemented fail to produce the expected benefits, our financial results and our share price may be materially and adversely affected.

→ Refer to "Strategy" for further information on our strategic direction.

Additionally, part of our strategy has involved a change in focus within certain areas of our business, which may have unanticipated negative effects in other areas of the business and may result in an adverse effect on our business as a whole.

The implementation of our strategy may increase our exposure to certain risks, including but not limited to credit risks, market risks, operational risks and regulatory risks. We also seek to achieve certain financial goals, for example in relation to return on tangible equity, which may or may not be successful. There is no guarantee that we will be able to achieve these goals in the form described or at all. Finally, changes to the organizational structure of our business, as well as changes in personnel and management, may lead to temporary instability of our operations.

In addition, acquisitions and other similar transactions we undertake subject us to certain risks. Even though we review the records of companies we plan to acquire, it is generally not feasible for us to review all such records in detail. Even an in-depth review of records may not reveal existing or potential problems or permit us to become familiar enough with a business to fully assess its capabilities and deficiencies. As a result, we may assume unanticipated liabilities (including legal and compliance issues), or an acquired business may not perform as well as expected. We also face the risk that we will not be able to integrate acquisitions into our existing operations effectively as a result of, among other things, differing procedures, business practices and technology systems, as well as difficulties in adapting an acquired company into our organizational structure. We face the risk that the returns on acquisitions will not support the expenditures or indebtedness incurred to acquire such businesses or the capital expenditures needed to develop such businesses. We also face the risk that unsuccessful acquisitions will ultimately result in our having to write down or write off any goodwill associated with such transactions. We continue to have a significant amount of goodwill relating to our acquisition of Donaldson, Lufkin & Jenrette Inc. and other transactions recorded on our balance sheet that could result in additional goodwill impairment charges.

We may also seek to engage in new joint ventures (within the Group and with external parties) and strategic alliances. Although we endeavor to identify appropriate partners, our joint venture efforts may prove unsuccessful or may not justify our investment and other commitments.

Country and currency exchange risk

Country risks may increase market and credit risks we face

Country, regional and political risks are components of market and credit risk. Financial markets and economic conditions generally have been and may in the future be materially affected by such risks. Economic or political pressures in a country or region, including those arising from local market disruptions, currency crises, monetary controls or other factors, may adversely affect the ability of clients or counterparties located in that country or region to obtain foreign currency or credit and, therefore, to perform their obligations to us, which in turn may have an adverse impact on our results of operations.

We may face significant losses in emerging markets

An element of our strategy is to increase our private banking businesses in emerging market countries. Our implementation of that strategy will necessarily increase our existing exposure to economic instability in those countries. We monitor these risks, seek diversity in the sectors in which we invest and emphasize client-driven business. Our efforts at limiting emerging market risk, however, may not always succeed. In addition, various emerging market countries have experienced and may continue to experience severe economic, financial and political disruptions or slower economic growth than in prior years. In addition, sanctions have been imposed on certain individuals and companies and further sanctions are possible. The possible effects of any such disruptions may include an adverse impact on our businesses and increased volatility in financial markets generally.

Currency fluctuations may adversely affect our results of operations

We are exposed to risk from fluctuations in exchange rates for currencies, particularly the US dollar. In particular, a substantial portion of our assets and liabilities are denominated in currencies other than the Swiss franc, which is the primary currency of our financial reporting. Our capital is also stated in Swiss francs, and we do not fully hedge our capital position against changes in currency exchange rates. The Swiss franc was strong against the US dollar and the euro in 2019.

As we incur a significant part of our expenses in Swiss francs while we generate a large proportion of our revenues in other currencies, our earnings are sensitive to changes in the exchange rates between the Swiss franc and other major currencies. Although we have implemented a number of measures designed to offset the impact of exchange rate fluctuations on our results of operations, the appreciation of the Swiss franc in particular and exchange rate volatility in general have had an adverse impact on

our results of operations and capital position in recent years and may have such an effect in the future.

Operational, risk management and estimation risks

We are exposed to a wide variety of operational risks, including cybersecurity and other information technology risks

Operational risk is the risk of financial loss arising from inadequate or failed internal processes, people or systems or from external events. In general, although we have business continuity plans, our businesses face a wide variety of operational risks, including technology risk that stems from dependencies on information technology, third-party suppliers and the telecommunications infrastructure as well as from the interconnectivity of multiple financial institutions with central agents, exchanges and clearing houses. As a global financial services company, we rely heavily on our financial, accounting and other data processing systems, which are varied and complex, and we may face additional technology risks due to the global nature of our operations. Our business depends on our ability to process a large volume of diverse and complex transactions, including derivatives transactions, which have increased in volume and complexity. We may rely on automation, robotic processing, machine learning and artificial intelligence for certain operations, and this reliance may increase in the future with corresponding advancements in technology, which could expose us to additional cybersecurity risks. We are exposed to operational risk arising from errors made in the execution, confirmation or settlement of transactions or from transactions not being properly recorded or accounted for. Cybersecurity and other information technology risks for financial institutions have significantly increased in recent years and we may face an increased risk of cyber attacks or heightened risks associated with a lesser degree of data and intellectual property protection in certain foreign jurisdictions in which we operate. Regulatory requirements in these areas have increased and are expected to increase further.

Information security, data confidentiality and integrity are of critical importance to our businesses, and there has been recent regulatory scrutiny on the ability of companies to safeguard personal information of individuals. Despite our wide array of security measures to protect the confidentiality, integrity and availability of our systems and information, it is not always possible to anticipate the evolving threat landscape and mitigate all risks to our systems and information. We could also be affected by risks to the systems and information of clients, vendors, service providers, counterparties and other third parties. In addition, we may introduce new products or services or change processes, resulting in new operational risk that we may not fully appreciate or identify.

These threats may derive from human error, fraud or malice, or may result from accidental technological failure. There may also be attempts to fraudulently induce employees, clients, third parties or other users of our systems to disclose sensitive information in order to gain access to our data or that of our clients.

We and other financial institutions have been subject to cyber attacks, information or security breaches and other forms of attacks. We expect to continue to be the target of such attacks in the future. In the event of a cyber attack, information or security breach or technology failure, we may experience operational issues, the infiltration of payment systems or the unauthorized release, gathering, monitoring, misuse, loss or destruction of confidential, proprietary and other information relating to Credit Suisse, our clients, vendors, service providers, counterparties or other third parties. Given our global footprint and the high volume of transactions we process, the large number of clients, partners and counterparties with which we do business, our growing use of digital, mobile and internet-based services, and the increasing frequency, sophistication and evolving nature of cyber attacks, a cyber attack, information or security breach or technology failure may occur without detection for an extended period of time. In addition, we expect that any investigation of a cyber attack, information or security breach or technology failure will be inherently unpredictable and it may take time before any investigation is complete. During such time, we may not know the extent of the harm or how best to remediate it and certain errors or actions may be repeated or compounded before they are discovered and rectified, all or any of which would further increase the costs and consequences of a cyber attack, information or security breach or technology failure.

If any of our systems do not operate properly or are compromised as a result of cyber attacks, information or security breaches, technology failures, unauthorized access, loss or destruction of data, unavailability of service, computer viruses or other events that could have an adverse security impact, we could be subject to litigation or suffer financial loss not covered by insurance, a disruption of our businesses, liability to our clients, damage to relationships with our vendors, regulatory intervention or reputational damage. Any such event could also require us to expend significant additional resources to modify our protective measures or to investigate and remediate vulnerabilities or other exposures. We may also be required to expend resources to comply with new and increasingly expansive regulatory requirements related to cybersecurity.

We may suffer losses due to employee misconduct

Our businesses are exposed to risk from potential non-compliance with policies or regulations, employee misconduct or negligence and fraud, which could result in civil, regulatory or criminal investigations and charges, regulatory sanctions and serious reputational or financial harm. In recent years, a number of multinational financial institutions have suffered material losses due to, for example, the actions of traders performing unauthorized trades or other employee misconduct. It is not always possible to deter employee misconduct and the precautions we take to prevent and detect this activity may not always be effective.

Our risk management procedures and policies may not always be effective

We have risk management procedures and policies designed to manage our risk. These techniques and policies, however, may

not always be effective, particularly in highly volatile markets. We continue to adapt our risk management techniques, in particular value-at-risk and economic capital, which rely on historical data, to reflect changes in the financial and credit markets. No risk management procedures can anticipate every market development or event, and our risk management procedures and hedging strategies, and the judgments behind them, may not fully mitigate our risk exposure in all markets or against all types of risk.

→ Refer to "Risk management" in III – Treasury, Risk, Balance sheet and Off-balance sheet for information on our risk management.

Our actual results may differ from our estimates and valuations

We make estimates and valuations that affect our reported results, including measuring the fair value of certain assets and liabilities, establishing provisions for contingencies and losses for loans, litigation and regulatory proceedings, accounting for goodwill and intangible asset impairments, evaluating our ability to realize deferred tax assets, valuing equity-based compensation awards, modeling our risk exposure and calculating expenses and liabilities associated with our pension plans. These estimates are based on judgment and available information, and our actual results may differ materially from these estimates.

→ Refer to "Critical accounting estimates" in II – Operating and financial review and "Note 1 – Summary of significant accounting policies" in VI – Consolidated financial statements – Credit Suisse Group for information on these estimates and valuations.

Our estimates and valuations rely on models and processes to predict economic conditions and market or other events that might affect the ability of counterparties to perform their obligations to us or impact the value of assets. To the extent our models and processes become less predictive due to unforeseen market conditions, illiquidity or volatility, our ability to make accurate estimates and valuations could be adversely affected.

Our accounting treatment of off-balance sheet entities may change

We enter into transactions with special purpose entities (SPEs) in our normal course of business, and certain SPEs with which we transact business are not consolidated and their assets and liabilities are off-balance sheet. We may have to exercise significant management judgment in applying relevant accounting consolidation standards, either initially or after the occurrence of certain events that may require us to reassess whether consolidation is required. Accounting standards relating to consolidation, and their interpretation, have changed and may continue to change. If we are required to consolidate an SPE, its assets and liabilities would be recorded on our consolidated balance sheets and we would recognize related gains and losses in our consolidated statements of operations, and this could have an adverse impact on our results of operations and capital and leverage ratios.

→ Refer to "Off-balance sheet" in III – Treasury, Risk, Balance sheet and Off-balance sheet – Balance sheet and off-balance sheet for information on our transactions with and commitments to SPEs.

Legal and regulatory risks

Our exposure to legal liability is significant

We face significant legal risks in our businesses, and the volume and amount of damages claimed in litigation, regulatory proceedings and other adversarial proceedings against financial services firms continue to increase in many of the principal markets in which we operate.

We and our subsidiaries are subject to a number of material legal proceedings, regulatory actions and investigations, and an adverse result in one or more of these proceedings could have a material adverse effect on our operating results for any particular period, depending, in part, upon our results for such period.

→ Refer to "Note 39 – Litigation" in VI – Consolidated financial statements – Credit Suisse Group for information relating to these and other legal and regulatory proceedings involving our investment banking and other businesses.

It is inherently difficult to predict the outcome of many of the legal, regulatory and other adversarial proceedings involving our businesses, particularly those cases in which the matters are brought on behalf of various classes of claimants, seek damages of unspecified or indeterminate amounts or involve novel legal claims. Management is required to establish, increase or release reserves for losses that are probable and reasonably estimable in connection with these matters, all of which requires significant judgment.

→ Refer to "Critical accounting estimates" in II – Operating and financial review and "Note 1 – Summary of significant accounting policies" in VI – Consolidated financial statements – Credit Suisse Group for further information.

Regulatory changes may adversely affect our business and ability to execute our strategic plans

In many areas of our business, we are subject to extensive regulation by governmental agencies, supervisory authorities and self-regulatory organizations in Switzerland, the EU, the UK, the US and other jurisdictions in which we operate. We expect to face increasingly extensive and complex regulation and regulatory scrutiny and possible enforcement. In recent years, costs related to our compliance with these requirements and the penalties and fines sought and imposed on the financial services industry by regulatory authorities have increased significantly. We expect such increased regulation and enforcement to continue to increase our costs, including, but not limited to, costs related to compliance, systems and operations, and to negatively affect our ability to conduct certain types of business. These increased costs and negative impacts on our business could adversely affect our profitability and competitive position. These regulations often serve to limit our activities, including through the application of increased or enhanced capital, leverage and liquidity requirements, the implementation of additional capital surcharges for risks related to operational, litigation, regulatory and similar matters, customer protection and market conduct regulations and direct or indirect restrictions on the businesses in which we may operate or invest. Such limitations can have a negative effect on our business and our ability to implement strategic initiatives. To the extent we are required to divest certain businesses, we could incur losses, as we may be forced to sell such businesses at a discount, which in certain instances could be substantial, as a result of both the constrained

timing of such sales and the possibility that other financial institutions are liquidating similar investments at the same time.

Since 2008, regulators and governments have focused on the reform of the financial services industry, including enhanced capital, leverage and liquidity requirements, changes in compensation practices (including tax levies) and measures to address systemic risk, including ring-fencing certain activities and operations within specific legal entities. These regulations and requirements could require us to reduce assets held in certain subsidiaries or inject capital or other funds into or otherwise change our operations or the structure of our subsidiaries and the Group. Differences in the details and implementation of such regulations may further negatively affect us, as certain requirements are currently not expected to apply equally to all of our competitors or to be implemented uniformly across jurisdictions.

Moreover, as a number of these requirements are currently being finalized, their regulatory impact may further increase in the future and their ultimate impact cannot be predicted at this time. For example, the Basel III reforms are still being finalized and implemented and/or phased in, as applicable. The additional requirements related to minimum regulatory capital, leverage ratios and liquidity measures imposed by Basel III, as implemented in Switzerland, together with more stringent requirements imposed by the Swiss legislation and their application by FINMA, and the related implementing ordinances and actions by our regulators, have contributed to our decision to reduce risk-weighted assets and the size of our balance sheet, and could potentially impact our access to capital markets and increase our funding costs. In addition, the ongoing implementation in the US of the Dodd-Frank Act, including the "Volcker Rule", derivatives regulation, and other regulatory developments, have imposed, and will continue to impose, new regulatory duties on certain of our operations. These requirements have contributed to our decision to exit certain businesses (including a number of our private equity businesses) and may lead us to exit other businesses. Recent CFTC, SEC and Fed rules and proposals have materially increased, or could in the future materially increase, the operating costs, including margin requirements, compliance, information technology and related costs, associated with our derivatives businesses with US persons, while at the same time making it more difficult for us to operate a derivatives business outside the US. Further, in 2014, the Fed adopted a final rule under the Dodd-Frank Act that introduced a new framework for regulation of the US operations of foreign banking organizations such as ours. Certain aspects of the framework are still to be implemented. Implementation is expected to continue to result in us incurring additional costs and to affect the way we conduct our business in the US, including through our US IHC. Further, current and possible future cross-border tax regulation with extraterritorial effect, such as FATCA, and other bilateral or multilateral tax treaties and agreements on the automatic exchange of information in tax matters, impose detailed reporting obligations and increased compliance and systems-related costs on our businesses. In addition, the US tax reform enacted on December 22, 2017 introduced substantial changes to the US tax system, including the lowering of the

corporate tax rate and the introduction of BEAT. Additionally, implementation of CRD V, IFD/IFR, MiFID II and MiFIR and their Swiss counterpart, the Federal Financial Services Act (FinSA), and other reforms may negatively affect our business activities. Whether or not the FinSA, together with supporting or implementing ordinances and regulations, will be deemed equivalent to MiFID II, currently remains uncertain. Swiss banks, including us, may accordingly be limited from participating in certain businesses regulated by MiFID II. Finally, we expect that TLAC requirements, which took effect on January 1, 2019 in Switzerland and the US, as well as in the UK, and are being finalized in many other jurisdictions, as well as new requirements and rules with respect to the internal total loss-absorbing capacity (iTLAC) of G-SIBs and their operating entities, may increase our cost of funding and restrict our ability to deploy capital and liquidity on a global basis as needed once the TLAC and iTLAC requirements are implemented across all relevant jurisdictions.

Our costs of monitoring and complying with frequent and complex changes to sanctions requirements have increased, and there is an increased risk that we will not identify prohibited activities in a timely manner.

→ Refer to "Sanctions" in Regulation and supervision – Recent regulatory developments and proposals – US for further information.

We expect the financial services industry and its members, including us, to continue to be affected by the significant uncertainty over the scope and content of regulatory reform in 2020 and beyond, in particular, uncertainty in relation to the future US regulatory agenda and potential changes in regulation following the UK withdrawal from the EU and the results of European and US national elections. Changes in laws, rules or regulations, or in their interpretation or enforcement, or the implementation of new laws, rules or regulations, may adversely affect our results of operations.

Despite our best efforts to comply with applicable regulations, a number of risks remain, particularly in areas where applicable regulations may be unclear or inconsistent across jurisdictions or where regulators or international bodies, organizations or unions revise their previous guidance or courts overturn previous rulings. Additionally, authorities in many jurisdictions have the power to bring administrative or judicial proceedings against us, which could result in, among other things, suspension or revocation of our licenses, cease and desist orders, fines, civil penalties, criminal penalties or other disciplinary action that could materially adversely affect our results of operations and seriously harm our reputation.

→ Refer to "Regulation and supervision" for a description of our regulatory regime and a summary of some of the significant regulatory and government reform proposals affecting the financial services industry as well as to "Liquidity and funding management" and "Capital management" in III – Treasury, Risk, Balance sheet and Off-balance sheet for information regarding our current regulatory framework and expected changes to this framework affecting capital and liquidity standards.

Swiss resolution proceedings and resolution planning requirements may affect our shareholders and creditors

Pursuant to Swiss banking laws, FINMA has broad powers and discretion in the case of resolution proceedings with respect to a

Swiss bank, such as Credit Suisse AG or Credit Suisse (Schweiz) AG, and to a Swiss parent company of a financial group, such as Credit Suisse Group AG. These broad powers include the power to open restructuring proceedings with respect to Credit Suisse AG, Credit Suisse (Schweiz) AG or Credit Suisse Group AG and, in connection therewith, cancel the outstanding equity of the entity subject to such proceedings, convert such entity's debt instruments and other liabilities into equity and/or cancel such debt instruments and other liabilities, in each case, in whole or in part, and stay (for a maximum of two business days) certain rights under contracts to which such entity is a party, as well as the power to order protective measures, including the deferment of payments, and institute liquidation proceedings with respect to Credit Suisse AG, Credit Suisse (Schweiz) AG or Credit Suisse Group AG. The scope of such powers and discretion and the legal mechanisms that would be utilized are subject to development and interpretation.

We are currently subject to resolution planning requirements in Switzerland, the US and the UK and may face similar requirements in other jurisdictions. If a resolution plan is determined by the relevant authority to be inadequate, relevant regulations may allow the authority to place limitations on the scope or size of our business in that jurisdiction, require us to hold higher amounts of capital or liquidity, require us to divest assets or subsidiaries or to change our legal structure or business to remove the relevant impediments to resolution.

→ Refer to "Recent regulatory developments and proposals – Switzerland" and "Regulatory framework – Switzerland – Resolution regime" in Regulation and supervision for a description of the current resolution regime under Swiss banking laws as it applies to Credit Suisse AG, Credit Suisse (Schweiz) AG and Credit Suisse Group AG.

Any conversion of our convertible capital instruments would dilute the ownership interests of existing shareholders

Under Swiss regulatory capital rules, we are required to issue a significant amount of contingent capital instruments, certain of which would convert into common equity upon the occurrence of specified triggering events, including our CET1 ratio falling below prescribed thresholds (7% in the case of high-trigger instruments), or a determination by FINMA that conversion is necessary, or that we require extraordinary public sector capital support, to prevent us from becoming insolvent. As of December 31, 2019, we had 2,436.2 million common shares outstanding and we had issued in the aggregate an equivalent of CHF 1.5 billion in principal amount of such contingent convertible capital instruments, and we may issue more such contingent convertible capital instruments in the future. The conversion of some or all of our contingent convertible capital instruments due to the occurrence of any of such triggering events would result in the dilution of the ownership interests of our then existing shareholders, which dilution could be substantial. Additionally, any conversion, or the anticipation of the possibility of a conversion, could depress the market price of our ordinary shares.

→ Refer to "Contingent convertible capital instruments" in III – Treasury, Risk, Balance sheet and Off-balance sheet – Capital management – Capital instruments for further information on the triggering events related to our contingent convertible capital instruments.

Changes in monetary policy are beyond our control and difficult to predict

We are affected by the monetary policies adopted by the central banks and regulatory authorities of Switzerland, the US and other countries. The actions of the SNB and other central banking authorities directly impact our cost of funds for lending, capital raising and investment activities and may impact the value of financial instruments we hold and the competitive and operating environment for the financial services industry. Many central banks, including the Fed, have implemented significant changes to their monetary policy or have experienced significant changes in their management and may implement or experience further changes. We cannot predict whether these changes will have a material adverse effect on us or our operations. In addition, changes in monetary policy may affect the credit quality of our customers. Any changes in monetary policy are beyond our control and difficult to predict.

Legal restrictions on our clients may reduce the demand for our services

We may be materially affected not only by regulations applicable to us as a financial services company, but also by regulations and changes in enforcement practices applicable to our clients. Our business could be affected by, among other things, existing and proposed tax legislation, antitrust and competition policies, corporate governance initiatives and other governmental regulations and policies, and changes in the interpretation or enforcement of existing laws and rules that affect business and the financial markets. For example, focus on tax compliance and changes in enforcement practices could lead to further asset outflows from our private banking businesses.

Competition

We face intense competition

We face intense competition in all financial services markets and for the products and services we offer. Consolidation through mergers, acquisitions, alliances and cooperation, including as a result of financial distress, has increased competitive pressures. Competition is based on many factors, including the products and services offered, pricing, distribution systems, customer service, brand recognition, perceived financial strength and the willingness to use capital to serve client needs. Consolidation has created a number of firms that, like us, have the ability to offer a wide range of products, from loans and deposit taking to brokerage, investment banking and asset management services. Some of these firms may be able to offer a broader range of products than we do, or offer such products at more competitive prices. Current market conditions have resulted in significant changes in the competitive landscape in our industry as many institutions have merged, altered the scope of their business, declared bankruptcy, received government assistance or changed their regulatory status, which will affect how they conduct their business. In addition, current market conditions have had a fundamental impact on client demand for products and services. Some

new competitors in the financial technology sector have sought to target existing segments of our businesses that could be susceptible to disruption by innovative or less regulated business models. Emerging technology may also result in further competition in the markets in which we operate, for example, by allowing e-commerce firms or other companies to provide products and services similar to ours at a lower price or in a more competitive manner in terms of customer convenience. We can give no assurance that our results of operations will not be adversely affected.

Our competitive position could be harmed if our reputation is damaged

In the highly competitive environment arising from globalization and convergence in the financial services industry, a reputation for financial strength and integrity is critical to our performance, including our ability to attract and retain clients and employees. Our reputation could be harmed if our comprehensive procedures and controls fail, or appear to fail, to address conflicts of interest, prevent employee misconduct, produce materially accurate and complete financial and other information or prevent adverse legal or regulatory actions.

→ Refer to "Reputational risk" in III – Treasury, Risk, Balance sheet and Off-balance sheet – Risk management – Risk coverage and management for further information.

We must recruit and retain highly skilled employees

Our performance is largely dependent on the talents and efforts of highly skilled individuals. Competition for qualified employees is intense. We have devoted considerable resources to recruiting, training and compensating employees. Our continued ability to compete effectively in our businesses depends on our ability to attract new employees and to retain and motivate our existing employees. The continued public focus on compensation practices in the financial services industry, and related regulatory changes, may have an adverse impact on our ability to attract and retain highly skilled employees. In particular, limits on the amount and form of executive compensation imposed by regulatory initiatives, including the Swiss Ordinance Against Excessive Compensation with respect to Listed Stock Corporations (Compensation Ordinance) in Switzerland and the CRD IV (as amended by CRD V) in the UK, could potentially have an adverse impact on our ability to retain certain of our most highly skilled employees and hire new qualified employees in certain businesses.

We face competition from new trading technologies

Our businesses face competitive challenges from new trading technologies, including trends towards direct access to automated and electronic markets, and the move to more automated trading platforms. Such technologies and trends may adversely affect our commission and trading revenues, exclude our businesses from certain transaction flows, reduce our participation in the trading markets and the associated access to market information and lead to the creation of new and stronger competitors. We have made, and may continue to be required to make, significant additional expenditures to develop and support new trading systems or otherwise invest in technology to maintain our competitive position.

Risk management

During 2019, the Group's credit risk profile was stable and market risk was generally at a low level. A number of governance and organizational initiatives were implemented.

In response to the evolution of business and market conditions, the Chief Risk Officer function (Risk) executed the following initiatives:

- The implementation in 2020 of the Executive Board Risk Forum, chaired by the Group Chief Risk Officer (CRO), responsible for decision making across risk types and functions.
- The implementation of enhanced risk reporting capabilities, resulting in FINMA recognizing the Group's material compliance with the Basel Committee on Banking Supervision's "Principles for effective risk data aggregation and risk reporting" (BCBS 239). The Group will continue to deepen the integration of the principles into all relevant aspects of its activities.
- The launch of a human capital and culture initiative to further develop the skills of the Risk function workforce while maintaining high standards for diversity and inclusion.

Key risk developments

We closely monitor the following key risk and global economic developments. Where applicable, we have assessed the Group's vulnerabilities under a number of specific stress scenarios, calibrated to various severities, related to these developments.

COVID-19

The rapid spread of COVID-19 inside China in February 2020 and across the world in March 2020 led to the introduction of tight government controls and travel bans, as well as the implementation of other measures which quickly closed down activity and increased economic disruption globally. Markets globally were negatively impacted, with the energy, travel and tourism and transportation sectors, as well as companies with close links to China's economy, being the worst affected so far. COVID-19 is expected to have a significant impact on the global economy, at least in the first half of 2020, and is likely to affect the Group's financial performance, including credit loss estimates, trading revenues, net interest income and potential goodwill assessments. We are closely monitoring the spread of COVID-19 and the potential effects on our operations and business.

Global economic cycle

There was acute uncertainty over the durability of the global economic upswing for most of 2019. But that uncertainty eased in the final months of 2019 and in early 2020 as a result of positive developments in central bank monetary policy and the first phase of the trade deal agreed between the US and China. The deterioration in the global manufacturing sector has stabilized.

However, a large number of uncertainties are expected to persist, e.g., the impact of COVID-19, and systemic risks in the markets may continue to rise as the unintended consequence of central bank monetary policy accommodation. In addition, the prospect of slower world GDP growth and the decision in early March 2020 to unwind the oil output restraint agreement between OPEC and Russia led to a sharp fall in oil prices.

Trade tensions

The escalation of tensions between the US and China continued throughout 2019 with both countries implementing additional tariffs and with other aspects of the dispute such as access to advanced technologies becoming more pronounced. Furthermore, tensions increased between the US and other countries. The first phase of the trade deal agreed between the US and China provided some relief, however, a higher level of tariffs will remain in place and political considerations may continue to drive trade policies in the future.

US-Iran tensions

Tensions between the US and Iran escalated throughout 2019 and in early 2020. The US is attempting to force a renegotiation of the 2015 nuclear deal while Iran is threatening to leave that deal entirely and to expand its nuclear programs. Global financial markets were periodically impacted in 2019 and in the first quarter of 2020 due to the concern that further escalation and retaliation would severely disrupt oil and gas shipments from the Persian Gulf region with potentially significant impacts on the world economy.

Civil unrest in Hong Kong and Latin America

There was increasing social and political unrest in Hong Kong and in several countries in Latin America in 2019. In response to those pressures and the impact of COVID-19, Hong Kong's government responded with the announcement of an increase in fiscal support. Chile, the country in Latin America most significantly impacted by the 2019 civil unrest, has proposed constitutional changes which will be voted on later in 2020. However, civil unrest in these and other countries may continue to persist.

Turkey

Turkey's economy emerged from recession in 2019 and inflation slowed while the external deficit narrowed. However, economic policy remained focused on boosting GDP through short-term stimulus measures such as lower interest rates and through accelerated credit growth which may bring a widening again in the external deficit, higher debt levels and an increased dependence on foreign capital inflows.

Ship finance

The shift towards a more protectionist foreign trade policy by the US and the uncertainty surrounding global GDP growth continued to impact world trade and shipping markets. The industry was highly volatile with earnings and values extremely sensitive to changes in demand and supply for most of 2019, but with some improvement in the fourth quarter of 2019. However, shipping earnings and values in the first quarter of 2020 were adversely impacted by the spread of COVID-19.

Withdrawal of the UK from the EU

Uncertainty over the outcome of the negotiations surrounding the withdrawal of the UK from the EU persisted throughout 2019 and that uncertainty will likely continue to some extent in 2020. The UK formally left the EU at the end of January 2020 but it may be challenging to agree the details of new arrangements before the current transition period finishes on December 31, 2020. That uncertainty may continue to have a negative economic impact in the UK. We are focused on ensuring operational readiness in our EU entities and completing the transition of impacted operations and client migration activities throughout 2020 before the end of the transition period.

Climate change

Climate risk has become a key issue for banks and financial institutions due to increasing regulations and initiatives, industry developments, client and investor expectations and public pressure. Our Board of Directors (Board) and management are highly focused on this issue. In 2019, our sector policies and guidelines, which had previously excluded any form of financing for new greenfield thermal coal mines, were updated to also exclude any form of financing specifically related to the development of new coal-fired power plants. Climate-related risks are embedded in our Group-wide risk taxonomy.

Cyber risk

The financial industry continues to be increasingly reliant on technology and faces dynamic cyber threats from a variety of actors. We continue to invest significantly in our information and cybersecurity program in order to strengthen our ability to anticipate, detect, defend against and recover from cyber attacks. We regularly assess the effectiveness of our key controls and conduct ongoing employee training and awareness activities, including for key management personnel, in order to embed resilience and a strong cyber risk culture.

Replacement of interbank offered rates

A major structural change in global financial markets is in progress with respect to the replacement of interbank offered rate (IBOR) benchmarks. There are significant risks associated with the transition, including financial risk, non-financial risk (including legal, operational and conduct risk) and the risk of an untimely transition due to a lack of client or market readiness. Credit Suisse has a significant level of liabilities and assets linked to IBOR indices across businesses that require transition to alternative reference rates and has mobilized an IBOR transition program to coordinate transition readiness on a firm-wide basis.

Risk management oversight

Prudent risk-taking in line with the Group's strategic priorities is fundamental to our business and success. The primary objectives of risk management are to protect our financial strength and reputation, while ensuring that capital is well deployed to support business activities and growth. The Group's risk management framework is based on transparency, management accountability and independent oversight. Risk management is an integral part of the business planning process with strong senior management and Board involvement.

We continuously work to strengthen risk management across the Group in an effort to meet the challenges resulting from a volatile market environment and increasing complexity driven by the changing regulatory landscape. Utilizing comprehensive risk management processes and sophisticated control systems, we continuously work to minimize the negative impact that may arise from risk concentrations.

Risk culture

The Group's business operations are based on conscious and disciplined risk-taking. We believe that independent risk management, compliance and audit processes with proper management accountability are critical to the interests and concerns of stakeholders. The Group's risk culture is supported by the following principles:

- Establish a clear risk appetite that sets out the types and levels of risk we are prepared to take;
- Have in place risk management and compliance policies that set out authorities and responsibilities for taking and managing risks;
- Seek to establish resilient risk constraints that promote multiple perspectives on risk and reduce the reliance on single risk measures;
- Actively monitor risks and take mitigating actions where they fall outside accepted levels; and
- Breaches of risk limits or tolerances are identified, analyzed and escalated, and large, repeated or unauthorized exceptions may lead to terminations, adverse adjustments to compensation or other disciplinary action.

The Group promotes a strong risk culture where employees are encouraged to take accountability for identifying and escalating risks and for challenging inappropriate actions. The businesses are held accountable for managing all of the risks they generate, including those relating to employee behavior and conduct, in line with our risk appetite. Expectations on risk culture are regularly communicated by senior management, reinforced through policies and training, and considered in the performance assessment and compensation processes and, with respect to employee conduct, assessed by formal disciplinary review committees.

We seek to promote responsible behavior through the Group's Code of Conduct, which provides a clear statement on the conduct standards and ethical values expected of our employees

and members of the Board, so as to maintain and strengthen our reputation for integrity, fair dealing and measured risk-taking. In addition, our six conduct and ethics standards (client focus, meritocracy, stakeholder management, accountability, partner and transparency) are an important part of embedding our core ethical values into our business strategy and the organizational fabric.

The six conduct and ethics standards are designed to encourage employees to act with responsibility, respect, honesty and compliance to secure the trust of our stakeholders. Initiatives in this area have provided employees with practical guidance on careful and considered behavior and the importance of acting ethically and learning from mistakes. Our employee performance assessment and compensation processes are linked to the conduct and ethics standards and the Group's Code of Conduct.

→ Refer to "Conduct risk" in Risk coverage and management – Non-financial risk for further information.

Risk governance

Effective risk governance sets a solid foundation for comprehensive risk management discipline. The Group's risk governance framework is based on a "three lines of defense" governance model, where each line has a specific role with defined responsibilities and works in close collaboration to identify, assess and mitigate risks.

The first line of defense is the front office, which is responsible for pursuing suitable business opportunities within the strategic risk objectives and compliance requirements of the Group. Its primary responsibility is to ensure compliance with relevant legal and

regulatory requirements, maintain effective internal controls and ensure that the Group operates within its risk appetite.

The second line of defense includes functions across the Group such as Risk, Compliance, Regulatory Affairs, General Counsel and Product Control. The functions within the second line articulate standards and expectations for the effective management of risk and controls, including advising on, publishing related policies on and assessing compliance with applicable legal and regulatory requirements. They are responsible for reviewing, measuring and challenging front office activities and for producing independent assessments and risk reporting for senior management and regulatory authorities. Risk is also responsible for articulating and designing the risk appetite framework across the Group.

The third line of defense is the Internal Audit function, which monitors the effectiveness of controls across various functions and operations, including risk management and governance practices.

Effective March 5, 2020, the Regulatory Affairs function now reports directly to the Group Chief Compliance and Regulatory Affairs Officer (CCO).

The Group's operations are regulated by authorities in each of the jurisdictions in which we conduct business. Central banks and other bank regulators, financial services agencies, securities agencies and exchanges and self-regulatory organizations are among the regulatory authorities that oversee our businesses. FINMA is our primary regulator.

→ Refer to "Regulation and supervision" in I – Information on the company for further information.

Key management bodies and committees covering risk management matters

Group / Bank			
Board of Directors			
Risk Committee	Audit Committee	Conduct and Financial Crime Control Committee	Compensation Committee
Executive Board Executive Board Risk Forum			
Capital Allocation & Risk Management Committee (CARMC)			Valuation Risk Management Committee (VARMC)
Position & Client Risk (PCR)	Asset & Liability Management (ALM)	Internal Control System (ICS)	
Divisional risk management committees¹		Legal entities	
Swiss Universal Bank	Asia Pacific	<ul style="list-style-type: none"> ■ Risk boards and management committees for certain significant legal entities with independent governance and oversight ■ Responsible for assuring local regulatory compliance as well as defining local risk appetite 	
International Wealth Management	Global Markets and Investment Banking & Capital Markets		

¹ Divisional risks may be covered by the respective legal entity risk management committees.

The Group's governance includes a committee structure and a comprehensive set of corporate policies which are developed, reviewed and approved by the Board, the Executive Board, their respective committees, the CRO, the CCO and the board of directors of significant subsidiaries, in accordance with their respective responsibilities and levels of authority.

→ Refer to "Board of Directors" and "Executive Board" in IV – Corporate Governance for further information.

Board of Directors

The Board is responsible for our strategic direction, supervision and control, and for defining our overall tolerance for risk. For this purpose, the Board approves the risk management framework and sets overall risk appetite in consultation with its Risk Committee (Risk Committee).

The **Risk Committee** is responsible for assisting the Board in fulfilling its oversight responsibilities by periodically reviewing the Risk function, its resources and key risks.

The **Audit Committee** is responsible for assisting the Board in fulfilling its oversight responsibilities by monitoring management's approach with respect to financial reporting, internal controls, accounting and legal and regulatory compliance. Additionally, the Audit Committee is responsible for monitoring the independence and performance of internal and external auditors.

The **Conduct and Financial Crime Control Committee** is responsible for assisting the Board in fulfilling its oversight duties with respect to the Group's exposure to financial crime risk. It is tasked with monitoring and assessing the effectiveness of financial crime compliance programs and initiatives focused on improving conduct and vigilance within the context of combatting financial crime.

The **Compensation Committee** is responsible for determining, reviewing and proposing compensation principles for the Group. Under the compensation risk framework, various corporate functions including Risk, Compliance, General Counsel, Human Resources, Internal Audit and Product Control, provide input for the assessment of the divisions' and certain individuals' overall risk and conduct performance and determine an overall risk rating, which is presented to the chairs of the Compensation Committee, Risk Committee and Audit Committee, and is contemplated as part of the divisions' and certain individuals' performance.

Executive Board

The Executive Board is responsible for establishing our strategic business plans, subject to approval by the Board. It further reviews and coordinates significant initiatives for the Risk function and establishes Group-wide risk policies. The CRO and the CCO represent the Risk and Compliance functions, respectively, and provide regular information and reports to the Executive Board and the Board.

Designed and then implemented in 2020, the Executive Board Risk Forum, chaired by the CRO, is responsible for decision-making across risk types and functions. The forum's key responsibilities include the review and challenge of the Group's risk-taking, adjudicating material and cross-divisional, cross-functional escalated risk issues, oversight of critical approvals (e.g., risk appetite, limit allocation, risk capital allocation and M&A activity) and monitoring of key risk trends and relevant metrics.

Executive Board committees

Certain modifications were made to the Executive Board committees in 2020, including with respect to the three Capital Allocation & Risk Management Committee (CARMC) cycles. The responsibilities of the former Reputational Risk & Sustainability Committee were integrated into the new CARMC Position & Client Risk (PCR) cycle in order to enable more holistic assessments of all key position and client risk factors in a single committee. The responsibilities of the Risk Processes & Standards Committee have been allocated fully to the CRO.

The **Capital Allocation & Risk Management Committee (CARMC)** is responsible for overseeing and directing our risk profile, recommending risk limits at the Group level to the Risk Committee and the Board, establishing and allocating risk appetite among the various businesses, reviewing new significant business strategies or changes in business strategies including business migrations, making risk-related decisions on escalations, and for applying measures, methodologies and tools to monitor and manage the risk portfolio. CARMC will furthermore escalate items requiring additional oversight to the Executive Board Risk Forum. There are three cycles of CARMC, which each meet quarterly.

- The PCR cycle implements market, credit and client risk management strategies for the Group and sets and approves risk appetite and other appropriate measures to monitor and manage the market, credit and client risk profile of the Group. The PCR cycle replaced the former Market & Credit Risks cycle and its mandate has been extended to cover client-related risks, including reputational risk.
- The Asset & Liability Management (ALM) cycle reviews the funding and balance sheet trends and activities, plans and monitors regulatory and business liquidity requirements and internal and regulatory capital adequacy, provides governance and oversight over all material business migrations and ensures that legal entity strategic initiatives are within the Group's risk appetite and appropriately supported and controlled.
- The Internal Control System (ICS) cycle monitors and analyzes significant non-financial risks (including operational, legal and compliance risks), reviews and approves the business continuity program's alignment with the corporate strategy on an annual basis, sets limits, caps and triggers on specific businesses to control significant non-financial risks (including operational risk exposure) and reviews and assesses the appropriateness and efficiency of the internal control systems.

The ALM cycle and the ICS cycle remained largely unchanged, with client and reputational risk now managed and monitored in the PCR cycle.

The **Valuation Risk Management Committee (VARMC)** is responsible for establishing policies regarding the valuation of certain material assets and the policies and calculation methodologies applied in the valuation process. Further, VARMC is responsible for monitoring and assessing valuation risks, reviewing inventory valuation conclusions and directing the resolution of significant inventory valuation issues.

Divisional and legal entity risk management committees

Divisional and legal entity risk management committees review risk, legal, compliance and internal control matters specific to the divisions and individual legal entities, respectively.

Risk organization

Risk is responsible for providing risk management oversight and establishing an organizational basis to manage risk matters. Risk challenges and engages with the business divisions in shaping the divisions' and the Group's risk profiles.

The key organizational elements of Risk include a structure consisting of divisional/legal entity coverage and global risk type functions. The structure reflects the Group's business strategy and legal entity considerations and is supported by strategy-enabling functions.

The Risk organization has continued to evolve, including the modification and formation of certain global risk type and strategy-enabling functions, in order to support our efforts to drive strategic and sustainable returns on risk that reflect the risk appetite of the Group.

Global risk type functions

The global risk type functions design our risk appetite framework and ensure globally harmonized models and methodologies. They comprise Credit Risk Management (including reputational risk), Market Risk Management, Non-Financial Risk Management, Model Risk Management, Fiduciary Risk Management, Global Treasury & Liquidity Risk, Enterprise Strategic Risk and Quantitative Analysis & Technology and are accountable for functional risk oversight and the risk constraint framework at the global and local legal entity level. They are also responsible for functional models, methodologies and policies and function-related regulatory change.

Credit Risk Review is a review function independent from Credit Risk Management with a direct reporting line to the Chair of the Risk Committee, administratively reporting to the CRO. Credit Risk Review assesses the Group's credit exposures and credit risk management processes and practices.

Divisional/legal entity coverage

Our governance framework includes dedicated risk management committees for each division. The divisional chief risk officers for Swiss Universal Bank, International Wealth Management, Asia Pacific, Global Markets and Investment Banking & Capital Markets have established granular risk appetite frameworks and

reporting capabilities to cover the specific needs of their business divisions and are responsible for ensuring alignment of the risk management activities within our divisions.

The legal entity chief risk officers provide risk oversight for certain significant legal entities in the locations of our main operations. They are responsible for ensuring that Group risk management and risk appetite frameworks are applied consistently and are locally compliant.

Strategy-enabling functions

Digital Transformation & Products Labs, a shared function between Compliance and Risk, drives the transformation of key front to back processes and the delivery of advanced analytics, case management, self-service digital assistance and robotics capabilities on a common platform.

CRO & Regulatory Change is responsible for the implementation of risk-relevant regulations impacting Credit Suisse, supporting the delivery of required changes for the businesses and Risk and facilitating related transitions for daily business operations.

Further strategy-enabling functions within the Risk organization include the chief operating officer and the chief of staff.

Compliance and Regulatory Affairs

Compliance

Compliance is an independent global function reporting to the CCO that works with the businesses to manage risks arising from the potential failure to comply with applicable laws, regulations, rules or market standards. As a second line of defense function, responsibilities include independently assessing compliance risk, executing monitoring and testing activities and reporting on adherence to our compliance risk appetite and other material matters to the Board and senior management.

Divisional chief compliance officers, who also provide compliance oversight for the most significant legal entities in their respective regions, are responsible for providing independent oversight and control over the compliance risks and regulatory risks relating to their respective divisions and legal entities.

Compliance runs global risk oversight programs, for example cross-border and client tax compliance, and establishes and monitors policies, guidelines, procedures and controls related to potential risks such as money laundering, bribery and corruption and sanctions. It is also responsible for the identification and remediation of significant breaches of the Group's compliance processes and controls.

Regulatory Affairs

Regulatory Affairs is an independent global function reporting to the CCO that is responsible for assisting the Group in mitigating regulatory risk through managing and ensuring the transparency of regulatory interactions of the Group and coordinating the execution of the Group's regulatory commitments for all relevant

divisions as well as corporate functions. In addition, it assists in appropriate and consistent positioning of the Group on matters of key strategic and regulatory significance. Regulatory Affairs thereby assesses the Group's delivery against regulatory expectations and strategically advises stakeholders on risk-related regulations affecting Credit Suisse.

relevant risk category and is expressed in a variety of different quantitative risk metrics and qualitative risk observations. The size of our risk profile is restricted to the planned level of our risk appetite through the use of risk constraints, such as limits, guidelines, tolerances and targets.

Risk appetite framework

Overview

We maintain a comprehensive Group-wide risk appetite framework, which is governed by a global policy and provides a robust foundation for risk appetite setting and management across the Group. A key element of the framework is a detailed statement of the Board-approved risk appetite which is aligned to our financial and capital plans. The framework also encompasses the processes and systems for assessing the appropriate level of risk appetite required to constrain our overall risk profile.

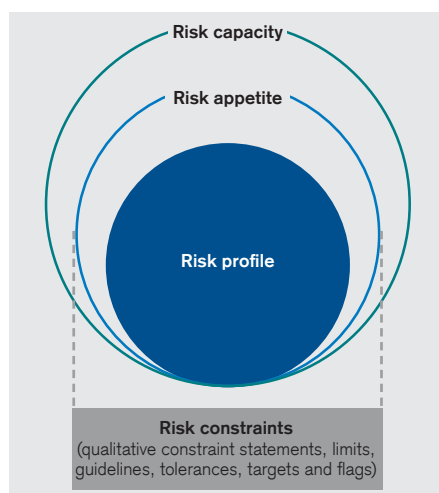
Risk capacity is the maximum level of risk that we can assume given our current level of resources before breaching any constraints determined by liquidity and capital requirements, the operational environment and our responsibilities to depositors, shareholders, investors and other stakeholders. Risk appetite expresses the aggregate level and types of risk we are willing to assume within our risk capacity to achieve our strategic objectives and business plan. Risk profile is a point-in-time assessment of our net risk exposures aggregated within and across each

Key aspects and process

The Group risk appetite framework is governed by an overarching global policy that encompasses the suite of specific policies, processes and systems with which the risk constraints are calibrated and the risk profile is managed. Strategic risk objectives (SROs) are effectively embedded across our organization at the Group, business division and legal entity level through a suite of different types of risk measures (quantitative and qualitative) as part of our efforts to ensure we operate within the thresholds defined by the Board. The SROs are regularly assessed as part of our continuing enhancements to our risk management processes. In December 2019, the Board approved a refined set of SROs to further support the Group's strategic objectives for 2020. The SROs have been redefined to be more specific and measurable and consist of:

- promoting stability of earnings to support performance in line with financial objectives;
- ensuring sound management of funding and liquidity in normal and stressed conditions;
- maintaining capital adequacy under both normal and stressed conditions; and
- maintaining the integrity of our business and operations.

Risk appetite framework – key definitions



Risk capacity Maximum level of risk that we can assume given our current level of resources before breaching any constraints determined by capital and liquidity requirements, the operational environment and our responsibilities to depositors, shareholders, investors and other stakeholders.

Risk appetite Aggregate level and types of risk we are willing to assume within our risk capacity to achieve our strategic objectives and business plan.

Risk profile Point-in-time assessment of our net risk exposures aggregated within and across each relevant risk category and expressed in a variety of different quantitative risk metrics and qualitative risk observations.

Risk constraints Quantitative and qualitative measures based on forward-looking assumptions that allocate our aggregate risk appetite to businesses, legal entities, risk categories, concentrations and, as appropriate, other levels.

The former SRO related to controlling concentration risks has been integrated into the SROs regarding stability of earnings, funding and liquidity and capital adequacy. The former SROs related to managing non-financial risk to ensure sustainable performance, minimizing reputational risk and managing and mitigating conduct risk have been consolidated under the new SRO related to maintaining the integrity of our business and operations.

Group-wide risk appetite is determined in partnership with the financial and capital planning process on an annual basis, based on bottom-up forecasts that reflect planned risk usage by the businesses and top-down, Board-driven strategic risk objectives and risk appetite. Scenario stress testing of financial and capital plans is an essential element in the risk appetite calibration process, through which our strategic risk objectives, financial resources and business plans are aligned. The capital plans are also analyzed using our economic capital coverage ratio, which provides a further means of assessing bottom-up risk plans with respect to available capital resources. The risk appetite is approved through a number of internal governance forums, including joint approval by the CRO and the CFO, CARMC, the Risk Committee and, subsequently, by the Board.

The risk appetite statement is the formal plan, approved by the Board, for our Group-wide risk appetite. Divisional allocations are cascaded from the Group and approved in divisional risk management committees. Legal entity risk appetites are set by the local legal entity board of directors within the limits established by the Group. The top-down and bottom-up risk appetite calibration process includes the following key steps:

Top-down:

- Group-level strategic risk objectives are agreed by the Board in line with our financial and capital objectives.
- Top-down risk capacities and risk appetites are determined with reference to available resources and key thresholds, such as minimum regulatory requirements.
- A risk appetite statement is determined and approved annually by the Board, and is based on the strategic risk objectives, the comprehensive scenario stress testing of our forecasted financial results and capital requirements, and our economic capital framework. A semi-annual review of the risk appetite and capacity levels is performed. The risk appetite statement comprises quantitative and qualitative risk measures necessary for adequate control of the risk appetite across the organization. The review of the top-down and bottom-up risk appetite levels and their allocation between divisions and legal entities is performed by CARMC.
- Separate legal entity risk appetite frameworks aligned to local regulatory requirements are in place for material subsidiaries. An integrated year-end planning process ensures that individual legal entity risk appetites are consistent with Group levels.
- Divisional risk committees are responsible for allocating risk appetite within the respective divisions based on individual business line reviews and requirements.

Bottom-up:

- Planned risk levels and related risk appetite requests are provided by front office business experts in conjunction with financial and capital plans in order to ensure consistency with the business strategy. Risk plans are reviewed by the relevant risk management committees.
- Bottom-up risk forecasts are aggregated across businesses to assess divisional and Group-wide risk plans and to support management decisions on variations to existing risk appetite levels or the possible need for new risk appetite measures.
- The effectiveness of risk appetite in support of business strategy execution and delivery against financial objectives is assessed via a risk appetite effectiveness framework. This framework assists senior management and the Board in ensuring that appropriate levels of risk appetite are set and that the subsequent risk constraints are appropriately calibrated.
- Risk, financial and capital plans are jointly reviewed and approved by the Executive Board and the Board.

The Group-wide risk appetite framework encompasses multiple quantitative and qualitative aspects. The quantitative risk appetite aspects are measured using various metrics, including stress scenario metrics related to capital, earnings and liquidity, risk-weighted assets and economic risk capital. The qualitative risk appetite aspects are used to monitor adherence to international and local laws and regulations, industry guidelines and internal policies, and are designed to manage and mitigate the Group's conduct and reputational risk. The division-specific risk appetite statements leverage the Group-wide quantitative and qualitative aspects by including constraints across credit risk, market risk and non-financial risk and are designed to ensure that risk-taking activity by our businesses remains within the Group-wide risk appetite.

Risk constraints

A core aspect of our risk appetite framework is a sound system of integrated risk constraints. These allow us to maintain our risk profile within our overall risk appetite, and encourage meaningful discussion between the relevant businesses, Risk functions and members of senior management around the evolution of our risk profile and risk appetite. Considerations include changing external factors (such as market developments, geopolitical conditions and client demand) as well as internal factors (such as financial resources, business needs and strategic views). Our risk appetite framework utilizes a suite of different types of risk constraints to reflect the aggregate risk appetite of the Group and to further cascade risk appetite across our organization, including among business divisions and legal entities. The risk constraints restrict our maximum balance sheet and off-balance sheet exposure given the market environment, business strategy and financial resources available to absorb losses. Different levels of seniority are mapped to each type of risk constraint, which require specific permanent or temporary modification, enforcement and breach response protocols. Risk constraints are monitored on a regular basis as part of our efforts to ensure they continue to fulfill their purposes.

We define the following risk constraint categories:

- **Qualitative constraints** represent constraints that are used to manage identified but unquantifiable or subjective risks, with adherence assessed by the appropriate level of constraint authority.
- **Quantitative constraints** represent constraints that are used to manage identified quantifiable risks and exist in the form of limits, guidelines, tolerances, targets and flags.

Constraint authority for the risk constraints is determined by the relevant approving body and constraints are currently in effect for all key risk governance bodies and committees including the Board, its Risk Committee, the Executive Board Risk Forum and CARMC. The appropriateness of the constraint types for the various risk classes within our risk appetite, including market, credit, non-financial and liquidity risk, is determined considering the respective characteristics of the various risk constraint types.

In general, risk constraints will be set in different ways depending on their respective functions and objectives. For example, certain risk constraints will reflect a maximum risk appetite, whereas others will be set closer to the current usage in order to ensure timely escalation and feedback among the relevant businesses, Risk functions and members of senior management. These considerations also influence the extent to which certain risk constraints may be introduced, modified or retired in response to changing external and internal factors.

We define the following types of risk constraints:

- **Qualitative constraint statements** are required for all qualitative constraints. Qualitative constraint statements need to be specific and to clearly define the respective risk to ensure that the risk profile for unquantifiable or subjective risks is readily assessable.
- **Limits, guidelines and tolerances** are specific threshold levels for a given risk metric. Limits are binding thresholds that require discussion to avoid a breach and trigger immediate remedial action if a breach occurs. Guidelines are thresholds which, if breached, require an action plan to reduce risk below the guideline or to propose, justify and agree to adjust the guideline. Tolerances are designed as management thresholds to initiate discussion, and breach of a tolerance level triggers review by the relevant constraint authority.
- **Targets** represent the level of risk that the Group intends to accept in pursuit of business objectives at a specific point in time in the future.
- **Flags** are early warning indicators, which serve primarily as a business risk management and supervisory control tool for our front offices, Treasury and Risk. Flags can be set for any quantifiable risk and may be complementary to other types of constraints.

With respect to limits, guidelines and tolerances, established criteria are applied in the selection of the appropriate risk constraint, including the assessment of (i) the materiality of the respective risk metric with regard to its contribution to the overall Group risk appetite; (ii) the importance of the risk constraint to the organization from a qualitative perspective; (iii) the characteristic of the respective risk, e.g., risk concentrations or high priority risk for the Group; and (iv) the availability of mitigating actions to manage the risk profile of the Group in relation to the respective risk.

We have established a constraint structure which manages the Group's risk profile using multiple metrics, including VaR, scenario analysis, economic risk capital and various exposure limits at the Group level. The overall risk limits for the Group are set by the Board in consultation with its Risk Committee and are binding. In 2019 and 2018, no Board limits were exceeded. The CRO may approve temporary excesses of certain CARMC limits up to a predefined level until the next CARMC meeting. The CRO also approves a corresponding remediation plan, with immediate notice of the temporary excess and remediation plan to the Group CEO, and subsequent notice to CARMC and the Board at their next meetings.

Dedicated constraints are also in place to cover the specific risk profiles of individual businesses and legal entities. In the context of the overall risk appetite of the Group, as defined by the limits set by the Board in consultation with its Risk Committee, CARMC is responsible for allocating key limits to divisions as deemed necessary to manage risk within individual lines of business. The divisional risk management committees and the divisional and legal entity chief risk officers are responsible for allocating risk appetite further within the organization. For this purpose, they use a detailed framework of individual risk limits designed to control risk-taking at a granular level by individual businesses and in the aggregate. The risk constraints are intended to:

- limit overall risk-taking to the Group's risk appetite;
- trigger senior management discussions with the businesses involved, risk management and governance committees in case of substantial change in the overall risk profile;
- ensure consistent risk measurement across businesses;
- provide a common framework for the allocation of resources to businesses; and
- provide a basis for protecting the Group's capital base and meeting strategic risk objectives.

The limit owners are responsible for reviewing warning triggers for risk limits. They may set warning triggers for potential limit excesses at any level lower than the approved limits as deemed appropriate after taking into account the nature of the underlying business. A comprehensive risk appetite constraint framework is in place which defines roles and responsibilities, including risk constraint setting and escalation authorities. Strict escalation procedures apply to any breach in risk constraints.

Risk coverage and management

We use a wide range of risk management practices to address the variety of risks that arise from our business activities. Policies, processes, standards, risk assessment and measurement methodologies, risk appetite constraints, and risk monitoring and reporting are key components of our risk management practices. Our risk management practices complement each other in our analysis of potential loss, support the identification of interdependencies and interactions of risks across the organization and provide a comprehensive view of our exposures. We regularly review and update our risk management practices to ensure consistency with our business activities and relevance to our business and financial strategies. Risk management practices have evolved over time without a standardized approach within the industry, therefore comparisons across firms may not be meaningful. In 2019, we updated our key risk type categories in order to better align these to our global risk taxonomy. Our key risk types include the following:

- Capital risk;
- Credit risk;
- Market risk;
- Non-financial risk;
- Model risk;
- Reputational risk;
- Business risk;
- Climate-related risks;
- Fiduciary risk; and
- Pension risk.

For purposes of categorizing key risk types, non-traded market risk and funding liquidity are together an individual risk type in our global risk taxonomy. While non-traded market risk is described further below as part of market risk, funding liquidity is managed by Treasury. Funding liquidity is the risk that the Group, although solvent, either does not have sufficient financial resources to enable it to meet its obligations as they fall due, or can secure such resources only at excessive cost.

→ Refer to "Liquidity and funding management" for further information on liquidity and funding risks.

Capital risk

Definition

Capital risk is the risk that we do not have adequate capital to support our activities and maintain the minimum capital requirements. Under the Basel framework, we are required to maintain a robust and comprehensive framework for assessing capital adequacy, defining internal capital targets and ensuring that these capital targets are consistent with our overall risk profile and the current operating environment.

Sources of capital risk

Capital risk results from the Group's risk exposures, available capital resources, regulatory requirements and accounting standards.

Evaluation and management of capital risk

The stress testing framework and economic risk capital are tools used by the Group to evaluate and manage capital risk. Our capital management framework is designed to ensure that we meet all regulatory capital requirements for the Group and its regulated subsidiaries.

→ Refer to "Capital strategy" and "Regulatory framework" in Capital management for further information on the management of capital and risk-weighted assets and regulatory capital requirements.

Overview of stress testing framework

Stress testing or scenario analysis represents a risk management approach that formulates hypothetical questions, including what would happen to our portfolio if, for example, historic or adverse forward-looking events were to occur. A well-developed stress testing framework provides a powerful tool for senior management to identify these risks and also take corrective actions to protect the earnings and capital from undesired impacts.

Stress testing is a fundamental element of our Group-wide risk appetite framework included in overall risk management to ensure that our financial position and risk profile provide sufficient resilience to withstand the impact of severe economic conditions. Stress testing results are monitored against limits, and are used in risk appetite discussions and strategic business planning and to support our internal capital adequacy assessment. Within the risk appetite framework, CARMC sets Group-wide and divisional stressed position loss limits to correspond to minimum post-stress capital ratios. Currently, limits are set on the basis of look-through BIS CET1 capital ratios. Stress tests also form an integral part of the Group's capital planning and the recovery and resolution plan (RRP) process. Within the RRP, stress tests provide the indicative scenario severity required to reach recovery and resolution capital levels.

Stress testing provides key inputs for managing the following objectives of the risk appetite framework:

- Ensuring Group-wide capital adequacy on both a regulatory basis and under stressed conditions: We run a suite of scenarios on forecasted financial metrics such as net revenues, total operating expenses, income before taxes and risk-weighted assets. The post-stress capital ratios are assessed against the risk appetite of the Group.
- Maintaining stable earnings: We mainly use stress testing to quantitatively assess earnings stability risk. Earnings-loss-triggers are established and monitored to contain excessive risk-taking which could compromise our earnings stability.

We also conduct externally defined stress tests that meet the specific requirements of regulators. For example, as part of various regular stress tests and analysis, FINMA requires a semi-annual loss potential analysis that includes two stress tests: an extreme scenario that sees the world economy experience a severe recession mainly as a result of a worsening of a European debt crisis and a less extreme China and US stress scenario.

Methodology and scope of Group-wide stress testing

Stress tests are carried out to determine stressed position losses, earnings volatility and stressed capital ratios using historical, forward-looking and reverse stress testing scenarios. The scope of stress testing includes market, credit, operational, business and pension risk. Stress tests also include the scenario impact on risk-weighted assets through changes to market, credit and operational components.

We use historical stress testing scenarios to consider the impact of market shocks from relevant periods of extreme market disturbance. Standardized severity levels allow comparability of severity across differing risk types. The calibration of bad day, bad week, severe event and extreme event scenarios involves the identification of the worst moves that have occurred in recent history. Severe flight to quality (SFTQ) is a key scenario used for Group-wide stress testing and risk appetite setting. It is a combination of market shocks and defaults that reflects conditions similar to what followed the 2008/2009 financial crisis. The SFTQ scenario assumes a severe crash across financial markets, along with stressed default rates.

We use forward-looking stress testing scenarios to complement historical scenarios. The forward-looking scenarios are centered on potential macroeconomic, geopolitical or policy threats. The Scenario Management Oversight Committee, comprised of internal economists and representatives of the front office, Risk and the CFO function (Finance), discusses the backdrop to several forward-looking scenarios. The Scenario Management Oversight Committee reviews a wide range of scenarios and selects those that are most relevant to the analysis of key macroeconomic shocks. Some examples of forward-looking scenarios include US and European country recessions, a so-called emerging markets economic "hard landing" and the impact of monetary policy changes by central banks. Various scenarios are also used to mitigate concentration risks across the entire Group, such as the credit concentration scenario. During 2019, the Group continued to focus on the following forward-looking scenarios:

- Financial sector problems in the eurozone: the markets challenge the solvency of a systemically-important bank, which puts the overall European financial sector and selected eurozone countries under acute pressure. The European economy is forced into recession. Contagion from a European recession to the US and emerging market economies is assumed to be substantial.
- An emerging markets "hard landing" scenario: there is a severe economic slowdown in China driven by a wave of defaults in the private non-financial and financial sectors. The problems in China negatively impact all large emerging markets through lower commodity prices, increased capital flight and reduced intra-regional foreign trade. There is also significant contagion to the economy in the US and in Europe.
- Stress scenarios for the UK and for the US: the scenarios take into account the large increase in economic policy outlook uncertainties and the higher risk that inflation significantly accelerates, bringing about a disorderly rise in government bond yields. The UK stress scenario focuses on the risks

which may materialize from the negotiations on leaving the EU. The US stress scenario focuses on the business risks which may materialize from more expansionary fiscal policies and from any shift toward more protectionist foreign trade practices.

We also use a flight to quality lite scenario (FTQ Lite), which is a one-in-three years likelihood scenario with a lower severity of impact than SFTQ but with a higher likelihood of occurrence. FTQ Lite is used to test the earnings robustness of the Group.

The scenarios are reviewed and updated regularly as markets and business strategies evolve. In 2019, a one-in-twenty-five years likelihood scenario called "Trade Wars Extreme" was developed to reflect the recent escalation of trade, technology and foreign investment tensions between the US and China. Trade Wars Extreme is used to test the capital adequacy of the Group. In addition to these periodic scenario analyses, we also perform ad hoc scenario analyses, for example in respect of the escalation in geopolitical tensions in the Middle East, in connection with current events as a proactive risk management tool.

We use reverse stress testing scenarios to complement traditional stress testing and enhance our understanding of business model vulnerabilities. Reverse stress testing scenarios define a range of severe adverse outcomes and identify what could lead to these outcomes. The more severe scenarios include large counterparty failures, sudden shifts in market conditions, operational risk events, credit rating downgrades and the shutdown of wholesale funding markets.

Overview of economic risk capital

Economic risk capital measures risks in terms of economic realities rather than regulatory or accounting rules and estimates the amount of capital needed to remain solvent and in business under extreme market, business and operating conditions over the period of one year, given a target financial strength (our long-term credit rating). This framework allows us to assess, monitor and manage capital adequacy and solvency risk in both "going concern" and "gone concern" scenarios. In a "going concern" scenario, we hold sufficient capital to absorb losses to ensure continuity of service. In a "gone concern" scenario, we hold sufficient capital to absorb unexpected losses at a confidence level of 99.97% and fund an orderly resolution without recourse to public resources. Economic risk capital supplements the Group's RRP process.

Economic risk capital is used as a consistent and comprehensive tool for capital management and limit monitoring. Economic risk capital is a Group-wide risk management tool for measuring and reporting the combined impact from quantifiable risks such as market, credit, operational, pension and expense risks, each of which has an impact on our capital position. The economic risk capital coverage ratio is primarily meant to provide an assessment of our solvency and reflects our internal assessment of risk and loss absorbing capacity in an extreme scenario. It is defined as the ratio of capital available to absorb losses in a "gone concern" scenario (available economic capital) to capital needs (economic risk capital)

and is embedded in our risk appetite framework through our capital adequacy objective. Return on economic risk capital as a metric for performance management has been de-emphasized due to the limited benefits it provided compared to other metrics such as our return on regulatory capital for the Group and its divisions.

→ Refer to “Capital strategy” and “Regulatory framework” in Capital management for further information on our capital management framework.

Methodology and scope of economic risk capital

Economic risk capital is set to a level needed to absorb unexpected losses at a confidence level of 99.97%. Our economic risk capital model is a set of methodologies used for measuring quantifiable risks associated with our business activities on a consistent basis. It is calculated separately for position risk (reflecting our exposure to market and credit risks), operational risk and other risks, using appropriate methodologies for each risk category. Economic risk capital is calculated by aggregating position, operational and other risks.

Position risk is the level of unexpected loss from our portfolio of balance sheet and off-balance sheet positions over a one-year holding period and includes market and credit risks. It is calculated at a 99% confidence level for risk management purposes reflecting a “going concern” scenario and at a 99.97% confidence level for capital management purposes reflecting a “gone concern” resolution scenario. Our position risks categories are described in the table “Position risk categories”. To determine our overall position risk, we consider the diversification benefit across risk types. When

analyzing position risk for risk management purposes, we look at individual risk types before and after the diversification benefit.

Operational risk is the risk of financial loss arising from inadequate or failed internal processes, people and systems or from external events. We use an internal model to calculate the economic capital requirement for operational risk at a 99.97% confidence level and a one-year holding period.

Other risks covered include expense risk, pension risk, owned real estate risk, foreign exchange risk between available economic capital and economic risk capital, interest rate risk on client interest rate margin positions and the benefit from deferred share-based compensation awards.

Available economic capital is our internal view of the capital available to absorb losses based on the reported BIS CET1 capital under Basel III, with economic adjustments applied to provide consistency with our economic risk capital.

The economic risk capital coverage ratio operates with a number of distinct bands that serve as key controls for monitoring and managing our operational solvency. An economic risk capital coverage ratio lower than 125% requires senior management review. Immediate actions such as risk reductions or capital measures would be triggered at a coverage ratio lower than 100%. The Board has set the minimum level for this coverage ratio at 80%.

Position risk categories

	Risks captured
Credit risk	<ul style="list-style-type: none"> ■ Risk of counterparty defaults relating to investment and private banking credit exposures directly held in the form of lending products (including loans and credit guarantees) or derivatives and shorter-term exposures such as underwriting commitments and trading book inventory; settlement risk is not captured in the economic risk capital framework ■ Potential changes in creditworthiness relating to private banking corporate and retail credit exposures
Non-traded credit spread risk	<ul style="list-style-type: none"> ■ Potential changes in creditworthiness relating to investment banking credit exposures
Securitized products	<ul style="list-style-type: none"> ■ Commercial and residential real estate activities, including mortgage-backed securities, mortgage loans and real estate acquired at auction, and other securitized products, including asset-backed securities ■ Benefits from certain market risk hedges
Traded risk	<ul style="list-style-type: none"> ■ Interest rates, credit spreads, foreign exchange rates, equity and commodity prices and volatilities, equity risk arbitrage, life finance and litigation activities, and illiquid hedge fund exposures ■ Risks currently not implemented in our economic risk capital models for traded risks, primarily for fixed income and equity trading, such as certain basis risks, higher order risks and cross risks between asset classes
Emerging markets country event risk	<ul style="list-style-type: none"> ■ Loss due to corporate counterparty defaults triggered by sovereign defaults
Equity investments	<ul style="list-style-type: none"> ■ Private equity and other illiquid equity investment exposures

Governance of capital risk

Our stress testing framework is comprehensive and governed by a dedicated steering committee, the Scenario Steering Committee. The Scenario Steering Committee reviews the scenario methodology and approves changes to scenario frameworks. It is comprised of experts in stress methodologies representing various risk functions (market risk, liquidity risk, credit risk and operational risk) and also represents the Group divisions and major legal entities. The Scenario Management Oversight Committee has received responsibility from CARMC for the Group-wide scenario calibration and analysis process, including the design of scenarios and the assessment and approval of scenario results. Stress tests are conducted on a regular basis and the results, trend information and supporting analysis are reported to the Board, senior management and regulators.

Our economic risk capital framework is governed and maintained by a dedicated steering committee, which regularly reviews, assesses and updates the economic risk capital methodology in light of market and regulatory developments, risk management practice and organizational changes. In addition, the steering committee approves new methodologies and prioritizes the implementation for its three components (position risk, operational risk and other risks).

Credit risk

Definition

Credit risk is the risk of financial loss arising as a result of a borrower or counterparty failing to meet its financial obligations or as a result of deterioration in the credit quality of the borrower or counterparty. In the event of a default, a bank generally incurs a loss equal to the amount owed by the debtor, less any recoveries from foreclosure, liquidation of collateral, the restructuring of the debtor company or other recovery proceeds from the debtor.

A change in the credit quality of a counterparty has an impact on the valuation of assets measured at fair value, with valuation changes recorded in the consolidated statements of operations.

Sources of credit risk

Credit risk arises from the execution of our business strategy in the divisions and reflects exposures directly held in the form of lending products (including loans and credit guarantees) or derivatives, shorter-term exposures such as underwriting commitments, and settlement risk related to the exchange of cash or securities outside of typical delivery versus payment structures. For the divisions, the main sources of credit risk are presented in the table "Main sources of credit risk by division".

Evaluation and management of credit risk

We use a credit risk management framework which provides for the consistent evaluation, measurement and management of credit risk across the Group. Assessment of credit risk exposures for internal risk estimates and risk-weighted assets are calculated based on probability of default (PD), loss given default (LGD) and exposure at default (EAD) models. The credit risk framework incorporates the following core elements:

- counterparty and transaction assessments: application of internal credit ratings (PD), assignment of LGD and EAD values in relation to counterparties and transactions;
- credit limits: establishment of credit limits, subject to approval by delegated authority holders, to serve as primary risk controls on exposures and to prevent undue risk concentrations;
- credit monitoring, impairments and provisions: processes to support the ongoing monitoring and management of credit exposures, supporting the early identification of deterioration and any subsequent impact; and
- risk mitigation: active management of credit exposures through the use of cash sales, participations, collateral, guarantees, insurance or hedging instruments.

Main sources of credit risk by division

Swiss Universal Bank	Real estate financing, lending to corporate clients and lending against financial collateral
International Wealth Management	Lending against financial collateral and real assets (e.g., real estate, ships, aircraft) and corporate lending
Asia Pacific	Lending to private clients against financial collateral, corporate lending and derivatives
Global Markets	Loan underwriting commitments, securities financing activities with institutional clients and derivatives
Investment Banking & Capital Markets	Corporate lending activities and derivatives
Corporate Center	Money market exposure through balance sheet management, credit exposure with central counterparties and legacy positions

Counterparty and transaction assessments

We evaluate and assess counterparties and clients to whom we have credit exposures. For the majority of counterparties and clients, we use internally developed statistical rating models to determine internal credit ratings which are intended to reflect the PD of each counterparty. These rating models are backtested against internal experience, validated by a function independent of model development and approved by our main regulators for application in the regulatory capital calculation under the A-IRB approach of the Basel framework. Findings from backtesting serve as a key input for any future rating model developments.

Internal statistical rating models are based on a combination of quantitative factors (e.g., financial fundamentals and market data) and qualitative factors (e.g., credit history and economic trends).

For the remaining counterparties where statistical rating models are not used, internal credit ratings are assigned on the basis of a structured expert approach using a variety of inputs such as peer analyses, industry comparisons, external ratings and research as well as the judgment of expert credit officers.

In addition to counterparty ratings, Credit Risk Management also assesses the risk profile of individual transactions and assigns transaction ratings which reflect specific contractual terms such as seniority, security and collateral.

Internal credit ratings may differ from external credit ratings, where available, and are subject to periodic review. Our internal

ratings are mapped to a PD band associated with each rating which is calibrated to historical default experience using internal data and external data sources. Our internal masterscale for credit ratings is shown in the table "Credit Suisse counterparty ratings".

LGD estimates the size of loss that may arise on a credit exposure in the event of a default. We assign LGD on credit exposures based on the structure of the transaction and credit mitigation such as collateral or guarantees. The LGD values are calibrated to reflect a downturn macroeconomic environment and include recovery costs.

EAD represents the expected amount of credit exposure in the event of a default and reflects the current drawn exposure and an expectation regarding the future evolution of the credit exposure. For loan exposures, a credit conversion factor is applied to project the additional drawn amount between current utilization and the approved facility amount. The credit exposure related to traded products such as derivatives is based on a simulation using statistical models.

We use internal rating methodologies consistently for the purposes of approval, establishment and monitoring of credit limits and credit portfolio management, credit policy, management reporting, risk-adjusted performance measurement, economic risk capital measurement and allocation and financial accounting.

Credit Suisse counterparty ratings

Ratings	PD bands (%)	Definition	S&P	Fitch	Moody's	Details
AAA	0.000–0.021	Substantially risk free	AAA	AAA	Aaa	Extremely low risk, very high long-term stability, still solvent under extreme conditions
AA+	0.021–0.027	Minimal risk	AA+	AA+	Aa1	Very low risk, long-term stability, repayment sources sufficient under lasting adverse conditions, extremely high medium-term stability
AA	0.027–0.034		AA	AA	Aa2	
AA-	0.034–0.044		AA-	AA-	Aa3	
A+	0.044–0.056	Modest risk	A+	A+	A1	Low risk, short- and medium-term stability, small adverse developments can be absorbed long term, short- and medium-term solvency preserved in the event of serious difficulties
A	0.056–0.068		A	A	A2	
A-	0.068–0.097		A-	A-	A3	
BBB+	0.097–0.167	Average risk	BBB+	BBB+	Baa1	Medium to low risk, high short-term stability, adequate substance for medium-term survival, very stable short term
BBB	0.167–0.285		BBB	BBB	Baa2	
BBB-	0.285–0.487		BBB-	BBB-	Baa3	
BB+	0.487–0.839	Acceptable risk	BB+	BB+	Ba1	Medium risk, only short-term stability, only capable of absorbing minor adverse developments in the medium term, stable in the short term, no increased credit risks expected within the year
BB	0.839–1.442		BB	BB	Ba2	
BB-	1.442–2.478		BB-	BB-	Ba3	
B+	2.478–4.259	High risk	B+	B+	B1	Increasing risk, limited capability to absorb further unexpected negative developments
B	4.259–7.311		B	B	B2	
B-	7.311–12.550		B-	B-	B3	
CCC+	12.550–21.543	Very high risk	CCC+	CCC+	Caa1	High risk, very limited capability to absorb further unexpected negative developments
CCC	21.543–100.00		CCC	CCC	Caa2	
CCC-	21.543–100.00		CCC-	CCC-	Caa3	
CC	21.543–100.00		CC	CC	Ca	
C	100	Imminent or actual loss	C	C	C	Substantial credit risk has materialized, i.e., counterparty is distressed and/or non-performing. Adequate specific provisions must be made as further adverse developments will result directly in credit losses.
D1	Risk of default has materialized		D	D		
D2						

Transactions rated C are potential problem loans; those rated D1 are non-performing assets and those rated D2 are non-interest earning.

Credit limits

Our credit exposures are managed at the counterparty and ultimate parent level in accordance with credit limits which apply in relation to current and potential future exposures. Credit limits to counterparties and groups of connected companies are subject to formal approval under delegated authority within the divisions where the credit exposures are generated, and where significant in terms of size or risk profile, are subject to further escalation to the Group chief credit officer or CRO.

In addition to counterparty and ultimate parent exposures, credit limits and tolerances are also applied at the portfolio level to monitor and manage risk concentrations such as to specific industries, countries or products. In addition, credit risk concentration is regularly supervised by credit and risk management committees.

Credit monitoring, impairments and provisions

A rigorous credit quality monitoring process is performed to provide for early identification of possible changes in the creditworthiness of clients, and includes regular asset and collateral quality reviews, business and financial statement analysis, and relevant economic and industry studies. Credit Risk Management maintains regularly updated watch lists and holds review meetings to re-assess counterparties that could be subject to adverse changes in creditworthiness. The review of the credit quality of clients and counterparties does not depend on the accounting treatment of the asset or commitment.

In the event that a deterioration in creditworthiness results in a default, credit exposures are transferred to recovery management functions within Credit Risk Management and are subject to formal reporting to the quarterly recovery review committee. The determination of any allowance for credit losses in relation to such exposures is based on an assessment of the exposure profile and expectations for recovery, which are discussed with the Group chief credit officer whose approval is required for any full or partial write-offs.

We have an impairment process for loans valued at amortized cost which are specifically classified as potential problem exposure, non-performing exposure, non-interest-earning exposure or restructured exposure. The Group maintains specific valuation allowances, which we consider a reasonable estimate of losses identified in the existing credit portfolio, and provides for loan losses based on a regular and detailed analysis of all counterparties, taking collateral value into consideration, where applicable. If uncertainty exists as to the repayment of either principal or interest, a specific valuation allowance is either created or adjusted accordingly. The specific allowance for loan losses is revalued by Credit Risk Management at least annually or more frequently depending on the risk profile of the borrower or credit-relevant events. A credit portfolio & provisions review committee regularly reviews the appropriateness of allowances for credit losses.

An inherent (or general) loss allowance is estimated for all loans not specifically identified as impaired and that, on a portfolio basis, are considered to contain inherent losses. The method for

determining the inherent loss in certain lending portfolios is based on a market-implied model using long-term industry-wide historical default and recovery data taking into account the credit rating and industry of each counterparty. A separate component of the calculation reflects the current market conditions in the allowance for loan losses. For all other exposures, depending on the business and the nature of the exposures, inherent losses in the lending portfolios are determined based on current internal risk ratings, collateral and exposure structure, applying historical default and loss experience in the ratings and loss parameters. Qualitative adjustments to reflect current market conditions or any other factors not captured by the model are approved by management and reflected in the allowance for loan losses. A provision for inherent losses on off-balance sheet lending-related exposure, such as contingent liabilities and irrevocable commitments, is also determined, using a methodology similar to that used for the loan portfolio.

With effect from January 1, 2020, the Group changed the methodology for the calculation of credit loss provisions driven by the adoption of a new accounting standard under US GAAP. The new methodology is a forward-looking expected loss approach referred to as a current expected credit losses (CECL) methodology. Under the former approach, provisions for credit losses were based on incurred losses only. The new methodology calculates the expected lifetime loss and requires new models and significant management judgement. The forward-looking component of the new models is reflected through forecasts of portfolio- and region-specific macro-economic factors. In addition to these factors for systematic risk, the models contain idiosyncratic risk drivers. Qualitative adjustments reflect remaining idiosyncratic and portfolio-specific risks, which are not captured in the models. The calibration of these models is based on internal and/or external data. Under the CECL-approach, PDs are based on internal credit ratings but also contain a time-dependent, forward-looking component and LGDs are calibrated specifically for use in our CECL models and can contain loan-specific attributes. In addition, selected LGD models contain a forward-looking component. Similar to LGDs, EAD models under the CECL-approach are calibrated separately and can contain loan-specific and/or forward-looking information. All CECL-models are subject to our internal governance processes.

Changes in the credit quality of loans held at fair value are reflected in valuation changes recorded directly in revenues, and therefore are not part of the impaired loans balance which only includes loans valued on an amortized cost basis.

Risk mitigation

Drawn and undrawn credit exposures are managed by taking financial and non-financial collateral supported by enforceable legal documentation, as well as by utilizing credit hedging techniques. Financial collateral in the form of cash, marketable securities (e.g., equities, bonds or funds) and guarantees serves to mitigate the inherent risk of credit loss and to improve recoveries in the event of a default. Financial collateral is subject to controls on eligibility and is supported by frequent market valuation depending on the asset class to ensure exposures remain adequately

collateralized. Depending on the quality of the collateral, appropriate haircuts are applied for risk management purposes.

Non-financial collateral such as residential and commercial real estate, tangible assets (e.g., ships or aircraft), inventories and commodities are valued at the time of credit approval and periodically thereafter depending on the type of credit exposure and collateral coverage ratio.

In addition to collateral, we also utilize credit hedging in the form of protection provided by single-name and index credit default swaps as well as structured hedging and insurance products. Credit hedging is used to mitigate risks arising from the loan portfolio, loan underwriting exposures and counterparty credit risk. Hedging is intended to reduce the risk of loss from a specific counterparty default or broader downturn in markets that impact the overall credit risk portfolio. Credit hedging contracts are typically bilateral or centrally cleared derivative transactions and are subject to collateralized trading arrangements. Hedging risk mitigation is evaluated to ensure that basis or tenor risk is appropriately identified and managed.

In addition to collateral and hedging strategies, we also actively manage our loan portfolio and may sell or sub-participate positions in the loan portfolio as a further form of risk mitigation.

Governance of credit risk

Credit risk is managed and controlled by Credit Risk Management and divisional chief risk officers within Risk and governed by a comprehensive framework of policies and committees. Key processes are reviewed through supervisory checks on a regular basis by Credit Risk Management, including the Group chief credit officer.

The Group chief credit officer has established an executive governance and change committee to support overall management and oversight of the Credit Risk Management function. The committee is comprised of senior personnel of key functions within Credit Risk Management and divisional chief credit officers. The governance framework is based on a committee structure covering key areas of the credit risk framework including the credit risk appetite committee, credit risk policy committee, credit risk controls committee and various project and change related governance committees. The governance framework ensures appropriate oversight of the global Credit Risk Management function and the maintenance of required global standards for the management of the Group's credit exposure.

Credit risk review

Governance and supervisory checks within Credit Risk Management are supplemented by the credit risk review function. The Credit Risk Review function is independent from Credit Risk Management with a direct functional reporting line to the Risk Committee Chair, administratively reporting to the CRO. Credit Risk Review's primary responsibility is to provide timely and independent assessments of the Group's credit exposures and credit risk management processes and practices. Any findings and agreed

actions are reported to senior management and, as necessary, to the Risk Committee.

Market risk

Definition

Market risk is the risk of financial loss arising from movements in market risk factors. The movements in market risk factors that generate financial losses are considered to be adverse changes in interest rates, credit spreads, foreign exchange rates, equity and commodity prices and other factors, such as market volatility and the correlation of market prices across asset classes. A typical transaction or position in financial instruments may be exposed to a number of different market risk factors.

Although market risk includes funding liquidity for purposes of categorizing our key risk types, the descriptions in this section primarily relate to traded market risk and non-traded market risk. Funding liquidity is the risk that the Group, although solvent, either does not have sufficient financial resources to enable it to meet its obligations as they fall due, or can secure such resources only at excessive cost.

→ Refer to "Liquidity and funding management" for further information on liquidity and funding risks.

Sources of market risk

Market risks arise from both our trading and non-trading business activities. The classification of assets and liabilities into trading book and banking book portfolios determines the approaches used for analyzing our market risk exposure. This classification reflects the business and regulatory risk management perspective with respect to trading intent, and may be different from the classification of these assets and liabilities as trading assets or trading liabilities for financial reporting purposes.

Trading book

Market risks from our trading book relate to our trading activities, primarily in Global Markets (which includes International Trading Solutions) and Asia Pacific. Our trading book, as measured for risk management purposes, typically includes fair-valued positions only and includes risks arising from our involvement in primary and secondary market activities, for client facilitation and market-making purposes, including derivatives markets.

The Group is active globally in the principal trading markets, using a wide range of trading and hedging products, including derivatives and structured products. Structured products are customized transactions often using combinations of financial instruments and are executed to meet specific client or internal needs. As a result of our broad participation in products and markets, the Group's trading strategies are correspondingly diverse and exposures are generally spread across a range of risks and locations.

The market risks associated with the portfolio, including the embedded derivative elements of our structured products, are actively monitored and managed as part of our overall risk management framework and are reflected in our VaR measures.

Banking book

Market risks from our banking book primarily relate to asset and liability mismatch exposures, lending related exposures that are fair-valued, equity participations and investments in bonds and money market instruments. Our businesses and Treasury have non-trading portfolios that carry market risks, mainly related to changes in interest rates but also to changes in foreign exchange rates, equity prices and, to a lesser extent, commodity prices. Our banking book, as measured for risk management purposes, typically includes loans, central bank funds sold, securities purchased under resale agreements and securities borrowing transactions, cash and due from banks, brokerage receivables, due to banks, customer deposits, central bank funds purchased, securities sold under repurchase agreements and securities lending transactions, brokerage payables, selected positions of short-term borrowings and long-term debt, hedging instruments and other assets and liabilities not included in the trading portfolio.

We assume interest rate risks in our banking book through lending and deposit-taking, money market and funding activities, and the deployment of our consolidated equity as well as other activities, including market making and trading activities involving banking book positions at the divisional level. Savings accounts and many other retail banking products have no contractual maturity date or direct market-linked interest rate and are risk-managed on a pooled basis using replication portfolios on behalf of our private banking, corporate and institutional businesses. The replication portfolios approximate the interest rate characteristics of the underlying products. This particular source of market risk is monitored on a daily basis.

The majority of non-trading foreign exchange risk is associated with our net investment in foreign branches, subsidiaries and affiliates denominated in currencies other than Swiss francs. This exposure is actively managed to hedge our capital and leverage ratios and is governed within our risk appetite framework.

Investments such as private equity, hedge funds, seed capital, collateralized loan obligation (CLO) risk retention and co-investments are classified as illiquid investments and subject to specific risk management and governance processes. Risk appetite for illiquid investments is proposed at Group and divisional levels and approved by CARMC.

Some fair-valued banking book exposures are also captured in the VaR model used for internal risk management purposes and the mark-to-market risk is managed in a similar manner as the market risk of the trading book.

Evaluation and management of market risk

We use market risk measurement and management methods capable of calculating comparable exposures across our many activities and employ focused tools that can model specific characteristics of certain instruments or portfolios. The tools are used for internal market risk management, internal market risk

reporting and external disclosure purposes. Our principal market risk measures for the trading book are VaR, scenario analysis, as included in our stress testing framework, position risk, as included in our economic risk capital, and sensitivity analysis. These measures complement each other in our market risk assessment and are used to measure market risk at the Group level. Our risk management practices are regularly reviewed to ensure they remain appropriate.

Measurement of market risk using value-at-risk

VaR is a risk measure that quantifies the potential loss on a given portfolio of financial instruments over a certain holding period that is expected not to be exceeded at a certain confidence level. VaR can be calculated for all financial instruments with adequate price histories. Positions are aggregated by risk factors rather than by product. For example, interest rate risk VaR captures potential losses driven by fluctuations of interest rates affecting a wide variety of interest rate products (such as interest rate swaps and swaptions) as well as other products (such as foreign exchange derivatives and equity derivatives) for which interest rate risk is not the primary market risk driver. The use of VaR allows the comparison of risk across different businesses. It also provides a means of aggregating and netting a variety of positions within a portfolio to reflect historical correlations between different assets, allowing for a portfolio diversification benefit. Our VaR model is designed to take into account a comprehensive set of risk factors across all asset classes.

VaR is an important tool in risk management and is used for measuring quantifiable risks from our activities exposed to market risk on a daily basis. In addition, VaR is one of the main risk measures for limit monitoring, financial reporting, calculation of regulatory capital and regulatory backtesting.

Our internal VaR model is based on historic data moves that derive plausible future trading losses. The model is responsive to changes in market conditions through the use of exponential weighting that applies a greater weight to more recent events, and the use of expected shortfall equivalent measures to ensure all extreme adverse events are considered in the model. We use the same VaR model for risk management (including limit monitoring and financial reporting), regulatory capital calculation and regulatory backtesting purposes, although confidence level, holding period, historical look-back period and the scope of financial instruments considered can be different.

For our risk management VaR, we use a rolling two-year historical dataset, a one-day holding period and a 98% confidence level. This means that we would expect daily mark-to-market trading losses to exceed the reported VaR not more than twice on average in 100 trading days over a multi-year observation period. The 98% confidence level VaR is calculated using an equivalent expected shortfall approach. The expected shortfall represents the average of the potential worst losses. This measure captures risks in trading books only and includes securitization positions. It

is closely aligned to the way we consider the risks associated with our trading activities and to the model we use to measure regulatory VaR for capital purposes. For internal risk management and monitoring purposes, we add certain fair-valued banking book positions to the scope of the risk management VaR calculation.

For regulatory capital purposes, we operate under the Basel III market risk framework which includes the following components for the calculation of regulatory capital: regulatory VaR, stressed VaR, IRC, risks not in VaR (RNIV), stressed RNIV and a regulatory prescribed standardized approach for securitizations. The regulatory VaR for capital purposes uses a two-year historical dataset, a ten-day holding period and a 99% confidence level calculated using an expected shortfall approach. This measure captures all risks in the trading book and foreign exchange and commodity risks in the banking book and excludes securitization positions, as these are treated under the securitization approach for regulatory purposes. Stressed VaR replicates the regulatory VaR calculation on the Group's current portfolio over a continuous one-year observation period that reflects a period of significant financial stress for the Group. The historical dataset starting in 2006 allows for the capturing of a longer history of potential loss events and helps reduce the pro-cyclicality of the minimum capital requirements for market risk. IRC is a regulatory capital charge for default and migration risk on positions in the trading books that may not be captured adequately under a ten-day holding period. RNIV captures a variety of risks, such as certain basis risks, higher order risks and cross risks between asset classes, not adequately captured by the VaR model for example due to lack of sufficient or accurate risk or historical market data.

Backtesting VaR uses a two-year historical dataset, a one-day holding period and a 99% confidence level calculated using an expected shortfall approach. This measure captures risks in the trading book and includes securitization positions. Backtesting VaR is not a component used for the calculation of regulatory capital but may have an impact through the regulatory capital multiplier if the number of backtesting exceptions exceeds regulatory thresholds.

Assumptions used in our market risk measurement methods for regulatory capital purposes are compliant with the standards published by the BCBS and other international standards for market risk management. We have approval from FINMA, as well as from other regulators for our subsidiaries, to use our regulatory VaR model in the calculation of market risk capital requirements. Ongoing enhancements to our VaR methodology are subject to regulatory approval or notification depending on their materiality, and the model is subject to regular reviews by regulators and the Group's independent Model Risk Management function.

Information required under Pillar 3 of the Basel framework related to risk is available on our website.

- Refer to ["credit-suisse.com/regulatorydisclosures"](https://credit-suisse.com/regulatorydisclosures) for further information.
- Refer to "Risk-weighted assets" in Capital management for further information on the use of our regulatory VaR model in the calculation of trading book market risk capital requirements.

VaR assumptions and limitations

The VaR model uses assumptions and estimates that we believe are reasonable, but VaR only quantifies the potential loss on a portfolio based on historical market conditions. The main assumptions and limitations of VaR as a risk measure are:

- VaR relies on historical data to estimate future changes in market conditions. Historical scenarios may not capture all potential future outcomes, particularly where there are significant changes in market conditions, such as increases in volatilities and changes in the correlation of market prices across asset classes;
- VaR provides an estimate of losses at a specified confidence level; the use of an expected shortfall equivalent measure allows all extreme adverse events to be considered in the model;
- VaR is based on either a one-day (for internal risk management, backtesting and disclosure purposes) or a ten-day (for regulatory capital purposes) holding period. This assumes that risks can be either sold or hedged over the holding period, which may not be possible for all types of exposure, particularly during periods of market illiquidity or turbulence; it also assumes that risks will remain in existence over the entire holding period; and
- VaR is calculated using positions held at the end of each business day and does not include intra-day changes in exposures.

To mitigate some of the VaR limitations and estimate losses associated with unusually severe market movements, we use other metrics designed for risk management purposes and described above, including stressed VaR, scenario analysis, as included in our stress testing framework, position risk, as included in our economic risk capital, and sensitivity analysis.

For some risk types there can be insufficient historical data for a calculation within the Group's VaR model. This often happens because underlying instruments may have traded only for a limited time. Where we do not have sufficient market data, either market data proxies or extreme parameter moves for these risk types are used. Market data proxies are selected to be as close to the underlying instrument as possible. Where neither a suitable market dataset nor a close proxy is available, extreme market moves are used.

We use a risk factor identification process to ensure that risks are identified for capture. There are two parts to this process. First, the market data dependency approach systematically determines the risk requirements based on data inputs used by front-office pricing models and compares this with the risk types that are captured by the Group's VaR model and the RNIV framework. Second, the product-based approach is a qualitative analysis of product types undertaken in order to identify the risk types that those product types would be exposed to. A comparison is again made with the risk types that are captured in the VaR and RNIV frameworks. This process identifies risks that are not yet captured in the VaR model or the RNIV framework. A plan for including these risks in one or the other framework can then be devised. RNIV is captured in our economic risk capital framework.

VaR backtesting

Backtesting is one of the techniques used to assess the accuracy and performance of our VaR model used by the Group for risk management and regulatory capital purposes and serves to highlight areas of potential enhancements. Backtesting is used by regulators to assess the adequacy of regulatory capital held by the Group, calculated using VaR.

Backtesting involves comparing the results produced by the VaR model with the hypothetical trading revenues on the trading book. Hypothetical trading revenues are defined in compliance with regulatory requirements and aligned with the VaR model output by excluding (i) non-market elements (such as fees, commissions, cancellations and terminations, net cost of funding and credit-related valuation adjustments) and (ii) gains and losses from intraday trading. A backtesting exception occurs when a hypothetical trading loss exceeds the daily VaR estimate.

For capital purposes and in line with BIS requirements, FINMA increases the capital multiplier for every regulatory VaR backtesting exception above four in the prior rolling 12-month period, resulting in an incremental market risk capital requirement for the Group. VaR models with less than five backtesting exceptions are considered by regulators to be classified in a defined "green zone". The "green zone" corresponds to backtesting results that do not themselves suggest a problem with the quality or accuracy of a bank's model.

Sensitivity analysis

Market risks associated with our banking book positions are measured and monitored using several tools, including economic risk capital, scenario analysis, sensitivity analysis and VaR. For the purpose of this disclosure, the aggregated market risks associated with our banking book positions are measured using sensitivity analysis. Sensitivity analysis is a technique used to determine how different values of an independent variable will impact a particular dependent variable under a given set of assumptions. The sensitivity analysis for the banking book positions measures the potential change in economic value resulting from specified hypothetical shocks to market factors (e.g., interest rates). It is not a measure of the potential impact on reported earnings in the current period, since the banking book positions generally are not marked to market through the income statement.

Credit and debit valuation adjustments

Credit valuation adjustments are modifications to the measurement of the value of derivative assets used to reflect the credit risk of counterparties. Debit valuation adjustments are modifications to the measurement of the value of derivative liabilities used to reflect an entity's own credit risk. These adjustments and their impact on revenues are not captured by the VaR framework.

Market risk constraints

Our market risk constraints framework encompasses specific constraints on various market risk measures, including VaR, results of scenario analysis and sensitivity analysis at the Group, divisional, legal entity and business line levels. For example, we

have controls over consolidated market risk exposures as well as concentrations in the portfolio. Risk constraints are cascaded to lower organizational levels within the businesses. Risk limits are binding and any significant increase in risk exposures is escalated in a timely manner. The Group's Organizational Guidelines and Regulations and the Group's internal policies determine limit-setting authority, temporary modification of such limits in certain situations and required approval authority at the Group, Bank, divisional, business and legal entity levels for any instances that could cause such limits to be exceeded. Market risk limit excesses are subject to a formal escalation procedure and the incremental risk associated with the excess must be approved by the responsible risk manager within Market Risk Management, with escalation to senior management if certain thresholds are exceeded. The majority of the market risk limits are monitored on a daily basis. Limits for which the inherent calculation time is longer or for which the risk profile changes less often are monitored less frequently depending on the nature of the limit (weekly, monthly or quarterly). The business is mandated to remediate market risk limit excesses within three business days upon notification. Remediation actions that take longer than three days are subject to an out-of-policy remediation process with senior management escalation.

Mitigation of market risk

Once a transaction has been executed, it is captured as part of our risk monitoring processes and subject to the market risk constraints framework. Specific policies ensure that for any new material and/or unusual transactions, the Market Risk Management function has been engaged and appropriate approvals are sought. These transactions are reviewed and approved by the Market Risk Management functions so that the risk profile of the portfolio is in line with the risk appetite after execution.

Market risk is mitigated using financial securities, derivatives, insurance contracts or other appropriate means.

Governance of market risk

Market risk is managed and controlled by Market Risk Management and divisional chief risk officers within Risk and governed by a comprehensive framework of policies and committees.

Oversight of the Market Risk Management function is provided by various committees and supervisory reviews at the Group, legal entity and divisional level, covering the related framework, risk appetite, quantitative approaches, evolving risk profile, material new trades and new business activity. The committees are comprised of senior market risk personnel. Relevant topics are escalated to senior management.

The governance framework ensures appropriate oversight of the Group's market risk exposures.

VaR governance

Like other models, our VaR model is subject to internal governance including validation by a team of modeling experts independent from the model developers. Validation includes identifying and

testing the model's assumptions and limitations, investigating its performance through historical and potential future stress events, and testing that the live implementation of the model behaves as intended. We employ a range of different control processes to help ensure that the models used for market risk remain appropriate over time. As part of these control processes, a dedicated Market Risk Quantitative Steering Committee meets regularly to review model performance and approve any new or amended models.

Non-financial risk

Definition and sources of non-financial risk

Non-financial risk is the risk of an adverse direct or indirect impact originating from sources outside the financial markets, including but not limited to operational risk, technology risk, cyber risk, compliance risk, regulatory risk, legal risk and conduct risk. Non-financial risk is inherent in most aspects of our business, including the systems and processes that support our activities. It comprises a large number of disparate risks that can manifest in a variety of ways. Examples include the risk of damage to physical assets, business disruption, failures relating to data integrity and trade processing, cyber attacks, internal or external fraudulent or unauthorized transactions, inappropriate cross-border activities, money laundering, improper handling of confidential information, conflicts of interest, improper gifts and entertainment and failure in duties to clients.

Non-financial risk can arise from a wide variety of internal and external forces, including human error, inappropriate conduct, failures in systems, processes and controls, deliberate attack or natural and man-made disasters. Outsourcing and external third parties may also create risks around maintaining business processes, system stability, data loss, data management, reputation and regulatory compliance. The main categories and sources of non-financial risk are described below.

Operational risk

Operational risk is the risk of an adverse impact arising from inadequate or failed internal processes, people or systems, or from external events. Operational risk does not include business and reputational risks; however, some operational risks can lead to reputational issues and as such these risks may be closely linked.

Technology risk

Technology risk deserves particular attention given the complex technological landscape that covers our business model. Ensuring that confidentiality, integrity and availability of information assets are protected is critical to our operations. Technology risk is the risk that system-related failures, such as service outages or information security incidents, may disrupt business. Technology risk is inherent not only in our IT assets, but also in the people and processes that interact with them including through dependency on third-party suppliers and the worldwide telecommunications infrastructure. We seek to ensure that the data used to support key business processes and reporting is secure, complete, accurate, available, timely and meets appropriate quality and integrity standards. We require our critical IT systems to be identified,

secure, resilient and available to support our ongoing operations, decision-making, communications and reporting. Our systems must also have the capabilities, capacity, scalability and adaptability to meet current and future business objectives, the needs of our customers and regulatory and legal expectations. Failure to meet these standards and requirements may result in adverse events that could subject us to reputational damage, fines, litigation, regulatory sanctions, financial losses or loss of market share. Technology risks are managed through our technology risk management program, business continuity management plan and business contingency and resiliency plans. Technology risks are included as part of our overall enterprise risk and control assessment based upon a forward-looking approach focusing on the most significant risks in terms of potential impact and likelihood.

Cyber risk

Cyber risk, which is part of technology risk, is the risk that the Group will be compromised as a result of cyber attacks, security breaches, unauthorized access, loss or destruction of data, unavailability of service, computer viruses or other events that could have an adverse security impact. Any such event could subject us to litigation or cause us to suffer a financial loss, a disruption of our businesses, liability to our clients, regulatory intervention or reputational damage. We could also be required to expend significant additional resources to modify our protective measures or to investigate and remediate vulnerabilities or other exposures.

We recognize that cyber risk represents a rapidly evolving external risk landscape. The financial industry continues to face cyber threats from a variety of actors who are driven by monetary, political and other motivations. We actively monitor external incidents and threats and assess and respond accordingly to any potential vulnerabilities that this may reveal. We are also an active participant in industry forums and information exchange initiatives and engage in regulatory consultation on this subject.

We have an enterprise-wide cybersecurity strategy to provide strategic guidance as part of our efforts to achieve an optimized end-to-end security and risk competence that enables a secure and innovative business environment, aligned with the Group's risk appetite. A technology security team leverages a wide array of leading technology solutions and industry best practices to support our ability to maintain a secure perimeter and detect and respond to threats in real time.

We regularly assess the effectiveness of key controls and conduct ongoing employee training and awareness activities, including for key management personnel, in order to embed a strong cyber risk culture. As part of the enterprise risk and control framework (ERCF), the Executive Board as well as divisional and legal entity risk management committees are given updates on the broader technology risk exposure.

Significant incidents are escalated to the Risk Committee together with key findings and mitigating actions. Related business continuity and response plans are tested and simulations are conducted up to the Executive Board and Board level.

Legal risk

Legal risk is the risk of loss or imposition of damages, fines, penalties or other liability or any other material adverse impact arising from circumstances including the failure to comply with legal obligations, whether contractual, statutory or otherwise, changes in enforcement practices, the making of a legal challenge or claim against us, our inability to enforce legal rights or the failure to take measures to protect our rights.

Compliance risk

Compliance risk is the risk of legal or regulatory sanctions or financial loss that may result from the failure to comply with applicable laws, regulations, rules or market standards.

Regulatory risk

Regulatory risk is the risk that changes in laws, regulations, rules or market standards may limit our activities and have a negative effect on our business or our ability to implement strategic initiatives, or can result in an increase in operating costs for the business or make our products and services more expensive for clients.

Conduct risk

The Group considers conduct risk to be the risk that improper behavior or judgment by our employees may result in a negative financial, non-financial or reputational impact to our clients, employees or the Group, or negatively impact the integrity of the financial markets. Conduct risk may arise from a wide variety of activities and types of behaviors. A Group-wide definition of conduct risk supports the efforts of our employees to have a common understanding of and consistently manage and mitigate our conduct risk. Further, it promotes standards of responsible conduct and ethics in our employees. Managing conduct risk includes consideration of the risks generated by each business and the strength of the associated mitigating controls. Conduct risk is also assessed by reviewing and learning from past incidents within the Group and at other firms in the financial services sector.

The ongoing focus and investment in a strong risk culture is fundamental to the management of conduct risk. The Group's Code of Conduct provides a clear statement on our conduct expectations and ethical values, supported by our conduct and ethics standards.

In July 2019, oversight of conduct risk for the Group moved from Compliance to Human Resources to further increase effectiveness and synergies in how the Group manages and mitigates conduct risk across our entire employee base.

→ Refer to "Risk culture" in Risk management oversight and to "Corporate governance framework" in IV – Corporate Governance – Overview for further information on our Code of Conduct.

Evaluation and management of non-financial risks

We aim to maintain the integrity of our business, operations and reputation as a core principle guiding the management and oversight of non-financial risks by ensuring that our day-to-day operations are sustainable and resilient, do not expose us to significant losses and enable our employees to make decisions and conduct business in line with our values and desired reputation as a firm.

Each business area takes responsibility for its non-financial risks and the provision of adequate resources and procedures for the management of those risks. Businesses are supported by designated second line of defense teams that are responsible for independent risk oversight, methodologies, tools and reporting within their areas as well as working with management on non-financial risk issues that arise. Businesses and relevant control functions meet regularly to discuss non-financial risk issues and identify required actions to mitigate risks.

Non-Financial Risk Management oversees the Group's established ERCF, providing a consistent and unified approach to evaluating and monitoring the Group's non-financial risks. The ERCF sets common minimum standards across the Group for non-financial risk and control processes and review and challenge activities. Risk and control assessments are in place across all divisions and functions, consisting of the risk and control self-assessment, compliance risk assessment and legal risk assessment. Key non-financial risks are identified annually and represent the most significant risks requiring senior management attention. Where appropriate, remediation plans are put in place with ownership by senior management with ongoing Executive Board level oversight through CARMC.

Non-financial risk capital management

Our activities to manage non-financial risk capital include scenario analysis and operational risk regulatory capital measurement, as further described below. In addition, we transfer the risk of potential losses from certain non-financial risks to third-party insurance companies in certain instances.

Non-financial risk scenario analysis

Non-financial risk scenario analysis is forward-looking and is used to identify and measure exposure to a range of potential adverse events, such as unauthorized trading, transaction processing errors and compliance issues. These scenarios help businesses and functions assess the suitability of controls in light of existing risks and estimate hypothetical but plausible risk exposures. Scenarios are developed as qualitative estimation approaches to support stressed loss projections and capital calculations (both economic and regulatory capital) as part of regulatory requirements set by regulatory agencies in the jurisdictions in which we operate.

Non-financial risk regulatory capital measurement

We use a set of internally validated and approved models to calculate our regulatory capital requirements for non-financial risk (also referred to as “operational risk capital”) across the Group and for legal entities. For Group regulatory capital requirements, we use a model under the advanced measurement approach (AMA). The model is based on a loss distribution approach that uses relevant historical internal and external loss data to estimate frequency and severity distributions for different types of potential non-financial risk losses, such as an unauthorized trading incident, execution delivery errors, fraud, litigation events or a material business disruption. Business experts and senior management review and challenge model parameters in light of changes of business environment and internal control factors to ensure that the capital projection is reasonable and forward-looking. Deductions are taken from the regulatory capital requirement for non-financial risk to account for the mitigating values of insurance policies held by the Group. The regulatory capital requirement represents the 99.9th percentile of the estimated distribution of total operational losses for the Group over a one-year time horizon. A risk-sensitive approach is applied to allocate capital to the businesses. In order to align capital usage, as far as possible, to the predominant currency in which relevant risks originate we changed the calculation of the Group’s risk-weighted assets relating to non-financial risk and now use US dollars instead of Swiss francs. This change was approved by FINMA and was implemented in the fourth quarter of 2019.

Governance of non-financial risks

Effective governance processes establish clear roles and responsibilities for managing non-financial risks and define appropriate escalation processes for outcomes that are outside expected levels. We utilize a comprehensive set of policies and procedures that set out how employees are expected to conduct their activities.

Non-Financial Risk Management is responsible for setting minimum standards with policies and procedures for non-financial risks at the Group level. This includes ensuring the cohesiveness of policies, tools and practices throughout the Group particularly with regard to the identification, evaluation, mitigation, monitoring and reporting of these risks. Other second line of defense non-financial risk oversight functions are responsible for setting supplemental policies and procedures where applicable.

Non-financial risk exposures, metrics, issues and remediation efforts are discussed in quarterly CARMC internal control system meetings and in divisional operational risk and compliance management committee meetings, which have senior representatives from all relevant functions.

For conduct risk, periodic monitoring of metrics is based on thresholds set by severity level, with material trends identified and escalated as appropriate to senior management.

Model risk

Like most other financial firms, we rely on advanced quantitative models across all business lines and legal entities to support a broad range of applications, including estimating various forms of financial risk, valuation of securities, stress testing, assessing capital adequacy, providing wealth management services to clients and to meet various reporting requirements.

Definition and sources of model risk

Model risk is the risk of adverse consequences from decisions made based on model results that may be incorrect, misinterpreted or used inappropriately. All quantitative models are imperfect approximations that are subject to varying degrees of uncertainty in their output depending on, among other factors, the model’s complexity and its intended application. As a result, modeling errors are unavoidable and can result in inappropriate business decisions, financial loss, regulatory and reputational risk and incorrect or inadequate capital reporting. Model errors, intrinsic uncertainty and inappropriate use are the primary contributors to aggregate, Group-wide model risk.

Evaluation and management of model risk

Through our global model risk management and governance framework we seek to identify, measure and mitigate all significant risks arising from the use of models embedded within our global model ecosystem. Model risks can then be mitigated through a well-designed and robust model risk management framework, encompassing both model governance policies and procedures in combination with model validation best practices.

Robust model risk management is crucial to ensuring that the Group’s model risk is assessed and managed using a central inventory that includes all models of the Group in order to remain within a defined model risk appetite by focusing on identification, measurement and resolution of model limitations. Under the Group’s model governance policies, Model Risk Management validates and approves all new models and material changes to existing models before their implementation, in compliance with standards established by regulators. Developers, owners and model supervisors are responsible for identifying, developing, implementing and testing their models. Model supervisors are responsible for ensuring that models are submitted to Model Risk Management for validation and approval and entered into the Group’s model inventory. The Model Risk Management function is structured to be independent from model users, developers and supervisors.

A rigorous validation practice should ensure that models are conceptually sound, correctly implemented by the model owners and developers and functioning as intended. To accomplish this, model risk management deploys a team of objective, well-informed subject matter experts (the model validators) who have the necessary skills and knowledge to pose effective challenge to all classes of models as a guiding principle for mitigating model risk.

Under the Group model governance policies, all models are risk-tiered according to an internal scoring method that combines complexity and materiality to assign models into one of four risk tiers. These rating tiers are used to prioritize models and allocate resources for initial validations, annual reviews and ongoing monitoring.

Governance of model risk

Governance is an important part of model risk management. Various model review committees within Model Risk Management prepare aggregate model risk reports that serve to identify concentrations of model risk and to make recommendations for remediation. These reports are submitted regularly to a dedicated model risk governance committee which escalates issues as necessary to the Group's Model Risk Steering Committee and the Board's Risk Committee.

Model Risk Management reviews models annually, reports model limitations to key stakeholders, tracks remediation plans for validation findings and reports on model risk tolerance and metrics to senior management. Model Risk Management oversees controls to support a complete and accurate Group-wide model inventory and performs annual attestations affirming the completeness and accuracy of its model inventory.

Reputational risk

Definition and sources of reputational risk

Reputational risk is the risk that negative perception by our stakeholders, including clients, counterparties, employees, shareholders, regulators and the general public, may adversely impact client acquisition and damage our business relationships with clients and counterparties, affecting staff morale and reducing access to funding sources.

Reputational risk may arise from a variety of sources, including, but not limited to, the nature or purpose of a proposed transaction or service, the identity or activity of a potential client, the regulatory or political climate in which the business will be transacted, and the potentially controversial environmental or social impacts of a transaction or significant public attention surrounding the transaction itself. The risk may also arise from reputational damage in the aftermath of a non-financial risk incident, such as cyber crime or the failure by employees to meet expected conduct and ethical standards.

Evaluation and management of reputational risk

Reputational risk is included in the Group's risk appetite framework to ensure that risk-taking is aligned with the approved risk appetite. We highly value our reputation and are fully committed to protecting it through a prudent approach to risk-taking and a responsible approach to business. This is achieved through the use of dedicated processes, resources and policies focused on identifying, evaluating, managing and reporting potential reputational risks. This is also achieved by applying the highest standards of personal accountability and ethical conduct as set out in the Group's Code of Conduct and the Group's approach

to conduct and ethics. Reputational risk potentially arising from proposed business transactions and client activity is assessed in the reputational risk review process. The Group's global policy on reputational risk requires employees to be conservative when assessing potential reputational impact and, where certain indicators give rise to potential reputational risk, the relevant business proposal or service must be submitted through the reputational risk review process. This involves a submission by an originator (any employee), approval by a business area head or designee, and its subsequent referral to one of the assigned reputational risk approvers, each of whom is an experienced and high-ranking senior manager, independent of the business divisions, who has authority to approve, reject or impose conditions on our participation in the transaction or service.

Governance of reputational risk

The PCR cycle within CARMC, on a global level, and the reputational risk committees, on a divisional or legal entity level, are the governing bodies responsible for the oversight and active discussion of reputational risk and sustainability issues. At the Board level, the Risk Committee and Audit Committee jointly assist the Board in fulfilling its reputational risk oversight responsibilities by reviewing and approving the Group's risk appetite framework as well as assessing the adequacy of the management of reputational risks.

In order to inform our stakeholders about how we manage some of the environmental and social risks inherent to the banking business, we publish our *Corporate Responsibility Report*, in which we also describe our efforts to conduct our operations in a manner that is environmentally and socially responsible and broadly contributes to society.

→ Refer to "[credit-suisse.com/responsibility](https://www.credit-suisse.com/responsibility)" for our Corporate Responsibility Report.

Business risk

Definition and sources of business risk

Business risk is the risk of not achieving our financial goals and ambitions in connection with the Group's strategy and how the business is managed in response to the external operating environment. External factors include both market and economic conditions, as well as shifts in the regulatory environment. Internally, we face risks arising from inappropriate strategic decisions, ineffective implementation of business strategies or an inability to adapt business strategies in response to changes in the operating environment, including in relation to client and competitor behavior.

Our businesses are exposed to a variety of risks that could adversely impact the Group's dividend payments or share buyback programs. In addition, the Group depends on dividends, distributions and other payments from its subsidiaries and the capital payouts in these subsidiaries might be restricted as a result of regulatory, tax or other constraints.

→ Refer to "Risk factors" in I – Information on the company for further information.

Evaluation and management of business risk

The Group financial plan serves as the basis for the financial goals and ambitions against which the businesses and legal entities are assessed regularly throughout the year. These regular reviews include evaluations of financial performance, capitalization and capital usage, key business risks, overall operating environment and business strategy. This enables management to identify and execute changes to the Group's operations and strategy where needed.

Governance of business risk

Strategic and related financial plans are developed by each division annually and aggregated into a Group financial plan, which is reviewed by the CRO, CFO and CEO before presentation to the full Executive Board. Following approval by the Executive Board, the Group financial plan is submitted for review and approval to the Board. On a regular basis, the Board and the Executive Board conduct more fundamental in-depth reviews of the Group's strategy and reassess our performance objectives.

→ Refer to "Strategy" in I – Information on the company for further information.

Climate-related risks

Definition of climate-related risks

Climate-related risks are the potentially adverse direct and indirect impacts on the Group's financial metrics, operations or reputation due to transitional or physical effects of climate change. Climate-related risks could manifest themselves through existing risk types such as credit risk, market risk, non-financial risk, business risk or reputational risk.

Sources of climate-related risks

We have identified several key risks and opportunities originating from either the physical or the transitional effects of climate change. Physical risks can arise from climate and weather-related events (e.g., heatwaves, droughts, floods, storms and sea-level rise) and can potentially result in material financial losses, impairing asset values and the creditworthiness of borrowers. Transitional risks can arise from the process of adjustment towards a low carbon economy through changes in climate policy, technological developments and disruptive business models, and shifting investor and consumer sentiment. Physical and transitional climate risks can affect us as an organization either directly, through our physical assets, costs and operations, or indirectly, through our financial relationships with our clients.

Evaluation and management of climate-related risks

In 2018, we established a climate change program to address the recommendations of the Financial Stability Board's Taskforce on Climate-related Financial Disclosures (TCFD) with respect to external disclosures on climate-related risks and opportunities. In 2019, we integrated our TCFD adoption program into a Group-wide climate risk strategy program, which aims to develop strategies to support our clients' energy transition toward low-carbon operations, technologies and services, as well as to facilitate the

implementation of the TCFD recommendations. The climate risk strategy program is sponsored by the CRO and has senior management representation from our five business divisions, as well as from the General Counsel, Compliance and Risk functions and the Impact Advisory and Finance department.

Credit Suisse is pursuing a three-pronged approach as part of our efforts to address climate-related risks. First, we are preparing to work with our clients to support their transition to low-carbon and climate-resilient business models, and we are working to further integrate climate change into our risk management models. Second, we are focusing on delivering sustainable finance solutions that help our clients achieve their goals and contribute to the realization of the UN Sustainable Development Goals; and third, we are working on further reducing the carbon footprint of our own operations.

Our efforts to implement the TCFD recommendations continued in 2019. Below is the summary of our activities.

Strategy

We aim to leverage existing risk management processes and capabilities for the management of climate risk exposures by mapping the underlying climate risks to our existing risk types. As methodologies for assessing climate risk evolve, we are developing consistent climate-related metrics that we believe are useful for risk management purposes.

The Group has enhanced its internal reports and is developing further climate risk-related scenario analysis in addition to the 2°C and 4°C scenarios introduced in 2018.

The Group is engaged in a range of activities which may support the transition to a lower carbon and more climate-resilient economy. Our green finance solutions are designed to achieve a positive impact on the environment while also creating financial value for our clients, drawing upon the expertise of various specialist departments across our divisions.

In September 2019, we signed the UN Principles for Responsible Banking, which call for the banking sector to align with the objectives of the UN Sustainable Development Goals and the Paris Climate Agreement and represent a comprehensive framework for the integration of sustainability across all business areas for signatories.

Risk management

Climate-related risks are embedded in our Group-wide risk taxonomy. These risks – alongside other environmental and social risks – are considered within the Group-wide, standardized reputational risk review process. We have identified sensitive sectors which pose greater environmental and social risks (including impacts to the climate) and have developed policies and guidelines to govern the responsible provision of financial services to clients within these sectors. These sector policies and guidelines

cover the following areas: oil and gas, mining, power generation, forestry and agribusiness (covering pulp and paper and palm oil production). As a consequence, within the reputational risk review process, we evaluate factors such as a company's greenhouse gas footprint or its energy efficiency targets while some of our policies and guidelines require clients to have a plan in place to deal with climate change risks. In 2019, our sector policies and guidelines, which had previously excluded any form of financing for new greenfield thermal coal mines, were updated to also exclude any form of financing specifically related to the development of new coal-fired power plants. Moreover, we are working with other banks to develop methodologies to measure the alignment of credit portfolios with the objectives of the Paris Agreement. Direct physical risks of climate change are identified and assessed through the business continuity management process alongside other physical risks such as natural disasters.

Metrics and targets

We have developed a range of internal analytics on our own exposures to climate-impacted sectors.

From 2013 to the end of 2019, we supported the issuance of over USD 30 billion of sustainability-related debt financing products such as green bonds, sustainability bonds, climate action bonds and bonds linked to the United Nation's Sustainable Development Goals as well as green certificates of deposits and commercial paper. We are also active in the sustainability lending market and during 2019 we participated in a total of over USD 20 billion worth of sustainability-linked loans.

We actively support clean and renewable energy businesses. From 2010 through the end of 2019, we were involved in over 130 transactions in this field with a value of over USD 100 billion.

Furthermore, we manage and disclose greenhouse gas emissions from our own operations on the basis of an ISO 14001-certified environmental management system. At an operational level, we have been working on a greenhouse gas neutral basis globally since 2010. In 2019, approximately 90% of the Group's electricity consumed globally was generated using renewable resources.

Governance of climate-related risks

Climate change-related responsibilities are included in the Board's Risk Committee charter. At the Executive Board level, the PCR cycle within CARMC assumes responsibility for the overall climate change strategy and is mandated to ensure that the capabilities for the management of relevant long-term risk trends, including climate change, are put in place. Furthermore, key internal policies incorporate important elements of climate risk management. In 2019, a specific session of a Board meeting was devoted to climate-related risks and sustainability topics.

→ Refer to "credit-suisse.com/responsibility" for our Corporate Responsibility Report.

Fiduciary risk

Definition and sources of fiduciary risk

Fiduciary risk is the risk of financial loss arising when the Group or its employees, acting in a fiduciary capacity as trustee, investment manager or as mandated by law, do not act in the best interest of the client in connection with the provision of advice and/or management of our client's assets including from a product-related market, credit, liquidity, counterparty and non-financial risk perspective.

Evaluation and management of fiduciary risk

As fiduciary risk primarily relates to discretionary investment-related activities, assessing investment performance and reviewing forward-looking investment risks in our client portfolios and investment funds is central to our investment oversight program. Areas of focus include:

- Measuring and monitoring investment performance of discretionary client portfolios and investment funds and comparing the returns against benchmarks and peer groups to understand level, sources and drivers of the returns.
- Assessing risk measures such as exposure, sensitivities, stress scenarios, expected volatility and liquidity across our portfolios to ensure that we are managing the assets in line with the clients' expectations and risk tolerance.
- Treating clients with a prudent standard of care, which includes information disclosure, subscriptions and redemptions processes, trade execution and requiring the highest ethical conduct.
- Ensuring discretionary portfolio managers' investment approach is in accordance with prospectus, regulations and client guidelines.
- Monitoring client investment guidelines or investment fund limits. In certain cases, internal limits or guidelines are also established and monitored.

Governance of fiduciary risk

Sound governance is essential for all discretionary management activities including trade execution and the investment process. Our program targets daily, monthly or quarterly monitoring of all portfolio management activities with independent analysis provided to senior management. Formal review meetings are in place to ensure that investment performance and risks are in line with expectations and adequately supervised.

Pension risk

Definition and sources of pension risk

Pension risk is the financial risk from contractual or other liabilities to which we are exposed as a sponsor of and/or participant in pension plans. It is the risk that we may be required to make unexpected payments or other contributions to a pension plan because of a potential obligation (i.e., underfunding).

We sponsor three types of pension plans:

- defined benefit plans;
- defined contribution plans; and
- our Swiss savings plan.

Pension risk arises from defined benefit plans and the Swiss savings plan, which has elements of a defined benefit plan. Under these plans, we, as the plan sponsor, bear the potential risk of having to provide additional funding in the event of a plan shortfall whereby the plan liabilities exceed the plan assets. Under defined contribution plans there is no defined benefit at retirement and the employee bears the investment risk; as a result, the plan sponsor is not responsible for a shortfall. The majority of our pension risk derives from the defined benefit plans in Switzerland, the UK and the US.

Sources of risks can be broadly categorized into asset investment risks (e.g., underperformance of bonds, equities and alternative investments) and liability risks, primarily from changes in interest rates, inflation and longevity.

Evaluation and management of pension risk

Pension plan structure

The Group's major pension plans are established as separate entities from the sponsor firm and are governed by trustees who are charged with safeguarding the interests of the plan members pursuant to statutory and regulatory requirements. Risk-taking activity within the Group's pension funds is not typically within the direct control of the sponsor firm. There is however a risk that we, as the plan sponsor, may have a potential obligation to contribute due to underfunding which could have a negative impact on the Group's capital and income before taxes.

Metrics and targets

Pensions risk forms an integral part of the Group's risk appetite assessment with internal macro-economic stress scenarios used for Group-wide stress testing. These are incremental to the assessment performed by the trustees and their external advisers.

Within Risk, pension risk is measured and quantified through both our stress testing framework and internal capital metrics used to assess the Group's capital requirements. These measures are intended to assess the potential impact from the revaluation of pension assets and liabilities on the Group's capital metrics and income before taxes.

Governance of pension risk

The overall pension risk framework and governance structure of our pension plans consists of three components:

- Trustees who may be independent from the employer depending on local jurisdictional requirements act on behalf of the

beneficiaries of the pension plan with additional oversight by actuaries and external consultants. Trustees are responsible for ensuring that the pension plan is run properly and the member benefits are secure.

- Depending on the jurisdiction there is oversight provided by senior management, trustees, actuaries and/or advisors in relation to local funding, investment strategy, plan changes or other actions of the pension fund.
- Risk monitors and reports various metrics and analytics to senior management in Risk and to relevant pension committees (e.g., economic risk capital, severe flight to quality and loss potential analysis).

Risk portfolio analysis

Capital risk

Economic risk capital

Methodology and model developments

The Group's economic risk capital methodology is regularly reviewed and updated in order to ensure that the model remains relevant as markets and business strategies evolve.

→ Refer to "Economic risk capital" in Risk coverage and management – Capital risk for further information on the 2019 economic risk capital methodology changes.

During 2019, we enhanced the data capture for non-traded credit spread risk and recalibrated certain model parameters for traded and securitized products risks within our position risk model. Within other risks, we enhanced the data capture and recalibrated certain model parameters for the expense risk model. Excluding changes and updates implemented in 2019, the Group's economic risk capital as of December 31, 2018 would have been CHF 28.0 billion, a decrease of CHF 1.4 billion, or 4.7%.

In line with the measurement of regulatory capital metrics such as BIS CET1 capital, prior-period balances are not restated for methodology changes, dataset updates or model parameter updates.

Available economic capital trends

As of December 31, 2019, our available economic capital for the Group was CHF 53.3 billion, an increase of CHF 4.2 billion from December 31, 2018. BIS CET1 capital increased CHF 1.0 billion, mainly reflecting net income attributable to shareholders, partially offset by the repurchase of shares under the 2019 share buy-back program, a negative foreign exchange impact and a dividend accrual. Economic adjustments increased CHF 3.2 billion, mainly driven by the issuance of high-trigger tier 1 capital instruments.

Economic risk capital and coverage ratio

end of	2019	2018	% change
Available economic capital (CHF million, except where indicated)			
BIS CET1 capital (Basel III)	36,774	35,824	3
Economic adjustments ¹	16,556	13,355	24
Available economic capital	53,330	49,179	8
Position risk			
Credit risk	1,921	2,155	(11)
Non-traded credit spread risk	3,146	3,463	(9)
Securitized products	2,543	1,706	49
Traded risk	1,294	1,574	(18)
Emerging markets country event risk	713	697	2
Equity investments	834	417	100
Diversification benefit ²	(1,363)	(1,195)	14
Position risk (99% confidence level for risk management purposes)	9,088	8,817	3
Economic risk capital			
Position risk (99.97% confidence level)	20,182	19,471	4
Operational risk	6,474	6,702	(3)
Other risks ³	2,694	3,248	(17)
Economic risk capital	29,350	29,421	0
Economic risk capital coverage ratio (%) ⁴	182	167	-

¹ Includes primarily high- and low-trigger capital instruments, adjustments to unrealized gains on owned real estate, reduced recognition of deferred tax assets and adjustments to treatment of pension assets and obligations. Economic adjustments are made to BIS CET1 capital to enable comparison between economic risk capital and available economic capital under the Basel III framework.

² Diversification benefit represents the reduction in risk that occurs when combining different, not perfectly correlated risk types in the same portfolio and is measured as the difference between the sum of the individual risk types and the risk calculated on the combined portfolio.

³ Includes owned real estate risk, expense risk, pension risk, foreign exchange risk between available economic capital and economic risk capital, interest rate risk on treasury positions, diversification benefits and the impact from deferred share-based compensation awards.

⁴ Ratio of available economic capital to economic risk capital.

Economic risk capital by division

	End of period			Average		
	2019	2018	% change	2019	2018	% change
CHF million						
Swiss Universal Bank	5,597	5,562	1	5,441	5,634	(3)
International Wealth Management	3,202	3,128	2	3,195	3,206	0
Asia Pacific	5,369	4,499	19	5,023	3,965	27
Global Markets	7,922	7,819	1	8,035	7,491	7
Investment Banking & Capital Markets	3,630	3,815	(5)	3,723	3,384	10
Strategic Resolution Unit ¹	-	3,006	(100)	-	3,837	(100)
Corporate Center ¹	3,630	1,592 ²	128	4,090	1,718 ²	138
Economic risk capital	29,350	29,421	0	29,507	29,235	1

¹ Beginning in 2019, the Strategic Resolution Unit ceased to exist as a separate division of the Group. The residual portfolio remaining as of December 31, 2018 is now managed in an Asset Resolution Unit within the Corporate Center. From the first quarter of 2019, average economic risk capital of the Strategic Resolution Unit is included in the Corporate Center.

² Included primarily operational risk and expense risk.

Economic risk capital trends

Compared to December 31, 2018, our economic risk capital was stable at CHF 29.4 billion as of December 31, 2019, reflecting an increase in position risk, offset by decreases in other risks and operational risk. The increase in position risk was primarily driven by higher securitized products risk, mainly due to higher exposures and a reduced benefit from equity derivative hedges in Global Markets, and higher equity investments exposures,

primarily reflecting a change in accounting treatment for our equity investment in SIX Group AG reported in Swiss Universal Bank and International Wealth Management. These increases were partially offset by lower traded risk, mainly due to reduced higher order risks in equity derivatives in Global Markets and the impact from the recalibration of certain model parameters, and lower credit risk. Lower credit risk mainly reflected reduced counterparty exposures in Global Markets and the Corporate Center,

lower corporate loan exposures in Swiss Universal Bank and enhanced data capture for benefits from hedging transactions executed in connection with the Group's risk-weighted assets. The decrease in other risks was mainly due to lower expense risk, primarily driven by lower operating expenses and the enhanced data capture and parameter recalibration mainly impacting Swiss Universal Bank, International Wealth Management and Global Markets. This decrease was partially offset by higher pension risk, primarily driven by the impact of lower interest rates on our Swiss pension plan, and a reduced benefit from deferred share-based compensation awards across all business divisions. The decrease in operational risk was mainly driven by the change in the calculation of the Group's risk-weighted assets relating to operational risk to use US dollars instead of Swiss francs. Excluding the US dollar translation impact, economic risk capital increased 2%.

As part of our overall risk management, we hold a portfolio of hedges. Hedges are impacted by market movements, similar to other trading securities, and may result in gains or losses which offset losses or gains on the portfolios they were designated to hedge. Due to the varying nature and structure of hedges, these gains or losses may not wholly offset the losses or gains on the portfolios.

Credit risk

Credit risk overview

All transactions that are exposed to potential losses arising as a result of a borrower or counterparty failing to meet its financial obligations or as a result of deterioration in the credit quality of the borrower or counterparty are subject to credit risk exposure measurement and management.

→ Refer to "Impaired loans" in VI – Consolidated financial statements – Credit Suisse Group – Note 19 – Loans, allowance for loan losses and credit quality for information on credit quality and aging analysis of loans.

For regulatory capital purposes, credit risk comprises several regulatory categories where credit risk measurement and related regulatory capital requirements are subject to different measurement approaches under the Basel framework. Details on regulatory credit risk categories, credit quality indicators and credit risk concentration are available in our disclosures required under Pillar 3 of the Basel framework related to risk, which will be available on our website.

→ Refer to "credit-suisse.com/regulatorydisclosures" for further information.

Loans and irrevocable loan commitments

The following table provides an overview of loans and irrevocable loan commitments by division in accordance with accounting principles generally accepted in the US and are not comparable with the regulatory credit risk exposures presented in our disclosures required under Pillar 3 of the Basel framework.

Loans and irrevocable loan commitments

end of	2019	2018
CHF million		
Gross loans	297,841	288,596
Irrevocable loan commitments	125,127	118,446
Total loans and irrevocable loan commitments	422,968	407,042 ¹
of which Swiss Universal Bank	183,604	178,595
of which International Wealth Management	58,774	56,013
of which Asia Pacific	50,295	48,087
of which Global Markets	78,420	76,312 ¹
of which Investment Banking & Capital Markets	49,833	46,001
of which Strategic Resolution Unit ²	–	1,591
of which Corporate Center ²	2,042	443

¹ Prior period has been corrected.

² Beginning in 2019, the Strategic Resolution Unit ceased to exist as a separate division of the Group. The residual portfolio remaining as of December 31, 2018 is now managed in an Asset Resolution Unit within the Corporate Center.

Loans held-for-sale and traded loans

As of December 31, 2019 and 2018, loans held-for-sale included CHF 25 million and CHF 29 million, respectively, of seasoned US subprime residential mortgages from consolidated variable interest entities (VIE). Traded loans included US subprime residential mortgages of CHF 173 million and CHF 761 million as of December 31, 2019 and 2018, respectively.

Loans

The table "Loans" provides an overview of our loans by loan classes, impaired loans, the related allowance for loan losses and selected loan metrics by business division. The carrying values of loans and related allowance for loan losses are presented in accordance with generally accepted accounting standards in the US and are not comparable with the regulatory credit risk exposures presented in our disclosures required under Pillar 3 of the Basel framework.

Compared to December 31, 2018, gross loans increased CHF 9.2 billion to CHF 297.8 billion as of December 31, 2019, mainly due to higher loans to the real estate sector, higher loans collateralized by securities, higher loans to financial institutions and higher consumer mortgages, partially offset by the translation impact from the US dollar and the euro. The net increase of CHF 2.5 billion in loans to the real estate sector mainly reflected increases in Asia Pacific and Swiss Universal Bank. Loans collateralized by securities increased CHF 2.3 billion, mainly driven by increases in International Wealth Management, Asia Pacific and Investment Banking & Capital Markets. The net increase of CHF 1.9 billion in loans to financial institutions was mainly driven by increases in Global Markets, Asia Pacific and Swiss Universal Bank. Consumer mortgages increased CHF 1.7 billion, mainly driven by an increase in Swiss Universal Bank.

Loans

end of	Swiss Universal Bank	International Wealth Management	Asia Pacific	Global Markets	Investment Banking & Capital Markets	Strategic Resolution Unit ¹	Corporate Center ¹	Credit Suisse
2019 (CHF million)								
Mortgages	104,257	3,883	1,400	0	0	–	39	109,579
Loans collateralized by securities	6,757	20,466	15,110	7	1,993	–	31	44,364
Consumer finance	3,791	504	21	7	0	–	78	4,401
Consumer	114,805	24,853	16,531	14	1,993	–	148	158,344
Real estate	23,569	2,076	3,095	287	178	–	15	29,220
Commercial and industrial loans	29,395	25,294	21,712	5,170	3,198	–	879	85,648
Financial institutions	2,650	1,619	4,678	10,469	510	–	441	20,367
Governments and public institutions	744	237	878	2,237	0	–	166	4,262
Corporate & institutional	56,358 ²	29,226 ³	30,363 ⁴	18,163	3,886	–	1,501	139,497
Gross loans	171,163	54,079	46,894	18,177	5,879	–	1,649	297,841
of which held at fair value	190	31	3,922	7,537	484	–	498	12,662
Net (unearned income) / deferred expenses	96	(106)	(45)	(47)	(15)	–	1	(116)
Allowance for loan losses ⁵	(487)	(179)	(74)	(70)	(73)	–	(63)	(946)
Net loans	170,772	53,794	46,775	18,060	5,791	–	1,587	296,779
2018 (CHF million)								
Mortgages	102,358	3,979	1,435	0	0	73	0	107,845
Loans collateralized by securities	6,978	19,416	14,161	0	1,444	35	0	42,034
Consumer finance	3,298	508	3	13	0	83	0	3,905
Consumer	112,634	23,903	15,599	13	1,444	191	0	153,784
Real estate	22,902	2,109	1,273	184	242	17	0	26,727
Commercial and industrial loans	30,291	24,095	21,938	5,182	3,567	458	167	85,698
Financial institutions	2,294	1,592	4,175	9,080	632	521	200	18,494
Governments and public institutions	694	245	843	1,876	0	235	0	3,893
Corporate & institutional	56,181 ²	28,041 ³	28,229 ⁴	16,322	4,441	1,231	367	134,812
Gross loans	168,815	51,944	43,828	16,335	5,885	1,422	367	288,596
of which held at fair value	37	85	5,263	7,572	1,221	695	0	14,873
Net (unearned income) / deferred expenses	82	(118)	(33)	(32)	(11)	(1)	0	(113)
Allowance for loan losses ⁵	(504)	(131)	(82)	(60)	(69)	(56)	0	(902)
Net loans	168,393	51,695	43,713	16,243	5,805	1,365	367	287,581

¹ Beginning in 2019, the Strategic Resolution Unit ceased to exist as a separate division of the Group. The residual portfolio remaining as of December 31, 2018 is now managed in an Asset Resolution Unit within the Corporate Center.

² The values of financial collateral and mortgages related to secured loans, considered up to the amount of the related loans, were CHF 10,038 million and CHF 33,920 million, respectively, as of December 31, 2019, and CHF 10,834 million and CHF 33,533 million, respectively, as of December 31, 2018.

³ The values of financial collateral and mortgages related to secured loans, considered up to the amount of the related loans, were CHF 22,816 million and CHF 2,826 million, respectively, as of December 31, 2019, and CHF 22,040 million and CHF 2,151 million, respectively, as of December 31, 2018.

⁴ The values of financial collateral and mortgages related to secured loans, considered up to the amount of the related loans, were CHF 19,606 million and CHF 822 million, respectively, as of December 31, 2019, and CHF 17,220 million and CHF 183 million, respectively, as of December 31, 2018.

⁵ Allowance for loan losses is only based on loans that are not carried at fair value.

On a divisional level, gross loans increased CHF 3.1 billion in Asia Pacific, CHF 2.3 billion in Swiss Universal Bank, CHF 2.1 billion in International Wealth Management and CHF 1.8 billion in Global Markets. At the beginning of 2019, the Strategic Resolution Unit ceased to exist as a separate division of the Group and the residual loan portfolio of CHF 1.4 billion reported as of the end of 2018 was transferred to the Corporate Center. Investment Banking & Capital Markets gross loans were stable.

→ Refer to "Note 19 – Loans, allowance for loan losses and credit quality" in VI – Consolidated financial statements – Credit Suisse Group for further information.

As of December 31, 2019, 97% of the aggregate Swiss residential mortgage loan portfolio of CHF 110.5 billion had a loan-to-value (LTV) ratio equal to or lower than 80%. As of December 31, 2018, 97% of the aggregate Swiss residential mortgage loan portfolio of CHF 108.5 billion had an LTV ratio equal to or lower than 80%. For substantially all Swiss residential mortgage loans originated in 2019 and 2018, the average LTV ratio was equal to or lower than 80% at origination. Our LTV ratios are based on the most recent appraised value of the collateral.

Impaired loans

end of	Swiss Universal Bank	International Wealth Management	Asia Pacific	Global Markets	Investment Banking & Capital Markets	Strategic Resolution Unit ¹	Corporate Center ¹	Credit Suisse
2019 (CHF million)								
Non-performing loans	453	482	166	36	51	–	62	1,250
Non-interest-earning loans	204	43	0	0	0	–	13	260
Non-performing and non-interest-earning loans	657	525	166	36	51	–	75	1,510
Restructured loans	66	203	0	5	8	–	68	350
Potential problem loans	155	47	0	32	29	–	3	266
Other impaired loans	221	250	0	37	37	–	71	616
Gross impaired loans ²	878	775 ³	166	73	88	–	146	2,126
of which loans with a specific allowance	799	468	166	68	80	–	133	1,714
of which loans without a specific allowance	79	307	0	5	8	–	13	412
2018 (CHF million)								
Non-performing loans	365	534	183	29	37	55	0	1,203
Non-interest-earning loans	245	43	0	0	0	12	0	300
Non-performing and non-interest-earning loans	610	577	183	29	37	67	0	1,503
Restructured loans	76	130	0	5	8	80	0	299
Potential problem loans	247	128	2	9	0	4	0	390
Other impaired loans	323	258	2	14	8	84	0	689
Gross impaired loans ²	933	835 ³	185	43	45	151	0	2,192
of which loans with a specific allowance	842	308	100	38	37	145	0	1,470
of which loans without a specific allowance	91	527	85	5	8	6	0	722

¹ Beginning in 2019, the Strategic Resolution Unit ceased to exist as a separate division of the Group. The residual portfolio remaining as of December 31, 2018 is now managed in an Asset Resolution Unit within the Corporate Center.

² Impaired loans are only based on loans that are not carried at fair value.

³ Includes gross impaired loans of CHF 39 million and CHF 62 million as of December 31, 2019 and 2018, respectively, which are mostly secured by guarantees provided by investment-grade export credit agencies.

Impaired loans

Compared to December 31, 2018, gross impaired loans decreased CHF 66 million to CHF 2.1 billion as of December 31, 2019, mainly driven by lower potential problem loans and lower non-interest-earning loans in Swiss Universal Bank and lower potential problem loans and lower non-performing loans in International Wealth Management. These decreases were partially offset, primarily by higher non-performing loans in Swiss Universal Bank and higher restructured loans in International Wealth Management.

In International Wealth Management, gross impaired loans decreased CHF 60 million, primarily driven by reductions in ship finance, aviation finance and export finance, partially offset by increases in European mortgages and lombard lending. In Swiss Universal Bank, gross impaired loans decreased CHF 55 million, mainly reflecting repayments and write-offs in commodity trade finance and write-offs in the large Swiss corporates and

in the small and medium-sized enterprises business areas, partially offset by newly impaired positions in the commodity trade finance, the large Swiss corporates and the small and medium-sized enterprises business areas. In Asia Pacific, gross impaired loans decreased CHF 19 million, mainly driven by the write-off of an Indian infrastructure development company and four lombard loans in Hong Kong and a repayment in ship finance, partially offset by newly impaired share-backed loans. Gross impaired loans in Investment Banking & Capital Markets and in Global Markets increased CHF 43 million and CHF 30 million, respectively, mainly driven by the impairment of several US-based revolving loans in the oil and gas, supermarket and security guard services sectors, partially offset by a write-off in the supermarket sector in Europe. At the beginning of 2019, the residual impaired loan portfolio of CHF 151 million as of the end of 2018 in the Strategic Resolution Unit was transferred to the Corporate Center.

→ Refer to "Impaired loans" in VI – Consolidated financial statements – Credit Suisse Group – Note 19 – Loans, allowance for loan losses and credit quality for information on categories of impaired loans.

Allowance for loan losses

end of	Swiss Universal Bank	International Wealth Management	Asia Pacific	Global Markets	Investment Banking & Capital Markets	Strategic Resolution Unit ¹	Corporate Center ¹	Credit Suisse
2019 (CHF million)								
Balance at beginning of period ²	504	131	82	60	69	56	0	902
of which individually evaluated for impairment	358	91	47	27	30	55	0	608
of which collectively evaluated for impairment	146	40	35	33	39	1	0	294
Transfers and reclassifications	0	0	0	0	0	(56)	56	0
Net movements recognized in statements of operations	106	49	43	36	46	–	4	284
Gross write-offs	(136)	(15)	(75)	(29)	(42)	–	(2)	(299)
Recoveries	10	2	10	1	1	–	1	25
Net write-offs	(126)	(13)	(65)	(28)	(41)	–	(1)	(274)
Provisions for interest	5	14	15	1	2	–	5	42
Foreign currency translation impact and other adjustments, net	(2)	(2)	(1)	1	(3)	–	(1)	(8)
Balance at end of period ²	487	179	74	70	73	–	63	946
of which individually evaluated for impairment	345	131	23	24	24	–	62	609
of which collectively evaluated for impairment	142	48	51	46	49	–	1	337

¹ Beginning in 2019, the Strategic Resolution Unit ceased to exist as a separate division of the Group. The residual portfolio remaining as of December 31, 2018 is now managed in an Asset Resolution Unit within the Corporate Center.

² Allowance for loan losses is only based on loans that are not carried at fair value.

The following tables provide an overview of changes in impaired loans and related allowance for loan losses by loan portfolio segment.

Gross impaired loans by loan portfolio segment

	Consumer	Corporate & institutional	Total
2019 (CHF million)			
Balance at beginning of period	677	1,515	2,192
New impaired loans	488	757	1,245
Increase in existing impaired loans	25	73	98
Reclassifications to performing loans	(260)	(99)	(359)
Repayments ¹	(121)	(483)	(604)
Liquidation of collateral, insurance or guarantee payments	(43)	(95)	(138)
Sales ²	0	(11)	(11)
Write-offs	(77)	(193)	(270)
Foreign currency translation impact and other adjustments, net	(6)	(21)	(27)
Balance at end of period	683	1,443	2,126

¹ Full or partial principal repayments.

² Includes transfers to loans held-for-sale for intended sales of held-to-maturity loans.

Allowance for loan losses by loan portfolio segment

	Consumer	Corporate & institutional	Total
2019 (CHF million)			
Balance at beginning of period	187	715	902
of which individually evaluated for impairment	146	462	608
of which collectively evaluated for impairment	41	253	294
Net movements recognized in statements of operations	63	221	284
Gross write-offs	(86)	(213)	(299)
Recoveries	9	16	25
Net write-offs	(77)	(197)	(274)
Provisions for interest	14	28	42
Foreign currency translation impact and other adjustments, net	(1)	(7)	(8)
Balance at end of period	186	760	946
of which individually evaluated for impairment	145	464	609
of which collectively evaluated for impairment	41	296	337

Allowance for loan losses

Compared to December 31, 2018, the allowance for loan losses increased CHF 44 million to CHF 946 million as of December 31, 2019, primarily due to net increases in International Wealth Management, Global Markets and Investment Banking & Capital Markets, partially offset by decreases in Swiss Universal Bank and Asia Pacific. In International Wealth Management, the increase in allowance for loan losses of CHF 48 million mainly reflected increased provisions in ship finance, lombard lending and European mortgages, partially offset by reductions in export finance. In Global Markets and Investment Banking & Capital Markets, the increase in allowance for loan losses of CHF 10 million and CHF 4 million, respectively, mainly reflected a new provision on a US-based revolving loan in the oil and gas sector based on the valuation of reserves, partially offset by a write-off in the supermarket sector in Europe. Additionally, the increase in allowance for loan losses reflects higher market-implied PDs and an

increase in the loss emergence period parameter. In Swiss Universal Bank, the decrease in allowance for loan losses of CHF 17 million mainly reflected write-offs in the commodity trade finance, the large Swiss corporates, consumer finance and the small and medium-sized enterprises business areas, partially offset by new provisions in the small and medium-sized enterprises, the consumer finance and the commodity trade finance business areas. In Asia Pacific, the decrease in allowance for loan losses of CHF 8 million mainly reflected the write-off of four lombard loans in Hong Kong and an Indian infrastructure development company, partially offset by a new provision on an Indonesian share-backed loan based on collateral fair value. Additionally, the increase in allowance for loan losses reflects higher market-implied PDs. At the beginning of 2019, the allowance for loan losses of CHF 56 million on the residual loan portfolio as of the end of 2018 in the Strategic Resolution Unit was transferred to the Corporate Center.

Loan metrics

end of	Swiss Universal Bank	International Wealth Management	Asia Pacific	Global Markets	Investment Banking & Capital Markets	Strategic Resolution Unit ¹	Corporate Center ¹	Credit Suisse
2019 (%)								
Non-performing and non-interest-earning loans / Gross loans	0.4	1.0	0.4	0.3	0.9	–	6.5	0.5
Gross impaired loans / Gross loans	0.5	1.4	0.4	0.7	1.6	–	12.7	0.7
Allowance for loan losses / Gross loans	0.3	0.3	0.2	0.7	1.4	–	5.5	0.3
Specific allowance for loan losses / Gross impaired loans	39.3	16.9	13.9	32.9	27.3	–	42.5	28.6
2018 (%)								
Non-performing and non-interest-earning loans / Gross loans	0.4	1.1	0.5	0.3	0.8	9.2	0.0	0.5
Gross impaired loans / Gross loans	0.6	1.6	0.5	0.5	1.0	20.8	0.0	0.8
Allowance for loan losses / Gross loans	0.3	0.3	0.2	0.7	1.5	7.7	0.0	0.3
Specific allowance for loan losses / Gross impaired loans	38.4	10.9	25.4	62.8	66.7	36.4	–	27.7

Gross loans and gross impaired loans exclude loans carried at fair value and the allowance for loan losses is only based on loans that are not carried at fair value.

¹ Beginning in 2019, the Strategic Resolution Unit ceased to exist as a separate division of the Group. The residual portfolio remaining as of December 31, 2018 is now managed in an Asset Resolution Unit within the Corporate Center.

Derivative instruments

The Group enters into derivative contracts in the normal course of business for market making, positioning and arbitrage purposes, as well as for our own risk management needs, including mitigation of interest rate, foreign exchange and credit risk.

Derivatives are either privately negotiated OTC contracts or standard contracts transacted through regulated exchanges. The most frequently used derivative products include interest rate swaps, cross-currency swaps and credit default swaps (CDS), interest rate and foreign exchange options, foreign exchange forward contracts, and foreign exchange and interest rate futures.

The replacement values of derivative instruments correspond to their fair values at the dates of the consolidated balance sheets and arise from transactions for the account of individual customers and for our own account. Positive replacement values (PRV) constitute an asset, while negative replacement values (NRV) constitute a liability. Fair value does not indicate future gains or losses, but rather premiums paid or received for a derivative instrument at inception, if applicable, and unrealized gains and losses from marking to market

all derivatives at a particular point in time. The fair values of derivatives are determined using various methodologies, primarily observable market prices where available and, in their absence, observable market parameters for instruments with similar characteristics and maturities, net present value analysis or other pricing models as appropriate.

The following table illustrates how credit risk on derivatives receivables is reduced by the use of legally enforceable netting agreements and collateral agreements. Netting agreements allow us to net balances from derivative assets and liabilities transacted with the same counterparty when the netting agreements are legally enforceable. Replacement values are disclosed net of such agreements in the consolidated balance sheets. Collateral agreements are entered into with certain counterparties based upon the nature of the counterparty and/or the transaction and require the placement of cash or securities with us as collateral for the underlying transaction. The carrying values of derivatives are presented in accordance with generally accepted accounting standards in the US and are not comparable with the derivatives metrics presented in our disclosures required under Pillar 3 of the Basel framework.

Derivative instruments by maturity

end of / due within	2019				2018			
	Less than 1 year	1 to 5 years	More than 5 years	Positive replacement value	Less than 1 year	1 to 5 years	More than 5 years	Positive replacement value
CHF billion								
Interest rate products	6.1	18.1	44.3	68.5	8.0	19.1	42.6	69.7
Foreign exchange products	11.7	5.6	4.7	22.0	14.8	7.5	5.6	27.9
Equity/index-related products	6.4	5.3	0.3	12.0	5.5	5.8	0.2	11.5
Credit derivatives	0.5	4.7	1.0	6.2	0.6	2.9	1.9	5.4
Other products ¹	0.4	0.0	1.0	1.4	0.7	0.0	1.0	1.7
OTC derivative instruments	25.1	33.7	51.3	110.1	29.6	35.3	51.3	116.2
Exchange-traded derivative instruments				5.7				12.2
Netting agreements ²				(97.9)				(110.1)
Total derivative instruments				17.9				18.3
of which recorded in trading assets				17.7				18.3
of which recorded in other assets				0.2				0.0

¹ Primarily precious metals, commodity and energy products.

² Taking into account legally enforceable netting agreements.

Derivative transactions exposed to credit risk are subject to a credit request and approval process, ongoing credit and counterparty monitoring and a credit quality review process. The

following table represents the rating split of our credit exposure from derivative instruments.

Derivative instruments by counterparty credit rating		
end of	2019	2018
CHF billion		
AAA	1.2	1.3
AA	6.5	5.9
A	2.4	3.3
BBB	4.8	5.5
BB or lower	2.2	1.7
OTC derivative instruments	17.1	17.7
Exchange-traded derivative instruments ¹	0.8	0.6
Total derivative instruments¹	17.9	18.3

¹ Taking into account legally enforceable netting agreements.

Derivative instruments by maturity and by counterparty credit rating for the Bank are not materially different, neither in absolute amounts nor in terms of movements, from the information for the Group presented above.

Derivative instruments are categorized as exposures from trading activities (trading) and those qualifying for hedge accounting (hedging). Trading includes activities relating to market making, positioning and arbitrage. It also includes economic hedges where the Group enters into derivative contracts for its own risk management purposes, but where the contracts do not qualify for hedge accounting under US GAAP. Hedging includes contracts that qualify for hedge accounting under US GAAP, such as fair value hedges, cash flow hedges and net investment hedges.

→ Refer to "Note 27 – Offsetting of financial assets and financial liabilities" in VI – Consolidated financial statements – Credit Suisse Group for further information on offsetting of derivatives.

→ Refer to "Note 32 – Derivatives and hedging activities" in VI – Consolidated financial statements – Credit Suisse Group for further information on derivatives, including an overview of derivatives by products categorized for trading and hedging purposes.

Forwards and futures

The Group enters into forward purchase and sale contracts for mortgage-backed securities, foreign currencies and commitments to buy or sell commercial and residential mortgages. In addition, we enter into futures contracts on equity-based indices and other financial instruments, as well as options on futures contracts. These contracts are typically entered into to meet the needs of customers, for trading and for hedging purposes.

On forward contracts, the Group is exposed to counterparty credit risk. To mitigate this credit risk, we limit transactions by counterparty, regularly review credit limits and adhere to internally established credit extension policies.

For futures contracts and options on futures contracts, the change in the market value is settled with a clearing broker in cash each day. As a result, our credit risk with the clearing broker is limited to the net positive change in the market value for a single day.

Swaps

Swap agreements consist primarily of interest rate swaps, CDS, currency and equity swaps. The Group enters into swap agreements for trading and risk management purposes. Interest rate swaps are contractual agreements to exchange interest rate payments based on agreed upon notional amounts and maturities. CDS are contractual agreements in which the buyer of the swap pays a periodic fee in return for a contingent payment by the seller of the swap following a credit event of a reference entity. A credit event is commonly defined as bankruptcy, insolvency, receivership, material adverse restructuring of debt, or failure to meet payment obligations when due. Currency swaps are contractual agreements to exchange payments in different currencies based on agreed notional amounts and currency pairs. Equity swaps are contractual agreements to receive the appreciation or depreciation in value based on a specific strike price on an equity instrument in exchange for paying another rate, which is usually based on an index or interest rate movements.

Options

We write options specifically designed to meet the needs of customers and for trading purposes. These written options do not expose us to the credit risk of the customer because, if exercised, we and not our counterparty are obligated to perform. At the beginning of the contract period, we receive a cash premium. During the contract period, we bear the risk of unfavorable changes in the value of the financial instruments underlying the options. To manage this market risk, we purchase or sell cash or derivative financial instruments. Such purchases and sales may include debt and equity securities, forward and futures contracts, swaps and options.

We also purchase options to meet customer needs, for trading purposes and for hedging purposes. For purchased options, we obtain the right to buy or sell the underlying instrument at a fixed price on or before a specified date. During the contract period, our risk is limited to the premium paid. The underlying instruments for these options typically include fixed income and equity securities, foreign currencies and interest rate instruments or indices. Counterparties to these option contracts are regularly reviewed in order to assess creditworthiness.

Selected European credit risk exposures

The scope of our disclosure of European credit risk exposure includes all countries of the EU which are rated below AA or its equivalent by at least one of the three major rating agencies and where our gross exposure exceeds our quantitative threshold of EUR 0.5 billion. We believe this external rating is a useful measure in determining the financial ability of countries to meet their financial obligations, including giving an indication of vulnerability to adverse business, financial and economic conditions.

Monitoring of selected European credit risk exposures

The Group's credit risk exposure to these European countries is managed as part of our overall risk management process. The Group makes use of country limits and performs scenario analyses on a regular basis, which include analyses of our indirect sovereign credit risk exposures from our exposures to selected European financial institutions. This assessment of indirect sovereign credit risk exposures includes analysis of publicly available disclosures of counterparties' exposures to the European countries within the defined scope of our disclosure. We monitor the concentration of collateral underpinning our OTC derivative and reverse repurchase agreement exposures through monthly reporting, and also monitor the impact of sovereign rating downgrades on collateral eligibility. Strict limits on sovereign collateral from G7 and non-G7 countries are monitored monthly. Similar disclosure is part of our regular risk reporting to regulators.

As part of our global scenario framework, the counterparty credit risk stress testing framework measures counterparty exposure under scenarios calibrated to the 99th percentile for the worst one month and one year moves observed in the available history, as well as the absolutely worst weekly move observed in the same dataset. The scenario results are aggregated at the counterparty level for all our counterparties, including all European countries to which we have exposure. Furthermore, counterparty default scenarios are run where specific entities are set to default. In one of these scenarios, a European sovereign default is investigated. This scenario determines the maximum exposure that we have to this country in the event of its default and serves to identify those counterparties where exposure will rise substantially as a result of the modeled country defaulting.

The scenario framework also considers a range of other severe scenarios, including a specific eurozone crisis scenario which assumes the default of selected European countries, currently modeled to include Greece, Ireland, Italy, Portugal and Spain. It is assumed that the sovereigns, financial institutions and corporates within these countries default, with a 100% loss of sovereign and financial institutions exposures and a 0% to 100% loss of corporates depending on their credit ratings. As part of this scenario, we additionally assume a severe market sell-off involving an equity market crash, widening credit spreads, a rally in the price of gold and a devaluation of the euro. In addition, the eurozone crisis scenario assumes the default of a small number of our market counterparties that we believe would be severely affected by a default across the selected European countries. These counterparties are assumed to default as we believe that they would be the most affected institutions because of their direct presence in the relevant countries and their direct exposures. Through these processes, revaluation and redenomination risks on our exposures are considered on a regular basis by our risk management function.

Presentation of selected European credit risk exposures

The basis for the presentation of the country exposure is our internal risk domicile view. The risk domicile view is based on the domicile of the legal counterparty, i.e., it may include exposure to a legal entity domiciled in the reported country even if its parent is located outside of the country.

The credit risk exposure in the table is presented on a risk-based view before deduction of any related allowance for loan losses. We present our credit risk exposure and related risk mitigation for the following distinct categories:

- *Gross credit risk exposure* includes the principal amount of loans drawn, letters of credit issued and undrawn portions of committed facilities, the PRV of derivative instruments after consideration of legally enforceable netting agreements, the notional value of investments in money market funds and the market values of securities financing transactions and the debt cash trading portfolio (short-term securities) netted at the issuer level.
- *Risk mitigation* includes CDS and other hedges, at their net notional amount, guarantees, insurance and collateral (primarily cash, securities and, to a lesser extent, real estate, mainly for exposures of our private banking, corporate and institutional businesses to corporates & other). Collateral values applied for the calculation of the net exposure are determined in accordance with our risk management policies and reflect applicable margining considerations.
- *Net credit risk exposure* represents gross credit risk exposure net of risk mitigation.
- *Inventory* represents the long inventory positions in trading and non-trading physical debt and synthetic positions, each at market value, all netted at the issuer level. Physical debt is non-derivative debt positions (e.g., bonds), and synthetic positions are created through OTC contracts (e.g., CDS purchased and/or sold and total return swaps).

CDS presented in the risk mitigation column are purchased as a direct hedge to our OTC exposure and the risk mitigation impact is considered to be the notional amount of the contract for risk purposes, with the mark-to-market fair value of CDS risk-managed against the protection provider. Net notional amounts of CDS reflect the notional amount of CDS protection purchased less the notional amount of CDS protection sold and are based on the origin of the CDS reference credit, rather than that of the CDS counterparty. CDS included in the inventory column represent contracts recorded in our trading books that are hedging the credit risk of the instruments included in the inventory column and are disclosed on the same basis as the value of the fixed income instrument they are hedging.

The Group does not have any tranching CDS positions on these European countries and only an insignificant amount of indexed credit derivatives is included in inventory.

The credit risk of CDS contracts themselves, i.e., the risk that the CDS counterparty will not perform in the event of a default, is managed separately from the credit risk of the reference credit. To mitigate such credit risk, generally all CDS contracts

are collateralized. In addition, they are executed with counterparties with whom we have an enforceable International Swaps and Derivatives Association (ISDA) master agreement that provides for daily margining.

Selected European credit risk exposures

	Gross credit risk exposure	Risk mitigation		Net credit risk exposure	Inventory ²	Net synthetic inventory ³	Total credit risk exposure	
		CDS	Other ¹				Gross	Net
December 31, 2019								
Cyprus (EUR million)								
Sovereign	0	0	0	0	1	0	1	1
Financial institutions	14	0	14	0	1	0	15	1
Corporates & other	1,495	0	1,188	307	0	0	1,495	307
Total	1,509	0	1,202	307	2	0	1,511	309
Greece								
Sovereign	59	59	0	0	0	(9)	59	0
Financial institutions	256	0	255	1	0	0	256	1
Corporates & other	543	0	451	92	4	1	547	96
Total	858	59	706	93	4	(8)	862	97
Ireland								
Sovereign	1,443	0	0	1,443	0	(6)	1,443	1,443
Financial institutions	1,634	0	260	1,374	24	(46)	1,658	1,398
Corporates & other	888	0	336	552	19	(353)	907	571
Total	3,965	0	596	3,369	43	(405)	4,008	3,412
Italy								
Sovereign	522	108	41	373	72	72	594	445
Financial institutions	823	0	409	414	90	(39)	913	504
Corporates & other	3,572	119	2,911	542	92	(145)	3,664	634
Total	4,917	227	3,361	1,329	254	(112)	5,171	1,583
Malta								
Financial institutions	89	0	0	89	0	0	89	89
Corporates & other	555	0	520	35	3	3	558	38
Total	644	0	520	124	3	3	647	127
Portugal								
Sovereign	0	0	0	0	25	24	25	25
Financial institutions	390	0	272	118	15	0	405	133
Corporates & other	247	3	204	40	1	(161)	248	41
Total	637	3	476	158	41	(137)	678	199
Spain								
Sovereign	392	0	0	392	0	(65)	392	392
Financial institutions	1,162	10	723	429	54	(32)	1,216	483
Corporates & other	1,896	0	1,290	606	100	(4)	1,996	706
Total	3,450	10	2,013	1,427	154	(101)	3,604	1,581
Total								
Sovereign	2,416	167	41	2,208	98	16	2,514	2,306
Financial institutions	4,368	10	1,933	2,425	184	(117)	4,552	2,609
Corporates & other	9,196	122	6,900	2,174	219	(659)	9,415	2,393
Total	15,980	299	8,874	6,807	501	(760)	16,481	7,308

¹ Includes other hedges (derivative instruments), guarantees, insurance and collateral.

² Represents long inventory positions netted at issuer level.

³ Substantially all of which results from CDS; represents long positions net of short positions.

Development of selected European credit risk exposures

On a gross basis, before taking into account risk mitigation, our risk-based sovereign credit risk exposure to Cyprus, Croatia, Greece, Ireland, Italy, Malta, Portugal and Spain decreased 25% to EUR 2,514 million as of December 31, 2019, compared to EUR 3,350 million as of December 31, 2018. Our net exposure to these sovereigns was EUR 2,306 million, 13% lower compared to EUR 2,640 million as of December 31, 2018. Our non-sovereign risk-based credit risk exposure in these countries as of December 31, 2019 included net exposures to financial institutions of EUR 2,609 million, 6% higher compared to December 31, 2018, and net exposures to corporates and other counterparties of EUR 2,393 million, 17% lower compared to December 31, 2018. As of December 31, 2019, we had no credit risk exposure to Croatia.

A significant majority of the purchased credit protection is transacted with central counterparties or banks outside of the disclosed countries. For credit protection purchased from central counterparties or banks in the disclosed countries, such credit risk is reflected in the gross and net exposure to each respective country.

Sovereign debt rating developments

From year-end 2018 through February 29, 2020, the long-term sovereign debt ratings of the countries listed in the table changed as follows: Standard & Poor's increased Croatia's rating from BB+ to BBB-, increased Greece's rating from B+ to BB-, increased Ireland's rating from A+ to AA-, increased Portugal's rating from BBB- to BBB and increased Spain's rating from

A- to A. Fitch increased Croatia's rating from BB+ to BBB- and increased Greece's rating from BB- to BB. Moody's increased the Czech Republic's rating from A1 to AA3, increased Greece's rating from B3 to B1 and increased Malta's rating from A3 to A2. These rating changes did not have a significant impact on the Group's financial position, result of operations, liquidity or capital resources.

Market risk

Trading book

Development of trading book risks

The tables entitled "One-day, 98% trading book risk management VaR" and "Average one-day, 98% trading book risk management VaR by division" show our trading book market risk exposure, as measured by one-day, 98% risk management VaR in Swiss francs and US dollars. As we measure trading book VaR for internal risk management purposes using the US dollar as the base currency, the VaR figures were translated into Swiss francs using daily foreign exchange translation rates. VaR estimates are computed separately for each risk type and for the whole portfolio. The different risk types are grouped into five categories including interest rate, credit spread, foreign exchange, commodity and equity risks.

We regularly review our VaR model to ensure that it remains appropriate given evolving market conditions and the composition of our trading portfolio. In 2019, there were no material changes to our VaR methodology.

Average one-day, 98% trading book risk management VaR by division

in	Swiss Universal Bank	International Wealth Management	Asia Pacific	Global Markets	Strategic Resolution Unit ¹	Corporate Center ¹	Diversi- fication benefit ²	Credit Suisse
CHF million								
2019	0	2	10	23	–	3	(11)	27
2018	0	2	15	22	3	0	(13)	29
2017	0	4	13	21	6	0	(18)	26
USD million								
2019	0	2	10	24	–	3	(12)	27
2018	0	2	15	23	4	0	(15)	29
2017	0	4	13	21	6	0	(18)	26

Excludes risks associated with counterparty and own credit exposures. Investment Banking & Capital Markets has only banking book positions.

¹ Beginning in 2019, the Strategic Resolution Unit ceased to exist as a separate division of the Group. The residual portfolio remaining as of December 31, 2018 is now managed in an Asset Resolution Unit within the Corporate Center.

² Difference between the sum of the standalone VaR for each division and the VaR for the Group.

One-day, 98% trading book risk management VaR

in / end of	Interest rate	Credit spread	Foreign exchange	Commodity	Equity	Diversification benefit ¹	Total
CHF million							
2019							
Average	16	22	4	2	10	(27)	27
Minimum	7	17	2	1	7	- ²	21
Maximum	34	34	9	3	16	- ²	32
End of period	19	22	3	1	9	(29)	25
2018							
Average	17	20	4	1	11	(24)	29
Minimum	11	17	3	1	8	- ²	22
Maximum	26	23	14	2	24	- ²	36
End of period	16	19	3	1	14	(23)	30
2017							
Average	16	19	6	2	10	(27)	26
Minimum	11	16	4	1	8	- ²	21
Maximum	23	23	12	6	13	- ²	31
End of period	15	19	5	1	10	(22)	28
USD million							
2019							
Average	16	22	4	2	10	(27)	27
Minimum	8	16	2	1	7	- ²	21
Maximum	34	34	9	3	16	- ²	33
End of period	19	23	3	1	9	(29)	26
2018							
Average	18	20	5	1	12	(27)	29
Minimum	11	17	3	1	9	- ²	22
Maximum	26	24	14	3	24	- ²	36
End of period	16	19	3	1	14	(23)	30
2017							
Average	16	19	6	2	10	(27)	26
Minimum	11	17	4	1	8	- ²	22
Maximum	23	23	12	7	13	- ²	33
End of period	15	19	5	1	10	(21)	29

Excludes risks associated with counterparty and own credit exposures.

¹ Diversification benefit represents the reduction in risk that occurs when combining different, not perfectly correlated risk types in the same portfolio and is measured as the difference between the sum of the individual risk types and the risk calculated on the combined portfolio.

² As the maximum and minimum occur on different days for different risk types, it is not meaningful to calculate a portfolio diversification benefit.

We measure VaR in US dollars, as the majority of our trading activities are conducted in US dollars.

Period-end risk management VaR of USD 26 million as of December 31, 2019 decreased 13% compared to USD 30 million as of December 31, 2018, mainly due to the equities profile in Global Markets and Asia Pacific and reduced rates risk in Asia Pacific. Average risk management VaR of USD 27 million in 2019 decreased 7% compared to 2018.

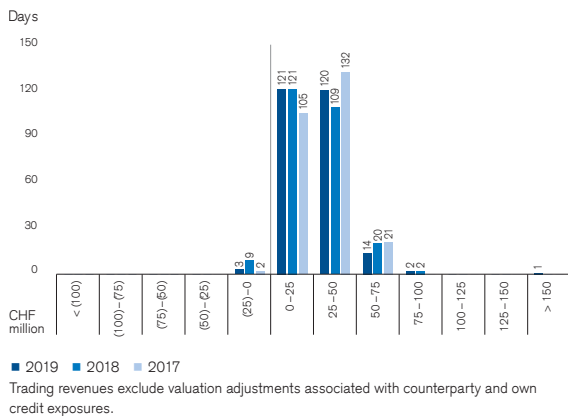
The chart entitled "Daily trading book risk management VaR" shows the aggregated market risk in our trading book on a consolidated basis.

Daily trading book risk management VaR



The histogram entitled "Actual daily trading revenues" compares the actual daily trading revenues for 2019 with those for 2018 and 2017. The dispersion of trading revenues indicates the day-to-day volatility in our trading activities. In 2019, we had three trading loss days compared to nine trading loss days in 2018, each with a trading loss not exceeding CHF 25 million.

Actual daily trading revenues



For capital purposes and in line with BIS requirements, FINMA increases the capital multiplier for every regulatory VaR backtesting exception above four in the prior rolling 12-month period, resulting in an incremental market risk capital requirement for the

Group. For 2019 we had no backtesting exceptions in our regulatory VaR model, compared to one backtesting exception in 2018 and no backtesting exceptions in 2017, remaining in the regulatory "green zone" for all three periods.

→ Refer to "Risk-weighted assets" in Capital management for further information on the use of our regulatory VaR model in the calculation of trading book market risk capital requirements.

Banking book

Development of banking book interest rate risks

Interest rate risk on banking book positions is measured by estimating the impact resulting from a one basis point parallel increase in yield curves on the present value of interest rate-sensitive banking book positions. This is measured on the Group's entire banking book. Interest rate risk sensitivities disclosed below are in line with our internal risk management view.

→ Refer to credit-suisse.com/regulatorydisclosures for the Group's publication "Pillar 3 and regulatory disclosures – Credit Suisse Group AG" which includes additional information on regulatory interest rate risk in the banking book in accordance with the new FINMA rules, effective since January 1, 2019.

As of December 31, 2019, the interest rate sensitivity of a one basis point parallel increase in yield curves was negative CHF 4.0 million, compared to negative CHF 1.5 million as of December 31, 2018. The change was mainly driven by exposure movements related to private banking activities in Switzerland and increased volumes in net interest income hedging activities driven by the alignment of the Group's capital hedging strategy in connection with the change in the calculation of the Group's risk-weighted assets relating to operational risk to use US dollars instead of Swiss francs.

One basis point parallel increase in yield curves by currency – banking book positions

end of	CHF	USD	EUR	GBP	Other	Total
2019 (CHF million)						
Impact on present value	(1.8)	(2.1)	0.0	(0.2)	0.1	(4.0)
2018 (CHF million)						
Impact on present value	0.0	(1.6)	0.1	(0.1)	0.1	(1.5)

Interest rate risk on banking book positions is also assessed using other measures, including the potential value change resulting from a significant change in yield curves. The table "Interest rate scenario results – banking book positions" shows the impact of immediate 100 basis point and 200 basis point moves in the yield curves.

As of December 31, 2019, the most adverse impact of a 200 basis point upward or downward move in yield curves on the present value of banking book positions was a loss of CHF 628 million, compared to a loss of CHF 183 million as of December 31, 2018, primarily driven by the impact of the alignment of the Group's capital hedging strategy.

Interest rate scenario results – banking book positions

end of	CHF	USD	EUR	GBP	Other	Total
2019 (CHF million)						
Increase (+)/decrease (-) in interest rates						
+200 bp	(335)	(337)	58	(28)	14	(628)
+100 bp	(175)	(187)	13	(15)	8	(356)
-100 bp	192	223	17	17	(9)	440
-200 bp	400	481	65	34	(17)	963
2018 (CHF million)						
Increase (+)/decrease (-) in interest rates						
+200 bp	17	(266)	61	(8)	13	(183)
+100 bp	6	(145)	20	(5)	7	(117)
-100 bp	0	169	0	7	(9)	167
-200 bp	6	362	20	15	(18)	385

Development of banking book equity risks

The Group's equity portfolios of the banking book include positions in private equity, hedge funds, strategic investments and other instruments. These positions may not be strongly correlated with general equity markets. Equity risk on banking book positions is measured using sensitivity analysis that estimates the potential change in value resulting from a 10% decline in the equity markets of developed nations and a 20% decline in the equity markets of emerging market nations. The estimated impact of this scenario would have been a decrease of CHF 330 million in the value of the banking book portfolio as of December 31, 2019, compared to a decrease of CHF 312 million as of December 31, 2018.

Development of banking book commodity risks

The Group's commodity portfolios of the banking book include mainly precious metals, primarily gold. Commodity risk on banking

book positions is measured using sensitivity analysis that estimates the potential change in value resulting from a 20% weakening in commodity prices. The estimated impact of this scenario on the value of the banking book portfolio would have been a decrease of CHF 0.2 million and CHF 0.1 million as of December 31, 2019 and 2018, respectively.

Credit and debit valuation adjustments

VaR excludes the impact of changes in both counterparty and our own credit spreads on derivative products. As of December 31, 2019, the estimated sensitivity implies that a one basis point increase in credit spreads, both counterparty and our own, would have resulted in a CHF 1.2 million gain on the overall derivatives position in our trading businesses. In addition, a one basis point increase in our own credit spread on our fair valued structured notes portfolio (including the impact of hedges) would have resulted in a CHF 15.3 million gain as of December 31, 2019.

Board of Directors

General information

Membership and qualifications

The AoA (Chapter IV, Section 2, The Board of Directors, Art. 15.1 of the Group's AoA and Chapter III, Section 6. Board of Directors, Art. 6.1 of the Bank's AoA) provide that the Board shall consist of a minimum of seven members. The Board currently consists of 13 members. We believe that the size of the Board must be such that the committees can be staffed with qualified members. At the same time, the Board must be small enough to ensure an effective and rapid decision-making process. Board members are elected at the AGM by our shareholders individually for a period of one year and are eligible for re-election. Shareholders will also elect a member of the Board as the Chairman and each of the members of the Compensation Committee for a period of one year. One year of office is understood to be the period of time from one AGM to the close of the next AGM. Members of the Board shall generally retire after having served on the Board for 12 years. Under certain circumstances, the Board may extend the limit of terms of office for a particular Board member for a maximum of three additional years.

An overview of the Board and the committee membership is shown in the following table. The composition of the Boards of the Group and the Bank is identical.

Board composition and succession planning

The Governance and Nominations Committee (formerly Chairman's and Governance Committee) regularly considers the composition of the Board as a whole and in light of staffing requirements for the committees. The Governance and Nominations Committee recruits and evaluates candidates for Board membership based on criteria as set forth by the OGR (Chapter II Board of Directors, Item 8.2.3). The Governance and Nominations Committee may also retain outside consultants with respect to the identification and recruitment of potential new Board members. In assessing candidates, the Governance and Nominations Committee considers the requisite skills and characteristics of Board members as well as the composition of the Board as a whole. Among other considerations, the Governance and Nominations Committee takes into account skills, management experience, independence and diversity in the context of the needs of the Board to fulfill its responsibilities. The Governance and Nominations Committee also considers other activities and commitments of an individual in order to be satisfied that a proposed member of the Board can devote enough time to a Board position at the Group.

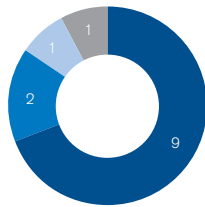
→ Refer to "Mandates" for further information.

Members of the Board of Directors

	Board member since	Independence	Governance and Nominations Committee	Audit Committee	Compensation Committee	Conduct and Financial Crime Control Committee	Risk Committee
Elected at 2019 AGM							
Urs Rohner, Chairman	2009	Independent	Chair	–	–	Chair	–
Iris Bohnet	2012	Independent	–	–	Member	–	–
Christian Gellerstad	2019	Independent	–	–	Member	Member	–
Andreas Gottschling	2017	Independent	Member	Member	–	–	Chair
Alexander Gut	2016	Independent	–	Member	–	–	–
Michael Klein	2018	Independent	–	–	Member	–	Member
Shan Li	2019	Independent	–	–	–	–	Member
Seraina Macia	2015	Independent	–	–	–	–	Member
Kai S. Nargolwala	2013	Independent	Member	–	Chair	Member	–
Ana Paula Pessoa	2018	Independent	–	Member	–	Member	–
Joaquin J. Ribeiro	2016	Independent	–	Member	–	–	–
Severin Schwan, Vice-Chair and Lead Independent Director	2014	Independent	Member	–	–	–	Member
John Tiner	2009	Independent	Member	Chair	–	Member	Member

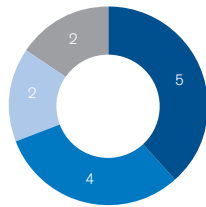
Board composition

Industry experience



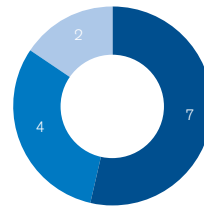
■ Financial services (banking, insurance)
 ■ Law, government & academia
 ■ Pharma, manufacturing & technology
 ■ Advertising, marketing & media

Geographical focus¹



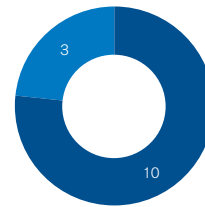
■ Americas
 ■ Switzerland
 ■ EMEA
 ■ Asia Pacific

Length of tenure



■ 4 years and less
 ■ Between 5 and 8 years
 ■ Between 9 and 12 years

Gender diversity



■ Male
 ■ Female

¹ Geographical focus represents the region in which the Board member has mostly focused his or her professional activities and may differ from the nationality of that individual.

The background, skills and experience of our Board members are diverse and broad and include holding or having held top management positions at financial services and other companies in Switzerland and abroad, as well as leading positions in government, academia and international organizations. The Board is composed of individuals with wide-ranging professional expertise in key areas including finance and financial management, risk management, audit, innovation and technology, legal, compliance and regulatory affairs, advertising, marketing and media, and human resources and incentive structures. Diversity of culture, experience and opinion are important aspects of Board composition, as well as gender diversity. While the ratio of female-to-male Board members may vary in any given year, the Board is committed to maintaining a good gender balance over the long term. The collective experience and expertise of our Board members as of the end of 2019 across those key areas considered particularly relevant for the Group is illustrated in the following chart.

Board member experience and expertise

(Number and percentage of Board members)



In areas where the Board's collective experience and expertise may require strengthening, the Board may either decide to nominate a new Board member candidate with specialist expertise, engage outside experts or take other measures. For example, prior to 2019, the Board had one member with deep knowledge of and experience in Asia. In consideration of the Group's ambition to expand its business in China, the Board concluded that it needed additional Board level experience and expertise, in particular of the Chinese financial services markets, and consequently nominated Shan Li as a new Board member, who was elected to the Board at the 2019 AGM.

To maintain a high degree of expertise, diversity and independence in the future, the Board has a succession planning process in place to identify potential candidates for the Board at an early stage. With this process, we are well prepared when Board members rotate off the Board. The objectives of the succession planning process are to ensure adequate representation of key Board competencies and a Board composition that is well-suited to address future challenges, while maintaining the stability and professionalism of the Board. Potential candidates are evaluated according to criteria defined to assess the candidates' expertise and experience, which include the following:

- proven track record as an executive with relevant leadership credentials gained in an international business environment in financial services or another industry;
- relevant functional skills and credentials in the key areas listed above;
- understanding of global banking, financial markets and financial regulation;
- broad international experience and global business perspective, with a track record of having operated in multiple geographies;
- ability to bring insight and clarity to complex situations and to both challenge and constructively support management;
- high level of integrity and affinity with the Group's values and corporate culture; and
- willingness to commit sufficient time to prepare for and attend Board and committee meetings.

The evaluation of candidates also considers formal independence and other criteria for Board membership, consistent with legal and regulatory requirements and the Swiss Code of Best Practice for Corporate Governance. Furthermore, we believe that other aspects, including team dynamics and personal reputation of Board members, play a critical role in ensuring the effective functioning of the Board. This is why the Group places the utmost importance on the right mix of personalities who are also fully committed to making their blend of specific skills and experience available to the Board.

While the Board is continually engaged in considering potential candidates throughout the year, succession planning for the next year is typically kicked off at the Board's annual strategy offsite, which is held mid-year. In addition to its discussions of the Group's strategy, the Board holds a dedicated session on corporate governance, at which, among other topics, current Board composition and future needs are discussed, including the needs for suitable Board committee composition. Based on the outcome of these discussions, the interest and availability of certain candidates will be explored further. The Board's discussions will continue at its annual self-assessment session, which usually takes place at year-end, and it will consider specific changes in Board composition to be proposed at the next AGM. The Board will ultimately approve candidates to be nominated as new Board members for election at the AGM at its February or March meetings, shortly before the publication of this report.

Chairman succession

At the AGM 2021, Urs Rohner will have served on the Board for the maximum standard term limit of 12 years and has accordingly

informed the Board, already a long time ago, that he will not stand for re-election at the 2021 AGM. The Board has therefore put a process in place to evaluate potential candidates and nominate a successor to Urs Rohner as Chairman of the Board for election at the 2021 AGM. The Governance and Nominations Committee is leading the Chairman's succession process, which is well underway and progressing according to plan.

New members and continuing training

Any newly appointed member is required to participate in an orientation program to become familiar with our organizational structure, strategic plans, significant financial, accounting and risk issues and other important matters relating to the governance of the Group. The orientation program is designed to take into account the new Board member's individual background and level of experience in each specific area. Moreover, the program's focus is aligned with any committee memberships of the person concerned. Board members are encouraged to engage in continuing training. The Board and the committees of the Board regularly ask specialists within the Group to speak about specific topics in order to enhance the Board members' understanding of issues that already are, or may become, of particular importance to our business.

Meetings

In 2019, the Board held seven meetings in person and nine additional meetings. In addition, the Board held a two and a half-day strategy session. The members of the Board are encouraged to attend all meetings of the Board and the committees on which they serve.

Meeting attendance – Board and Board committees

	Board of Directors ¹	Governance and Nominations Committee ²	Audit Committee ³	Compensation Committee ⁴	Conduct and Financial Crime Control Committee ⁵	Risk Committee ⁶
in 2019						
Total number of meetings held	16	16	17	11	6	7
of which in-person meetings	7	1	9	6	6	7
of which telephone conference meetings	9	15	8	5	0	0
Meeting attendance, in %	99	91	99	95	100	93
Number of members who missed no meetings	13	4	4	4	5	6
Number of members who missed one meeting	2	0	1	2	0	0
Number of members who missed two or more meetings	0	2	0	0	0	1
Approximate meeting duration, in hours ⁷	7.5–8.5	1–2	3.5–4.5	2–3	2–3	3.5–4.5

Meeting attendance is shown for the calendar year 2019, which spans two Board periods. While there were 13 members prior to the 2019 AGM and 13 members thereafter, there were 15 individuals in total who served as Board members during 2019.

¹ The Board consisted of 13 members at the beginning and the end of the year, with 2 members joining the Board (Christian Gellerstad and Shan Li) and 2 members leaving the Board (Andreas N. Koopmann and Alexandre Zeller).

² The Governance and Nominations Committee consisted of 6 members at the beginning of the year and 5 at the end of the year, with 1 member leaving the committee (Alexandre Zeller).

³ The Audit Committee consisted of 5 members at the beginning and the end of the year.

⁴ The Compensation Committee consisted of 4 members at the beginning and the end of the year, with 2 members joining the Board (Christian Gellerstad and Michael Klein) and 2 members leaving the Board (Andreas N. Koopmann and Alexandre Zeller).

⁵ Established as of January 1, 2019. The Conduct and Financial Crime Control Committee consisted of 5 members at the beginning and the end of the year, with 1 member joining the committee (Christian Gellerstad) and 1 member leaving the committee (Alexandre Zeller).

⁶ The Risk Committee consisted of 5 members at the beginning of the year and 6 members at the end of the year, with 1 member joining the committee (Shan Li).

⁷ The approximate meeting duration in hours refers to the in-person meetings only, with the exception of the Governance and Nominations Committee, which holds the majority of its meetings per telephone conference. The meetings of the Compensation Committee are on average 2–3 hours, with the exception of the meeting at the beginning of the year for the purposes of proposing variable compensation for the Group and the Executive Board; the approximate duration of this meeting is 4–5 hours.

All members of the Board are expected to spend the necessary time outside of these meetings needed to discharge their responsibilities appropriately. The Chairman calls the meeting with sufficient notice and prepares an agenda for each meeting. However, any other Board member has the right to call an extraordinary meeting, if deemed necessary. The Chairman has the discretion to invite members of management or others to attend the meetings. Generally, the members of the Executive Board attend part of the meetings to ensure effective interaction with the Board. The Board also holds separate private sessions without management present. Minutes are kept of the proceedings and resolutions of the Board.

Meeting attendance – individual Board members

Attendance (%)	< 75	75–84	85–94	95–100
Board member				
Urs Rohner, Chairman				■
Iris Bohnet				■
Christian Gellerstad ¹				■
Andreas Gottschling				■
Alexander Gut				■
Michael Klein			■	
Shan Li ¹				■
Seraina Macia				■
Kai S. Nargolwala			■	
Ana Paula Pessoa				■
Joaquin J. Ribeiro			■	
Severin Schwan			■	
John Tiner				■

Includes Board and Committee meeting attendance.

¹ Board member as of the 2019 AGM.

From time to time, the Board may make certain decisions via circular resolution, unless a member asks that the matter be discussed in a meeting and not decided upon by way of written consent. As of the date of the publication of this report, in 2020, the Board has held three meetings in person and two additional meetings.

Mandates

Our Board members may assume board or executive level or other roles in companies and organizations outside of the Group, which are collectively referred to as mandates. The Compensation Ordinance sets out that companies must include provisions in their articles of association to define the activities that fall within the scope of a mandate and set limits on the number of mandates that board members and executive management may hold. According to the Group's AoA (Chapter IV, Section 2, The Board of Directors, Art. 20b), mandates include activities in the most senior executive and management bodies of listed companies and all other legal entities that are obliged to obtain an entry in the Swiss commercial register or a corresponding foreign register. Board members are obligated to disclose all mandates to the Group and changes thereto, which occur during their board tenure. Board members wishing to assume a new mandate with a company or organization must first consult with the Chairman before accepting such mandate, in order to ensure there are no conflicts of interest or other issues.

The limitations on mandates assumed by Board members outside of the Group are summarized in the table below.

Type of mandate and limitation – Board

Type of mandate	Limitation
Listed companies	No more than four other mandates
Other legal entities ¹	No more than five mandates
Legal entities on behalf of the Group ²	No more than ten mandates
Charitable legal entities ³	No more than ten mandates

¹ Includes private non-listed companies.

² Includes memberships in business and industry associations.

³ Also includes honorary mandates in cultural or educational organizations.

No Board member holds mandates in excess of these restrictions. The restrictions shown above do not apply to mandates of Board members in legal entities controlled by the Group such as subsidiary boards.

→ Refer to "Audit Committee" in Board committees for further information on limits on Audit Committee service.

Independence

The Board consists solely of non-executive directors within the Group, of which at least the majority must be determined to be independent. In its independence determination, the Board takes into account the factors set forth in the OGR (Chapter II Board of Directors, Item 3.2), the committee charters and applicable laws, regulations and listing standards. Our independence standards are also periodically measured against other emerging best practice standards.

The Governance and Nominations Committee performs an annual assessment of the independence of each Board member and reports its findings to the Board for the final determination of independence of each individual member. The Board has applied the independence criteria of the SIX Swiss Exchange Directive on Information relating to Corporate Governance, FINMA, the Swiss Code of Best Practice for Corporate Governance and the rules of the NYSE and the Nasdaq Stock Market (Nasdaq) in determining the definition of independence.

Independence criteria applicable to all Board members

In general, a director is considered independent if the director:

- is not, and has not been for the past three years, employed as an Executive Board member at the Group or any of its subsidiaries or in another significant function at the Group;
- is not, and has not been for the past three years, an employee or affiliate of the Group's external auditor;
- does not, according to the Board's assessment, maintain a material direct or indirect business relationship with the Group or any of its subsidiaries which causes a conflict of interest due to its nature or extent; and
- is not, or has not been for the past three years, part of an interlocking directorate in which an Executive Board member serves on the compensation committee of another company that employs the Board member.

Whether or not a relationship between the Group or any of its subsidiaries and a member of the Board is considered material depends in particular on the following factors:

- the volume and size of any transactions concluded in relation to the financial status and credit standing of the Board member concerned or the organization in which he or she is a partner, significant shareholder or executive officer;
- the terms and conditions applied to such transactions in comparison to those applied to transactions with counterparties of a similar credit standing;
- whether the transactions are subject to the same internal approval processes and procedures as transactions that are concluded with other counterparties;

- whether the transactions are performed in the ordinary course of business; and
- whether the transactions are structured in such a way and on such terms and conditions that the transaction could be concluded with a third party on comparable terms and conditions.

Moreover, Board members with immediate family members who would not qualify as independent according to the above listed criteria shall be subject to a three-year cooling-off period for purposes of determining their independence after fulfilment of the independence criteria by the immediate family member. Significant shareholder status is generally not considered a criterion for independence unless the shareholding exceeds 10% of the Group's share capital or in instances where the shareholder may otherwise influence the Group in a significant manner.

Specific independence considerations

Board members serving on the Audit Committee are subject to independence requirements in addition to those required of other Board members. None of the Audit Committee members may be an affiliated person of the Group or may, directly or indirectly, accept any consulting, advisory or other compensatory fees from us other than their regular compensation as members of the Board and its committees.

For Board members serving on the Compensation Committee, the independence determination considers all factors relevant to determining whether a director has a relationship with the Group that is material to that director's ability to be independent from management in connection with the duties of a Compensation Committee member, including, but not limited to:

- the source of any compensation of the Compensation Committee member, including any consulting, advisory or other compensatory fees paid by the Group to such director; and
- whether the Compensation Committee member is affiliated with the Group, any of its subsidiaries or any affiliates of any of its subsidiaries.

Other independence standards

While the Group is not subject to such standards, the Board acknowledges that some proxy advisors apply different standards for assessing the independence of our Board members, including the length of tenure a Board member has served, the full-time status of a Board Member, annual compensation levels of Board members within a comparable range to executive pay or a Board member's former executive status for periods further back than the preceding three years.

Independence determination

As of December 31, 2019, all members of the Board were determined by the Board to be independent.

Board leadership

Chairman of the Board

The Chairman is a non-executive member of the Board, in accordance with Swiss banking law, and performs his role on a full-time basis, in line with the practice expected by FINMA, our main regulator. The Chairman:

- coordinates the work within the Board;
- works with the committee chairmen to coordinate the tasks of the committees;
- ensures that the Board members are provided with the information relevant for performing their duties;
- drives the Board agenda;
- drives key Board topics, especially regarding the strategic development of the Group, succession planning, the structure and organization of the Group, corporate governance, as well as compensation and compensation structure, including the performance evaluation and compensation of the CEO and the Executive Board;
- chairs the Board, the Governance and Nominations Committee, the Conduct and Financial Crime Control Committee and the Shareholder Meetings;
- takes an active role in representing the Group to key shareholders, investors, regulators and supervisors, industry associations and other external stakeholders;
- has no executive function within the Group;
- with the exception of the Governance and Nominations Committee and the Conduct and Financial Crime Control Committee, is not a member of any of the other Board standing committees; and
- may attend all or parts of selected committee meetings as a guest without voting power.

Vice-Chair and Lead Independent Director

There may be one or more Vice-Chairs. The Vice-Chair:

- is a member of the Board;
- is a designated deputy to the Chairman; and
- assists the Chairman by providing support and advice to the Chairman, assuming the Chairman's role in the event of the Chairman's absence or indisposition and leading the Board accordingly.

According to the Group's OGR (Chapter II Board of Directors, Item 3.4), the Board may appoint a Lead Independent Director. If the Chairman is determined not to be independent by the Board, the Board must appoint a Lead Independent Director. The Lead Independent Director:

- may convene meetings without the Chairman being present;
- takes a leading role among the Board members, particularly when issues between a non-independent Chairman and the independent Board members arise (for example, when the non-independent Chairman has a conflict of interest);
- leads the Board's annual assessment of the Chairman; and
- ensures that the work of the Board and Board-related processes continue to run smoothly.

Severin Schwan currently serves as the Vice-Chair and the Lead Independent Director.

Segregation of duties

In accordance with Swiss banking law, the Group operates under a dual board structure, which strictly segregates the duties of supervision, which are the responsibility of the Board, from the duties of management, which are the responsibility of the Executive Board. The roles of the Chairman (non-executive) and the CEO (executive) are separate and carried out by two different people.

Board responsibilities

In accordance with the OGR (Chapter II Board of Directors, Item 5.1), the Board delegates certain tasks to Board committees and delegates the management of the company and the preparation and implementation of Board resolutions to certain management bodies or executive officers to the extent permitted by law, in particular Article 716a and 716b of the Swiss Code of Obligations, and the AoA (Chapter IV, Section 2, The Board of Directors, Art. 17 of the Group's AoA and Chapter III, Section 6. Board of Directors, Art. 6.3 of the Bank's AoA).

With responsibility for the overall direction, supervision and control of the company, the Board:

- regularly assesses our competitive position and approves our strategic and financial plans and risk appetite statement and overall risk limits;
- appoints or dismisses the CEO and the members of the Executive Board and appoints or dismisses the head of Internal Audit as well as the regulatory auditor;
- receives a status report at each ordinary meeting on our financial results, capital, funding and liquidity situation;
- receives, on a monthly basis, management information packages, which provide detailed information on our performance and financial status, as well as quarterly risk reports outlining recent developments and outlook scenarios;
- is provided by management with regular updates on key issues and significant events, as deemed appropriate or requested;
- has access to all information concerning the Group in order to appropriately discharge its responsibilities;
- reviews and approves significant changes in our structure and organization;
- approves the annual variable compensation for the Group and the divisions and recommends compensation of the Board and Executive Board for shareholder approval at the AGM;
- provides oversight on significant projects including acquisitions, divestitures, investments and other major projects;
- approves the recovery and resolution plans of the Group and its major subsidiaries; and
- along with its committees, is entitled, without consulting with management and at the Group's expense, to engage external legal, financial or other advisors, as it deems appropriate, with respect to any matters within its authority.

Management information system

The Group has a comprehensive management information system (MIS) in place as part of our efforts to ensure the Board and senior management are provided with the necessary information and reports to carry out their respective oversight and management responsibilities. The Chairman may request additional reports as deemed appropriate.

Governance of Group subsidiaries

The Board assumes oversight responsibility for establishing appropriate governance for Group subsidiaries. The governance of the Group is based on the principles of an integrated oversight and management structure with global scope, which enables management of the Group as one economic unit. The Group sets corporate governance standards to ensure the efficient and harmonized steering of the Group. In accordance with the OGR (Chapter II Board of Directors, Item 5.1.12), the Board appoints or dismisses the chairperson and the members of the board of directors of the major subsidiaries of the Group and approves their compensation. A policy naming the subsidiaries in scope and providing guidelines for the nomination and compensation process is periodically reviewed by the Board. The governance of the major subsidiaries, subject to compliance with all applicable local laws and regulations, should be consistent with the corporate governance principles of the Group, as reflected in the OGR and other corporate governance documents. In order to facilitate consistency and alignment of Group and subsidiary governance, it is the Group's policy for the Board to appoint at least one Group director to each of the boards of its major subsidiaries. Directors and officers of the Group and its major subsidiaries are committed to ensuring transparency and collaboration throughout the Group.

Board evaluation

The Board performs a self-assessment once a year, where it reviews its own performance against the responsibilities listed in its charter and the Board's objectives and determines future objectives, including any special focus objectives for the coming year. The performance assessment of the Chairman is led by the Vice-Chairman; the Chairman does not participate in the discussion of his own performance. As part of the self-assessment, the Board evaluates its effectiveness with respect to a number

of different aspects, including board structure and composition, communication and reporting, agenda setting and continuous improvement. From time to time, the Board may also mandate an external advisor to facilitate the evaluation process. The Board plans to mandate an external firm to perform a board effectiveness evaluation in the second half of 2020. Similar to the previous evaluation concluded in 2017, the 2020 effectiveness evaluation is anticipated to include a comprehensive review of Board processes and documentation, interviews by the external assessor with the Chairman and the individual Board members, the participation of the external assessor as an observer in Board and Board committee meetings and a presentation and discussion of the results at a Board meeting in 2020 or early 2021. The Board is targeting performing an external board effectiveness evaluation every three years.

Board changes

At the 2019 AGM, Christian Gellerstad and Shan Li were elected as new members of the Board. Andreas Koopmann did not stand for re-election and Alexandre Zeller stepped down from the Board with effect from February 28, 2019. The Board proposes Richard Meddings for election as a new non-executive Board member at the AGM on April 30, 2020. Richard Meddings, chairman of the UK bank TSB Bank plc, is a recognized financial expert with over 30 years of experience in the financial services sector spanning retail banking, wealth management and investment banking. He was a main board director of Standard Chartered Group plc for 12 years from 2002 to 2014 and finance director during the period from 2006 to 2014. Richard Meddings is a chartered accountant and his experience as a non-executive director includes chairing the audit and risk committees at listed companies, including Deutsche Bank AG, Legal & General Group Plc and 3i, as well as Her Majesty's Treasury in the UK. Richard Meddings is expected to succeed John Tiner as Audit Committee Chair, subject to his election at the 2020 AGM and formal Board appointment. Of the current Board members, Alexander Gut will not stand for re-election at the AGM. The Board proposes that all other current members of the Board be re-elected to the Board, proposes the re-election of Urs Rohner as Chairman and proposes Iris Bohnet, Christian Gellerstad, Kai S. Nargolwala and Michael Klein as members of the Compensation Committee.

Board activities

During 2019 and early 2020, the Board focused on a number of key areas, including but not limited to the activities described below. Specifically, the Board:

- unanimously accepted the resignation of Tidjane Thiam as CEO, which was announced on February 7, 2020 and followed a thorough deliberation by the Board and a discussion with the CEO regarding the reputational impact on Credit Suisse of the media coverage of the observation incidents, which occurred in 2019;
- approved the appointment of Thomas Gottstein as the new CEO, effective February 14, 2020, and reviewed and approved a number of other changes to the Executive Board, upon the recommendation of the Governance and Nominations Committee;
- received regular updates on the firm-wide business continuity management and crisis response measures put in place by the Executive Board following the outbreak of COVID-19 in early 2020, as well as on the assessment of the observed market volatility and other related impacts on the Group's operations;
- held its annual strategy workshop with the Executive Board, which included assessments of the Group's capital strength and regulatory capital requirements, growth opportunities in each of the business divisions and the Group's competitive positioning, economic environment and industry outlook;
- conducted strategic business reviews, including a review of Swiss Universal Bank, with a focus on investments in digital capabilities and future service models, selected growth initiatives in International Wealth Management and collaboration opportunities with our investment banking businesses and our plans for growing our business in China;
- reviewed and approved the transaction announced in June 2019 to combine the our open architecture investment fund platform, Credit Suisse InvestLab AG, with Allfunds Group;
- continued to closely monitor progress of the Group's strategic EU program in an effort to ensure a smooth transition of all impacted business areas in anticipation of the UK's expected withdrawal from the EU;
- reviewed and approved the Group's key financial ambitions for 2020 and the launch of the 2020 share buyback program, as well as the Group's risk appetite framework and related risk constraints for 2020, following an assessment by the Risk Committee;
- launched the new Board committee, the Conduct and Financial Crime Control Committee, which further focuses the Board's ongoing oversight of the effectiveness of the Group's financial crime compliance programs, and successfully integrated the committee into the Board's governance setup;
- ordered and closely supervised the special investigations into the observation incidents of two former Executive Board members reported extensively in the media, emphasized that it considers the observations to be unacceptable and not commensurate with the corporate culture promoted by the Board and initiated measures together with management to enhance related internal policies and escalation procedures with the aim of preventing such activity from occurring in the future;
- enhanced its oversight of the global Conduct and Ethics program by establishing a dedicated conduct and ethics session as a standing item at regular Board meetings co-led by the Chief Compliance and Regulatory Affairs Officer and the Global Head of Human Resources; topics reviewed during 2019 included employee engagement and training initiatives, conduct risk trends and insights from ongoing efforts to address sexual harassment at work;
- held dedicated review sessions with the Chief Risk Officer and Chief Compliance and Regulatory Affairs Officer, newly appointed in 2019, with respect to the Risk and Compliance organizations, current capabilities and key priorities for the future;
- reviewed and approved Credit Suisse's Swiss Emergency Plan for submission to FINMA, according to the requirements for systematically important banks in Switzerland under the Swiss "Too Big to Fail" regime, which was regarded as effective by FINMA in February 2020;
- reviewed the Group's talent management strategy, including key initiatives within the areas of recruitment, training and diversity and inclusion and held an interactive session with participants of the Group's senior talent program;
- reviewed and approved variable compensation for the 2019 financial year for the Group and for the Executive Board; recommended the proposals for Executive Board compensation to the 2020 AGM for approval;
- continued to focus on corporate governance at the Group's major subsidiaries and held the fourth annual board leadership event, involving board members of the Group and each of the major subsidiaries, which included a comprehensive review of the Group's approach to sustainability and perspectives on climate risk;
- reviewed progress of the Group's cybersecurity programs and conducted for the first time a cyber incident simulation at the Board level, together with internal and external experts; and
- maintained Board-level focus on innovation and technology through the Board's advisory Innovation and Technology Committee.

Board committees

The Board has five standing committees: the Governance and Nominations Committee, the Audit Committee, the Compensation Committee, the Conduct and Financial Crime Control Committee and the Risk Committee. In addition, the Board retains an advisory committee, the Innovation and Technology Committee. Except for the Compensation Committee members, who are elected by the shareholders on an annual basis, the committee members are appointed by the Board for a term of one year.

At each Board meeting, the Chairs of the committees report to the Board about the activities of the respective committees. In addition, the minutes and documentation of the committee meetings are accessible to all Board members.

Each committee has its own charter, which has been approved by the Board. Each standing committee performs a self-assessment once a year, where it reviews its own performance against the responsibilities listed in its charter and the committee's objectives and determines any special focus objectives for the coming year.

Governance and Nominations Committee

The Governance and Nominations Committee consists of the Chairman, the Vice-Chair and the Chairs of the committees of the Board and other members appointed by the Board. It may include non-independent Board members; however, the majority of members must qualify as independent. Our Governance and Nominations Committee currently consists of five members, following Alexandre Zeller's departure from the Board as of

February 28, 2019. All of our Governance and Nominations Committee members are independent.

The Governance and Nominations Committee generally meets on a monthly basis and the meetings are usually attended by the CEO. It may also ask other members of management or specialists to attend a meeting.

As part of its main duties and responsibilities, the Governance and Nominations Committee:

- acts as counselor to the Chairman and supports him in the preparation of the Board meetings;
- addresses the corporate governance issues affecting the Group and develops and recommends to the Board corporate governance principles and such other corporate governance-related documents as it deems appropriate for the Group;
- reviews the independence of the Board members annually and recommends its assessment to the Board for final determination;
- is responsible for setting selection criteria for Board membership, which shall reflect the requirements of applicable laws and regulations, and identifying, evaluating and nominating candidates for Board membership;
- guides the Board's annual performance assessment of the Chairman, the CEO and the members of the Executive Board;
- proposes to the Board the appointment, replacement or dismissal of members of the Executive Board as well as other appointments requiring endorsement by the Board; and
- reviews succession plans with the Chairman and the CEO relating to Executive Board positions and keeps informed on other top management succession plans.

Governance and Nominations Committee activities

During 2019 and early 2020, the Governance and Nominations Committee focused on a number of key areas, including but not limited to the activities described below. Specifically, the Governance and Nominations Committee:

- advised and supported the Chairman on the selection of a successor to Tidjane Thiam as CEO and endorsed the recommendation of Thomas Gottstein as the new CEO to the Board for approval in February 2020;
- led the assessment and selection of Richard Meddings, the new Board member candidate proposed for election at the AGM on April 30, 2020 and expected to succeed John Tiner as Audit Committee Chair;
- advised on the Executive Board changes and recommended approval by the Board for successors to the roles of Chief Risk Officer, Chief Compliance and Regulatory Affairs Officer, Global Head of Human Resources, Chief Operating Officer and the divisional CEOs of International Wealth Management, Investment Banking & Capital Markets and Swiss Universal Bank;
- supported the Chairman in planning for the Board's annual strategy workshop in 2019, which was focused on defining the Group's future strategic priorities in the first full year following completion of the Group's three-year restructuring program;
- proposed the initiation of special investigations by an external law firm, Homburger, into the observation of two former Executive Board members for approval by the Board, including delegation of the investigation supervision to the Audit Committee Chair;
- reviewed and endorsed board succession plans for our major subsidiary boards, including the appointments of a new non-executive chair of Credit Suisse (Schweiz) AG to succeed Alexandre Zeller, who stepped down from the Group and Swiss subsidiary boards with effect from February 28, 2019, as well as the appointment of André Helfenstein as CEO of Credit Suisse (Schweiz) AG to succeed Thomas Gottstein with effect from February 14, 2020;
- provided guidance for the annual performance assessments of the Chairman and the CEO; and
- prepared the annual independence assessment of the Board members and recommended its approval by the Board.

Audit Committee

The Audit Committee consists of at least three members, all of whom must be independent. The Chair of the Risk Committee is generally appointed as one of the members of the Audit Committee. Our Audit Committee currently consists of five members, all of whom are independent.

The Audit Committee charter stipulates that all Audit Committee members must be financially literate. In addition, they may not serve on the Audit Committee of more than two other companies, unless the Board deems that such membership would not impair their ability to serve on our Audit Committee.

Furthermore, the US Securities and Exchange Commission (SEC) requires disclosure about whether a member of the Audit Committee is an audit committee financial expert within the meaning of SOX. The Board has determined that John Tiner is an audit committee financial expert.

Pursuant to its charter, the Audit Committee holds meetings at least once each quarter, prior to the publication of our consolidated financial statements. Typically, the Audit Committee convenes for a number of additional meetings and workshops throughout the year. The meetings are attended by management representatives, as appropriate, the Head of Internal Audit and senior representatives of the external auditor. A private session with Internal Audit and the external auditors is regularly scheduled to provide them with an opportunity to discuss issues with the Audit Committee without management being present. The Head of Internal Audit reports directly to the Audit Committee Chair.

As part of its main duties and responsibilities, the Audit Committee:

- monitors and assesses the overall integrity of the financial statements as well as disclosures of the financial condition, results of operations and cash flows;
- monitors the adequacy of the financial accounting and reporting processes and the effectiveness of internal controls over financial reporting;
- monitors processes designed to ensure compliance by the Group in all significant respects with legal and regulatory requirements, including disclosure controls and procedures;
- monitors the adequacy of the management of operational risks jointly with the Risk Committee, including the assessment of the effectiveness of internal controls that go beyond the area of financial reporting;
- monitors the adequacy of the management of reputational risks, jointly with the Risk Committee;
- reviews jointly with the Conduct and Financial Crime Control Committee any significant matters related to compliance and conduct for which a joint review is determined to be appropriate; and
- monitors the qualifications, independence and performance of the external auditors and of Internal Audit.

The Audit Committee is regularly informed about significant projects and initiatives aimed at further improving processes and receives regular updates on significant legal, compliance, disciplinary, tax and regulatory matters. Furthermore, the Audit Committee has established procedures for the receipt, retention and treatment of complaints of a significant nature regarding accounting, internal accounting controls, auditing or other matters alleging potential misconduct, including a whistleblower hotline to provide the option to report complaints on a confidential, anonymous basis.

Audit Committee activities

During 2019 and early 2020, the Audit Committee focused on a number of key areas, including but not limited to the activities described below. Specifically, the Audit Committee:

- performed its regular review of the quarterly and annual financial results and related accounting, reporting and internal control and disclosure matters;
- held specific reviews on certain accounting and reporting matters of particular relevance in 2019, such as Group tax matters, including the assessment of the US base erosion and anti-abuse tax;
- received an update on the assessment of the Group's global booking model and profitability review program focused on the investment banking businesses and opportunities to simplify the relationships between entities, as well as plans for a next phase of the program to include all business divisions and material legal entities;
- maintained a focus on compliance topics through briefings at every regular meeting by the Chief Compliance Officer on key compliance risks and associated internal controls;
- conducted comprehensive reviews on internal control matters related to privileged access rights to IT systems and the respective remediation programs;
- reviewed the Group's whistleblowing processes and governance, as well as select cases and their resolution;
- reviewed, jointly with the Conduct and Financial Crime Control Committee, Internal Audit report findings as well as the application and development of automated transaction surveillance technology, in the context of financial crime compliance;
- received regular updates on the implementation of the new US GAAP accounting standard for current expected credit losses (CECL), which became effective on January 1, 2020;
- held, jointly with the Risk Committee, a comprehensive session on IT architecture, including system architecture complexity and associated risks, end-of-life management (renewal of legacy infrastructure), architecture simplification and platform strategy;
- reviewed, jointly with the Risk Committee, the Group's data management framework, related regulatory commitments and internal reporting and escalation procedures of data issues;
- reviewed, jointly with the Risk Committee, the Group's third-party risk management, including an overview of external third-party relationships, the respective risk profile and regulatory requirements and the related assessment processes;
- received regular updates from the Head of Internal Audit on key audit findings and held a dedicated workshop with the Internal Audit senior leadership team about their risk assessments for the organization, emerging risk and control themes, and audit planning and methodology, as well as on organizational matters of the Internal Audit function, such as talent and succession planning;
- supervised the transition program for the Group's external audit firm from KPMG to PwC and acknowledged the independence confirmation provided by PwC in mid-2019.

Internal Audit

Our Internal Audit function comprises a team of around 400 professionals, substantially all of whom are directly involved in auditing activities. The Head of Internal Audit reports directly to the Audit Committee Chair and the Audit Committee directs and oversees the activities of the Internal Audit function.

Internal Audit performs an independent and objective assurance function that is designed to add value to our operations. Using a systematic and disciplined approach, the Internal Audit team evaluates and enhances the effectiveness of our risk management, control and governance processes.

Internal Audit is responsible for carrying out periodic audits in line with the Internal Audit Charter, which is approved by the Audit Committee and available publicly. It regularly and independently assesses the risk exposure of our various business activities, taking into account industry trends, strategic and organizational decisions, best practice and regulatory matters. Based on the

results of its assessment, Internal Audit develops detailed annual audit objectives, defining key risk themes and specifying resource requirements for approval by the Audit Committee.

As part of its efforts to achieve best practice, Internal Audit regularly benchmarks its methods and tools against those of its peers. In addition, it submits periodic internal reports and summaries thereof to the management teams as well as the Chairman and the Audit Committee Chair. The Head of Internal Audit reports to the Audit Committee at least quarterly and more frequently as appropriate. Internal Audit coordinates its operations with the activities of the external auditor for maximum effect.

The Audit Committee annually assesses the performance and effectiveness of the Internal Audit function. For 2019, the Audit Committee concluded that the Internal Audit function was effective and independent, with the appropriate resources to deliver against the Internal Audit Charter.

External Audit

The Audit Committee is responsible for the oversight of the external auditor. The external auditor reports directly to the Audit Committee and the Board with respect to its audit of the Group's financial statements and is ultimately accountable to the shareholders. The Audit Committee pre-approves the retention of, and fees paid to, the external auditor for all audit and non-audit services.

→ Refer to "External audit" in Additional information for further information.

External Auditor rotation

As disclosed in the 2018 Annual Report, PwC will be appointed as the new statutory auditor for the fiscal year ending December 31, 2020, subject to shareholder approval at the AGM in April 2020. PwC's appointment as FINMA regulatory auditor by the Board, effective for the fiscal year ending December 31, 2020, is conditional upon shareholder approval of PwC as statutory auditor.

Over the course of 2019, corresponding measures were undertaken by the Audit Committee to ensure an orderly and effective transition of external auditor responsibilities. The Audit Committee reviewed the processes followed to ensure PwC's independence, according to applicable external auditor independence standards, and extended the scope of its policy on non-audit service restrictions to PwC. The Audit Committee accepted PwC's formal independence confirmation letter in July 2019.

Compensation Committee

The Compensation Committee consists of at least three members of the Board, all of whom must be independent. Our Compensation Committee currently consists of four members. All of our Compensation Committee members are independent.

Pursuant to its charter, the Compensation Committee holds at least four meetings per year. Additional meetings may be

scheduled at any time. The meetings are attended by management representatives, as appropriate.

As part of its main duties and responsibilities, the Compensation Committee:

- reviews the Group's compensation policy;
- establishes new compensation plans or amending existing plans and recommends them to the Board for approval;
- reviews the performance of the Group and the divisions and recommends the variable compensation pools for the Group and the divisions to the Board for approval;
- proposes individual compensation for the Board members to the Board;
- discusses and recommends to the Board a proposal for the CEO's compensation;
- discusses and recommends to the Board the Executive Board members' compensation based on proposals by the CEO;
- reviews and recommends to the Board the compensation for individuals being considered for an Executive Board position; and
- reviews and endorses the annual compensation report submitted for a consultative vote by shareholders at the AGM.

In accordance with the Compensation Ordinance, all compensation proposals for members of the Board and the Executive Board are subject to AGM approval.

The Compensation Committee is authorized to retain outside advisors, at the Group's expense, for the purpose of providing guidance to the Compensation Committee as it carries out its responsibilities. Prior to their appointment, the Compensation Committee conducts an independence assessment of the advisors pursuant to the rules of the SEC and the listing standards of the NYSE and Nasdaq.

→ Refer to "The Compensation Committee" in V – Compensation – Compensation governance for information on our compensation approach, principles and objectives and outside advisors.

Compensation Committee activities

During 2019 and early 2020, the Compensation Committee focused on a number of key areas, including but not limited to the activities described below. Specifically, the Compensation Committee:

- continued to engage extensively with shareholders on compensation, including holding numerous meetings with shareholders involving the Chairman, the Compensation Committee Chair and the Global Head of Human Resources; feedback and key issues resulting from these meetings were addressed regularly by the full committee;
- reviewed and approved the Executive Board compensation design for 2020, which remained generally consistent with the 2019 compensation design, and recommended the performance metrics and targets for the 2020 STI and LTI awards, reflecting the Group's strategy and financial goals for 2020, as well as non-financial metrics;
- reviewed and recommended approval by the Board of the compensation arrangements for the incoming and outgoing Executive Board members during 2019 and early 2020, including for the newly appointed Group CEO;
- conducted the annual review of the Group's compensation framework and determined that it remains fit for purpose and aligned with our compensation objectives overall;
- assessed the Group's performance and determined the variable compensation pools for 2019, taking into account the input from the Group's risk and control functions, including the Conduct and Ethics boards;
- previewed the proposed variable compensation amounts for specific groups of employees, in line with regulatory guidance and the Group's Compensation Policy, including any disciplinary issues and/or points of positive recognition;
- received and assessed periodic reports on industry and regulatory developments, including executive pay trends, competitor practices and key corporate governance developments and regulatory themes with implications for compensation; and
- reviewed and approved the 2019 edition of the Group's Compensation Policy and Implementation Standards and continued to focus on ensuring comprehensive and transparent disclosure in the Group's compensation report.

Conduct and Financial Crime Control Committee

In 2019, the Conduct and Financial Crime Control Committee was established, reflecting the Group's priority to rigorously address financial crime risk and ensure that the highest standards of conduct and vigilance are maintained throughout the Group. The Conduct and Financial Crime Control Committee consists of at least three members. It may include non-independent members; however, the majority of members must qualify as independent. The Audit Committee Chair is generally appointed as one of the members of the Conduct and Financial Crime Control Committee. The Conduct and Financial Crime Control Committee currently consists of five members, all of whom are independent.

Pursuant to its charter, the Conduct and Financial Crime Control Committee holds at least four meetings a year. The Conduct and Financial Crime Control Committee may convene for additional meetings throughout the year in order to appropriately discharge its responsibilities. The meetings are attended by management representatives and representatives of Internal Audit and the Group's external auditors, as appropriate.

The Conduct and Financial Crime Control Committee assists the Board in fulfilling its oversight duties with respect to the Group's exposure to financial crime risk. It is tasked with monitoring and assessing the effectiveness of financial crime compliance programs and initiatives focused on improving conduct and vigilance within the context of combatting financial crime.

As part of its main duties and responsibilities, the Conduct and Financial Crime Control Committee:

- reviews and assesses the Group's overall compliance framework for addressing financial crime risk, including policies, procedures and organizational set-up;

- monitors and assesses the effectiveness of financial crime compliance programs, including those with respect to the following areas: anti-money laundering, client identification and know-your-client procedures, client on and off boarding, politically exposed persons, economic and trade sanctions, anti-bribery, anti-corruption and client tax compliance;
- reviews the status of the relevant policies and procedures and the implementation of significant initiatives focused on improving conduct and vigilance within the context of combatting financial crime, including employee awareness and training programs;
- reviews and monitors investigations into allegations of financial crime or other reports of misconduct pertaining to the areas specified above;
- reviews with management, Internal Audit and the external auditors audit findings and recommendations with respect to the areas specified above, including annual regulatory audit reports;
- receives regular updates by management on regulatory, legislative and industry specific developments with respect to the areas specified above;
- reviews jointly with the Audit Committee and/or Risk Committee any matters for which a joint review is determined to be appropriate, including the annual compliance risk assessment and the Group's framework for addressing conduct risk; and
- provides support to the Compensation Committee and advice, as relevant and appropriate, with respect to the areas specified above as part of the Group's compensation process.

The responsibilities assumed by the new Conduct and Financial Crime Control Committee were previously performed by the Audit Committee in the context of its oversight role over significant compliance matters.

Conduct and Financial Crime Control Committee activities

During 2019 and early 2020, the Conduct and Financial Crime Control Committee focused on a number of key areas, including but not limited to the activities described below. Specifically, the Conduct and Financial Crime Control Committee:

- reviewed the set-up, capabilities and leadership of the Financial Crime Compliance function and received regular updates on the Group's financial crime compliance activities and key metrics at every meeting, as well as updates on significant financial crime compliance-related regulatory and policy developments;
- received progress updates at every meeting on the key deliverables of the remediation plan in connection with the recommendations by FINMA as part of the enforcement decrees from September 2018, which mandated further improvements in anti-money laundering processes, and reviewed status reports on the related work of an independent third party appointed by FINMA;
- conducted focused sessions on specific financial crime compliance programs, including anti-money laundering controls throughout the client lifecycle, enhanced controls applied to specific client groups, such as politically exposed persons, and the Group's programs for implementing and monitoring economic sanctions compliance;
- reviewed conduct and financial crime compliance initiatives within each of the business divisions together with the divisional CEOs and the Chief Compliance Officer;
- received quarterly updates from Internal Audit focused on financial crime compliance related findings in Internal Audit reports and discussed the results of the annual anti-money laundering regulatory audits with KPMG;
- regularly reviewed the status and findings of global investigations into financial crime compliance matters, as well as related conduct investigations;
- reviewed the status of major initiatives focused on enhanced technology and data analytics solutions to support key financial crime compliance processes, such as a technology supported solution to provide greater transparency to and improve the effectiveness of the client onboarding and ongoing client risk management process;
- held several joint sessions with the Audit Committee, including a session on financial crime compliance transaction monitoring and surveillance methods and technology solutions; and
- endorsed the initial Conduct and Financial Crime Control Committee charter and recommended its approval by the Board.

Risk Committee

The Risk Committee consists of at least three members. It may include non-independent members. The Chair of the Audit Committee is generally appointed as one of the members of the Risk Committee. Our Risk Committee currently consists of six members, all of whom are independent.

Pursuant to its charter, the Risk Committee holds at least four meetings a year. In addition, the Risk Committee usually convenes for additional meetings throughout the year in order to appropriately discharge its responsibilities. The meetings are attended by management representatives, as appropriate.

The Risk Committee is responsible for assisting the Board in fulfilling its oversight responsibilities by periodically reviewing the Group's risk management function, its resources and key risks.

As part of its main duties and responsibilities, the Risk Committee:

- reviews and assesses the integrity and adequacy of the risk management function of the Group;
- reviews and calibrates risk appetite at the Group level and at the level of key businesses, considering capital, liquidity, funding, credit, market, model, climate and, jointly with the Audit Committee, operational and reputational risk;
- reviews and calibrates major risk concentrations;

- reviews and assesses, jointly with the Audit Committee, the status of major infrastructure and committed change programs; and
- reviews and assesses, jointly with the Audit Committee, the internal control environment of the Group, including business continuity management, the enterprise risk and control framework and the firm-wide risk management framework as well as the control functions' input into remuneration.

The Risk Committee is regularly informed about the risk profile of the Group, including major risk topics and key initiatives aimed at responding to regulatory change and further improving risk management across the Group. In addition, the Risk Committee mandates the Credit Risk Review function to independently assess Credit Suisse's credit risk management practices, identify issues impacting the quality of credit risk management and report its findings to the Risk Committee.

The Risk Committee furthermore looks to ensure that key risk developments are addressed appropriately, such as the evolving cyber risk landscape. Senior management, the Board and the Risk Committee are actively engaged and regularly informed on the extent of the threats and mitigations in place to manage cyber incidents. Related business continuity and response plans are tested and simulations are conducted up to the Executive Board and the Board level. Significant incidents are escalated to the Risk Committee together with key findings and mitigations actions.

Risk Committee activities

During 2019 and early 2020, the Risk Committee focused on a number of key areas, including but not limited to the activities described below. Specifically, the Risk Committee:

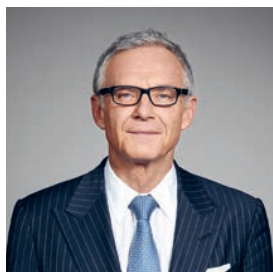
- maintained its focus on supporting the Board in reviewing strategically important topics, including adequacy of capital, liquidity and funding and the allocation of capital to Group businesses and major subsidiaries;
- received regular updates on key change programs in line with regulatory expectations including the Basel Committee on Banking Supervision 239 principles for effective risk data aggregation and risk reporting;
- reviewed and endorsed the revised risk appetite framework and the Group's strategic risk objectives and the risk appetite statements for the Bank;
- reviewed implications of Basel III reforms as part of the Group Internal Capital Adequacy Assessment Process (ICAAP) review and Fundamental Review of Trading Book (FRTB) update;
- monitored aspects of the Group's risk management framework, for example with respect to model risk, sovereign risk, liquidity risk, stress testing and the internal control framework;
- conducted focused credit risk reviews for a number of risk concentrations, including credit exposure, collateral concentration, illiquid positions, emerging market countries and leveraged lending;
- regularly monitored the risk profile and risk appetite for various businesses, including the Corporate Bank, International Wealth Management Private Banking, various Swiss Universal Bank businesses and APAC Markets;
- monitored progress on the Group's IBOR transition program, an effort to coordinate transition readiness on a firm-wide basis for the expected replacement of certain IBOR benchmarks by the end of 2021, which included updates on key transition risks and transition scenario analysis;
- reviewed, jointly with the Audit Committee, risks related to data management, IT and outsourcing;
- reviewed, jointly with the Innovation and Technology Committee, risks related to IT security, data protection and cyber risk; and
- reviewed the Group's policy and position with respect to reputational risk and sustainability, with particular focus on existing reputational risk process challenges and key developments related to sustainability, such as the TCFD recommendations.

Innovation and Technology Committee

The Board established an Innovation and Technology Committee as an interdisciplinary advisory group in 2015. The group acts as a senior platform to discuss internal progress in relation to innovation and technology initiatives, as well as relevant industry-wide technology trends. The Innovation and Technology Committee is chaired by former Group Board member Sebastian Thrun in his role as senior advisor. Participants in the Innovation and Technology Committee include Board members, members of management, internal technology experts and a senior cybersecurity advisor. In 2019, the Innovation and Technology Committee held two

meetings. Committee activities included a review of digitalization initiatives in the Swiss Universal Bank division, selected innovation projects within the finance function and an assessment of the Group's cyber and information security-related operations, which was conducted jointly with the Risk Committee. The committee was furthermore briefed about the activities and progress of Credit Suisse Labs, a business wholly owned and operated by Credit Suisse, which focuses on the development of new business and technology concepts, products and platforms for use by Credit Suisse and potentially the broader banking industry.

Biographies of the Board



Urs Rohner
Born 1959
Swiss Citizen
Board member since 2009

Chairman of the Board



Iris Bohnet
Born 1966
Swiss Citizen
Board member since 2012

Professional history

2004–present	Credit Suisse
	Chairman of the Board and the Governance and Nominations Committee (2011–present)
	Chair of the Conduct and Financial Crime Control Committee (2019–present)
	Member of the Innovation and Technology Committee (2015–present)
	Member of the board of Credit Suisse (Schweiz) AG (Swiss subsidiary) (2015–present)
	Vice-Chair of the Board and member of the Governance and Nominations Committee (2009–2011)
	Member of the Risk Committee (2009–2011)
	Chief Operating Officer (2006–2009)
	General Counsel (2004–2009)
	Member of the Executive Board (2004–2009)
2000–2004	ProSiebenSat.1 Media AG, Chairman of the Executive Board and CEO
1983–1999	Lenz & Staehelin
	Partner (1992–1999)
	Attorney (1983–1988; 1990–1992)
1988–1989	Sullivan & Cromwell LLP, New York, attorney

Education

1990	Admission to the bar of the State of New York
1986	Admission to the bar of the Canton of Zurich
1983	Master in Law (lic.iur.), University of Zurich, Switzerland

Other activities and functions

GlaxoSmithKline plc, board member
Swiss Bankers Association, vice-chairman¹
Swiss Finance Council, board member¹
Institute of International Finance, board member¹
European Banking Group, member¹
European Financial Services Roundtable, member¹
University of Zurich Department of Economics, chairman of the advisory board
Lucerne Festival, board of trustees member

¹ Mr. Rohner performs functions in these organizations in his capacity as Chairman of the Group.

Professional history

2012–present	Credit Suisse
	Member of the Compensation Committee (2012–present)
	Member of the Innovation and Technology Committee (2015–present)
1998–present	Harvard Kennedy School
	Academic Dean (2018–present, 2010–2014)
	Albert Pratt Professor of Business and Government (2018–present)
	Director of the Women and Public Policy Program (2008–present)
	Professor of public policy (2006–2018)
	Associate professor of public policy (2003–2006)
	Assistant professor of public policy (1998–2003)
1997–1998	Haas School of Business, University of California at Berkeley, visiting scholar

Education

1997	Doctorate in Economics, University of Zurich, Switzerland
1992	Master's degree in Economic History, Economics and Political Science, University of Zurich, Switzerland

Other activities and functions

Applied, board member
Economic Dividends for Gender Equality (EDGE), advisory board member
We share tech, advisory board member
Women in Banking and Finance, patron
UK Government Equalities Office/BIT, advisor
Take The Lead Women, advisor
genEquality, advisor



Christian Gellerstad
 Born 1968
 Swiss and Swedish Citizen
 Board member since 2019



Andreas Gottschling
 Born 1967
 German Citizen
 Board member since 2017

Professional history

2019–present	Credit Suisse
	Member of the Compensation Committee (2019–present) Member of the Conduct and Financial Crime Control Committee (2019–present)
1994–2018	Pictet Group
	CEO, Pictet Wealth Management (2007–2018) Executive Committee Member, Banque Pictet & Cie SA, Geneva (2013–2018) Equity Partner, Pictet Group (2006–2018) CEO and Managing Director Banque Pictet & Cie (Europe) S.A, Luxembourg (2000–2007) Deputy CEO and Senior Vice President, Pictet Bank & Trust Ltd., Bahamas (1996–2000) Financial Analyst & Portfolio Manager, Pictet & Cie, Geneva (1994–1996)
Before 1994	Cargill International, Emerging Markets Trader

Education

1996	Certified International Investment Analyst (CIIA) and Certified Portfolio Manager and Financial Analyst (AZEK)
1993	Master in Business Administration and Economics, University of St. Gallen (HSG), Switzerland

Other activities and functions

Taurus Group SA, board member
FAVI SA, board member
AFICA SA, board member
Tsampéhro SA, board member

Professional history

2017–present	Credit Suisse
	Chair of the Risk Committee (2018–present) Member of the Governance and Nominations Committee (2018–present) Member of the Audit Committee (2018–present) Member of the Risk Committee (2017–present) Member of the board of Credit Suisse International and Credit Suisse Securities (Europe) Limited (UK subsidiaries) (2018–present)
2013–2016	Erste Group Bank, Vienna, Chief Risk Officer and Member of the Management Board
2012–2013	McKinsey and Company, Zurich, Senior Advisor Risk Practice
2005–2012	Deutsche Bank, London, Frankfurt and Zurich
	Member of the Risk Executive Committee & Divisional Board (2005–2012) Global Head Operational Risk (2006–2010) Global Head of Risk Analytics and Instruments (2005–2011)
2003–2005	LGT Capital Management, Switzerland, Head of Quant Research
2000–2003	Euroquants, Germany, Consultant
1997–2000	Deutsche Bank, Frankfurt, Head of Quantitative Analysis

Education

1997	Doctorate in Economics, University of California, San Diego, USA
1991	Postgraduate Studies in Physics, Mathematics and Economics, Harvard University, Cambridge, US
1990	Degrees in Mathematics and Economics, University of Freiburg, Germany

Other activities and functions

Mr. Gottschling currently does not hold directorships in other organizations.



Alexander Gut
 Born 1963
 Swiss and British Citizen
 Board member since 2016



Michael Klein
 Born 1963
 US Citizen
 Board member since 2018

Professional history

2016–present	Credit Suisse
	Member of the Audit Committee (2016–present) Member of the Innovation and Technology Committee (2017–present) Member of the board of Credit Suisse (Schweiz) AG (Swiss subsidiary) (2016–present)
2007–present	Gut Corporate Finance AG, managing partner
2003–2007	KPMG Switzerland
	Member of the Executive Committee, Switzerland (2005–2007) Partner and Head of Audit Financial Services, Switzerland (2004–2007) and region Zurich (2003–2004)
2001–2003	Ernst & Young, partner of the Transaction Advisory Services practice
1991–2001	KPMG Switzerland
	Senior Manager, Audit Financial Services Senior Manager, Banking Audit Banking auditor

Education

1996	Swiss Certified Accountant, Swiss Institute of Certified Accountants and Tax Consultants
1995	Doctorate in Business Administration, University of Zurich
1990	Masters degree in Business Administration, University of Zurich

Other activities and functions

Adecco Group Ltd., board member and chairman of the governance and nomination committee

Professional history

2018–present	Credit Suisse
	Member of the Compensation Committee (2019–present) Member of the Risk Committee (2018–present)
2010–present	M Klein & Company, Managing Partner
1985–2008	Citigroup
	Vice Chairman Chairman Institutional Clients Group Chairman & Co-CEO Markets & Banking Co-President Markets & Banking CEO, Global Banking CEO Markets and Banking EMEA Various senior management positions

Education

1985	Bachelors of Science in Economics (Finance and Accounting), The Wharton School, University of Pennsylvania
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Other activities and functions

Clarivate Analytics, board member
 Churchill Capital Corp. II, chairman and CEO
 Churchill Capital Corp. III, chairman and CEO
 TBG Europe NV, board member
 Pro Football Hall of Fame Village, Director
 Harvard Global Advisory Board, member
 Peterson Institute for International Economics, board member
 The World Food Programme, investment advisory board member
 Conservation International, board member
 Horace Mann School, board of trustees member



Shan Li
Born 1963
Chinese Citizen
Board member since 2019



Seraina Macia
Born 1968
Swiss and Australian Citizen
Board member since 2015

Professional history

2019–present	Credit Suisse Member of the Risk Committee (2019–present)
2015–present	Silk Road Finance Corporation Limited, Hong Kong, CEO
2010–present	Chinastone Capital Management Limited, Shanghai, chairman and CEO
2005–present	San Shan Capital Partners, Hong Kong, Founding partner
1998–present	Fang Holdings Limited, Co-founder
2013–2015	China Development Bank, Beijing, Chief International Business advisor
2010–2011	UBS Asia Investment Bank, Hong Kong, vice chairman
2001–2005	Bank of China International Holdings, Hong Kong, CEO
1999–2001	Lehman Brothers Asia, Hong Kong, Head of China Investment Banking
1998–1999	China Development Bank, Beijing, Deputy Head of Investment Bank Preparation Leading Group
1993–1998	Goldman Sachs Executive Director, Goldman Sachs International, London (1997–1998) Executive Director, Goldman Sachs (Asia), Hong Kong (1995–1997) International Economist, Goldman Sachs & Co., New York (1993–1995)
1993	Credit Suisse First Boston, New York, Associate

Education

1994	PhD in Economics, Massachusetts Institute of Technology (MIT)
1988	MA in Economics, University of California, Davis
1986	BS in Management Information Systems, Tsinghua University, Beijing

Other activities and functions

CMMB Vision Holdings Ltd, board member
Chinese Financial Association of Hong Kong, vice chairman
13th National Committee of the Chinese People's Political Consultative Conference (CPPCC), member
MIT Economics Visiting Committee, member
Silk Road Planning Research Center, vice chairman
Tsinghua Institute for Governance Studies, vice chairman
MIT Sloan Finance Advisory Board, member
National Center for Economics Research at Tsinghua University, deputy director

Professional history

2015–present	Credit Suisse Member of the Risk Committee (2018–present) Member of the Audit Committee (2015–2018)
2017–present	Blackboard U.S. Holdings, Inc. (AIG Corporation) Executive vice president & CEO of Blackboard (AIG technology-focused subsidiary; formerly Hamilton USA)
2016–2017	Hamilton Insurance Group CEO Hamilton USA
2013–2016	AIG Corporation Executive vice-president and CEO Regional Management & Operations of AIG, New York (2015–2016) CEO and President of AIG EMEA, London (2013–2016)
2010–2013	XL Insurance North America, chief executive
2002–2010	Zurich Financial Services President Specialties Business Unit, Zurich North America Commercial, New York (2007–2010) CFO, Zurich North America Commercial, New York (2006–2007) Various positions, among others: head of the joint investor relations and rating agencies management departments; head of rating agencies management; senior investor relations officer (2002–2008)
2000–2002	NZB Neue Zuercher Bank, founding partner and financial analyst
1990–2000	Swiss Re Rating agency coordinator, Swiss Re Group (2000) Senior underwriter and deputy head of financial products, Melbourne (1996–1999) Various senior underwriting and finance positions, Zurich (1990–1996)

Education

2001	Chartered Financial Analyst (CFA), CFA Institute, US
1999	MBA, Monash Mt Eliza Business School, Australia
1997	Post-graduate certificate in Management, Deakin University, Australia

Other activities and functions

BanQu, chair
CFA Institute, member
Food Bank for New York City, board member



Kai S. Nargolwala
 Born 1950
 Singaporean Citizen
 Board member since 2013



Ana Paula Pessoa
 Born 1967
 Brazilian Citizen
 Board member since 2018

Professional history

2008–present	Credit Suisse
	Member of the Conduct and Financial Crime Control Committee (2019–present)
	Chair of the Compensation Committee (2017–present)
	Member of the Governance and Nominations Committee (2017–present)
	Member of the Innovation and Technology Committee (2015–present)
	Member of the Compensation Committee (2014–present)
	Member of the Risk Committee (2013–2017)
	Non-executive chairman of Credit Suisse's Asia-Pacific region (2010–2011)
	Member of the Executive Board (2008–2010)
	CEO of Credit Suisse Asia Pacific region (2008–2010)
1998–2007	Standard Chartered plc, main board executive director
Prior to 1998	Bank of America
	Group executive vice president and head of Asia Wholesale Banking group in Hong Kong (1990–1995)
	Head of High Technology Industry group in San Francisco and New York (1984–1990)
	Various management and other positions in the UK (1976–1984)
	Peat Marwick Mitchell & Co., London, accountant (1970–1976)
Education	
1974	Fellow of the Institute of Chartered Accountants (FCA), England and Wales
1969	BA in Economics, University of Delhi
Other activities and functions	
Prudential plc. / Prudential Corporation Asia Limited, board member	
PSA International Pte. Ltd. Singapore, board member	
Clifford Capital Pte. Ltd., director and non-executive chairman	
Temasek Sustainable Finance Steering Committee, co-chair	
Singapore Institute of Directors, Fellow	

Professional history

2018–present	Credit Suisse
	Member of the Conduct and Financial Crime Control Committee (2019–present)
	Member of the Audit Committee (2018–present)
	Member of the Innovation and Technology Committee (2018–present)
2017–present	Kunumi AI, Partner, Investor and Chair
2015–2017	Olympic & Paralympic Games 2016, CFO of Organising Committee
2012–2015	Brunswick Group, Managing partner of Brazilian Branch
2001–2011	Infoglobo Newspaper Group, CFO and Innovation Director
1993–2001	Globo Organizations, Senior Management positions in several media divisions
Education	
1991	MA, FRI (Development Economics), Stanford University, California
1988	BA, Economics and International Relations, Stanford University, California
Other activities and functions	
Suzano Pulp and Paper, board member	
Vinci Group, board member	
News Corporation, board member	
Global Advisory Council for Stanford University, member	
Instituto Atlántico de Gobierno, advisory board member	
The Nature Conservancy, advisory board member	
Stanford Alumni Brasil Association (SUBA), board member	
Fundação Roberto Marinho, member of the audit committee	



Joaquin J. Ribeiro
 Born 1956
 US Citizen
 Board member since 2016



Severin Schwan
 Born 1967
 Austrian, German and Swiss
 Citizen
 Board member since 2014
Vice-Chair of the Board
Lead Independent Director

Professional history

2016–present	Credit Suisse
	Member of the Audit Committee (2016–present)
1997–2016	Deloitte LLP (USA)
	Vice chairman (2010–2016)
	Chairman of Global Financial Services Industry practice (2010–2016)
	Head of US Financial Services Industry practice (2003–2010)
	Head of Global Financial Services Industry practice in Asia (1997–2003)
	Head of South East Asian Corporate Restructuring practice (1997–2000)
2005–2010	World Economic Forum, senior advisor to Finance Governor's Committee

Education

1996	Executive Business Certificate, Columbia Business School, New York
1988	MBA in Finance, New York University, New York
1980	Certified Public Accountant, New York
1978	Bachelor degree in Accounting, Pace University, New York

Other activities and functions

Mr. Ribeiro currently does not hold directorships in other organizations.

Professional history

2014–present	Credit Suisse
	Vice-Chair and Lead Independent Director (2017–present)
	Member of the Governance and Nominations Committee (2017–present)
	Member of the Risk Committee (2014–present)
	Member of the board of Credit Suisse (Schweiz) AG (Swiss subsidiary) (2015–2017)
1993–present	Roche Group
	CEO (2008–present)
	Member of the board of Roche Holding Ltd. (2013–present)
	CEO, Division Roche Diagnostics (2006–2008)
	Head Asia Pacific Region, Roche Diagnostics Singapore (2004–2006)
	Head Global Finance & Services, Roche Diagnostics Basel (2000–2004)
	Various management and other positions with Roche Germany, Belgium and Switzerland (1993–2000)

Education

1993	Doctor of Law, University of Innsbruck, Austria
1991	Master's degrees in Economics and Law, University of Innsbruck, Austria

Other activities and functions

International Federation of Pharmaceutical Manufacturers & Associations (IFPMA), vice-president
 International Business Leaders Advisory Council for the Mayor of Shanghai, member



John Tiner
 Born 1957
 British Citizen
 Board member since 2009

Former members of the Board

Information about former members of the Board is available on our website at credit-suisse.com/annualreporting.

Honorary Chairman of Credit Suisse Group AG

Rainer E. Gut, born 1932, Swiss Citizen, was appointed Honorary Chairman of the Group in 2000 after he retired as Chairman, a position he had held from 1986 to 2000. Mr. Gut was a member of the board of Nestlé SA, Vevey, from 1981 to 2005, where he was vice-chairman from 1991 to 2000 and chairman from 2000 to 2005. As Honorary Chairman, Mr. Gut does not have any function in the governance of the Group and does not attend the meetings of the Board.

Secretaries of the Board

Joan E. Belzer
 Roman Schaerer

Professional history

2009–present	Credit Suisse
	Member of the Conduct and Financial Crime Control Committee (2019–present)
	Chair of the Audit Committee (2011–present)
	Member of the Governance and Nominations Committee (2011–present)
	Member of the Risk Committee (2011–present)
	Member of the Audit Committee (2009–present)
	Member of the board of Credit Suisse Holdings (USA), Inc., Credit Suisse (USA), Inc. and Credit Suisse Securities (USA), LLC (US subsidiaries) (2015–present)
2008–2013	Resolution Operations LLP, CEO
2001–2007	Financial Services Authority (FSA)
	CEO (2003–2007)
	Managing director of the investment, insurance and consumer directorate (2001–2003)
Prior to 2001	Arthur Andersen, UK
	Managing partner, UK Business Consulting (1998–2001)
	Managing partner, Worldwide Financial Services practice (1997–2001)
	Head of UK Financial Services practice (1993–1997)
	Partner in banking and capital markets (1988–1997)
	Auditor and consultant, Tansley Witt (later Arthur Andersen UK) (1976–1988)

Education

2010	Honorary Doctor of Letters, Kingston University, London
1980	UK Chartered Accountant, Institute of Chartered Accountants in England and Wales

Other activities and functions

Ardonagh Group Limited, chairman
 Salcombe Brewery Limited, chairman

Executive Board

Membership

The Executive Board is the most senior management body of the Group. Its members are appointed by the Board. Prior to the appointment of an Executive Board member, the terms and conditions of the individual's employment contract with the Group are reviewed by the Compensation Committee. The Executive Board currently consists of twelve members. The composition of the Executive Board of the Group and the Bank is identical, with the exception of André Helfenstein, who is a member of the Executive Board of the Group, but not the Bank.

Executive Board changes

The Group announced a number of changes to the Executive Board in 2019 and early 2020. On February 26, 2019, Lydie Hudson and Antoinette Poschung were appointed as new Executive Board members in the roles of Chief Compliance Officer (Chief

Compliance and Regulatory Affairs Officer since the organizational change on March 5, 2020) and Global Head of Human Resources, respectively. Lara Warner, who previously held the role of Chief Compliance and Regulatory Affairs Officer, was appointed Chief Risk Officer. Peter Goerke, former Chief Human Resources Officer, and Joachim Oechslin, former Chief Risk Officer, stepped down from the Executive Board. Effective July 1, 2019, Philipp Wehle was appointed as the new CEO of International Wealth Management to succeed Iqbal Khan, who stepped down from the Executive Board. Effective October 1, 2019, James B. Walker was appointed as Chief Operating Officer (COO), succeeding Pierre-Olivier Bouée, who resigned from the Executive Board as a consequence of the observation incidents. Mr. Bouée was later dismissed for cause. On November 11, 2019, David Miller was appointed as the new CEO of Investment Banking & Capital Markets to succeed Jim Amine, who took on a newly created role as head of Private Credit Opportunities within the Group's Asset Management business.

Members of the Executive Board as of December 31, 2019

	Executive Board member since	Role
Tidjane Thiam, Chief Executive Officer	2015	Group CEO
Romeo Cerutti, General Counsel	2009	Corporate Function Head
Brian Chin, CEO Global Markets	2016	Divisional Head
Thomas P. Gottstein, CEO Swiss Universal Bank	2015	Divisional Head
Lydie Hudson, Chief Compliance Officer	2019	Corporate Function Head
David R. Mathers, Chief Financial Officer	2010	Corporate Function Head
David Miller, CEO Investment Banking & Capital Markets	2019	Divisional Head
Antoinette Poschung, Global Head of Human Resources	2019	Corporate Function Head
Helman Sitohang, CEO Asia Pacific	2015	Divisional Head
James B. Walker, Chief Operating Officer	2019	Corporate Function Head
Lara J. Warner, Chief Risk Officer	2015	Corporate Function Head
Philipp Wehle, CEO International Wealth Management	2019	Divisional Head

On February 7, 2020, Thomas Gottstein was appointed Group CEO, succeeding Tidjane Thiam, and André Helfenstein was appointed as the new CEO of Swiss Universal Bank and

Executive Board member of the Group, as well as the new CEO of Credit Suisse (Schweiz) AG, succeeding Thomas Gottstein. Both appointments were effective as of February 14, 2020.

Members of the Executive Board as of February 14, 2020

	Executive Board member since	Role
Thomas P. Gottstein, Chief Executive Officer	2015	Group CEO
Romeo Cerutti, General Counsel	2009	Corporate Function Head
Brian Chin, CEO Global Markets	2016	Divisional Head
André Helfenstein, CEO Swiss Universal Bank	2020	Divisional Head
Lydie Hudson, Chief Compliance and Regulatory Affairs Officer ¹	2019	Corporate Function Head
David R. Mathers, Chief Financial Officer	2010	Corporate Function Head
David Miller, CEO Investment Banking & Capital Markets	2019	Divisional Head
Antoinette Poschung, Global Head of Human Resources	2019	Corporate Function Head
Helman Sitohang, CEO Asia Pacific	2015	Divisional Head
James B. Walker, Chief Operating Officer	2019	Corporate Function Head
Lara J. Warner, Chief Risk Officer	2015	Corporate Function Head
Philipp Wehle, CEO International Wealth Management	2019	Divisional Head

¹ Lydie Hudson assumed responsibility for Regulatory Affairs effective March 5, 2020.

Responsibilities

The Executive Board is responsible for the day-to-day operational management of the Group under the leadership of the CEO.

As part of its main duties and responsibilities, the Executive Board:

- establishes the strategic business plans for the Group overall as well as for the principal businesses, subject to approval by the Board;
- regularly reviews and coordinates significant initiatives, projects and business developments in the divisions and the corporate functions, including important risk management matters;
- regularly reviews the consolidated and divisional financial performance, including progress on key performance indicators, as well as the Group's capital and liquidity positions and those of its major subsidiaries;
- appoints and dismisses senior managers, with the exception of managers from Internal Audit, and periodically reviews senior management talent across the Group and talent development programs;
- reviews and approves business transactions, including mergers, acquisitions, establishment of joint ventures and establishment of subsidiary companies; and
- approves key policies for the Group.

Executive Board committees

The Executive Board has several standing committees, which are chaired by an Executive Board member and meet periodically throughout the year and/or as required. These committees are:

- The Executive Board Risk Forum: the Executive Board Risk Forum, chaired by the CRO, was newly established in 2020 and is responsible for decision making across risk types and functions. The forum's key responsibilities include the review and challenge of the Group's risk-taking strategy, adjudicating material and cross-divisional, cross-functional escalated risk issues, oversight of critical approvals (e.g., risk appetite, limit allocation, risk capital allocation and mergers & acquisitions activity) and monitoring of key risk trends and relevant metrics.
- Capital Allocation & Risk Management Committee (CARMC): CARMC is responsible for overseeing and directing our risk profile, recommending risk limits at the Group level to the Risk Committee and the Board, establishing and allocating risk appetite among the various businesses, reviewing new significant business strategies or changes in business strategies including business migrations, making risk-related decisions on escalations and for applying measures, methodologies and tools to monitor and manage the risk portfolio. CARMC will furthermore escalate items requiring additional oversight to the Executive Board Risk Forum. There are three cycles of

CARMC which each meet quarterly: the Position & Client Risk cycle (chaired by the CRO), the Asset & Liability Management cycle (chaired by the CFO) and the Internal Control System cycle (jointly chaired by the CRO and the Chief Compliance Officer (Chief Compliance and Regulatory Affairs Officer since March 5, 2020)).

- Valuation Risk Management Committee (VARMC): VARMC (chaired by the CFO) is responsible for establishing policies regarding the valuation of certain material assets and the policies and calculation methodologies applied in the valuation process. Additionally, VARMC is responsible for monitoring and assessing valuation risks, reviewing inventory valuation conclusions and directing the resolution of significant valuation issues.
- Group Conduct and Ethics Board: the Group CEB (co-chaired by the Global Head of Human Resources and the Chief Compliance Officer (Chief Compliance and Regulatory Affairs Officer since March 5, 2020)) is responsible for overseeing how conduct and ethics matters are handled within the divisions and corporate functions and ensuring consistency and alignment of practices across the Group. The Group CEB conducts reviews of employee sanctions and may perform subsequent evaluations for specific matters that have been escalated by the CEBs established for each division and the corporate functions. The Group CEB also oversees the activities of the conduct and ethics ombudsperson.

The role of the conduct and ethics ombudsperson was created in 2018 as a result of a review of the Group's global approach to handling claims of sexual harassment. The ombudsperson is accountable directly to the Chief Executive Officer and the Group Conduct and Ethics Board. The ombudsperson's role is to serve as a point of immediate escalation when sexual harassment claims arise and to ensure there is appropriate awareness of and attention to such claims. The ombudsperson works with our Compliance, General Counsel and Human Resources functions as well as our business divisions to review our relevant global training programs, policies and protocols, so that they can be further enhanced as part of our efforts to prevent sexual harassment at work and to make sure all cases are managed in a fair, accurate and consistent way within our global framework.

→ Refer to "Risk management" in III – Treasury, Risk, Balance sheet and Off-balance sheet for information on our risk management oversight.

Two former Executive Board standing committees, the Reputational Risk and Sustainability Committee (RRSC) and the Risk Processes and Standards Committee (RPSC), no longer exist as standalone committees. The responsibilities of the former RRSC have been integrated into the CARMC Position & Client Risk cycle, in order to enable more holistic assessments of all key position and client risk factors in a single committee. The responsibilities of the former RPSC are allocated fully to the CRO.

Executive Board mandates

Our Executive Board members may, similar to our Board members, assume board or executive level or other roles in companies and organizations outside of the Group, which are collectively referred to as mandates. According to the Group's AoA (Chapter IV, Section 3, The Executive Board, Art. 20f), the number of mandates Executive Board members may hold in listed companies and other organizations outside of the Group is subject to certain restrictions, in order to comply with the Compensation Ordinance and to ensure that our Executive Board members dedicate sufficient time to fulfil their executive roles.

The limitations on mandates assumed by Executive Board members outside of the Group are summarized in the table below.

Type of mandate and limitation – Executive Board

Type of mandate	Limitation
Listed Companies	No more than one other mandate
Other legal entities ¹	No more than two mandates
Legal entities on behalf of the Group ²	No more than ten mandates
Charitable legal entities ³	No more than ten mandates

¹ Includes private non-listed companies.

² Includes memberships in business and industry associations.

³ Also includes honorary mandates in cultural or educational organizations.

No Executive Board member holds mandates in excess of these restrictions. The restrictions shown above do not apply to mandates of Executive Board members in legal entities controlled by the Group, such as subsidiary boards.

→ Refer to "Mandates" in Board of Directors for further information.

Biographies of the Executive Board members



Thomas P. Gottstein
 Born 1964
 Swiss Citizen
 Member since 2015
Chief Executive Officer
 (as of February 14, 2020)



Tidjane Thiam
 Born 1962
 French and Ivorian Citizen
 Member 2015–2020
Chief Executive Officer
 (until February 14, 2020)

Professional history

1999–present	Credit Suisse
	Chief Executive Officer of the Group (2020–present) CEO Credit Suisse (Schweiz) AG (2016–2020) CEO Swiss Universal Bank (2015–2020) Head of Premium Clients Switzerland & Global External Asset Managers (2014–2015) Head of Investment Banking Coverage Switzerland (2010–2013) Co-Head of Equity Capital Markets EMEA (2007–2009) Head of Equity Capital Markets Switzerland, Austria and Scandinavia, London (2005–2007) Head of Equity Capital Markets Switzerland, Zurich (2002–2005) Investment Banking Department Switzerland (1999–2002)
Prior to 1999	UBS
	Telecoms Investment Banking and Equity Capital Markets, London Group Controlling, Zurich

Education

1995	PhD in Finance and Accounting, University of Zurich
1989	Degree in Business Administration and Economics, University of Zurich

Other activities and functions

Pension Fund of Credit Suisse Group (Switzerland), foundation board and investment committee member
 Pension Fund 2 of Credit Suisse Group (Switzerland), foundation board member
 Credit Suisse Foundation, board member
 Private Banking Steering Committee of the Swiss Banking Association, member
 FINMA Private Banking Panel, member
 SIX Group AG, board and the risk committee member
 Swiss Entrepreneurs Foundation, board member
 Europa Forum Luzern, executive committee member
 Opernhaus Zurich, board and audit committee member

Professional history

2015–2020	Credit Suisse
	Chief Executive Officer of the Group (2015–2020) Member of the board of Credit Suisse (Schweiz) AG (Swiss subsidiary) (2016–2020)
2008–2015	Prudential plc
	Group Chief Executive (2009–2015) Chief Financial Officer (2008–2009)
2002–2008	Aviva
	Chief Executive, Europe (2006–2008) Managing director, International (2004–2006) Group strategy & development director (2002–2004)
2000–2002	McKinsey & Co, partner, Paris
1998–1999	Minister of planning and development, Côte d'Ivoire
1994–1999	National Bureau for Technical Studies & Development, Côte d'Ivoire, Chairman and Chief Executive
Prior to 1994	McKinsey & Co, consultant, Paris, London and New York

Education

1988	Master of Business Administration, INSEAD
1986	Ingénieur Civil des Mines, Ecole Nationale Supérieure des Mines de Paris
1984	Ingénieur Diplômé de l'École polytechnique, Ecole Polytechnique, Paris

Other activities and functions

International Olympic Committee, member
 Group of Thirty (G30), member
 International Business Council of the World Economic Forum, member



Romeo Cerutti
 Born 1962
 Swiss and Italian Citizen
 Member since 2009
General Counsel



Brian Chin
 Born 1977
 US Citizen
 Member since 2016
**CEO
 Global Markets**

Professional history

2006–present	Credit Suisse General Counsel (2009–present) Global Co-Head of Compliance (2008–2009) General Counsel, Private Banking (2006–2009)
1999–2006	Lombard Odier Darier Hentsch & Cie Partner of the Group Holding (2004–2006) Head of Corporate Finance (1999–2004)
1995–1999	Homburger Rechtsanwälte, Zurich, attorney-at-law
Prior to 1995	Latham and Watkins, Los Angeles, attorney-at-law

Education

1998	Post-doctorate degree in Law (Habilitation), University of Fribourg
1992	Admission to the bar of the State of California
1992	Master of Law (LLM), University of California, Los Angeles
1990	Doctorate in Law, University of Fribourg
1989	Admission to the bar of the Canton of Zurich
1986	Master in Law (lic.iur.), University of Fribourg

Other activities and functions

Vifor Pharma Ltd., vice-chairman
Swiss Finance Institute (SFI), chairman
American-Swiss Chamber of Commerce, legal group member
Ulrico Hoepfli Foundation, board of trustees member

Professional history

2003–present	Credit Suisse CEO Global Markets (2016–present) Member of the board of Credit Suisse Holdings (USA), Inc., Credit Suisse (USA), Inc. and Credit Suisse Securities (USA) LLC (US subsidiaries) (2016–present) Co-Head of Credit Pillar within Global Markets (2015–2016) Global Head of Securitized Products and Co-Head of Fixed Income, Americas (2012–2016) Other senior positions within Investment Banking (2003–2012)
2000–2003	Deloitte & Touche LLP, senior analyst, Securitization Transaction Team
Prior to 2000	PriceWaterhouseCoopers LLP, Capital Markets Advisory Services The United States Attorney's Office, Frauds division

Education

2000	BS in Accounting, Rutgers University
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Other activities and functions

Credit Suisse Americas Foundation, board member



André Helfenstein
 Born 1967
 Swiss and British Citizen
 Member since 2020
CEO Swiss Universal Bank



Lydie Hudson
 Born 1979
 US Citizen
 Member since 2019
**Chief Compliance and
 Regulatory Affairs Officer**

Professional history

2007–present	Credit Suisse
	CEO Swiss Universal Bank (2020–present) CEO Credit Suisse (Schweiz) AG (2020–present) Head of Institutional Clients, Swiss Universal Bank (2017–2020) Head of Corporate & Institutional Clients, Swiss Universal Bank (2015–2017) Private & Wealth Management organization in Switzerland: Region Head Zurich and Head of Private Banking Clients, Region Zurich (2013–2015) Private & Wealth Management organization in Switzerland: Head of Private Clients Region Zurich (2010–2013) Global Head of Products, Sales & Pricing, Credit Suisse Private Banking (2007–2010)
1996–2007	The Boston Consulting Group (BCG)
	Partner & Managing Director (2005–2007) Director BCG Switzerland Recruiting and Member of the BCG Switzerland and US Career Development Committees (2005–2007) Various management and other positions (1996–2000)
1993–1995	STB Unternehmensentwicklungen AG (VZ VermögensZentrum AG), Associate

Education

1992	Master Degree in Business, University of St. Gallen
1990	Certificate in Psychology/Sociology, Université de la Sorbonne

Other activities and functions

Neue Aargauer Bank, board member
 Tonhalle Gesellschaft Zurich, board member
 Venture Incubator AG, board member
 BAFT Transaction Banking Global Leaders, advisory board member
 Foundation Bessamin, member

Professional history

2008–present	Credit Suisse
	Chief Compliance and Regulatory Affairs Officer (2020–present) Chief Compliance Officer (2019–2020) COO, Global Markets (2015–2019) COO, Global Equities (2014–2015) Various management and strategy roles in Equities, Fixed Income and Asset Management (2008–2014)
2006–2008	The Boston Consulting Group, consultant
2001–2004	Lehman Brothers, associate, analyst, Global Real Estate Group
Education	
2006	Master in Business Administration (MBA), Harvard Business School
2001	Bachelor of Arts, International Politics and Economics, Middlebury College

Other activities and functions

Good Shepherd Services, board member
 World Economic Forum, Young Global Leader



David R. Mathers
 Born 1965
 British Citizen
 Member since 2010
Chief Financial Officer



David Miller
 Born 1965
 US Citizen
 Member since 2019
**CEO
 Investment Banking &
 Capital Markets**

Professional history

1998–present	Credit Suisse
	Chief Financial Officer (2010–present)
	CEO of Credit Suisse International and Credit Suisse Securities (Europe) Limited (UK subsidiaries) (2016–present)
	Chairman of Asset Resolution Unit (2019–present)
	Head of Strategic Resolution Unit (2015–2018)
	Head of IT and Operations (2012–2015)
	Head of Finance and COO of Investment Banking (2007–2010)
	Senior positions in Credit Suisse's Equity business, including Director of European Research and Co-Head of European Equities (1998–2007)
Prior to 1998	HSBC
	Global head of equity research (1997–1998)
	Research analyst, HSBC James Capel (1987–1997)

Education

1991	Associate Certification, Society of Investment Analysis
1991	MA in Natural Sciences, University of Cambridge, England
1987	BA in Natural Sciences, University of Cambridge, England

Other activities and functions

European CFO Network, member
 Women in Science & Engineering (WISE) program and academic awards and grants at Robinson College, Cambridge, sponsor
 Various other charitable commitments

Professional history

2000–present	Credit Suisse
	CEO Investment Banking & Capital Markets (2019–present)
	Member of the board of Credit Suisse Holdings (USA), Inc., Credit Suisse (USA), Inc. and Credit Suisse Securities (USA) LLC (US subsidiaries) (2019–present)
	Head of Credit (2016–2019)
	Co-Head of Global Markets Americas (2016–2019)
	Head of Global Credit Products (2015–2019)
	Co-Head of Global Credit Products and Co-Head of Fixed Income Americas (2013–2015)
	Head of Global Leveraged Finance Capital Markets (2008–2013)
	Co-Head of Syndicated Loan Group (2006–2013)
	Fixed Income CMBS Wind Down (2009–2010)
	Origination Officer, Syndicated Loan Capital Markets (2004–2006)
	Various functions in loan origination and banking (2000–2004)
Prior to 2000	Donaldson, Lufkin & Jenrette (DLJ), Los Angeles
	Senior Vice President, loan origination (1997–2000)

Education

1998	MBA in Finance, Cornell University
1987	BS in Electrical Engineering, Cornell University

Other activities and functions

Credit Suisse Americas Foundation, board member
 Cornell University, College Board of Advisors member



Antoinette Poschung
 Born 1956
 Swiss Citizen
 Member since 2019
Global Head of Human Resources



Helman Sitohang
 Born 1965
 Singaporean Citizen
 Member since 2015
CEO Asia Pacific

Professional history

2008–present	Credit Suisse
	Global Head of Human Resources (2019–present) Conduct and ethics ombudsperson (2018–present) Head of Human Resources for Corporate Functions (2018–2019) Head of Talent Development & Organizational Effectiveness (2015–2017) Head of Compensation, Benefits & Payroll (2012–2014)
2007–2008	AXA-Winterthur, member of the Executive Board and Head of Human Resources
2003–2007	"Winterthur" Swiss Insurance Group, Head of Human Resources
2001–2003	Canton Zurich, Head of Human Resources for the Cantonal Administration
1998–2001	Baloise Group, Head of Human Resources Basler Insurance

Education

2016	Certificate of Organizational and Executive Coaching, Columbia University
1989	Master in Education, Psychology and Philosophy, University of Zurich

Other activities and functions

Ms. Poschung currently does not hold directorships in other organizations.

Professional history

1999–present	Credit Suisse
	CEO Asia Pacific (2015–present) Regional CEO APAC (2014–2015) Head of Investment Banking Asia Pacific (2012–2015) Co-Head of the Emerging Markets Council (2012–2015) CEO of South East Asia (2010–2015) Co-Head of the Investment Banking Department – Asia Pacific (2009–2012) Co-Head of the Global Markets Solutions Group – Asia Pacific (2009–2012) Country CEO, Indonesia (1999–2010)
Prior to 1999	Bankers Trust, derivatives group Citibank, corporate bank Schlumberger Overseas, field engineer

Education

1989	BS degree in Engineering, Bandung Institute of Technology
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Other activities and functions

Credit Suisse Foundation, board member
 Room to Read Singapore Ltd., regional board member, chairman of SEA board



James B. Walker
 Born 1965
 British and US Citizen
 Member since 2019
Chief Operating Officer



Lara J. Warner
 Born 1967
 Australian and US Citizen
 Member since 2015
Chief Risk Officer

Professional history

2009–present	Credit Suisse
	Chief Operating Officer (2019–present) Chief Financial Officer of Credit Suisse Holdings (USA), Inc. and Regional Americas Finance lead (2018–2019) Finance Chief Operating Officer (2016–2019) Head of Finance Change (2014–2019) Global Head of Product Control (2011–2019) Head of Americas Investment Banking Operations and Global Head of OTC Operations (2009–2011)
2007–2009	Barclays Capital, New York, CFO, Americas
1994–2007	Merrill Lynch
	CFO, Global Markets & Investment Banking, New York (2005–2007) CFO, Global Equities and Fixed Income, New York (2003–2005) CFO, Global Fixed Income, New York (2002–2003) CFO, Securities Services Division, New York (2000–2002) Various senior management positions (1994–2000)
1986–1994	Morgan Stanley, various finance and derivative finance roles

Education

1986	Postgraduate Diploma Finance, University of Stirling
1985	Bachelor of Science Mathematics, University of Glasgow

Other activities and functions

Mr. Walker currently does not hold directorships in other organizations.

Professional history

2002–present	Credit Suisse
	Chief Risk Officer (2019–present) Member of the board of Credit Suisse Holdings (USA), Inc., Credit Suisse (USA), Inc. and Credit Suisse Securities (USA) LLC (US subsidiaries) (2019–present) Chief Compliance and Regulatory Affairs Officer (2015–2019) Chief Operating Officer, Investment Banking (2013–2015) Chief Financial Officer, Investment Banking (2010–2015) Head of Global Fixed Income Research (2009–2010) Head of US Equity Research (2004–2009) Senior Equity Research Analyst (2002–2004)
1999–2001	Lehman Brothers, equity research analyst
Prior to 1999	AT&T
	Director of Investor Relations (1997–1999) Chief Financial Officer, Competitive Local Exchange Business (1995–1997) Various finance and operating roles (1988–1995)

Education

1988	Bachelor of Science – Finance, Pennsylvania State University
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Other activities and functions

Women's Leadership Board of Harvard University's John F. Kennedy School of Government, member
 Harvard Kennedy School – Dean's Executive Committee, board member
 Pennsylvania State University Board of Visitors, member
 Aspen Institute's Business and Society Program, board member



Philipp Wehle
Born 1974
German Citizen
Member since 2019

**CEO International Wealth
Management**

Former members of the Executive Board

Information about former members of the Executive Board is available on our website at credit-suisse.com/annualreporting.

Professional history

2005–present Credit Suisse

CEO International Wealth Management (2019–present)
Head of International Wealth Management Finance (2015–2019)
Head of Finance Private Banking Coverage (2015)
Head of Financial Management Region & Wealth Management Switzerland (2013–2014)
Head of Financial Management Private Banking Asia Pacific (2011–2012)
Head of Controlling Private Banking Switzerland (2007–2011)
Senior Project Manager, Business Development Private Banking Switzerland (2005–2007)

2001–2005 Consart Management Consultants,
Consultant / Project Manager

Education

2001 Master's Degree in Economics, University of Bonn, Germany

Other activities and functions

Credit Suisse Asset Management & Investor Services (Schweiz) Holding AG,
board member

Additional information

Banking relationships with Board and Executive Board members and related party transactions

The Group is a global financial services provider. Many of the members of the Board and the Executive Board, their close family members or companies associated with them maintain banking relationships with us. The Group or any of its banking subsidiaries may from time to time enter into financing and other banking agreements with companies in which current members of the Board or the Executive Board have a significant influence as defined by the SEC, such as holding executive and/or board level roles in these companies. With the exception of the transactions described below, relationships with members of the Board or the Executive Board and such companies are in the ordinary course of business and are entered into on an arm's length basis. Also, unless otherwise noted, all loans to members of the Board, members of the Executive Board, their close family members or companies associated with them were made in the ordinary course of business, were made on substantially the same terms, including interest rates and collateral, as those prevailing at the time for comparable transactions with other persons and did not involve more than the normal risk of collectability or present other unfavorable features. As of December 31, 2019, 2018 and 2017, there were no loan exposures to such related parties that were not made in the ordinary course of business and at prevailing market conditions.

→ Refer to "Board loans" and "Executive Board loans (audited)" in V – Compensation – Board of Directors compensation and – Executive Board compensation for 2019, respectively, for the outstanding loans to members of the Board and the Executive Board.

Related party transactions

In December 2018, a subsidiary of the Group executed a transaction with an affiliate to sell a minority interest in a trading platform for a gain of approximately USD 80 million.

External Audit

External audit forms an integral part of the Group's corporate governance framework and plays a key role by providing an independent assessment of our operations and internal controls.

→ Refer to "Audit Committee" in Board of Directors – Board committees for further information on the responsibilities of the audit committee.

Principal external auditor

The Group retains a single global audit firm as its principal external auditor to perform both the statutory (financial) audit and the regulatory audit work mandated by FINMA. The AGM elects the statutory auditor annually, while the Board is responsible for the appointment of the regulatory auditor.

Our principal external auditor is KPMG, Badenerstrasse 172, 8004 Zurich, Switzerland. The mandate was first given to KPMG for the business year 1989/1990. The Group is not subject to mandatory external audit firm rotation requirements; however, the lead audit partners are subject to periodic rotation requirements. Audit partner rotation is key to ensuring the highest level of audit quality. In general, audit partners with key roles or signing obligations for the Group or material Group entities are subject to a maximum of five years of service. Audit partners with roles overseeing non-material Group entities or serving a supplemental role are subject to a maximum of seven years of service. Specialist partners, including (but not limited to) IT, valuation, tax and forensic areas are not subject to mandated rotation. The lead Group engagement partners are Philipp Rickert, Global Lead Partner (since 2019) and Nicholas Edmonds, Group Engagement Partner (since 2016). Philipp Rickert concurrently serves as the Lead Regulatory Audit Partner (since 2019).

For the 2020 AGM, the Board has proposed PwC for election as the new statutory auditor, effective for the fiscal year ending December 31, 2020 and subject to shareholder approval and has also appointed PwC as the new regulatory auditor. PwC will therefore replace KPMG as the Group's principal external auditor, effective for the fiscal year ending December 31, 2020.

→ Refer to "Audit Committee" in Board of Directors – Board committees for further information on audit rotation.

Governance

The Audit Committee monitors and pre-approves the fees to be paid to the principal external auditor for its services. It has developed and approved a policy on the engagement of public accounting firms that is designed to help ensure that the independence of the external auditor is maintained at all times.

The policy limits the scope of services that the principal external auditor may provide to us or any of our subsidiaries in connection with its audit and stipulates certain permissible types of non-audit services, including audit-related services and tax services that have been pre-approved by the Audit Committee. The principal external auditor is required to report periodically to the Audit Committee about the scope of the services it has provided and the fees for the services it has performed to date. The principal external auditor also provides a report as to its independence to the Audit Committee at least once a year. In accordance with our pre-approval policy and as in prior years, all non-audit services provided in 2019 were pre-approved.

The fees paid to KPMG as the Group's principal external auditor for the financial years 2019 and 2018 are provided in the following table.

Fees paid to the principal external auditor

for financial year	2019	2018	% change
Fees (CHF million)			
Audit services ¹	56.0	49.8	12
Audit-related services ²	5.5	5.7	(4)
Tax services ³	2.4	3.0	(20)

¹ Audit services include the integrated audit of the Group's consolidated and statutory financial statements, interim reviews and comfort and consent letters. Additionally they include all assurance and attestation services related to the regulatory filings of the Group and its subsidiaries. Audit fees exclude value-added taxes.

² Audit-related services are primarily in respect of: (i) reports related to the Group's compliance with provisions of agreements or calculations required by agreements; (ii) accounting advice; (iii) audits of private equity funds and employee benefit plans; and (iv) regulatory advisory services.

³ Tax services are in respect of tax compliance and consultation services, including: (i) preparation and/or review of tax returns of the Group and its subsidiaries; (ii) assistance with tax audits and appeals; and (iii) confirmations relating to the Qualified Intermediary status of Group entities.

The principal external auditor attends all meetings of the Audit Committee and reports on the findings of its audit and/or interim review work. The Audit Committee reviews the principal external auditor's audit plan on an annual basis and evaluates the performance of the principal external auditor and its senior representatives in fulfilling their responsibilities. Moreover, the Audit Committee recommends to the Board the appointment or replacement of the principal external auditor, subject to shareholder approval as required by Swiss law.

Special auditor

In addition, we have mandated BDO AG, Fabrikstrasse 50, 8031 Zurich, Switzerland, as special auditor for the purposes of issuing the legally required report for capital increases in accordance with Article 652f of the Swiss Code of Obligations, mainly relating to the valuation of companies in consideration of the qualified capital increases involving contributions in kind. BDO AG did not provide any such services in 2019 and 2018.

Other information

Complying with rules and regulations

We fully adhere to the principles set out in the Swiss Code of Best Practice for Corporate Governance, dated August 28, 2014, including its appendix stipulating recommendations on the process for setting compensation for the Board and the Executive Board.

In connection with our primary listing on the SIX Swiss Exchange, we are subject to the Directive on Information relating to Corporate Governance, dated March 20, 2018, and its updated version. Our shares are also listed on the NYSE in the form of ADS and certain of the Group's exchange traded notes are listed on Nasdaq. As a result, we are subject to certain US rules and regulations. We adhere to the NYSE's and Nasdaq's corporate governance listing standards (NYSE and Nasdaq standards), with a few exceptions where the rules are not applicable to foreign private issuers.

The following are the significant differences between our corporate governance standards and the corporate governance standards applicable to US domestic issuers listed on the NYSE and Nasdaq:

- Approval of employee benefit plans: NYSE and Nasdaq standards require shareholder approval of the establishment of, and material revisions to, certain equity compensation plans. We comply with Swiss law, which requires that shareholders approve the creation of conditional capital used to allow for the issuance of shares for employee benefit plans and other equity compensation plans, but does not require shareholders to approve the terms of those plans.
- Risk assessment and risk management: NYSE standards allocate to the Audit Committee responsibility for the discussion of guidelines and policies governing the process by which risk assessment and risk management is undertaken, while at the Group these duties are assumed by the Risk Committee. Whereas our Audit Committee members satisfy the NYSE as well as Nasdaq independence requirements, our Risk Committee may include non-independent members.
- Independence of nominating and corporate governance committee: NYSE and Nasdaq standards require that all members of the nominating and corporate governance committee be independent. The Group's Governance and Nominations Committee is currently composed entirely of independent members, but according to its charter, may include non-independent members.
- Reporting: NYSE standards require that certain board committees report specified information directly to shareholders, while under Swiss law only the Board reports directly to the shareholders and the committees submit their reports to the full Board.
- Appointment of the external auditor: NYSE and Nasdaq standards require that an Audit Committee of a listed company comply with and have the authority necessary to comply with the requirements of Rule 10A-3 of the Securities Exchange Act of 1934. Rule 10A-3 requires the Audit Committee to be directly responsible for the appointment, compensation, retention and oversight of the external auditor unless there is a conflicting requirement under home country law. Under Swiss law, the appointment of the external auditor must be approved by the shareholders at the AGM based on the proposal of the Board, which receives the advice and recommendation of the Audit Committee.
- Audit Committee charter: Nasdaq standards require the Audit Committee to review and assess the adequacy of its charter on an annual basis, while our Audit Committee's charter only requires review and assessment from time to time.
- Executive sessions: NYSE and Nasdaq standards require the board of directors to meet regularly in executive sessions composed solely of independent directors. Our Board meets regularly in executive sessions comprising all directors, including any directors determined to be not independent. If any item discussed at the meeting raises a conflict of interest for any of our directors, however, such director does not participate in the related decision making. In line with Swiss law, the Board does not include any directors who are also members of management.
- Quorums: Nasdaq standards require that the company's by-laws provide for a quorum of at least 33 $\frac{1}{3}$ % of the

outstanding shares of the company's common stock for any meeting of the holders of common stock. The Group's AoA (Chapter IV, Section 1, The General Meeting of Shareholders, Art. 12), call for a quorum in certain instances, but do not require a quorum of 33 $\frac{1}{3}$ % or greater of the holders of the outstanding shares of common stock for any meeting of shareholders.

- Independence: NYSE and Nasdaq independence standards specify thresholds for the maximum permissible amount of (i) direct compensation that can be paid by the company to a director or an immediate family member thereof, outside of such director's directorship fees and other permitted payments; and (ii) payments between the company and another company at which such director or an immediate family member thereof is an executive officer, controlling shareholder, partner or employee. Our independence standards do not specify thresholds for direct compensation or cross-company revenues, but consider these facts in the overall materiality of the business relationship determination for independence purposes.

Fiduciary duties and indemnification

The Swiss Code of Obligations requires directors and members of senior management to safeguard the interests of the corporation and, in connection with this requirement, imposes the duties of care and loyalty on directors and members of senior management. While Swiss law does not have a specific provision on conflicts of interest, the duties of care and loyalty are generally understood to disqualify directors and members of senior management from participating in decisions that could directly affect them. Directors and members of senior management are personally liable to the corporation for any breach of these provisions.

The Group's AoA and the Bank's AoA do not contain provisions regarding the indemnification of directors and officers. According to Swiss statutory law, an employee has a right to be indemnified by the employer against losses and expenses incurred by such person in the execution of such person's duties under an employment agreement, unless the losses and expenses arise from the employee's gross negligence or willful misconduct. It is our policy to indemnify current and former directors and/or employees against certain losses and expenses in respect of service as a director or employee of the Group, one of the Group's affiliates or another entity that we have approved, subject to specific conditions or exclusions. We maintain directors' and officers' insurance for our directors and officers.

Fees and charges for holders of ADS

In November 2016, the Group entered into a deposit agreement with The Bank of New York Mellon as depositary for the ADS (Depositary). In accordance with the deposit agreement, the Depositary may charge holders of our ADS, either directly or indirectly, fees or charges up to the amounts described below.

The Depositary collects its fees and related expenses for the delivery and surrender of ADS directly from investors depositing or surrendering ADS for the purpose of withdrawal or from intermediaries acting for them. The Depositary collects fees and expenses for making distributions to holders by deducting those fees and expenses from the amounts distributed or by selling a portion of distributable property to pay the fees and expenses. The Depositary may generally refuse to provide fees and expenses until its fees for those services are paid.

Fees and charges for holders of ADS

Fees

USD 5 (or less) per 100 ADS (or portion thereof)	For the issuance of ADS, including issuances resulting from a distribution of shares, share dividends, share splits and other property; for ADS issued upon the exercise of rights; and for the surrender of ADS for cancellation and withdrawal of shares.
USD 0.05 (or less) per ADS	For any distribution of cash to ADS registered holders, including upon the sale of rights or other entitlements.
Registration or transfer fees	For the transfer and registration of shares on our share register to or from the name of the Depositary or its agent when the holder deposits or withdraws shares.

Charges

Expenses of the Depositary	For cable and facsimile transmissions (when expressly provided in the deposit agreement); and for converting foreign currency to US dollars.
Taxes and other governmental charges	Paid, as necessary, to the Depositary or the custodian who pays certain charges on any ADS or share underlying an ADS, for example, stock transfer taxes, stamp duty or applicable interest or penalty thereon.
Other charges	Paid, as necessary, to the Depositary or its agents for servicing the deposited shares.

Amounts paid by the Depositary to the Group

In 2019, in accordance with the deposit agreement, the Depositary made payments to the Group in an aggregated amount of USD 400 million, including for the reimbursement of expenses relating to its ADS program. The Depositary has also contractually agreed to provide certain ADS program-related services free of charge.

Under certain circumstances, including removal of the Depositary or termination of the ADS program by the Group, the Group is required to repay certain amounts paid to the Group and to compensate the Depositary for payments made or services provided on behalf of the Group.

APPENDIX 5 – OUR FINANCIAL STATEMENTS EXTRACTED FROM CREDIT SUISSE ANNUAL REPORT 2019

We are a wholly owned subsidiary of Credit Suisse Group AG. We have extracted the section headed “Consolidated financial statements — Credit Suisse (Bank)” from pages 423 to 504 of the Credit Suisse Annual Report 2019 in this appendix 5. References to page numbers in this appendix 5 are to the pages in the Credit Suisse Annual Report 2019 and not to the pages in this document.

For further information on our financial statements (including the notes to such statements), we refer you to the complete Credit Suisse Annual Report 2019 on our website at www.credit-suisse.com.

Please refer to the base listing document dated 12 April 2019 for our audited consolidated financial statements and the auditors’ report for the year ended 31 December 2018.

For the purposes of the extracts of the Credit Suisse Annual Report 2019, unless the context otherwise requires, the terms “Credit Suisse Group”, “Credit Suisse”, the “Group”, “we”, “us” and “our” mean Credit Suisse Group AG and its consolidated subsidiaries. The business of Credit Suisse AG, the direct bank subsidiary of the Group, is substantially similar to the Group, these terms are used to refer to both when the subject is the same or substantially similar. The term the “Bank” is used when referring only to Credit Suisse AG and its consolidated subsidiaries. Abbreviations and selected terms are explained in the List of abbreviations and the Glossary in the back of the Credit Suisse Annual Report 2019.

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Report of the Statutory Auditor

To the General Meeting of Credit Suisse AG, Zurich

Report of the Statutory Auditor on the Consolidated Financial Statements

Opinion

As statutory auditor, we have audited the accompanying consolidated financial statements of Credit Suisse AG and subsidiaries (the "Bank"), which comprise the consolidated balance sheets as of December 31, 2019 and 2018, and the related consolidated statements of operations, comprehensive income, changes in equity and cash flows for each of the years in the three-year period ended December 31, 2019, and the related notes. In our opinion, the consolidated financial statements give a true and fair view of the financial position as of December 31, 2019 and 2018, and the results of operations and the cash flows for each of the years in the three-year period ended December 31, 2019, in accordance with U.S. Generally Accepted Accounting Principles, and comply with Swiss law.

Board of Directors' Responsibility

The Board of Directors is responsible for the preparation of the consolidated financial statements in accordance with U.S. Generally Accepted Accounting Principles and the requirements of Swiss law. This responsibility includes designing, implementing and maintaining an internal control system relevant to the preparation and fair presentation of consolidated financial statements that are free from material misstatement, whether due to fraud or error. The Board of Directors is further responsible for selecting and applying appropriate accounting policies and making accounting estimates that are reasonable in the circumstances.






Auditor's Responsibility

Our responsibility is to express an opinion on these consolidated financial statements based on our audits. We are a public accounting firm and are required to be independent with respect to the Bank. We conducted our audits in accordance with Swiss law and Swiss Auditing Standards and the standards of the Public Company Accounting Oversight Board (United States) ("PCAOB"). Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the consolidated financial statements are free from material misstatement whether due to fraud or error.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the consolidated financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the consolidated financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers the internal control system relevant to the entity's preparation of the consolidated financial statements in order to design audit procedures that are appropriate in the circumstances. An audit also includes evaluating the appropriateness of the accounting policies used and the reasonableness of accounting estimates made, as well as evaluating the overall presentation of the consolidated financial statements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.



Critical Audit Matters

- 
Assessment of the fair value measurement of financial instruments with unobservable or judgmental inputs
- 
Evaluation of the impairment assessment of goodwill for the Asia Pacific – Markets, Global Markets and Investment Banking & Capital Markets reporting units
- 
Evaluation of the recoverability of the net deferred tax assets in the U.S.
- 
Evaluation of provisions for litigation and regulatory actions
- 
Assessment of the allowance for loan losses

The critical audit matters communicated below are matters arising from the current period audit of the consolidated financial statements that were communicated or required to be communicated to the audit committee and that: (1) relate to accounts or disclosures that are material to the consolidated financial statements and (2) involved our especially challenging, subjective, or complex judgments. The communication of critical audit matters does not alter in any way our opinion on the consolidated financial statements taken as a whole, and we are not, by communicating the critical audit matters below, providing separate opinions on the critical audit matters or on the accounts or disclosures to which they relate.

Assessment of the fair value measurement of financial instruments with unobservable or judgmental inputs

Critical Audit Matter

How the matter was addressed

The Bank recorded financial assets reported at fair value of CHF 307.9 billion and financial liabilities reported at fair value of CHF 181.5 billion as of December 31, 2019. The fair value of the majority of the Bank's financial instruments is based on quoted prices in active markets or observable inputs. In addition, the Bank holds financial instruments for which no quoted prices are available or which have little or no observable inputs. For these instruments, the determination of fair value requires subjective assessment and judgment depending on liquidity, pricing assumptions, the current economic and competitive environment and the risks affecting the specific instrument.

We identified the assessment of fair value measurement of financial instruments with unobservable or judgmental inputs as a critical audit matter due to the subjective auditor judgment involved in evaluating the application of valuation techniques and assumptions. Specifically, subjective auditor judgment was required to evaluate the valuation pricing inputs such as market indices and discount rates, modeling assumptions that were used in the determination of fair value, and certain valuation adjustments such as credit and debit valuation adjustments.

The primary procedures we performed to address this critical audit matter, with the assistance of valuation professionals with specialized skills and knowledge, included the following.

- We tested certain internal controls over the Bank's process for determining the fair value measurement of financial instruments with unobservable or judgmental inputs, which included controls over independent price verification, valuation model approval and the calculation, approval and recording of certain valuation adjustments.
- For a sample of financial instruments, we examined and challenged the assumptions and models used or developed an independent valuation assessment. This included comparison of significant valuation pricing inputs, such as market indices and discount rates, against independent and externally available data sources. Where such information was not available, we developed an independent valuation assessment and compared that to the Bank's value.
- We evaluated the methodology and inputs used in determining key judgmental valuation adjustments (including credit and debit valuation adjustments) by examining and challenging these assumptions and models, and performing recalculations for a sample of these adjustments.



For further information on the valuation of financial instruments reported at fair value refer to the following:

- Note 34 Financial instruments



Evaluation of the impairment assessment of goodwill for the Asia Pacific – Markets, Global Markets and Investment Banking & Capital Markets reporting units

Critical Audit Matter

How the matter was addressed

The Bank recorded goodwill totaling CHF 4.0 billion as of December 31, 2019. Goodwill is allocated to reporting units and the carrying value is primarily supported by the projected cash flows of the underlying businesses. In estimating the fair value of its reporting units, the Bank applies a combination of the market approach and the income approach. In determining the estimated fair value, the Bank utilized its latest five-year strategic business plan, and other assumptions such as discount rates and projected growth rates, which require significant assumptions and estimates. During 2019, the Bank determined that goodwill triggering events occurred for the Asia Pacific – Markets, Global Markets and Investment Banking & Capital Markets reporting units. Based on the goodwill impairment assessment performed as of December 31, 2019, the Bank concluded no impairment was necessary.

We identified the evaluation of the impairment assessment of goodwill for the Asia Pacific – Markets, Global Markets and Investment Banking & Capital Markets reporting units as a critical audit matter due to the subjective auditor judgment necessary to evaluate the projected cash flows and other assumptions such as discount rates and projected growth rates, used in determining the fair value of these reporting units.

For further information on goodwill refer to the following:

- Note 19 Goodwill

The primary procedures we performed to address this critical audit matter included the following.

- We tested certain internal controls over the Bank's process for the impairment assessment of goodwill, which included controls over the assumptions used in determining the fair value of each of these reporting units, the development and approval of the five-year strategic business plan, and the Bank's annual comparison of the five-year strategic business plan to past performance.

- We evaluated key assumptions in the fair value calculation for these reporting units, such as projected cash flows, discount rates, and projected growth rates, and compared these key assumptions to externally available industry, economic and financial data and the Bank's own historical data and performance.

- We involved valuation professionals with specialized skills and knowledge, who assisted in examining and challenging the assumptions and methodologies used to calculate fair value of the reporting units.



Evaluation of the recoverability of the net deferred tax assets in the U.S.

Critical Audit Matter

How the matter was addressed

The Bank recorded net deferred tax assets totaling CHF 4.2 billion as of December 31, 2019. The most significant net deferred tax assets arise in the U.S. In evaluating the recoverability of the net deferred tax assets in the U.S., the Bank assesses projected future taxable income, the reversal of deferred tax liabilities which can be scheduled, and tax planning strategies.

The primary procedures we performed to address this critical audit matter included the following.

- We tested certain controls over the Bank's process for determining the recoverability of the net deferred tax assets in the U.S. which included controls over the recognition and measurement of deferred tax assets, the approval of projected future taxable income in the U.S., the development and approval of the legal entity plan,



We identified the recoverability of the net deferred tax assets in the U.S. as a critical audit matter due to the significant auditor judgment required in evaluating the projected future taxable income and tax planning strategies.

and the Bank's annual comparison of legal entity plan to past performance.

- We examined the Bank's analysis of the recoverability of the net deferred tax assets in the U.S. and evaluated the projected future taxable income against the Bank's own historical data and performance. We involved tax professionals with specialized skills and knowledge to assist in evaluating taxation related matters including the Bank's tax planning strategies and interpretation of tax law.

- We examined the consistency between the financial plan used for goodwill impairment assessment purposes and the legal entity plan used in the evaluation of the recoverability of the net deferred tax assets.

For further information on the valuation of deferred tax assets refer to the following:

— Note 27 Tax



Evaluation of provisions for litigation and regulatory actions

Critical Audit Matter

How the matter was addressed

The Bank is involved in a number of judicial, regulatory and arbitration proceedings concerning matters arising in connection with the conduct of its businesses.

The primary procedures we performed to address this critical audit matter included the following.

We identified the evaluation of provisions for litigation and regulatory actions as a critical audit matter due to the subjective auditor judgment required to evaluate the provisions. Specifically, auditor judgment was required to evaluate the conclusions formed by the Bank about the likelihood and amount of liabilities arising from litigation and regulatory claims that were dependent on the future outcome of continuing legal and regulatory processes.

- We tested certain internal controls over the Bank's provisions for litigation and regulatory actions process, which included controls over the identification and development of the provisions estimate as well as the review and approval of the provisions.

- We evaluated the Bank's assessment of the nature and status of litigation and regulatory actions. We considered the legal advice received by the Bank from in-house counsel, as well as Bank's external counsel, for certain individual cases.

- We examined the Bank's conclusions with respect to the evaluation of provisions for certain individual cases, considering the results of information obtained from the Bank. For these cases, we obtained correspondence directly from the Bank's outside attorneys and, in some cases, performed inquiry of outside counsel to evaluate the judgments made by the Bank in determining their litigation provisions and the range of reasonably possible losses.

For further information on provisions for litigation and regulatory actions refer to the following:

— Note 38 Litigation



Assessment of the allowance for loan losses

Critical Audit Matter

How the matter was addressed

The Bank recorded gross loans held at amortized cost of CHF 292.4 billion and has recorded an allowance for loan losses of CHF 0.9 billion as of December 31, 2019. The Bank calculates the allowance for loan losses estimate using a historical loss methodology based on the probability of default (PD), loss given default (LGD) and exposure at default (EAD) models.

We identified the assessment of the allowance for loan losses as a critical audit matter because it involved complex auditor judgment in the evaluation of the Bank's methodologies and assumptions. Specifically, complex auditor judgment was required to evaluate the recoverable amount and the collateral value for loans that are individually evaluated for impairment. Complex auditor judgment was also required to examine the methodology that underpins the allowance for loan losses which have been collectively evaluated for impairment, such as the modeling of PD, LGD, and EAD and related key data inputs to those models such as emergence period, recovery rates and qualitative considerations.

The primary procedures we performed to address this critical audit matter included the following.

- We tested certain internal controls over the Bank's allowance for loan losses process. This included controls over loan file reviews, credit monitoring, model approval, validation and approval of key data inputs such as emergence period, recovery rates, and qualitative considerations (such as economic and business conditions) for potential impairment that were not captured by the Bank's models.

- For a sample of loan loss allowances evaluated on an individual basis we tested the assumptions underlying the impairment quantification including estimates of future cash flows, valuation of underlying collateral and estimates of recovery on default. We involved real estate professionals with specialized skills and knowledge to assist in evaluating the underlying collateral for a sample of loans.

- For a sample of loan loss allowances evaluated on a collective basis we involved credit risk professionals with specialized skills and knowledge to assist in challenging the Bank's allowance methodology and testing of certain PD, LGD and EAD models. We also tested inputs to those models, such as emergence period, recovery rates, and collateral values, by comparing those inputs to external information sources, when available.

For further information on the valuation of allowance for loan losses refer to the following:

- Note 18 Loans, allowance for loan losses and credit quality

Report on Other Legal and Regulatory Requirements

We are a public accounting firm registered with the Swiss Federal Audit Oversight Authority (FAOA) and the PCAOB and we confirm that we meet the legal requirements on licensing according to the Auditor Oversight Act (AOA). We are independent of the Bank in accordance with Swiss law (article 728 CO and article 11 AOA) and U.S. federal securities laws as well as the applicable rules and regulations of the Swiss audit profession, the U.S. Securities and Exchange Commission and the PCAOB, and we have fulfilled our other ethical responsibilities in accordance with these requirements.

In accordance with article 728a paragraph 1 item 3 CO and 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.

We also have audited, in accordance with the standards of the PCAOB, the Bank's internal control over financial reporting as of December 31, 2019, based on criteria established in *Internal Control – Integrated*



Framework 2013 issued by the Committee of Sponsoring Organizations of the Treadway Commission ("COSO"), and our report dated March 25, 2020 expressed an unqualified opinion on the effectiveness of the Bank's internal control over financial reporting.

We have served as the Bank's auditor since 1989.

KPMG AG

Nicholas Edmonds
Licensed Audit Expert
Auditor in Charge

Zurich, Switzerland
March 25, 2020

Shaun Kendrigan
Licensed Audit Expert
Global Audit Partner

KPMG AG, Raffelstrasse 28, PO Box, CH-8036 Zurich

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Consolidated financial statements

Consolidated statements of operations

in	Note	2019	2018	2017
Consolidated statements of operations (CHF million)				
Interest and dividend income	5	20,180	19,623	17,061
Interest expense	5	(13,131)	(12,498)	(10,369)
Net interest income	5	7,049	7,125	6,692
Commissions and fees	6	11,071	11,742	11,672
Trading revenues	7	1,773	456	1,300
Other revenues	8	2,793	1,497	1,301
Net revenues		22,686	20,820	20,965
Provision for credit losses	9	324	245	210
Compensation and benefits	10	9,105	8,864	9,964
General and administrative expenses	11	7,588	7,068	7,413
Commission expenses		1,276	1,259	1,429
Restructuring expenses	12	–	528	396
Total other operating expenses		8,864	8,855	9,238
Total operating expenses		17,969	17,719	19,202
Income before taxes		4,393	2,856	1,553
Income tax expense	27	1,298	1,134	2,781
Net income/(loss)		3,095	1,722	(1,228)
Net income/(loss) attributable to noncontrolling interests		14	(7)	27
Net income/(loss) attributable to shareholders		3,081	1,729	(1,255)

Consolidated statements of comprehensive income

in	2019	2018	2017
Comprehensive income/(loss) (CHF million)			
Net income/(loss)	3,095	1,722	(1,228)
Gains/(losses) on cash flow hedges	86	(7)	(35)
Foreign currency translation	(995)	(321)	(1,015)
Unrealized gains/(losses) on securities	21	(18)	(13)
Actuarial gains/(losses)	(24)	31	21
Net prior service credit/(cost)	1	(10)	0
Gains/(losses) on liabilities related to credit risk	(1,738)	1,442	(1,684)
Other comprehensive income/(loss), net of tax	(2,649)	1,117	(2,726)
Comprehensive income/(loss)	446	2,839	(3,954)
Comprehensive income/(loss) attributable to noncontrolling interests	7	(3)	(9)
Comprehensive income/(loss) attributable to shareholders	439	2,842	(3,945)

The accompanying notes to the consolidated financial statements are an integral part of these statements.

Consolidated balance sheets

end of	Note	2019	2018
Assets (CHF million)			
Cash and due from banks		101,044	99,314
of which reported at fair value		356	115
of which reported from consolidated VIEs		138	173
Interest-bearing deposits with banks		673	1,074
Central bank funds sold, securities purchased under resale agreements and securities borrowing transactions	14	106,997	117,095
of which reported at fair value		85,556	81,818
Securities received as collateral, at fair value		40,219	41,696
of which encumbered		22,521	25,711
Trading assets, at fair value	15	153,895	133,859
of which encumbered		46,650	32,452
of which reported from consolidated VIEs		2,788	3,048
Investment securities	16	1,004	1,477
of which reported at fair value		1,004	1,477
Other investments	17	5,634	4,824
of which reported at fair value		3,548	2,430
of which reported from consolidated VIEs		1,412	1,505
Net loans	18	304,025	292,875
of which reported at fair value		12,661	14,873
of which encumbered		293	230
of which reported from consolidated VIEs		649	387
allowance for loan losses		(945)	(901)
Goodwill	19	3,960	4,056
Other intangible assets	20	291	219
of which reported at fair value		244	163
Brokerage receivables		35,648	38,907
Other assets	21	37,069	36,673
of which reported at fair value		10,402	7,263
of which encumbered		217	279
of which reported from consolidated VIEs		1,674	2,027
Total assets		790,459	772,069

The accompanying notes to the consolidated financial statements are an integral part of these statements.

Consolidated balance sheets (continued)

end of	Note	2019	2018
Liabilities and equity (CHF million)			
Due to banks	23	16,742	15,220
of which reported at fair value		322	406
Customer deposits	23	384,950	365,263
of which reported at fair value		3,339	3,292
Central bank funds purchased, securities sold under repurchase agreements and securities lending transactions	14	27,641	24,623
of which reported at fair value		10,823	14,828
Obligation to return securities received as collateral, at fair value		40,219	41,696
Trading liabilities, at fair value	15	38,186	42,171
of which reported from consolidated VIEs		8	3
Short-term borrowings		28,869	22,419
of which reported at fair value		11,333	8,068
of which reported from consolidated VIEs		4,885	5,465
Long-term debt	24	151,000	153,433
of which reported at fair value		69,406	63,027
of which reported from consolidated VIEs		1,671	1,764
Brokerage payables		25,683	30,923
Other liabilities	21	30,406	30,327
of which reported at fair value		7,869	8,983
of which reported from consolidated VIEs		296	277
Total liabilities		743,696	726,075
Common shares		4,400	4,400
Additional paid-in capital		45,774	45,557
Retained earnings		13,492	10,179
Accumulated other comprehensive income/(loss)	25	(17,546)	(14,840)
Total shareholders' equity		46,120	45,296
Noncontrolling interests		643	698
Total equity		46,763	45,994
Total liabilities and equity		790,459	772,069

end of	2019	2018
Additional share information		
Par value (CHF)	1.00	1.00
Issued shares	4,399,680,200	4,399,680,200
Shares outstanding	4,399,680,200	4,399,680,200

The Bank's total share capital is fully paid and consists of 4,399,680,200 registered shares as of December 31, 2019. Each share is entitled to one vote. The Bank has no warrants on its own shares outstanding.

The accompanying notes to the consolidated financial statements are an integral part of these statements.

Consolidated statements of changes in equity

	Attributable to shareholders							Total equity
	Common shares	Additional paid-in capital	Retained earnings	Treasury shares, at cost ¹	AOCI	Total shareholders' equity	Non-controlling interests	
2019 (CHF million)								
Balance at beginning of period	4,400	45,557	10,179	0	(14,840)	45,296	698	45,994
Purchase of subsidiary shares from non-controlling interests, not changing ownership ^{2, 3}	–	–	–	–	–	–	(103)	(103)
Sale of subsidiary shares to noncontrolling interests, not changing ownership ³	–	–	–	–	–	–	68	68
Net income/(loss)	–	–	3,081	–	–	3,081	14	3,095
Cumulative effect of accounting changes, net of tax	–	–	242	–	(64)	178	–	178
Total other comprehensive income/(loss), net of tax	–	–	–	–	(2,642)	(2,642)	(7)	(2,649)
Share-based compensation, net of tax	–	254	–	–	–	254	–	254
Dividends on share-based compensation, net of tax	–	(35)	–	–	–	(35)	–	(35)
Dividends paid	–	–	(10)	–	–	(10)	(1)	(11)
Changes in scope of consolidation, net	–	–	–	–	–	–	(4)	(4)
Other	–	(2)	–	–	–	(2)	(22)	(24)
Balance at end of period	4,400	45,774	13,492	0	(17,546)	46,120	643	46,763
2018 (CHF million)								
Balance at beginning of period	4,400	45,718	8,484	0	(15,932)	42,670	880	43,550
Purchase of subsidiary shares from non-controlling interests, changing ownership	–	(1)	–	–	–	(1)	(4)	(5)
Purchase of subsidiary shares from non-controlling interests, not changing ownership	–	–	–	–	–	–	(70)	(70)
Sale of subsidiary shares to noncontrolling interests, changing ownership	–	2	–	–	–	2	(2)	–
Sale of subsidiary shares to noncontrolling interests, not changing ownership	–	–	–	–	–	–	30	30
Net income/(loss)	–	–	1,729	–	–	1,729	(7)	1,722
Cumulative effect of accounting changes, net of tax	–	–	(24)	–	(21)	(45)	–	(45)
Total other comprehensive income/(loss), net of tax	–	–	–	–	1,113	1,113	4	1,117
Share-based compensation, net of tax	–	(140)	–	–	–	(140)	–	(140)
Dividends on share-based compensation, net of tax	–	(22)	–	–	–	(22)	–	(22)
Dividends paid	–	–	(10)	–	–	(10)	(5)	(15)
Changes in scope of consolidation, net	–	–	–	–	–	–	(128)	(128)
Balance at end of period	4,400	45,557	10,179	0	(14,840)	45,296	698	45,994

¹ Reflects Credit Suisse Group shares which are reported as treasury shares. Those shares are held to economically hedge share award obligations.

² Distributions to owners in funds include the return of original capital invested and any related dividends.

³ Transactions with and without ownership changes related to fund activity are all displayed under "not changing ownership".

The accompanying notes to the consolidated financial statements are an integral part of these statements.

Consolidated statements of changes in equity (continued)

	Attributable to shareholders							Total equity
	Common shares/ participa- tion secu- rities	Additional paid-in capital	Retained earnings	Treasury shares, at cost	AOCI	Total share- holders' equity	Non- controlling interests	
2017 (CHF million)								
Balance at beginning of period	4,400	41,817	9,814	0	(13,242)	42,789	1,069	43,858
Purchase of subsidiary shares from non-controlling interests, not changing ownership	-	-	-	-	-	-	(189)	(189)
Sale of subsidiary shares to noncontrolling interests, not changing ownership	-	-	-	-	-	-	65	65
Net income/(loss)	-	-	(1,255)	-	-	(1,255)	27	(1,228)
Cumulative effect of accounting changes, net of tax	-	-	(25)	-	-	(25)	-	(25)
Total other comprehensive income/(loss), net of tax	-	-	-	-	(2,690)	(2,690)	(36)	(2,726)
Share-based compensation, net of tax	-	6	-	-	-	6	-	6
Dividends on share-based compensation, net of tax	-	(79)	-	-	-	(79)	-	(79)
Dividends paid	-	-	(10)	-	-	(10)	(3)	(13)
Changes in scope of consolidation, net	-	-	-	-	-	-	(41)	(41)
Other	-	3,974	(40)	-	-	3,934	(12)	3,922
Balance at end of period	4,400	45,718	8,484	0	(15,932)	42,670	880	43,550

The accompanying notes to the consolidated financial statements are an integral part of these statements.

Consolidated statements of cash flows

in	2019	2018	2017
Operating activities (CHF million)			
Net income/(loss)	3,095	1,722	(1,228)
Adjustments to reconcile net income/(loss) to net cash provided by/(used in) operating activities (CHF million)			
Impairment, depreciation and amortization	1,134	844	837
Provision for credit losses	324	245	210
Deferred tax provision/(benefit)	616	592	2,285
Valuation adjustments relating to long-term debt	10,193	(4,737)	2,897
Share of net income/(loss) from equity method investments	(78)	(107)	(150)
Trading assets and liabilities, net	(27,700)	25,511	3,461
(Increase)/decrease in other assets	2,956	3,519	(15,435)
Increase/(decrease) in other liabilities	(6,461)	(14,228)	(1,443)
Other, net	(2,497)	(827)	96
Total adjustments	(21,513)	10,812	(7,242)
Net cash provided by/(used in) operating activities	(18,418)	12,534	(8,470)
Investing activities (CHF million)			
(Increase)/decrease in interest-bearing deposits with banks	411	(364)	40
(Increase)/decrease in central bank funds sold, securities purchased under resale agreements and securities borrowing transactions	8,386	(1,372)	14,286
Purchase of investment securities	(557)	(683)	(86)
Proceeds from sale of investment securities	6	255	14
Maturities of investment securities	1,007	567	318
Investments in subsidiaries and other investments	(284)	(546)	(1,094)
Proceeds from sale of other investments	1,133	1,770	1,967
(Increase)/decrease in loans	(17,309)	(13,701)	(14,779)
Proceeds from sales of loans	4,612	5,981	9,938
Capital expenditures for premises and equipment and other intangible assets	(1,133)	(989)	(950)
Proceeds from sale of premises and equipment and other intangible assets	30	80	60
Other, net	537	342	65
Net cash provided by/(used in) investing activities	(3,161)	(8,660)	9,779

The accompanying notes to the consolidated financial statements are an integral part of these statements.

Consolidated statements of cash flows (continued)

in	2019	2018	2017
Financing activities (CHF million)			
Increase/(decrease) in due to banks and customer deposits	24,684	2,006	3,187
Increase/(decrease) in short-term borrowings	6,911	(2,985)	5,507
Increase/(decrease) in central bank funds purchased, securities sold under repurchase agreements and securities lending transactions	3,491	(2,052)	(5,251)
Issuances of long-term debt	34,911	33,308	43,567
Repayments of long-term debt	(46,290)	(43,858)	(62,644)
Dividends paid	(11)	(15)	(13)
Other, net	208	(494)	3,619
Net cash provided by/(used in) financing activities	23,904	(14,090)	(12,028)
Effect of exchange rate changes on cash and due from banks (CHF million)			
Effect of exchange rate changes on cash and due from banks	(595)	20	(837)
Net increase/(decrease) in cash and due from banks (CHF million)			
Net increase/(decrease) in cash and due from banks	1,730	(10,196)	(11,556)
Cash and due from banks at beginning of period ¹	99,314	109,510	121,066
Cash and due from banks at end of period ¹	101,044	99,314	109,510

¹ Includes restricted cash.

Supplemental cash flow information

in	2019	2018	2017
Cash paid for income taxes and interest (CHF million)			
Cash paid for income taxes	706	666	531
Cash paid for interest	13,015	12,524	9,688
Assets and liabilities sold in business divestitures (CHF million)			
Assets sold	38	0	1,777
Liabilities sold	8	0	1,658

The accompanying notes to the consolidated financial statements are an integral part of these statements.

Notes to the consolidated financial statements

1 Summary of significant accounting policies

The accompanying consolidated financial statements of Credit Suisse AG (the Bank), the direct bank subsidiary of Credit Suisse Group AG (the Group), are prepared in accordance with accounting principles generally accepted in the US (US GAAP) and are stated in Swiss francs (CHF). The financial year for the Bank ends on December 31. Certain reclassifications have been made to the prior year's consolidated financial statements to conform to the current presentation which had no impact on net income/(loss) or total shareholders' equity.

In preparing the consolidated financial statements, management is required to make estimates and assumptions including, but not limited to, the fair value measurements of certain financial assets and liabilities, the allowance for loan losses, the evaluation of variable interest entities (VIEs), the impairment of assets other than loans, recognition of deferred tax assets, tax uncertainties, pension liabilities and various contingencies. These estimates and assumptions affect the reported amounts of assets and liabilities and the disclosure of contingent assets and liabilities as of the dates of the consolidated balance sheets and the reported amounts of revenues and expenses during the reporting period. While management evaluates its estimates and assumptions on an ongoing basis, actual results could differ materially from management's estimates. Market conditions may increase the risk and complexity of the judgments applied in these estimates.

→ Refer to "Note 1 – Summary of significant accounting policies" in VI – Consolidated financial statements – Credit Suisse Group for a summary of significant accounting policies, with the exception of the following accounting policies.

Pension and other post-retirement benefits

Credit Suisse sponsors a Group defined benefit pension plan in Switzerland that covers eligible employees of the Bank domiciled in Switzerland. The Bank also has single-employer defined benefit pension plans and defined contribution pension plans in Switzerland and other countries around the world.

For the Bank's participation in the Group defined benefit pension plan, no retirement benefit obligation is recognized in the consolidated balance sheets of the Bank and defined contribution accounting is applied, as the Bank is not the sponsoring entity of the Group plan.

For single-employer defined benefit plans, the Bank uses the projected unit credit actuarial method to determine the present value of its projected benefit obligations (PBO) and the current and past service costs or credits related to its defined benefit and other post-retirement benefit plans. The measurement date used to perform the actuarial valuation is December 31 and is performed by independent qualified actuaries.

→ Refer to "Pension and other post-retirement benefits" in VI – Consolidated financial statements – Credit Suisse Group – Note 1 – Summary of significant accounting policies for further information.

Own shares, own bonds and financial instruments on Group shares

The Bank's shares are wholly owned by Credit Suisse Group AG and are not subject to trading. The Bank may buy and sell Credit Suisse Group AG shares (Group shares) and Group bonds, own bonds and financial instruments on Group shares within its normal trading and market-making activities. In addition, the Bank may hold Group shares to economically hedge commitments arising from employee share-based compensation awards. Group shares are reported as trading assets, unless those shares are held to economically hedge share award obligations. Hedging shares are reported as treasury shares, resulting in a reduction to total shareholder's equity. Financial instruments on Group shares are recorded as assets or liabilities and carried at fair value. Dividends received on Group shares and unrealized and realized gains and losses on Group shares are recorded according to the classification of the shares as trading assets or treasury shares. Purchases of bonds originally issued by the Bank are recorded as an extinguishment of debt.

2 Recently issued accounting standards

→ Refer to "Note 2 – Recently issued accounting standards" in VI – Consolidated financial statements – Credit Suisse Group for recently adopted accounting standards and standards to be adopted in future periods.

The impact on the Bank's and Group's financial position, results of operations or cash flows was or is expected to be identical.

3 Business developments, significant shareholders and subsequent events

→ Refer to "Note 3 – Business developments, significant shareholders and subsequent events" in VI – Consolidated financial statements – Credit Suisse Group for further information.

4 Segment information

For the purposes of the presentation of reportable segments, the Bank has included accounts of affiliate entities wholly owned by the same parent which are managed together with the operating segments of the Bank.

→ Refer to "Note 4 – Segment information" in VI – Consolidated financial statements – Credit Suisse Group for further information.

Net revenues and income/(loss) before taxes

in	2019	2018	2017
Net revenues (CHF million)			
Swiss Universal Bank	6,020	5,564	5,396
International Wealth Management	5,887	5,414	5,111
Asia Pacific	3,590	3,393	3,504
Global Markets	5,752	4,980	5,551
Investment Banking & Capital Markets	1,666	2,177	2,139
Strategic Resolution Unit ¹	–	(708)	(886)
Adjustments ²	(229)	0	150
Net revenues	22,686	20,820	20,965

Income/(loss) before taxes (CHF million)

Swiss Universal Bank	2,697	2,125	1,765
International Wealth Management	2,138	1,705	1,351
Asia Pacific	902	664	729
Global Markets	956	154	450
Investment Banking & Capital Markets	(162)	344	369
Strategic Resolution Unit ¹	–	(1,381)	(2,135)
Adjustments ²	(2,138)	(755)	(976)
Income before taxes	4,393	2,856	1,553

¹ Beginning in 2019, the Strategic Resolution Unit ceased to exist as a separate division of the Group. The residual portfolio remaining as of December 31, 2018 is now managed in an Asset Resolution Unit.

² Adjustments represent certain consolidating entries and balances, including those relating to items that are managed but are not legally owned by the Bank and vice versa, and certain revenues and expenses that were not allocated to the segments, including such items relating to the Asset Resolution Unit.

Total assets

end of	2019	2018
Total assets (CHF million)		
Swiss Universal Bank	232,729	224,301
International Wealth Management	93,059	91,835
Asia Pacific	107,660	99,809
Global Markets	214,019	211,530
Investment Banking & Capital Markets	17,819	16,156
Strategic Resolution Unit ¹	–	20,874
Adjustments ²	125,173	107,564
Total assets	790,459	772,069

¹ Beginning in 2019, the Strategic Resolution Unit ceased to exist as a separate division of the Group. The residual portfolio remaining as of December 31, 2018 is now managed in an Asset Resolution Unit.

² Adjustments represent certain consolidating entries and balances, including those relating to items that are managed but are not legally owned by the Bank and vice versa, and certain revenues and expenses that were not allocated to the segments, including such items relating to the Asset Resolution Unit.

Net revenues and income/(loss) before taxes by geographical location

in	2019	2018	2017
Net revenues (CHF million)			
Switzerland	9,239	8,047	8,015
EMEA	1,244	1,164	1,042
Americas	9,253	8,750	8,952
Asia Pacific	2,950	2,859	2,956
Net revenues	22,686	20,820	20,965

Income/(loss) before taxes (CHF million)

Switzerland	3,259	1,927	1,648
EMEA	(2,574)	(2,520)	(2,825)
Americas	3,348	3,344	2,660
Asia Pacific	360	105	70
Income before taxes	4,393	2,856	1,553

The designation of net revenues and income/(loss) before taxes is based on the location of the office recording the transactions. This presentation does not reflect the way the Bank is managed.

Total assets by geographical location

end of	2019	2018
Total assets (CHF million)		
Switzerland	245,819	237,200
EMEA	145,219	149,715
Americas	305,330	309,616
Asia Pacific	94,091	75,538
Total assets	790,459	772,069

The designation of total assets by region is based upon customer domicile.

5 Net interest income

in	2019	2018	2017
Net interest income (CHF million)			
Loans	7,173	6,778	5,981
Investment securities	9	80	47
Trading assets	7,341	7,131	6,698
Central bank funds sold, securities purchased under resale agreements and securities borrowing transactions	2,926	2,856	2,515
Other	2,731	2,778	1,820
Interest and dividend income	20,180	19,623	17,061
Deposits	(3,055)	(2,291)	(1,360)
Short-term borrowings	(422)	(370)	(168)
Trading liabilities	(3,513)	(3,453)	(3,546)
Central bank funds purchased, securities sold under repurchase agreements and securities lending transactions	(1,669)	(1,877)	(1,284)
Long-term debt	(3,361)	(3,696)	(3,580)
Other	(1,111)	(811)	(431)
Interest expense	(13,131)	(12,498)	(10,369)
Net interest income	7,049	7,125	6,692

6 Commissions and fees

in	2019	2018	2017
Commissions and fees (CHF million)			
Lending business	1,663	1,902	1,809
Investment and portfolio management	3,295	3,415	3,320
Other securities business	89	83	82
Fiduciary business	3,384	3,498	3,402
Underwriting	1,602	1,735	1,817
Brokerage	2,900	2,797	3,006
Underwriting and brokerage	4,502	4,532	4,823
Other services	1,522	1,810	1,638
Commissions and fees	11,071	11,742	11,672

7 Trading revenues

in	2019	2018	2017
Trading revenues (CHF million)			
Interest rate products	67	759	3,218
Foreign exchange products	656	372	1,991
Equity/index-related products	1,146	(481)	(2,895)
Credit products	(513)	(97)	(1,096)
Commodity and energy products	144	102	86
Other products	273	(199)	(4)
Trading revenues	1,773	456	1,300

Represents revenues on a product basis which are not representative of business results within segments, as segment results utilize financial instruments across various product types.

→ Refer to "Note 7 – Trading revenues" in VI – Consolidated financial statements – Credit Suisse Group for further information.

8 Other revenues

in	2019	2018	2017
Other revenues (CHF million)			
Loans held-for-sale	(14)	(4)	3
Long-lived assets held-for-sale	252	39	(18)
Equity method investments	230	221	229
Other investments	1,142 ¹	335	81
Other	1,183	906	1,006
Other revenues	2,793	1,497	1,301

¹ Includes SIX Group AG equity investment revaluation gain. Refer to "Note 17 – Other investments" for further information.

9 Provision for credit losses

in	2019	2018	2017
Provision for credit losses (CHF million)			
Provision for loan losses	284	201	190
Provision for lending-related and other exposures	40	44	20
Provision for credit losses	324	245	210

10 Compensation and benefits

in	2019	2018	2017
Compensation and benefits (CHF million)			
Salaries and variable compensation	7,733	7,449	8,421
Social security	554	567	620
Other	818 ¹	848	923
Compensation and benefits	9,105	8,864	9,964

¹ Includes pension-related expenses of CHF 502 million and CHF 533 million in 2019 and 2018, respectively, relating to service costs for defined benefit pension plans and employer contributions for defined contribution pension plans.

11 General and administrative expenses

in	2019	2018	2017
General and administrative expenses (CHF million)			
Occupancy expenses	990	855	935
IT, machinery and equipment	1,066	926	1,005
Provisions and losses	639	433	697
Travel and entertainment	303	310	299
Professional services	3,132	2,991	3,019
Amortization and impairment of other intangible assets	10	9	9
Other ¹	1,448	1,544	1,449
General and administrative expenses	7,588	7,068	7,413

¹ Includes pension-related expenses/(credits) of CHF 10 million and CHF 32 million in 2019 and 2018, respectively, relating to certain components of net periodic benefit costs for defined benefit plans.

12 Restructuring expenses

The Bank completed the three-year restructuring plan at the end of 2018 in connection with the implementation of the revised strategy.

→ Refer to "Note 12 – Restructuring expenses" in VI – Consolidated financial statements – Credit Suisse Group for further information.

Restructuring expenses by segment

in	2018	2017
Restructuring expenses by segment (CHF million)		
Swiss Universal Bank	101	59
International Wealth Management	115	70
Asia Pacific	61	63
Global Markets	242	150
Investment Banking & Capital Markets	84	42
Strategic Resolution Unit	21	57
Corporate Center	2	14
Adjustments ¹	(98)	(59)
Total restructuring expenses	528	396

¹ Adjustments represent certain consolidating entries and balances, including those relating to items that are managed but are not legally owned by the Bank and vice versa.

Restructuring expenses by type

in	2018	2017
Restructuring expenses by type (CHF million)		
Compensation and benefits-related expenses	233	286
of which severance expenses	157	188
of which accelerated deferred compensation	76	98
General and administrative-related expenses	295	110
Total restructuring expenses	528	396

Restructuring provision

in	2019			2018			2017		
	Compen- sation and benefits	General and administrative expenses	Total	Compen- sation and benefits	General and administrative expenses	Total	Compen- sation and benefits	General and administrative expenses	Total
Restructuring provision (CHF million)									
Balance at beginning of period	152	190	342	191	110	301	217	94	311
Net additional charges ¹	–	–	–	157	216	373	188	86	274
Reclassifications	(152) ²	(190) ³	(342)	–	–	–	–	–	–
Utilization	–	–	–	(196)	(136)	(332)	(214)	(70)	(284)
Balance at end of period	0	0	0	152	190	342	191	110	301

¹ The following items for which expense accretion was accelerated in 2018 and 2017 due to the restructuring of the Bank are not included in the restructuring provision: unsettled share-based compensation of CHF 55 million and CHF 67 million, respectively; unsettled cash-based deferred compensation of CHF 21 million and CHF 31 million, respectively, which remain classified as compensation liabilities; and accelerated accumulated depreciation and impairment of CHF 79 million and CHF 24 million, respectively, which remain classified as premises and equipment. The settlement date for the unsettled share-based compensation remains unchanged at three years.

² In 2019, CHF 97 million was transferred to litigation provisions and CHF 55 million was transferred to other liabilities.

³ In 2019, CHF 167 million was transferred to right-of-use assets in accordance with ASU 2016-02 and CHF 23 million to other liabilities.

13 Revenue from contracts with customers

→ Refer to "Note 14 – Revenue from contracts with customers" in VI – Consolidated financial statements – Credit Suisse Group for further information.

The Bank's contract terms are generally such that they do not result in any contract assets.

Contracts with customers and disaggregation of revenues

in	2019	2018
Contracts with customers (CHF million)		
Investment and portfolio management	3,295	3,415
Other securities business	89	83
Underwriting	1,602	1,735
Brokerage	2,898	2,812
Other services	1,611	1,949
Total revenues from contracts with customers	9,495	9,994

The table above differs from "Note 6 – Commissions and fees" as it includes only those contracts with customers that are in scope of ASC Topic 606 – Revenue from Contracts with Customers.

There were no material net impairment losses on contract receivables in 2019 or 2018. The Bank did not recognize any revenues in the reporting period from performance obligations satisfied in previous periods.

Capitalized costs

The Bank has not incurred costs to obtain a contract nor costs to fulfill a contract that are eligible for capitalization.

Remaining performance obligations

ASC Topic 606's practical expedient allows the Bank to exclude from its remaining performance obligations disclosure any performance obligations which are part of a contract with an original expected duration of one year or less. Additionally, any variable consideration, for which it is probable that a significant reversal in the amount of cumulative revenue recognized will occur when the uncertainty associated with the variable consideration is subsequently resolved, is not subject to the remaining performance obligations disclosure because such variable consideration is not included in the transaction price (e.g., investment management fees). Upon review, the Bank determined that no material remaining performance obligations are in scope of the remaining performance obligations disclosure.

Contract balances

end of	2019	2018
Contract balances (CHF million)		
Contract receivables	886	789
Contract liabilities	53	56

Contract balances

in	4Q19	3Q19	2Q19	1Q19
Revenue recognized (CHF million)				
Revenue recognized in the reporting period included in the contract liabilities balance at the beginning of period	14	19	10	7

14 Securities borrowed, lent and subject to repurchase agreements

end of	2019	2018
Securities borrowed or purchased under agreements to resell (CHF million)		
Central bank funds sold and securities purchased under resale agreements	78,835	77,770
Deposits paid for securities borrowed	28,162	39,325
Central bank funds sold, securities purchased under resale agreements and securities borrowing transactions	106,997	117,095
Securities lent or sold under agreements to repurchase (CHF million)		
Central bank funds purchased and securities sold under repurchase agreements	21,849	20,305
Deposits received for securities lent	5,792	4,318
Central bank funds purchased, securities sold under repurchase agreements and securities lending transactions	27,641	24,623

→ Refer to "Note 15 – Securities borrowed, lent and subject to repurchase agreements" in VI – Consolidated financial statements – Credit Suisse Group for further information.

15 Trading assets and liabilities

end of	2019	2018	end of	2019	2018
Trading assets (CHF million)			Cash collateral on derivative instruments – netted (CHF million) ¹		
Debt securities	67,030	63,648 ¹	Cash collateral paid	20,739	20,333
Equity securities	64,604	46,517	Cash collateral received	14,633	13,213
Derivative instruments ²	17,730	18,402	Cash collateral on derivative instruments – not netted (CHF million) ²		
Other	4,531	5,292	Cash collateral paid	4,570	7,057
Trading assets	153,895	133,859 ¹	Cash collateral received	7,457	6,903
Trading liabilities (CHF million)			¹ Recorded as cash collateral netting on derivative instruments in Note 26 – Offsetting of financial assets and financial liabilities. ² Recorded as cash collateral on derivative instruments in Note 21 – Other assets and other liabilities.		
Short positions	24,714	26,948			
Derivative instruments ²	13,472	15,223			
Trading liabilities	38,186	42,171			

¹ Residential and commercial mortgage-backed securities that were previously reported in investment securities have been reclassified to trading assets as these securities are carried at fair value under the fair value option.

² Amounts shown after counterparty and cash collateral netting.

16 Investment securities

end of	2019	2018 ¹
Investment securities (CHF million)		
Securities available-for-sale	1,004	1,477
Total investment securities	1,004	1,477

¹ Previously included residential and commercial mortgage-backed securities which have been reclassified to trading assets as these securities are carried at fair value under the fair value option.

Investment securities by type

end of	2019				2018 ¹			
	Amortized cost	Gross unrealized gains	Gross unrealized losses	Fair value	Amortized cost	Gross unrealized gains	Gross unrealized losses	Fair value
Investment securities by type (CHF million)								
Debt securities issued by foreign governments	163	8	0	171	821	7	0	828
Corporate debt securities	807	28	2	833	649	0	0	649
Debt securities available-for-sale	970	36	2	1,004	1,470	7	0	1,477

¹ Previously included residential and commercial mortgage-backed securities which have been reclassified to trading assets as these securities are carried at fair value under the fair value option.

Gross unrealized losses on investment securities and the related fair value

end of	Less than 12 months		12 months or more		Total	
	Fair value	Gross unrealized losses	Fair value	Gross unrealized losses	Fair value	Gross unrealized losses
2019 (CHF million)						
Corporate debt securities	204	2	0	0	204	2
Debt securities available-for-sale	204	2	0	0	204	2

Proceeds from sales, realized gains and realized losses from available-for-sale securities

in	2019		2018		2017	
	Debt securities	Equity securities ¹	Debt securities	Equity securities ¹	Debt securities	Equity securities
Additional information (CHF million)						
Proceeds from sales	6	–	255	–	7	7
Realized gains	0	–	8	–	0	0

¹ As a result of the adoption of ASU 2016-01 equity securities available-for-sale are now recognized in trading assets and no longer in investment securities.

Amortized cost, fair value and average yield of debt securities

end of	Amortized cost	Fair value	Debt securities available-for-sale	
			Average yield (in %)	
2019 (CHF million, except where indicated)				
Due within 1 year	168	168	0.36	
Due from 5 to 10 years	802	836	0.61	
Total debt securities	970	1,004	0.57	

17 Other investments

end of	2019	2018
Other investments (CHF million)		
Equity method investments	2,361	2,429
Equity securities (without a readily determinable fair value) ¹	2,145	1,202
of which at net asset value	407	526
of which at measurement alternative	272	227
of which at fair value	1,434	208
of which at cost less impairment	32	241
Real estate held-for-investment ²	76	56
Life finance instruments ³	1,052	1,137
Total other investments	5,634	4,824

¹ Includes private equity, hedge funds and restricted stock investments as well as certain investments in non-marketable mutual funds for which the Bank has neither significant influence nor control over the investee.

² As of the end of 2019 and 2018, real estate held for investment included foreclosed or repossessed real estate of CHF 24 million and CHF 3 million, respectively, of which CHF 10 million and CHF 3 million, respectively were related to residential real estate.

³ Includes single premium immediate annuity contracts.

No impairments were recorded on real estate held-for-investments in 2019 and 2018, while in 2017, impairments of CHF 22 million were recorded. 2017 has been corrected.

Equity securities at measurement alternative – impairments and adjustments

in / end of	2019	Cumulative	2018
Impairments and adjustments (CHF million)			
Impairments and downward adjustments	(1)	(8)	(7) ¹
Upward adjustments	11	11	0

¹ Prior period has been corrected.

→ Refer to "Note 34 – Financial instruments" for further information on such investments and "Note 18 – Other investments" in VI – Consolidated financial statements – Credit Suisse Group for further information.

In September 2019, we completed the first closing of the transfer announced in June 2019, which combined our open architecture investment fund platform, InvestLab, with Allfunds Group. The transaction included the transfer of the InvestLab legal entity and its related employees and service agreements. Credit Suisse became a minority shareholder in the combined business.

In December 2019, Credit Suisse completed a review of the accounting treatment of the shares that it holds in SIX Group AG and elected fair value accounting under US GAAP in respect of this equity investment.

Accumulated depreciation related to real estate held-for-investment amounted to CHF 29 million, CHF 27 million and CHF 136 million for 2019, 2018 and 2017, respectively.

18 Loans, allowance for loan losses and credit quality

end of	2019	2018
Loans (CHF million)		
Mortgages	109,579	107,845
Loans collateralized by securities	44,364	42,034
Consumer finance	4,401	3,905
Consumer	158,344	153,784
Real estate	29,220	26,727
Commercial and industrial loans	86,247	86,165
Financial institutions	27,013	23,320
Governments and public institutions	4,262	3,893
Corporate & institutional	146,742	140,105
Gross loans	305,086	293,889
of which held at amortized cost	292,425	279,016
of which held at fair value	12,661	14,873
Net (unearned income)/deferred expenses	(116)	(113)
Allowance for loan losses	(945)	(901)
Net loans	304,025	292,875
Gross loans by location		
Switzerland	169,671	165,184
Foreign	135,415	128,705
Gross loans	305,086	293,889
Impaired loans		
Non-performing loans	1,250	1,203
Non-interest-earning loans	248	288
Total non-performing and non-interest-earning loans	1,498	1,491
Restructured loans	350	299
Potential problem loans	266	390
Total other impaired loans	616	689
Gross impaired loans	2,114	2,180

Allowance for loan losses

	2019			2018			2017		
	Consumer	Corporate & institutional	Total	Consumer	Corporate & institutional	Total	Consumer	Corporate & institutional	Total
Allowance for loan losses (CHF million)									
Balance at beginning of period	187	714	901	220	661	881	216	721	937
Net movements recognized in statements of operations	63	221	284	19	182	201	54	136	190
Gross write-offs	(86)	(213)	(299)	(85)	(184)	(269)	(60)	(242)	(302)
Recoveries	9	16	25	21	37	58	12	41	53
Net write-offs	(77)	(197)	(274)	(64)	(147)	(211)	(48)	(201)	(249)
Provisions for interest	14	28	42	11	19	30	(1)	14	13
Foreign currency translation impact and other adjustments, net	(1)	(7)	(8)	1	(1)	0	(1)	(9)	(10)
Balance at end of period	186	759	945	187	714	901	220	661	881
of which individually evaluated for impairment	145	463	608	146	461	607	179	474	653
of which collectively evaluated for impairment	41	296	337	41	253	294	41	187	228
Gross loans held at amortized cost (CHF million)									
Balance at end of period	158,314	134,111	292,425	153,761	125,255	279,016	152,277	116,640	268,917
of which individually evaluated for impairment ¹	683	1,431	2,114	677	1,503	2,180	632	1,465	2,097
of which collectively evaluated for impairment	157,631	132,680	290,311	153,084	123,752	276,836	151,645	115,175	266,820

¹ Represents gross impaired loans both with and without a specific allowance.

Purchases, reclassifications and sales

in	2019			2018			2017		
	Consumer	Corporate & institutional	Total	Consumer	Corporate & institutional	Total	Consumer	Corporate & institutional	Total
Loans held at amortized cost (CHF million)									
Purchases ¹	18	2,478	2,496	0	2,163	2,163	0	3,381	3,381
Reclassifications from loans held-for-sale ²	0	11	11	0	1	1	0	63	63
Reclassifications to loans held-for-sale ³	0	3,138	3,138	1	2,351	2,352	0	7,407	7,407
Sales ³	0	3,001	3,001	1	2,267	2,268	0	7,051	7,051

¹ Includes drawdowns under purchased loan commitments.

² Includes loans previously reclassified to held-for-sale that were not sold and were reclassified back to loans held-to-maturity.

³ All loans held at amortized cost which are sold are reclassified to loans held-for-sale on or prior to the date of the sale.

Gross loans held at amortized cost by internal counterparty rating

end of	Investment grade		Non-investment grade		Total
	AAA to BBB	BB to C	D		
2019 (CHF million)					
Mortgages		99,613	9,604	362	109,579
Loans collateralized by securities		40,060	4,182	122	44,364
Consumer finance		1,527	2,677	167	4,371
Consumer		141,200	16,463	651	158,314
Real estate		20,524	7,674	125	28,323
Commercial and industrial loans		41,473	39,896	1,105	82,474
Financial institutions		19,912	2,122	47	22,081
Governments and public institutions		1,166	67	0	1,233
Corporate & institutional		83,075	49,759	1,277	134,111
Gross loans held at amortized cost		224,275	66,222	1,928	292,425
Value of collateral ¹		200,556	54,543	1,366	256,465
2018 (CHF million)					
Mortgages		97,404	10,046	395	107,845
Loans collateralized by securities		39,281	2,676	77	42,034
Consumer finance		1,465	2,247	170	3,882
Consumer		138,150	14,969	642	153,761
Real estate		19,461	6,494	110	26,065
Commercial and industrial loans		41,352	37,633	1,256	80,241
Financial institutions		15,540	2,138	86	17,764
Governments and public institutions		1,132	53	0	1,185
Corporate & institutional		77,485	46,318	1,452	125,255
Gross loans held at amortized cost		215,635	61,287	2,094	279,016
Value of collateral ¹		192,617	47,999	1,444	242,060

¹ Includes the value of collateral up to the amount of the outstanding related loans. For mortgages, the value of collateral is determined at the time of granting the loan and thereafter regularly reviewed according to the Bank's risk management policies and directives, with maximum review periods determined by property type, market liquidity and market transparency.

Gross loans held at amortized cost – aging analysis

end of	Current				Past due		Total
	Up to 30 days	31-60 days	61-90 days	More than 90 days	Total		
2019 (CHF million)							
Mortgages	109,190	83	16	9	281	389	109,579
Loans collateralized by securities	44,232	79	0	2	51	132	44,364
Consumer finance	3,826	283	61	43	158	545	4,371
Consumer	157,248	445	77	54	490	1,066	158,314
Real estate	28,094	95	10	2	122	229	28,323
Commercial and industrial loans	81,219	528	62	71	594	1,255	82,474
Financial institutions	21,945	85	1	3	47	136	22,081
Governments and public institutions	1,207	26	0	0	0	26	1,233
Corporate & institutional	132,465	734	73	76	763	1,646	134,111
Gross loans held at amortized cost	289,713	1,179	150	130	1,253	2,712	292,425
2018 (CHF million)							
Mortgages	107,364	155	23	10	293	481	107,845
Loans collateralized by securities	41,936	21	0	0	77	98	42,034
Consumer finance	3,383	286	35	32	146	499	3,882
Consumer	152,683	462	58	42	516	1,078	153,761
Real estate	25,914	63	4	0	84	151	26,065
Commercial and industrial loans	78,919	378	96	82	766	1,322	80,241
Financial institutions	17,593	66	19	3	83	171	17,764
Governments and public institutions	1,172	13	0	0	0	13	1,185
Corporate & institutional	123,598	520	119	85	933	1,657	125,255
Gross loans held at amortized cost	276,281	982	177	127	1,449	2,735	279,016

Gross impaired loans by category

end of	Non-performing and non-interest earning loans			Other impaired loans			Total
	Non-performing	Non-interest-earning	Total	Re-structured	Potential problem	Total	
2019 (CHF million)							
Mortgages	329	8	337	25	30	55	392 ¹
Loans collateralized by securities	110	12	122	0	0	0	122
Consumer finance	164	4	168	0	1	1	169
Consumer	603	24	627	25	31	56	683
Real estate	151	4	155	0	2	2	157
Commercial and industrial loans	491	179	670	325	231	556	1,226
Financial institutions	5	41	46	0	2	2	48
Corporate & institutional	647	224	871	325	235	560	1,431
Gross impaired loans	1,250	248	1,498	350	266	616	2,114
2018 (CHF million)							
Mortgages	304	12	316	34	72	106	422 ¹
Loans collateralized by securities	62	13	75	0	3	3	78
Consumer finance	170	6	176	0	1	1	177
Consumer	536	31	567	34	76	110	677
Real estate	80	4	84	0	38	38	122
Commercial and industrial loans	547	211	758	265	272	537	1,295
Financial institutions	40	42	82	0	4	4	86
Corporate & institutional	667	257	924	265	314	579	1,503
Gross impaired loans	1,203	288	1,491	299	390	689	2,180

¹ As of the end of December 31, 2019 and 2018, CHF 208 million and CHF 123 million, respectively, were related to consumer mortgages secured by residential real estate for which formal foreclosure proceedings according to local requirements of the applicable jurisdiction were in process.

As of December 31, 2019 and 2018, the Bank did not have any material commitments to lend additional funds to debtors whose loan terms had been modified in troubled debt restructurings.

Gross impaired loan details

end of	2019			2018		
	Recorded investment	Unpaid principal balance	Associated specific allowance	Recorded investment	Unpaid principal balance	Associated specific allowance
CHF million						
Mortgages	317	299	30	278	262	21
Loans collateralized by securities	122	108	22	77	63	35
Consumer finance	168	144	93	174	154	90
Consumer	607	551	145	529	479	146
Real estate	120	111	11	82	73	10
Commercial and industrial loans	927	889	415	761	730	400
Financial institutions	48	47	37	86	84	51
Corporate & institutional	1,095	1,047	463	929	887	461
Gross impaired loans with a specific allowance	1,702	1,598	608	1,458	1,366	607
Mortgages	75	75	–	144	144	–
Loans collateralized by securities	0	0	–	1	1	–
Consumer finance	1	1	–	3	3	–
Consumer	76	76	–	148	148	–
Real estate	37	37	–	40	40	–
Commercial and industrial loans	299	299	–	534	534	–
Financial institutions	0	0	–	0	0	–
Corporate & institutional	336	336	–	574	574	–
Gross impaired loans without specific allowance	412	412	–	722	722	–
Gross impaired loans	2,114	2,010	608	2,180	2,088	607
of which consumer	683	627	145	677	627	146
of which corporate & institutional	1,431	1,383	463	1,503	1,461	461

Gross impaired loan details (continued)

in	2019			2018			2017		
	Average recorded investment	Interest income recognized	Interest income recognized (cash basis)	Average recorded investment	Interest income recognized	Interest income recognized (cash basis)	Average recorded investment	Interest income recognized	Interest income recognized (cash basis)
CHF million									
Mortgages	289	3	2	261	2	1	229	2	1
Loans collateralized by securities	76	2	0	92	1	1	116	1	1
Consumer finance	172	2	1	176	2	2	167	5	5
Consumer	537	7	3	529	5	4	512	8	7
Real estate	81	1	1	90	0	0	78	1	0
Commercial and industrial loans	806	22	7	905	14	5	1,151	17	5
Financial institutions	83	1	0	58	1	0	76	1	1
Governments and public institutions	0	0	0	0	0	0	5	0	0
Corporate & institutional	970	24	8	1,053	15	5	1,310	19	6
Gross impaired loans with a specific allowance	1,507	31	11	1,582	20	9	1,822	27	13
Mortgages	114	4	0	91	3	0	83	3	0
Loans collateralized by securities	0	0	0	1	0	0	7	0	0
Consumer finance	2	0	0	3	0	0	3	0	0
Consumer	116	4	0	95	3	0	93	3	0
Real estate	30	0	0	14	1	0	27	1	0
Commercial and industrial loans	395	9	1	292	16	1	271	11	1
Financial institutions	5	0	0	0	0	0	0	0	0
Corporate & institutional	430	9	1	306	17	1	298	12	1
Gross impaired loans without specific allowance	546	13	1	401	20	1	391	15	1
Gross impaired loans	2,053	44	12	1,983	40	10	2,213	42	14
of which consumer	653	11	3	624	8	4	605	11	7
of which corporate & institutional	1,400	33	9	1,359	32	6	1,608	31	7

Restructured loans held at amortized cost

in	2019			2018			2017		
	Number of contracts	Recorded investment – pre-modification	Recorded investment – post-modification	Number of contracts	Recorded investment – pre-modification	Recorded investment – post-modification	Number of contracts	Recorded investment – pre-modification	Recorded investment – post-modification
CHF million, except where indicated									
Mortgages	1	7	7	5	29	29	0	0	0
Commercial and industrial loans	25	172	161	13	182	160	15	123	119
Total	26	179	168	18	211	189	15	123	119

Restructured loans held at amortized cost that defaulted within 12 months from restructuring

in	2019		2018		2017	
	Number of contracts	Recorded investment	Number of contracts	Recorded investment	Number of contracts	Recorded investment
CHF million, except where indicated						
Mortgages	1	13	1	8	0	0
Commercial and industrial loans	1	2	8	76	1	48
Total	2	15	9	84	1	48

In 2019, the loan modifications of the Bank included a waiver of claims, interest rate concessions, extended loan repayment terms including the suspension of amortizations and repayments, the subordination of loans and refinancings at new terms.

→ Refer to "Note 19 – Loans, allowance for loan losses and credit quality" in VI – Consolidated financial statements – Credit Suisse Group for further information.

19 Goodwill

	Swiss Universal Bank	International Wealth Management	Asia Pacific	Global Markets	Investment Banking & Capital Markets	Bank ¹
2019						
Gross amount of goodwill (CHF million)						
Balance at beginning of period	597	1,531	2,053	2,838	916	7,947
Foreign currency translation impact	(5)	(22)	(18)	(2)	(8)	(55)
Other	(3)	(28)	(10)	0	0	(41)
Balance at end of period	589	1,481	2,025	2,836	908	7,851
Accumulated impairment (CHF million)						
Balance at beginning of period	0	0	772	2,719	388	3,891
Balance at end of period	0	0	772	2,719	388	3,891
Net book value (CHF million)						
Net book value	589	1,481	1,253	117	520	3,960
2018						
Gross amount of goodwill (CHF million)						
Balance at beginning of period	592	1,531	2,044	2,837	911	7,927
Foreign currency translation impact	2	8	9	1	5	25
Other	3	(8)	0	0	0	(5)
Balance at end of period	597	1,531	2,053	2,838	916	7,947
Accumulated impairment (CHF million)						
Balance at beginning of period	0	0	772	2,719	388	3,891
Balance at end of period	0	0	772	2,719	388	3,891
Net book value (CHF million)						
Net book value	597	1,531	1,281	119	528	4,056

¹ Gross amount of goodwill and accumulated impairment include CHF 12 million related to legacy business transferred to the former Strategic Resolution Unit in 4Q15 and fully written off at the time of transfer, in addition to the divisions disclosed.

→ Refer to "Note 20 – Goodwill" in VI – Consolidated financial statements – Credit Suisse Group for further information.

20 Other intangible assets

end of	2019			2018		
	Gross carrying amount	Accumulated amortization	Net carrying amount	Gross carrying amount	Accumulated amortization	Net carrying amount
Other intangible assets (CHF million)						
Trade names/trademarks	27	(26)	1	27	(26)	1
Client relationships	20	(2)	18	43	(20)	23
Other	(3)	4	1	(2)	2	0
Total amortizing other intangible assets	44	(24)	20	68	(44)	24
Non-amortizing other intangible assets	271	–	271	195	–	195
of which mortgage servicing rights, at fair value	244	–	244	163	–	163
Total other intangible assets	315	(24)	291	263	(44)	219

Additional information

in	2019	2018	2017
Aggregate amortization and impairment (CHF million)			
Aggregate amortization	5	8	7
Impairment	5	1	2

Estimated amortization

Estimated amortization (CHF million)	
2020	3
2021	2
2022	2
2023	2
2024	2

21 Other assets and other liabilities

end of	2019	2018	end of	2019	2018
Other assets (CHF million)			Other liabilities (CHF million)		
Cash collateral on derivative instruments	4,570	7,057	Cash collateral on derivative instruments	7,457	6,903
Cash collateral on non-derivative transactions	428	465	Cash collateral on non-derivative transactions	516	514
Derivative instruments used for hedging	183	33	Derivative instruments used for hedging	48	8
Assets held-for-sale	8,971	6,744	Operating leases liabilities	2,388	–
of which loans ¹	8,886	6,630	Provisions	1,171	920
of which real estate ²	38	54	of which off-balance sheet risk	172	151
of which long-lived assets	47	60	Restructuring liabilities	–	342
Premises, equipment and right-of-use assets ³	6,652	4,530	Liabilities held for separate accounts	111	125
Assets held for separate accounts	111	125	Interest and fees payable	5,690	5,521
Interest and fees receivable	5,301	5,506	Current tax liabilities	658	907
Deferred tax assets	4,337	4,887	Deferred tax liabilities	167	268
Prepaid expenses	343	560	Failed sales	936	2,187
of which cloud computing arrangement implementation costs	21	–	Defined benefit pension and post-retirement plan liabilities	455	518
Failed purchases	1,643	1,283	Other	10,809	12,114
Defined benefit pension and post-retirement plan assets	1,067	1,001	Other liabilities	30,406	30,327
Other	3,463	4,482			
Other assets	37,069	36,673			

¹ Included as of the end of 2019 and 2018 were CHF 800 million and CHF 687 million, respectively, in restricted loans, which represented collateral on secured borrowings.

² As of the end of 2019 and 2018, real estate held-for-sale included foreclosed or repossessed real estate of CHF 9 million and CHF 13 million, respectively, of which CHF 9 million and CHF 10 million, respectively, were related to residential real estate.

³ Premises and equipment were previously presented separately in the consolidated balance sheet.

Premises, equipment and right-of-use assets

end of	2019	2018
Premises and equipment (CHF million)		
Buildings and improvements	1,413	1,595
Land	294	347
Leasehold improvements	1,712	1,752
Software	6,190	5,715
Equipment	1,162	1,136
Premises and equipment	10,771	10,545
Accumulated depreciation	(6,359)	(6,015)
Total premises and equipment, net	4,412	4,530
Right-of-use assets (CHF million)		
Operating leases	2,240	–
Right-of-use assets	2,240	–
Total premises, equipment and right-of-use assets	6,652	4,530

Depreciation, amortization and impairment

end of	2019	2018	2017
CHF million			
Depreciation on premises and equipment	844	745	770
Impairment on premises and equipment	3	8	33
Amortization and impairment on right-of-use assets	279	–	–

→ Refer to "Note 22 – Leases" for further information on right-of-use assets.

22 Leases

→ Refer to "Note 23 – Leases" in VI – Condensed consolidated financial statements – Credit Suisse Group for further information.

Lessee arrangements

Lease costs

end of	2019
Lease costs (CHF million)	
Operating lease costs	324
Variable lease costs	37
Sublease income	(95)
Total lease costs	266

During 2019, the Bank entered into 4 sale-leaseback transactions with lease terms ranging from 5 to 10 years. During 2018, the Bank entered into one sale-leaseback transaction with a lease term of ten years. During 2017, the Bank did not enter into any sale-leaseback transactions.

Other information

end of	2019
Other information (CHF million)	
Gains/(losses) on sale and leaseback transactions	274
Cash paid for amounts included in the measurement of operating lease liabilities recorded in operating cash flows	(400)
Right-of-use assets obtained in exchange of new operating lease liabilities ¹	100
Changes to right-of-use assets due to lease modifications for operating leases	214
¹ Includes right-of-use assets relating to changes in classification of scope of variable interest entities.	

Weighted average remaining lease term and discount rate

end of	2019
Operating leases	
Remaining lease term (years)	10.7
Discount rate (%)	3.0

Maturities relating to operating lease arrangements	
end of	2019
Maturity (CHF million)	
Due within 1 year	403
Due between 1 and 2 years	322
Due between 2 and 3 years	306
Due between 3 and 4 years	274
Due between 4 and 5 years	227
Thereafter	1,314
Operating lease obligations	2,846
Future interest payable	(458)
Operating lease liabilities	2,388

Maturities relating to operating lease arrangement	
end of	2018
Maturity (CHF million)	
2019	435
2020	416
2021	314
2022	286
2023	256
Thereafter	1,479
Future operating lease commitments	3,186
Less minimum non-cancellable sublease rentals	(436)
Total net future minimum lease commitments	2,750

Lessor arrangements

As of December 31, 2019, the Bank had approximately CHF 0.8 billion of residual value guarantees associated with lessor arrangements.

Net investments		
end of 2019	Sales-type leases	Direct financing leases
Net investments (CHF million)		
Lease receivables	526	2,573
Unguaranteed residual assets	28	440
Valuation allowances	(3)	(15)
Total net investments	551	2,998

Maturities relating to lessor arrangements			
end of 2019	Sales-type leases	Direct financing leases	Operating leases
Maturity (CHF million)			
Due within 1 year	221	917	66
Due between 1 and 2 years	129	689	59
Due between 2 and 3 years	90	550	55
Due between 3 and 4 years	53	391	52
Due between 4 and 5 years	25	136	51
Thereafter	37	110	241
Total	555	2,793	524
Future interest receivable	(29)	(220)	–
Lease receivables	526	2,573	–

As of December 31, 2019, the Bank had a CHF 200 million related party operating lease.

Lease income		2019
end of		
Lease income (CHF million)		
Interest income on sales-type leases		13
Interest income on direct financing leases		97
Lease income from operating leases		119
Variable lease income		3
Total lease income		232

23 Deposits

end of	2019			2018		
	Switzerland	Foreign	Total	Switzerland	Foreign	Total
Deposits (CHF million)						
Non-interest-bearing demand deposits	2,665	1,745	4,410	2,713	1,981	4,694
Interest-bearing demand deposits	119,193	30,747	149,940	126,416	28,010	154,426
Savings deposits	64,304	46	64,350	63,924	48	63,972
Time deposits	27,847	155,145	182,992 ¹	32,347	125,044	157,391 ¹
Total deposits	214,009	187,683	401,692²	225,400	155,083	380,483²
of which due to banks	–	–	16,742	–	–	15,220
of which customer deposits	–	–	384,950	–	–	365,263

The designation of deposits in Switzerland versus foreign deposits is based upon the location of the office where the deposit is recorded.

¹ Included CHF 182,377 million and CHF 157,252 million as of December 31, 2019 and 2018, respectively, of the Swiss franc equivalent of individual time deposits greater than USD 100,000 in Switzerland and foreign offices.

² Not included as of December 31, 2019 and 2018 were CHF 116 million and CHF 137 million, respectively, of overdrawn deposits reclassified as loans.

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24 Long-term debt

end of	2019	2018
Long-term debt (CHF million)		
Senior	88,307	136,445
Subordinated	61,022	15,224
Non-recourse liabilities from consolidated VIEs	1,671	1,764
Long-term debt	151,000	153,433
of which reported at fair value	69,406	63,027
of which structured notes	49,435	48,064

end of	2019	2018
Structured notes by product (CHF million)		
Equity	31,666	30,698
Fixed income	13,558	13,128
Credit	3,734	3,898
Other	477	340
Total structured notes	49,435	48,064

Group-internal funding related to loss-absorbing instruments has been aligned to international standards for internal TLAC instruments and to the new article 126b of the Swiss Capital Adequacy Ordinance, effective January 1, 2020. Due to this alignment, the bail-in debt instruments issued by Credit Suisse AG to Credit Suisse Group AG and to Credit Suisse Group Funding (Guernsey) Limited, a non-consolidated funding entity, have been permanently subordinated in 2019. As of December 31, 2019, the carrying value of these newly subordinated notes issued was CHF 42.3 billion.

Long-term debt by maturities

end of	2020	2021	2022	2023	2024	Thereafter	Total
Long-term debt (CHF million)							
Senior debt							
Fixed rate	5,439	8,114	2,998	1,889	3,795	12,927	35,162
Variable rate	12,825	9,588	6,392	2,938	4,346	17,056	53,145
Interest rates (range in %) ¹	0.1–22.5	0.1–9.6	0.1–9.6	0.1–2.2	0.1–3.6	0.0–7.1	–
Subordinated debt							
Fixed rate	5,557	1,461	7,797	11,328	4,790	26,360	57,293
Variable rate	54	968	737	98	1,872	0	3,729
Interest rates (range in %) ¹	0.6–7.0	3.2–4.7	0.1–7.5	0.6–8.0	0.4–6.3	0.7–8.0	–
Non-recourse liabilities from consolidated VIEs							
Fixed rate	0	148	233	0	0	0	381
Variable rate	24	18	22	23 ²	2 ²	1,201	1,290
Interest rates (range in %) ¹	7.0	2.2–10.3	2.4–2.9	–	–	0.0–10.7	–
Total long-term debt	23,899	20,297	18,179	16,276	14,805	57,544	151,000
of which structured notes	12,178	8,687	5,222	2,844	4,033	16,471	49,435

The maturity of perpetual debt is based on the earliest callable date. The maturity of all other debt is based on contractual maturity and includes certain structured notes that have mandatory early redemption features based on stipulated movements in markets or the occurrence of a market event. Within this population there are approximately CHF 3.6 billion of such notes with a contractual maturity of greater than one year that have an observable likelihood of redemption occurring within one year based on a modelling assessment.

¹ Excludes structured notes for which fair value has been elected as the related coupons are dependent upon the embedded derivatives and prevailing market conditions at the time each coupon is paid.

² Reflects equity linked notes, where the payout is not fixed.

→ Refer to "Note 25 – Long-term debt" in VI – Consolidated financial statements – Credit Suisse Group for further information.

25 Accumulated other comprehensive income

	Gains/ (losses) on cash flow hedges	Cumulative translation adjustments	Unrealized gains/ (losses) on securities	Actuarial gains/ (losses)	Net prior service credit/ (cost)	Gains/ (losses) on liabilities relating to credit risk	AOCI
2019 (CHF million)							
Balance at beginning of period	(58)	(13,573)	9	(350)	(8)	(860)	(14,840)
Increase/(decrease)	65	(990)	21	(42)	0	(1,931)	(2,877)
Reclassification adjustments, included in net income/(loss)	21	3	0	17	1	193	235
Cumulative effect of accounting changes, net of tax ¹	0	0	0	(42)	0	(22)	(64)
Total increase/(decrease)	86	(987)	21	(67)	1	(1,760)	(2,706)
Balance at end of period	28	(14,560)	30	(417)	(7)	(2,620)	(17,546)
2018 (CHF million)							
Balance at beginning of period	(51)	(13,248)	48	(381)	2	(2,302)	(15,932)
Increase/(decrease)	(115)	(344)	(11)	(18)	(10)	1,394	896
Reclassification adjustments, included in net income/(loss)	108	19	(7)	49	0	48	217
Cumulative effect of accounting changes, net of tax	0	0	(21)	0	0	0	(21)
Total increase/(decrease)	(7)	(325)	(39)	31	(10)	1,442	1,092
Balance at end of period	(58)	(13,573)	9	(350)	(8)	(860)	(14,840)
2017 (CHF million)							
Balance at beginning of period	(16)	(12,269)	61	(402)	2	(618)	(13,242)
Increase/(decrease)	(61)	(1,009)	(13)	(40)	0	(1,716)	(2,839)
Reclassification adjustments, included in net income/(loss)	26	30	0	61	0	32	149
Total increase/(decrease)	(35)	(979)	(13)	21	0	(1,684)	(2,690)
Balance at end of period	(51)	(13,248)	48	(381)	2	(2,302)	(15,932)

¹ Reflects the reclassification from AOCI to retained earnings as a result of the adoption of ASU 2018-02. Refer to "Note 2 – Recently issued accounting standards" for further information.

→ Refer to "Note 27 – Tax" and "Note 30 – Pension and other post-retirement benefits" for income tax expense/(benefit) on the movements of accumulated other comprehensive income/(loss).

Details of significant reclassification adjustments

in	2019	2018	2017
Reclassification adjustments, included in net income/(loss) (CHF million)			
Cumulative translation adjustments			
Reclassification adjustments ¹	3	19	30
Actuarial gains/(losses)			
Amortization of recognized actuarial losses ²	22	55	68
Tax expense/(benefit)	(5)	(6)	(7)
Net of tax	17	49	61

¹ Includes net releases of CHF 21 million on the liquidation of Credit Suisse Securities (Johannesburg) Proprietary Limited in 2018 and net releases of CHF 23 million on the sale of Credit Suisse (Monaco) S.A.M. in 2017. These were reclassified from cumulative translation adjustments and included in net income in other revenues.

² These components are included in the computation of total benefit costs. Refer to "Note 30 – Pension and other post-retirement benefits" for further information.

26 Offsetting of financial assets and financial liabilities

→ Refer to "Note 27 – Offsetting of financial assets and financial liabilities" in VI – Consolidated financial statements – Credit Suisse Group for further information.

Offsetting of derivatives

end of	2019		2018	
	Derivative assets	Derivative liabilities	Derivative assets	Derivative liabilities
Gross derivatives subject to enforceable master netting agreements (CHF billion)				
OTC-cleared	3.9	3.0	5.5	4.8
OTC	63.6	61.9	63.4	60.7
Exchange-traded	0.3	0.2	0.2	0.3
Interest rate products	67.8	65.1	69.1	65.8
OTC-cleared	0.1	0.2	0.1	0.2
OTC	21.0	25.4	26.9	31.2
Foreign exchange products	21.1	25.6	27.0	31.4
OTC	10.1	10.4	10.2	10.3
Exchange-traded	5.3	5.0	11.8	14.2
Equity/index-related products	15.4	15.4	22.0	24.5
OTC-cleared	2.8	3.0	1.5	1.6
OTC	3.1	4.0	3.8	4.9
Credit derivatives	5.9	7.0	5.3	6.5
OTC	1.2	0.5	1.3	0.5
Other products¹	1.2	0.5	1.3	0.5
OTC-cleared	6.8	6.2	7.1	6.6
OTC	99.0	102.2	105.6	107.6
Exchange-traded	5.6	5.2	12.0	14.5
Total gross derivatives subject to enforceable master netting agreements	111.4	113.6	124.7	128.7
Offsetting (CHF billion)				
OTC-cleared	(6.0)	(5.3)	(6.0)	(5.8)
OTC	(87.0)	(93.6)	(92.5)	(99.1)
Exchange-traded	(4.9)	(4.9)	(11.6)	(12.5)
Offsetting	(97.9)	(103.8)	(110.1)	(117.4)
of which counterparty netting	(83.2)	(83.2)	(96.9)	(96.9)
of which cash collateral netting	(14.7)	(20.6)	(13.2)	(20.5)
Net derivatives presented in the consolidated balance sheets (CHF billion)				
OTC-cleared	0.8	0.9	1.1	0.8
OTC	12.0	8.6	13.1	8.5
Exchange-traded	0.7	0.3	0.4	2.0
Total net derivatives subject to enforceable master netting agreements	13.5	9.8	14.6	11.3
Total derivatives not subject to enforceable master netting agreements²	4.4	3.7	3.8	3.9
Total net derivatives presented in the consolidated balance sheets	17.9	13.5	18.4	15.2
of which recorded in trading assets and trading liabilities	17.7	13.5	18.4	15.2
of which recorded in other assets and other liabilities	0.2	0.0	0.0	0.0

¹ Primarily precious metals, commodity and energy products.

² Represents derivatives where a legal opinion supporting the enforceability of netting in the event of default or termination under the agreement is not in place.

Offsetting of securities purchased under resale agreements and securities borrowing transactions

end of	2019			2018		
	Gross	Offsetting	Net book value	Gross	Offsetting	Net book value
Securities purchased under resale agreements and securities borrowing transactions (CHF billion)						
Securities purchased under resale agreements	80.6	(10.9)	69.7	86.6	(20.9)	65.7
Securities borrowing transactions	12.3	(0.5)	11.8	12.6	(2.2)	10.4
Total subject to enforceable master netting agreements	92.9	(11.4)	81.5	99.2	(23.1)	76.1
Total not subject to enforceable master netting agreements¹	25.5	–	25.5	41.0	–	41.0
Total	118.4	(11.4)	107.0²	140.2	(23.1)	117.1²

¹ Represents securities purchased under resale agreements and securities borrowing transactions where a legal opinion supporting the enforceability of netting in the event of default or termination under the agreement is not in place.

² CHF 85,556 million and CHF 81,818 million of the total net amount as of the end of 2019 and 2018, respectively, are reported at fair value.

Offsetting of securities sold under repurchase agreements and securities lending transactions

end of	2019			2018		
	Gross	Offsetting	Net book value	Gross	Offsetting	Net book value
Securities sold under repurchase agreements and securities lending transactions (CHF billion)						
Securities sold under repurchase agreements	28.1	(11.4)	16.7	42.3	(22.5)	19.8
Securities lending transactions	5.5	0.0	5.5	4.2	(0.6)	3.6
Obligation to return securities received as collateral, at fair value	39.0	0.0	39.0	39.4	0.0	39.4
Total subject to enforceable master netting agreements	72.6	(11.4)	61.2	85.9	(23.1)	62.8
Total not subject to enforceable master netting agreements¹	2.0	–	2.0	3.5	–	3.5
Total	74.6	(11.4)	63.2	89.4	(23.1)	66.3
of which securities sold under repurchase agreements and securities lending transactions	34.4	(11.4)	23.0 ²	47.7	(23.1)	24.6 ²
of which obligation to return securities received as collateral, at fair value	40.2	0.0	40.2	41.7	0.0	41.7

¹ Represents securities sold under repurchase agreements and securities lending transactions where a legal opinion supporting the enforceability of netting in the event of default or termination under the agreement is not in place.

² CHF 10,823 million and CHF 14,828 million of the total net amount as of the end of 2019 and 2018, respectively, are reported at fair value.

Amounts not offset in the consolidated balance sheets

end of	2019				2018			
	Net	Financial instruments ¹	Cash collateral received/pledged ¹	Net exposure	Net	Financial instruments ¹	Cash collateral received/pledged ¹	Net exposure
Financial assets subject to enforceable master netting agreements (CHF billion)								
Derivatives	13.5	4.4	0.0	9.1	14.6	4.5	0.1	10.0
Securities purchased under resale agreements	69.7	69.7	0.0	0.0	65.7	65.7	0.0	0.0
Securities borrowing transactions	11.8	11.2	0.0	0.6	10.4	10.0	0.0	0.4
Total financial assets subject to enforceable master netting agreements	95.0	85.3	0.0	9.7	90.7	80.2	0.1	10.4
Financial liabilities subject to enforceable master netting agreements (CHF billion)								
Derivatives	9.8	1.7	0.0	8.1	11.3	1.4	0.0	9.9
Securities sold under repurchase agreements	16.7	16.7	0.0	0.0	19.8	19.7	0.1	0.0
Securities lending transactions	5.5	4.5	0.0	1.0	3.6	3.2	0.0	0.4
Obligation to return securities received as collateral, at fair value	39.0	33.0	0.0	6.0	39.4	34.3	0.0	5.1
Total financial liabilities subject to enforceable master netting agreements	71.0	55.9	0.0	15.1	74.1	58.6	0.1	15.4

¹ The total amount reported in financial instruments (recognized financial assets and financial liabilities and non-cash financial collateral) and cash collateral is limited to the amount of the related instruments presented in the consolidated balance sheets and therefore any over-collateralization of these positions is not included.

27 Tax

Details of current and deferred taxes

in	2019	2018	2017
Current and deferred taxes (CHF million)			
Switzerland	164	126	76
Foreign	518	416	420
Current income tax expense	682	542	496
Switzerland	194	266	285
Foreign	422	326	2,000
Deferred income tax expense	616	592	2,285
Income tax expense	1,298	1,134	2,781
Income tax expense/(benefit) reported in shareholder's equity related to:			
Gains/(losses) on cash flow hedges	13	(28)	(24)
Cumulative translation adjustment	(4)	(7)	1
Unrealized gains/(losses) on securities	7	(5)	1
Actuarial gains/(losses)	4	7	(7)

Reconciliation of taxes computed at the Swiss statutory rate

in	2019	2018	2017
Income/(loss) before taxes (CHF million)			
Switzerland	3,259	1,927	1,648
Foreign	1,134	929	(95)
Income before taxes	4,393	2,856	1,553
Reconciliation of taxes computed at the Swiss statutory rate (CHF million)			
Income tax expense/(benefit) computed at the statutory tax rate of 22%	966	628	342
Increase/(decrease) in income taxes resulting from			
Foreign tax rate differential	(109)	89	(92)
Non-deductible amortization of other intangible assets and goodwill impairment	1	3	0
Other non-deductible expenses	368	455	354
Additional taxable income	7	5	0
Lower taxed income	(314)	(187)	(272)
(Income)/loss taxable to noncontrolling interests	8	10	7
Changes in tax law and rates	9	(2)	2,095
Changes in deferred tax valuation allowance	114	(115)	88
Change in recognition of outside basis difference	4	(32)	(12)
Tax deductible impairments of Swiss subsidiary investments	0	(65)	88
(Windfall tax benefits)/shortfall tax charges on share-based compensation	39	10	91
Other	205	335	92
Income tax expense	1,298	1,134	2,781

2019

Foreign tax rate differential of CHF 109 million reflected a foreign tax benefit mainly driven by losses in higher tax jurisdictions, mainly in the UK, and profits incurred in lower tax jurisdictions, mainly in Singapore, partially offset by profits made in higher tax jurisdictions, such as Brazil. The foreign tax rate expense of CHF 940 million comprised not only the foreign tax expense based on statutory tax rates but also the tax impacts related to additional reconciling items as explained below.

Other non-deductible expenses of CHF 368 million included the impact of CHF 274 million relating to non-deductible interest expenses (including a contingency accrual of CHF 28 million),

CHF 56 million relating to non-deductible bank levy costs and other non-deductible compensation expenses and management costs, CHF 34 million relating to non-deductible fines and various smaller non-deductible expenses.

Lower taxed income of CHF 314 million included a tax benefit of CHF 160 million related to the transfer of the InvestLab fund platform to Allfunds Group and SIX Group AG equity investment revaluation gain in Switzerland, CHF 73 million related to non-taxable life insurance income, CHF 45 million related to non-taxable dividend income, CHF 20 million related to concessionary and lower taxed income, CHF 14 million related to exempt income and various smaller items.

Changes in deferred tax valuation allowances of CHF 114 million included a tax charge from the increase in valuation allowances on deferred tax assets of CHF 272 million, mainly in respect of three of the Bank's operating entities in Japan, the UK and the US. Also included was the net impact of the release of valuation allowances on deferred tax assets of CHF 158 million, mainly in respect of one of the Bank's operating entities in the UK.

Other of CHF 205 million included CHF 165 million relating to the US base erosion and anti-abuse tax (BEAT) and CHF 123 million relating to the tax impact of transitional adjustments arising from the adoption of International Financial Reporting Standards (IFRS) 9 for own credit movements. This was partially offset by CHF 53 million relating to agreements reached with tax authorities relating to an advanced pricing agreement and the closure of a tax audit, and CHF 20 million relating to a prior year adjustment. The remaining balance included various smaller items.

2018

Foreign tax rate differential of CHF 89 million reflected a foreign tax expense mainly driven by profits made in higher tax jurisdictions, such as the US, partially offset by foreign tax rate differential related to profits incurred in lower tax jurisdictions, mainly in Singapore. The foreign tax rate expense of CHF 742 million comprised not only the foreign tax expense based on statutory tax rates but also the tax impacts related to additional reconciling items as explained below.

Other non-deductible expenses of CHF 455 million included the impact of CHF 325 million relating to non-deductible interest expenses (including a contingency accrual of CHF 92 million), CHF 49 million relating to non-deductible bank levy costs and other non-deductible compensation expenses and management costs, CHF 15 million relating to non-deductible fines and various smaller non-deductible expenses.

Lower taxed income of CHF 187 million included a tax benefit of CHF 66 million related to non-taxable dividend income, CHF 48 million related to non-taxable life insurance income, CHF 33 million related to concessionary and lower taxed income, CHF 23 million related to exempt income and various smaller items.

Changes in deferred tax valuation allowances of CHF 115 million included a tax benefit from the release of valuation allowances of CHF 191 million, mainly in respect of two of the Bank's operating entities in the UK. Also included was the net impact of the increase in valuation allowances on deferred tax assets of CHF 76 million, mainly in respect of one of the Bank's operating entities in Switzerland.

Other of CHF 335 million included CHF 202 million relating to the tax impact of transitional adjustments arising on first adoption of IFRS 9 for own credit movements, CHF 65 million relating to BEAT, CHF 56 million relating to the net re-assessment of deferred tax balances in respect of one of the Bank's operating

entities in Switzerland, CHF 26 million relating to the increase of tax contingency accruals and various smaller balances. This was partially offset by prior year adjustments of CHF 76 million.

2017

Foreign tax rate differential of CHF 92 million reflected a foreign tax benefit mainly driven by losses made in higher tax jurisdictions, such as the US, partially offset by foreign tax rate differential related to losses incurred in lower tax jurisdictions, mainly in Guernsey. The foreign tax rate expense of CHF 2,420 million comprised not only the foreign tax benefit based on statutory tax rates but also the tax impacts related to additional reconciling items as explained below.

Other non-deductible expenses of CHF 354 million included the impact of CHF 217 million relating to non-deductible interest expenses (including a contingency accrual of CHF 155 million), CHF 57 million related to the non-deductible portion of the litigation provisions and settlement charges, CHF 27 million related to non-deductible bank levy costs and other non-deductible compensation expenses and management costs, CHF 10 million related to non-deductible foreign exchange losses and various smaller non-deductible expenses of CHF 43 million.

Lower taxed income of CHF 272 million included a tax benefit of CHF 86 million related to non-taxable life insurance income, CHF 78 million related to non-taxable dividend income, CHF 31 million in respect of income taxed at rates lower than the statutory tax rate, CHF 25 million related to exempt income and various smaller items.

Changes in tax law and rates of CHF 2,095 million mainly reflected the impact of the US tax reform enacted on December 22, 2017 which resulted in a reduction of the federal corporate income tax rate from 35% to 21%, effective as of January 1, 2018. The US tax reform required a re-assessment of the deferred tax assets.

Changes in deferred tax valuation allowances of CHF 88 million included the net impact of the increase in valuation allowances on deferred tax assets of CHF 285 million, mainly in respect of two of the Bank's operating entities in the UK. Also included was a tax benefit from the release of valuation allowances of CHF 197 million, mainly in respect of two of the Bank's operating entities, one in the UK and one in Switzerland.

Other of CHF 92 million included a tax expense of CHF 231 million relating to the net re-assessment of deferred tax balances in respect of two of the Bank's operating entities in Switzerland reflecting the establishment of Credit Suisse Asset Management & Investor Services (Schweiz) Holding AG, the impact of adverse earnings mix of the current year and changes in forecasted future profitability, CHF 26 million relating to the increase of tax contingency accruals and CHF 17 million from prior year adjustments, partially offset by CHF 85 million relating to tax deductibility of previously taken litigation accruals and CHF 49 million from a

favorable court decision. The remaining balance included various smaller items.

As of December 31, 2019, the Bank had accumulated undistributed earnings from foreign subsidiaries of CHF 17.2 billion compared to CHF 9.1 billion as of December 31, 2018. The increase compared to the end of 2018 reflected a reserve transfer in one of the Bank's entities. No deferred tax liability was recorded in respect of those amounts as these earnings are considered indefinitely reinvested. It is not practicable to estimate the amount of unrecognized deferred tax liabilities for these undistributed foreign earnings.

Deferred tax assets and liabilities

end of	2019	2018
Deferred tax assets and liabilities (CHF million)		
Compensation and benefits	950	944
Loans	341	192
Investment securities	1,437	1,986
Provisions	769	582
Leases	302	-
Derivatives	72	65
Real estate	183	278
Net operating loss carry-forwards	5,657	6,142
Goodwill and intangible assets	394	497
Other	66	197
Gross deferred tax assets before valuation allowance	10,171	10,883
Less valuation allowance	(4,067)	(3,957)
Gross deferred tax assets net of valuation allowance	6,104	6,926
Compensation and benefits	(301)	(257)
Loans	(108)	(87)
Investment securities	(502)	(1,170)
Provisions	(336)	(368)
Business combinations	0	(1)
Leases	(267)	-
Derivatives	(214)	(214)
Real estate	(35)	(56)
Other	(171)	(154)
Gross deferred tax liabilities	(1,934)	(2,307)
Net deferred tax assets	4,170	4,619
of which deferred tax assets	4,337	4,887
of which net operating losses	1,437	1,632
of which deductible temporary differences	2,900	3,255
of which deferred tax liabilities	(167)	(268)

The decrease in net deferred tax assets from 2018 to 2019 of CHF 449 million was primarily due to the impact of CHF 530 million related to current year earnings and CHF 87 million from the re-assessment of deferred tax balances in Japan and

foreign exchange translation losses of CHF 64 million, which are included within the currency translation adjustments recorded in accumulated other comprehensive income/(loss) (AOCI). These decreases were partially offset by the tax impacts directly recorded in equity and other comprehensive income of CHF 232 million, mainly related to own credit movements, partially offset by a pension plan re-measurement.

The most significant net deferred tax assets arise in the US and Switzerland, which decreased from CHF 4,175 million, net of a valuation allowance of CHF 584 million as of the end of 2018, to CHF 3,855 million, net of a valuation allowance of CHF 606 million as of the end of 2019.

Due to uncertainty concerning its ability to generate the necessary amount and mix of taxable income in future periods, the Bank recorded a valuation allowance against deferred tax assets in the amount of CHF 4.1 billion as of December 31, 2019, compared to CHF 4.0 billion as of December 31, 2018.

Amounts and expiration dates of net operating loss carry-forwards

end of 2019	Total
Net operating loss carry-forwards (CHF million)	
Due to expire within 1 year	8
Due to expire within 2 to 5 years	6,980
Due to expire within 6 to 10 years	3,350
Due to expire within 11 to 20 years	6,172
Amount due to expire	16,510
Amount not due to expire	17,634
Total net operating loss carry-forwards	34,144

Movements in the valuation allowance

in	2019	2018	2017
Movements (CHF million)			
Balance at beginning of period	3,957	4,224	4,168
Net changes	110	(267)	56
Balance at end of period	4,067	3,957	4,224

Tax benefits associated with share-based compensation

in	2019	2018	2017
Tax benefits (CHF million)			
Tax benefits recorded in the consolidated statements of operations ¹	256	236	310

¹ Calculated at the statutory tax rate before valuation allowance considerations.

→ Refer to "Note 28 – Employee deferred compensation" for further information on share-based compensation.

Uncertain tax positions

Reconciliation of gross unrecognized tax benefits

in	2019	2018	2017
Movements in gross unrecognized tax benefits (CHF million)			
Balance at beginning of period	574	481	401
Increases in unrecognized tax benefits as a result of tax positions taken during a prior period	27	10	131
Decreases in unrecognized tax benefits as a result of tax positions taken during a prior period	(64)	(2)	(95)
Increases in unrecognized tax benefits as a result of tax positions taken during the current period	105	112	117
Decreases in unrecognized tax benefits relating to settlements with tax authorities	0	0	(73)
Reductions to unrecognized tax benefits as a result of a lapse of the applicable statute of limitations	(35)	(4)	(3)
Other (including foreign currency translation)	(12)	(23)	3
Balance at end of period	595	574	481
of which, if recognized, would affect the effective tax rate	595	574	481

Interest and penalties

in	2019	2018	2017
Interest and penalties (CHF million)			
Interest and penalties recognized in the consolidated statements of operations	(10)	(28)	30
Interest and penalties recognized in the consolidated balance sheets	77	87	115

Interest and penalties are reported as tax expense. The Bank is currently subject to ongoing tax audits, inquiries and litigation with the tax authorities in a number of jurisdictions, including Brazil, the Netherlands, the US, the UK and Switzerland. Although the

timing of completion is uncertain, it is reasonably possible that some of these will be resolved within 12 months of the reporting date. It is reasonably possible that there will be a decrease of between zero and CHF 303 million in unrecognized tax benefits within 12 months of the reporting date.

The Bank remains open to examination from federal, state, provincial or similar local jurisdictions from the following years onward in these major countries: Brazil – 2014; the UK – 2012; Switzerland – 2011; the US – 2010; and the Netherlands – 2006.

→ Refer to "Note 28 – Tax" in VI – Consolidated financial statements – Credit Suisse Group for further information.

28 Employee deferred compensation

The following tables show the compensation expense for deferred compensation awards granted in 2019 and prior years that was recognized in the consolidated statements of operations during 2019, 2018 and 2017, the total shares delivered, the estimated unrecognized compensation expense for deferred compensation awards granted in 2019 and prior years outstanding as of December 31, 2019 and the remaining requisite service period over which the estimated unrecognized compensation expense will be recognized. The recognition of compensation expense for the deferred compensation awards granted in February 2020 began in 2020 and thus had no impact on the 2019 consolidated financial statements.

→ Refer to "Note 29 – Employee deferred compensation" in VI – Consolidated financial statements – Credit Suisse Group for further information.

Deferred compensation expense

in	2019	2018	2017
Deferred compensation expense (CHF million)			
Share awards	574	500	511
Performance share awards	423	371	342
Contingent Capital Awards	298	149	277
Contingent Capital share awards	(1)	1	17
Capital Opportunity Facility awards	8	12	14
2008 Partner Asset Facility awards ¹	–	–	7
Deferred cash awards	370	215	310
Retention awards	22	54	115
Total deferred compensation expense	1,694	1,302	1,593
Total shares delivered (million)			
Total shares delivered	40.1	45.0	41.2

Prior periods have been reclassified to conform to the current presentation

¹ Compensation expense mainly includes the change in the underlying fair value of the indexed assets during the period.

Estimated unrecognized deferred compensation

end of	2019
Estimated unrecognized compensation expense (CHF million)	
Share awards	464
Performance share awards	185
Contingent Capital Awards	158
Deferred cash awards	162
Retention awards	48
Total	1,017

Aggregate remaining weighted-average requisite service period (years)

Aggregate remaining weighted-average requisite service period	1.3
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Does not include the estimated unrecognized compensation expense relating to grants made in 2020 for 2019.

Share awards

On February 28, 2020, the Bank granted 55.9 million share awards with a total value of CHF 604 million. The estimated unrecognized compensation expense of CHF 576 million was determined based on the fair value of the awards on the grant date, includes the current estimated future forfeitures and will be recognized over the vesting period, subject to early retirement rules.

Share awards granted for previous years

For compensation year	2019	2018	2017
Shares awarded (million)	55.9	54.0	33.1
Value of shares awarded (CHF million)	604	620	596

On February 28, 2020, the Bank granted 2.8 million blocked shares with a total value of CHF 32 million that vested immediately upon grant, have no future service requirements and were attributed to services performed in 2019.

Blocked share awards granted for previous years

For compensation year	2019	2018	2017
Blocked shares awarded (million)	2.8	2.7	1.9
Value of shares awarded (CHF million)	32	31	35

Share award activities

	2019		2018		2017	
	Number of share awards in million	Weighted-average grant-date fair value in CHF	Number of share awards in million	Weighted-average grant-date fair value in CHF	Number of share awards in million	Weighted-average grant-date fair value in CHF
Share awards						
Balance at beginning of period	77.1	16.23	79.9	15.77	70.8	18.78
Granted	65.0	11.69	40.5	16.97	51.5 ¹	14.54
Settled	(35.2)	16.20	(39.0)	16.02	(36.8)	19.75
Forfeited	(5.0)	13.93	(4.3)	16.33	(5.6) ²	16.47
Balance at end of period	101.9	13.45	77.1	16.23	79.9	15.77
of which vested	10.9	–	8.4	–	7.8	–
of which unvested	91.0	–	68.7	–	72.1	–

¹ Includes an adjustment for share awards granted in the second quarter of 2017 to compensate for the proportionate dilution of Group shares resulting from the rights offering approved on May 18, 2017. The number of deferred share-based awards held by each individual was increased by 3.64%. The terms and conditions of the adjusted shares were the same as the existing share-based awards, thereby ensuring that holders of the awards were neither advantaged nor disadvantaged by the additional shares granted.

² Includes the transfer of the share-based awards of Neue Aargauer Bank AG, BANK-now AG and Swisscard AECS GmbH.

Performance share awards

On February 28, 2020, the Bank granted 48.7 million performance share awards with a total value of CHF 531 million. The estimated unrecognized compensation expense of CHF 499 million was determined based on the fair value of the awards on the grant date, includes the current estimated outcome of the relevant performance criteria and estimated future forfeitures and

will be recognized over the vesting period, subject to early retirement rules.

Performance share awards granted for previous years

For compensation year	2019	2018	2017
Performance shares awarded (million)	48.7	44.6	25.6
Value of performance shares awarded (CHF million)	531	515	462

Performance share award activities

	2019		2018		2017	
	Number of performance share awards in million	Weighted-average grant-date fair value in CHF	Number of performance share awards in million	Weighted-average grant-date fair value in CHF	Number of performance share awards in million	Weighted-average grant-date fair value in CHF
Performance share awards						
Balance at beginning of period	50.0	16.33	52.8	15.88	48.1	19.12
Granted	43.9	11.60	25.6	16.98	31.1 ¹	14.41
Settled	(22.3)	16.51	(25.6)	16.07	(23.6)	20.41
Forfeited	(1.9)	13.58	(2.8)	16.26	(2.8) ²	16.37
Balance at end of period	69.7	13.37	50.0	16.33	52.8	15.88
of which vested	6.4	–	5.2	–	6.6	–
of which unvested	63.3	–	44.8	–	46.2	–

¹ Includes an adjustment for performance share awards granted in the second quarter of 2017 to compensate for the proportionate dilution of Group shares resulting from the rights offering approved on May 18, 2017. The number of deferred share-based awards held by each individual was increased by 3.64%. The terms and conditions of the adjusted shares were the same as the existing share-based awards, thereby ensuring that holders of the awards were neither advantaged nor disadvantaged by the additional performance shares granted.

² Includes the transfer of the share-based awards of Neue Aargauer Bank AG, BANK-now AG and Swisscard AECS GmbH.

Contingent Capital Awards

On February 28, 2020, the Bank awarded CHF 257 million of Contingent Capital Awards (CCA) that will be expensed over the vesting period. The estimated unrecognized compensation expense of CHF 246 million was determined based on the fair value of the awards on the grant date and includes the current estimated outcome of the relevant performance criteria, the estimated future forfeitures and the expected semi-annual cash payments of interest equivalents and will be recognized over the vesting period.

Contingent Capital Awards granted for previous years

For compensation year	2019	2018	2017
CCA awarded (CHF million)	257	289	233

Contingent Capital share awards

In March 2016, the Bank executed a voluntary exchange offer, under which employees had the right to voluntarily convert all or a portion of their respective CCA into Contingent Capital share awards. Each Contingent Capital share award had a grant-date fair value of CHF 14.45 and contains the same contractual term, vesting period, performance criteria and other terms and conditions as the original CCA.

Contingent Capital share award activities

	2019	2018	2017
Contingent Capital share awards			
Balance at beginning of period	2.7	7.5	12.8
Granted	0.0	0.0	0.3 ¹
Settled	(2.6)	(4.6)	(4.9)
Forfeited	0.0	(0.2)	(0.7) ²
Balance at end of period	0.1	2.7	7.5
of which vested	0.0	0.7	1.3
of which unvested	0.1	2.0	6.2

¹ Includes an adjustment for Contingent Capital share awards granted in the second quarter of 2017 to compensate for the proportionate dilution of Group shares resulting from the rights offering approved on May 18, 2017. The number of deferred share-based awards held by each individual was increased by 3.64%. The terms and conditions of the adjusted shares were the same as the existing share-based awards, thereby ensuring that holders of the awards were neither advantaged nor disadvantaged by the additional Contingent Capital shares granted.

² Includes the transfer of the share-based awards of Neue Aargauer Bank AG, BANK-now AG and Swisscard AECS GmbH.

Deferred cash awards

Deferred fixed cash awards

The Bank granted deferred fixed cash compensation during 2019, 2018 and 2017 of CHF 108 million, CHF 98 million and CHF 90 million, respectively, to certain employees in the Americas. This compensation has been expensed in Global Markets, Investment Banking & Capital Markets and International Wealth Management over a three-year vesting period from the grant date. Amortization of this compensation in 2019 totaled CHF 101 million, of which CHF 58 million was related to awards granted in 2019.

Upfront cash awards

In February 2020, certain managing directors and directors in Investment Banking & Capital Markets and Asia Pacific were granted CHF 146 million of upfront cash awards as part of the cash component of their 2019 variable compensation. In 2019, certain managing directors and directors in the Asia Pacific division were granted CHF 47 million of upfront cash awards. These awards are subject to repayment (clawback) by the employee in the event of voluntary resignation, termination for cause or in connection with other specified events or conditions within three years of the award grant. The amount subject to repayment is reduced in equal monthly installments during the three-year period following the grant date. The expense recognition will occur over the three-year vesting period, subject to service conditions. Amortization of this compensation in 2019 totaled CHF 21 million.

Retention awards

The Bank granted deferred cash and stock retention awards during 2019, 2018 and 2017 of CHF 40 million, CHF 25 million and CHF 65 million, respectively. These awards are expensed over the applicable vesting period from the grant date. Amortization of these awards totaled CHF 22 million in 2019.

29 Related parties

The Group owns all of the Bank's outstanding voting registered shares. The Bank is involved in significant financing and other transactions with subsidiaries of the Group. The Bank generally enters into these transactions in the ordinary course of business and believes that these transactions are generally on market terms that could be obtained from unrelated third parties.

→ Refer to "Note 30 – Related parties" in VI – Consolidated financial statements – Credit Suisse Group for further information.

Related party assets and liabilities

end of	2019	2018
Assets (CHF million)		
Net loans	7,258	5,305
Other assets	665	508
Total assets	7,923	5,813
Liabilities (CHF million)		
Due to banks/customer deposits	1,268	1,338
Central bank funds purchased, securities sold under repurchase agreements and securities lending transactions	108	0
Short-term borrowings	485	493
Long-term debt	32,764	23,456
Other liabilities	1,401	1,122
Total liabilities	36,026	26,409

Related party revenues and expenses

in	2019	2018	2017
Revenues (CHF million)			
Interest and dividend income	(5)	10	2
Interest expense	(1,307)	(924)	(574)
Net interest income	(1,312)	(914)	(572)
Commissions and fees	80	87	46
Other revenues	104	72	67
Net revenues	(1,128)	(755)	(459)
Expenses (CHF million)			
Total operating expenses	1,867	1,642	1,044

Related party guarantees

end of	2019	2018
Guarantees (CHF million)		
Credit guarantees and similar instruments	5	5
Total guarantees	5	5

→ Refer to "Note 22 – Leases" for information about related party leases.

Executive Board and Board of Directors loans

	2019	2018	2017
Loans to members of the Executive Board (CHF million)			
Balance at beginning of period	33¹	26	25
Additions	13	8	3
Reductions	(14)	(1)	(2)
Balance at end of period	32¹	33	26
Loans to members of the Board of Directors (CHF million)			
Balance at beginning of period	10²	11	10
Additions	3	0	1
Reductions	(4)	(1)	0
Balance at end of period	9²	10	11

¹ The number of individuals with outstanding loans was eight at the beginning of the year and five at the end of the year.

² The number of individuals with outstanding loans was four at the beginning and the end of the year.

Other related party transaction

In December 2018, a subsidiary of the Bank executed a transaction with an affiliate to sell a minority interest in a trading platform for a gain of approximately USD 80 million.

Liabilities due to own pension plans

Liabilities due to the Bank's own defined benefit pension plans as of December 31, 2019 and 2018 of CHF 703 million and CHF 735 million, respectively, were reflected in various liability accounts in the Bank's consolidated balance sheets.

30 Pension and other post-retirement benefits

The Bank participates in a defined benefit pension plan sponsored by the Group and has defined contribution pension plans, single-employer defined benefit pension plans and other post-retirement defined benefit plans. The Bank's principal plans are located in Switzerland, the US and the UK.

→ Refer to "Note 31 – Pension and other post-retirement benefits" in VI – Consolidated financial statements – Credit Suisse Group for further information on pension and other post-retirement benefits.

Defined contribution pension plans

The Bank contributes to various defined contribution pension plans primarily in the US and the UK as well as other countries throughout the world. During 2019, 2018 and 2017, the Bank contributed to these plans and recognized as expense CHF 150 million, CHF 140 million and CHF 156 million, respectively.

Defined benefit pension and other post-retirement benefit plans

Defined benefit pension plans

Group pension plan

The Bank covers pension requirements for its employees in Switzerland by participating in a defined benefit pension plan sponsored by the Group (Group plan), the Group's most significant defined benefit pension plan. The Group plan provides benefits in the event of retirement, death and disability. Various legal entities within the Group participate in the Group plan, which is set up as an independent trust domiciled in Zurich. Benefits in the Group plan are determined on the basis of the accumulated employer and employee contributions and accumulated interest credited. In accordance with US GAAP, the Group accounts for the Group plan as a single-employer defined benefit pension plan and uses the projected unit credit actuarial method to determine the net periodic benefit costs, the PBO and the accumulated benefit obligation (ABO). The Bank accounts for the defined benefit pension plan sponsored by the Group as a multi-employer pension plan because other legal entities within the Group also participate in the Group plan and the assets contributed by the Bank are not segregated into a separate account or restricted to provide benefits only to employees of the Bank. The assets contributed by the Bank are commingled with the assets contributed by the other legal entities of the Group and can be used to provide benefits to any employee of any participating legal entity. The Bank's contributions to the Group plan comprise 85% of the total assets contributed to the Group plan by all participating legal entities on an annual basis.

The Bank accounts for the Group plan on a defined contribution basis whereby it only recognizes the amounts required to be contributed to the Group plan during the period as net periodic pension expense and only recognizes a liability for any contributions due and unpaid. No other expenses or balance sheet amounts related to the Group plan were recognized by the Bank. In the savings section of the Group plan, the Bank's contribution varies between 7.5% and 25.0% of the pensionable salary depending on the employee's age.

During 2019, 2018 and 2017, the Bank contributed and recognized as expense CHF 338 million, CHF 377 million and CHF 379 million to the Group plan, respectively. The Bank expects to contribute CHF 246 million to the Group plan during 2020.

International pension plans

Various defined benefit pension plans cover the Bank's employees outside Switzerland. These plans provide benefits in the event of retirement, death, disability or termination of employment. Retirement benefits under the plans depend on age, contributions and salary. The Bank's principal defined benefit pension plans outside Switzerland are located in the US and in the UK. Both plans are funded, closed to new participants and have ceased accruing new benefits. Smaller defined benefit pension plans, both funded and unfunded, are operated in other locations.

Other post-retirement defined benefit plan

In the US, the Bank has a defined benefit plan that provides post-retirement benefits other than pension benefits that primarily focus on health and welfare benefits for certain retired employees. In exchange for the current services provided by the employee, the Bank promises to provide health and welfare benefits after the employee retires. The Bank's obligation for that compensation is incurred as employees render the services necessary to earn their post-retirement benefits.

Net periodic benefit costs of defined benefit plans

The net periodic benefit costs for defined benefit pension and other post-retirement defined benefit plans are the costs of the respective plan for a period during which an employee renders services. The actual amount to be recognized is determined using the standard actuarial methodology which considers, among other factors, current service cost, interest cost, expected return on plan assets and the amortization of both prior service costs/(credits) and actuarial losses/(gains) recognized in AOCI.

Components of net periodic benefit costs

in	International single-employer defined benefit pension plans			Other post-retirement defined benefit plan		
	2019	2018	2017	2019	2018	2017
Net periodic benefit costs (CHF million)						
Service costs on benefit obligation	14	16	22	0	0	0
Interest costs on benefit obligation	90	86	91	6	5	6
Expected return on plan assets	(108)	(114)	(133)	0	0	0
Amortization of recognized prior service cost/(credit)	1	0	0	0	0	0
Amortization of recognized actuarial losses/(gains)	19	47	60	3	8	7
Settlement losses/(gains)	0	0	0	0	0	0
Curtailment losses/(gains)	0	(1)	(10)	0	0	0
Net periodic benefit costs/(credits)	16	34	30	9	13	13

Service costs on benefit obligation are reflected in compensation and benefits. Other components of net periodic benefit costs are reflected in general and administrative expenses or, until the end of 2018, in restructuring expenses.

Benefit obligation

The "Obligations and funded status of the plans" table shows the changes in the PBO, the ABO, the fair value of plan assets and the amounts recognized in the consolidated balance sheets for the international single-employer defined benefit pension plans and other post-retirement defined benefit plans.

Obligations and funded status of the plans

in / end of	International single-employer defined benefit pension plans		Other post-retirement defined benefit plan	
	2019	2018	2019	2018
PBO (CHF million) ¹				
Beginning of the measurement period	2,951	3,390	160	173
Service cost	14	16	0	0
Interest cost	90	86	6	5
Plan amendments	0	10	0	0
Settlements	0	(1)	0	0
Curtailments	0	(1)	0	0
Special termination benefits	0	1	0	0
Actuarial losses/(gains)	410	(229)	13	(9)
Benefit payments	(149)	(233)	(12)	(11)
Exchange rate losses/(gains)	9	(88)	(3)	2
End of the measurement period	3,325	2,951	164	160
Fair value of plan assets (CHF million)				
Beginning of the measurement period	3,604	4,088	0	0
Actual return on plan assets	487	(141)	0	0
Employer contributions	130	19	12	11
Settlements	0	(1)	0	0
Benefit payments	(149)	(233)	(12)	(11)
Exchange rate gains/(losses)	39	(128)	0	0
End of the measurement period	4,111	3,604	0	0
Total funded status recognized (CHF million)				
Funded status of the plan – over/(underfunded)	786	653	(164)	(160)
Funded status recognized in the consolidated balance sheet as of December 31	786	653	(164)	(160)
Total amount recognized (CHF million)				
Noncurrent assets	1,068	1,001	0	0
Current liabilities	(6)	(10)	(11)	(11)
Noncurrent liabilities	(276)	(338)	(153)	(149)
Net amount recognized in the consolidated balance sheet as of December 31	786	653	(164)	(160)
ABO (CHF million) ²				
End of the measurement period	3,294	2,921	164	160

¹ Including estimated future salary increases.

² Excluding estimated future salary increases.

The net amount recognized in the consolidated balance sheets as of December 31, 2019 and 2018 was an overfunding of CHF 622 million and CHF 493 million, respectively.

In 2019 and 2018, the Bank made contributions of CHF 130 million and CHF 19 million, respectively, to the international single-employer defined benefit pension plans and CHF 12 million and CHF 11 million, respectively, to the other post-retirement defined benefit plans. In 2019, there was a special cash contribution made to the defined benefit pension plan in Germany of CHF 111 million. In 2020, the Bank expects to contribute CHF 11 million to the international single-employer defined benefit pension plans and CHF 11 million to other post-retirement defined benefit plans.

PBO or ABO in excess of plan assets

The following table shows the aggregate PBO and ABO, as well as the aggregate fair value of plan assets for those plans with PBO in excess of plan assets and those plans with ABO in excess of plan assets as of December 31, 2019 and 2018, respectively.

Defined benefit pension plans in which PBO or ABO exceeded plan assets

December 31	PBO exceeds fair value of plan assets ¹		ABO exceeds fair value of plan assets ¹	
	2019	2018	2019	2018
PBO/ABO exceeded plan assets (CHF million)				
PBO	1,455	1,336	1,443	1,325
ABO	1,431	1,312	1,422	1,304
Fair value of plan assets	1,174	989	1,163	978

¹ Includes only those defined benefit pension plans where the PBO/ABO exceeded the fair value of plan assets.

Amounts recognized in AOCI and OCI

The following table shows the actuarial gains/(losses), the prior service credits/(costs) and the cumulative effect of accounting changes, which were recorded in AOCI and subsequently recognized as components of net periodic benefit costs.

Amounts recognized in AOCI, net of tax

end of	International single-employer defined benefit pension plans		Other post-retirement defined benefit plan		Total	
	2019	2018	2019	2018	2019	2018
Amounts recognized in AOCI (CHF million)						
Actuarial gains/(losses)	(345)	(327)	(30)	(23)	(375)	(350)
Prior service credits/(costs)	(10)	(11)	3	3	(7)	(8)
Cumulative effect of accounting changes	(42)	–	0	–	(42)	–
Total	(397)	(338)	(27)	(20)	(424)	(358)

The following table shows the changes in OCI due to actuarial gains/(losses), the prior service credits/(costs) recognized in AOCI during 2019 and 2018, the amortization of the

forementioned items as components of net periodic benefit costs for these periods and the cumulative effect of accounting changes.

Amounts recognized in OCI

in	International single-employer defined benefit pension plans			Other post-retirement defined benefit plan			Total net
	Gross	Tax	Net	Gross	Tax	Net	
2019 (CHF million)							
Actuarial gains/(losses)	(31)	(2)	(33)	(12)	3	(9)	(42)
Amortization of actuarial losses/(gains)	19	(4)	15	3	(1)	2	17
Amortization of prior service costs/(credits)	1	0	1	0	0	0	1
Cumulative effect of accounting changes	0	(42)	(42)	0	0	0	(42)
Total	(11)	(48)	(59)	(9)	2	(7)	(66)
2018 (CHF million)							
Actuarial gains/(losses)	(26)	1	(25)	9	(2)	7	(18)
Prior service credits/(costs)	(10)	0	(10)	0	0	0	(10)
Amortization of actuarial losses/(gains)	47	(4)	43	8	(2)	6	49
Total	11	(3)	8	17	(4)	13	21

Assumptions

The measurement of both the net periodic benefit costs and the benefit obligation is determined using explicit assumptions, each of which individually represents the best estimate of a particular future event.

Weighted-average assumptions used to determine net periodic benefit costs and benefit obligation

December 31	International single-employer defined benefit pension plans			Other post-retirement defined benefit plan		
	2019	2018	2017	2019	2018	2017
Net periodic benefit cost (%)						
Discount rate – service cost	3.28	2.96	2.92	4.38	3.86	4.03
Discount rate – interest cost	3.28	2.77	2.79	3.95	3.28	3.48
Salary increases	2.92	2.97	3.55	–	–	–
Expected long-term rate of return on plan assets	3.00	3.22	3.88	–	–	–
Benefit obligation (%)						
Discount rate	2.38	3.30	2.83	3.23	4.37	3.70
Salary increases	2.84	2.90	2.97	–	–	–

Mortality tables and life expectancies for major plans

December 31		Life expectancy at age 65 for a male member currently				Life expectancy at age 65 for a female member currently			
		aged 65		aged 45		aged 65		aged 45	
		2019	2018	2019	2018	2019	2018	2019	2018
Life expectancy (years)									
UK	SAPS S2 light tables ¹	23.2	23.7	24.8	25.3	24.3	24.8	26.1	26.5
US	Pri-2012 mortality tables ²	21.1	21.5	22.2	22.7	22.7	23.4	23.8	24.5

¹ 95% of Self-Administered Pension Scheme (SAPS) S2 light tables were used, which included final CMI projections, with a long-term rate of improvement of 1.5% per annum.

² The Private retirement plan 2012 (Pri-2012) mortality tables were used, with projections based on the Social Security Administration's intermediate improvement scale.

Health care cost assumptions

The health care cost trend is used to determine the appropriate other post-retirement defined benefit costs. In determining those costs, an annual weighted-average rate is assumed in the cost of covered health care benefits.

The following table provides an overview of the assumed health care cost trend rates

Health care cost trend rates

in / end of	2019	2018	2017
Health care cost trend rate (%)			
Annual weighted-average health care cost trend rate ¹	8.0	8.7	8.3

¹ The annual health care cost trend rate is assumed to decrease gradually to achieve the long-term health care cost trend rate of 5.0% by 2026.

The annual health care cost trend rate used to determine the net periodic defined benefit costs for 2020 is 8.0%.

Plan assets and investment strategy

As of December 31, 2019 and 2018, no Group debt or equity securities were included in plan assets for the international single-employer defined benefit pension plans.

Fair value of plan assets

The following table presents the plan assets measured at fair value on a recurring basis as of December 31, 2019 and 2018, for the Bank's defined benefit pension plans.

Plan assets measured at fair value on a recurring basis

end of	2019					2018				
	Level 1	Level 2	Level 3	Assets measured at net asset value per share	Total	Level 1	Level 2	Level 3	Assets measured at net asset value per share	Total
Plan assets at fair value (CHF million)										
Cash and cash equivalents	14	104	0	0	118	86	123	0	0	209
Debt securities	2,277	1,016	0	430	3,723	1,889	846	0	328	3,063
of which governments	1,904	9	0	0	1,913	1,574	5	0	0	1,579
of which corporates	373	1,007	0	430	1,810	315	841	0	328	1,484
Equity securities	58	0	0	91	149	52	12	0	74	138
Real estate – indirect	0	0	0	29	29	0	0	0	29	29
Alternative investments	0	(37)	0	45	8	0	19	0	61	80
of which hedge funds	0	0	0	45	45	0	0	0	61	61
of which other	0	(37) ¹	0	0	(37)	0	19 ¹	0	0	19
Other investments	0	84	0	0	84	0	85	0	0	85
Total plan assets at fair value	2,349	1,167	0	595	4,111	2,027	1,085	0	492	3,604

¹ Primarily related to derivative instruments.

Plan asset allocation

The following table shows the plan asset allocation as of the measurement date calculated based on the fair value at that date including the performance of each asset class.

Plan asset allocation

December 31	2019	2018
Weighted-average (%)		
Cash and cash equivalents	2.9	5.8
Debt securities	90.6	85.0
Equity securities	3.6	3.8
Real estate	0.7	0.8
Alternative investments	0.2	2.2
Insurance	2.0	2.4
Total	100.0	100.0

The following table shows the target plan asset allocation for 2020 in accordance with the Bank's investment strategy. The target plan asset allocation is used to determine the expected return on plan assets to be considered in the net periodic benefit costs for 2020.

2020 target plan asset allocation

Weighted-average (%)

Cash and cash equivalents	0.3
Debt securities	93.7
Equity securities	2.2
Real estate	0.6
Alternative investments	1.2
Insurance	2.0
Total	100.0

Estimated future benefit payments

The following table shows the estimated future benefit payments for defined benefit pension and other post-retirement defined benefit plans.

Estimated future benefit payments

	International single-employer defined benefit pension plans	Other post-retirement defined benefit plan
Payments (CHF million)		
2020	103	11
2021	105	12
2022	98	12
2023	108	11
2024	113	11
For five years thereafter	633	47

31 Derivatives and hedging activities

→ Refer to "Note 32 – Derivatives and hedging activities" in VI – Consolidated financial statements – Credit Suisse Group for further information.

flows for forecasted transactions, excluding those forecasted transactions related to the payment of variable interest on existing financial instruments, was 12 months.

Hedge accounting

Cash flow hedges

As of the end of 2019, the maximum length of time over which the Bank hedged its exposure to the variability in future cash

Fair value of derivative instruments

end of 2019	Trading			Hedging ¹		
	Notional amount	Positive replacement value (PRV)	Negative replacement value (NRV)	Notional amount	Positive replacement value (PRV)	Negative replacement value (NRV)
Derivative instruments (CHF billion)						
Forwards and forward rate agreements	6,226.5	0.9	0.9	0.0	0.0	0.0
Swaps	9,184.5	50.8	48.4	113.2	0.5	0.1
Options bought and sold (OTC)	1,355.4	16.3	16.4	0.0	0.0	0.0
Futures	264.2	0.0	0.0	0.0	0.0	0.0
Options bought and sold (exchange-traded)	103.4	0.3	0.2	0.0	0.0	0.0
Interest rate products	17,134.0	68.3	65.9	113.2	0.5	0.1
Forwards	1,073.5	8.0	9.1	14.1	0.1	0.1
Swaps	389.5	10.9	13.7	0.0	0.0	0.0
Options bought and sold (OTC)	270.8	3.0	3.5	0.0	0.0	0.0
Futures	9.1	0.0	0.0	0.0	0.0	0.0
Options bought and sold (exchange-traded)	0.1	0.0	0.0	0.0	0.0	0.0
Foreign exchange products	1,743.0	21.9	26.3	14.1	0.1	0.1
Forwards	1.0	0.0	0.0	0.0	0.0	0.0
Swaps	175.2	4.3	4.6	0.0	0.0	0.0
Options bought and sold (OTC)	213.6	7.7	7.3	0.0	0.0	0.0
Futures	41.2	0.0	0.0	0.0	0.0	0.0
Options bought and sold (exchange-traded)	427.2	5.4	5.1	0.0	0.0	0.0
Equity/index-related products	858.2	17.4	17.0	0.0	0.0	0.0
Credit derivatives ²	538.1	6.2	7.2	0.0	0.0	0.0
Forwards	13.2	0.2	0.1	0.0	0.0	0.0
Swaps	11.6	1.0	0.5	0.0	0.0	0.0
Options bought and sold (OTC)	15.5	0.2	0.1	0.0	0.0	0.0
Futures	14.8	0.0	0.0	0.0	0.0	0.0
Options bought and sold (exchange-traded)	1.7	0.0	0.0	0.0	0.0	0.0
Other products ³	56.8	1.4	0.7	0.0	0.0	0.0
Total derivative instruments	20,330.1	115.2	117.1	127.3	0.6	0.2

The notional amount, PRV and NRV (trading and hedging) was CHF 20,457.4 billion, CHF 115.8 billion and CHF 117.3 billion, respectively, as of December 31, 2019.

¹ Relates to derivative contracts that qualify for hedge accounting under US GAAP.

² Primarily credit default swaps.

³ Primarily precious metals, commodity and energy products.

Fair value of derivative instruments (continued)

end of 2018	Trading			Hedging ¹		
	Notional amount	Positive replacement value (PRV)	Negative replacement value (NRV)	Notional amount	Positive replacement value (PRV)	Negative replacement value (NRV)
Derivative instruments (CHF billion)						
Forwards and forward rate agreements	7,477.7	3.6	3.7	0.0	0.0	0.0
Swaps	13,149.6 ²	49.0	45.4	116.5 ²	0.1	0.2
Options bought and sold (OTC)	2,027.6	17.0	17.1	0.0	0.0	0.0
Futures	256.8	0.0	0.0	0.0	0.0	0.0
Options bought and sold (exchange-traded)	111.1	0.3	0.3	0.0	0.0	0.0
Interest rate products	23,022.8²	69.9	66.5	116.5²	0.1	0.2
Forwards	1,124.5	9.5	10.5	12.0	0.1	0.1
Swaps	456.6	14.4	17.4	0.0	0.0	0.0
Options bought and sold (OTC)	313.0	3.9	4.3	0.0	0.0	0.0
Futures	10.7	0.0	0.0	0.0	0.0	0.0
Options bought and sold (exchange-traded)	1.3	0.0	0.0	0.0	0.0	0.0
Foreign exchange products	1,906.1	27.8	32.2	12.0	0.1	0.1
Forwards	0.7	0.2	0.1	0.0	0.0	0.0
Swaps	152.9	4.1	5.0	0.0	0.0	0.0
Options bought and sold (OTC)	212.3	7.3	6.7	0.0	0.0	0.0
Futures	39.2	0.0	0.0	0.0	0.0	0.0
Options bought and sold (exchange-traded)	356.7	11.9	14.4	0.0	0.0	0.0
Equity/index-related products	761.8	23.5	26.2	0.0	0.0	0.0
Credit derivatives³						
Forwards	8.2	0.1	0.1	0.0	0.0	0.0
Swaps	13.5	1.5	0.6	0.0	0.0	0.0
Options bought and sold (OTC)	9.5	0.1	0.1	0.0	0.0	0.0
Futures	9.3	0.0	0.0	0.0	0.0	0.0
Options bought and sold (exchange-traded)	1.9	0.0	0.0	0.0	0.0	0.0
Other products⁴	42.4	1.7	0.8	0.0	0.0	0.0
Total derivative instruments	26,202.5²	128.3	132.3	128.5²	0.2	0.3

The notional amount, PRV and NRV (trading and hedging) was CHF 26,331.0 billion, CHF 128.5 billion and CHF 132.6 billion, respectively, as of December 31, 2018.

¹ Relates to derivative contracts that qualify for hedge accounting under US GAAP.

² Prior period has been corrected

³ Primarily credit default swaps.

⁴ Primarily precious metals, commodity and energy products.

Gains or losses on fair value hedges

in	2019	2018	2017
	Net interest income	Trading revenues	Trading revenues
Interest rate products (CHF million)			
Hedged items	(1,721)	423	290
Derivatives designated as hedging instruments	1,550	(415)	(285)
Net gains/(losses) on the ineffective portion	–	8	5

As a result of the adoption of ASU 2017-12 on January 1, 2019 the gains/(losses) on interest rate risk hedges are included in net interest income while, in prior periods they were recorded in trading revenue. Additionally, the gains/(losses) on the ineffective portion are no longer separately measured and reported. The accrued interest on fair value hedges is recorded in net interest income and is excluded from this table.

Hedged items in fair value hedges

end of	2019		
	Hedged items		Discontinued hedges ²
	Carrying amount	Hedging adjustments ¹	
Assets and liabilities (CHF billion)			
Net loans	15.2	0.1	0.7
Long-term debt	65.8	1.2	0.3

¹ Relates to cumulative amount of fair value hedging adjustments included in the carrying amount.

² Relates to cumulative amount of fair value hedging adjustments remaining for any hedged items for which hedge accounting has been discontinued.

Cash flow hedges

in	2019	2018	2017
Interest rate products (CHF million)			
Gains/(losses) recognized in AOCI on derivatives	85	(76)	(56)
Gains/(losses) reclassified from AOCI into interest and dividend income	3	(85)	(11)
Foreign exchange products (CHF million)			
Gains/(losses) recognized in AOCI on derivatives	(5)	(86)	(31)
Trading revenues	(7)	(37)	(17)
Total other operating expenses	(16)	(5)	0
Gains/(losses) reclassified from AOCI into income	(23)	(42)	(17)
Gains/(losses) excluded from the assessment of effectiveness reported in trading revenues ¹	(20)	-	-
Interest rate and foreign exchange products (CHF million)			
Net gains/(losses) on the ineffective portion	-	0	(1) ²

As a result of the adoption of ASU 2017-12 on January 1, 2019 the gains/(losses) on the ineffective portion are no longer separately measured and reported.

¹ Related to the forward points of a foreign currency forward.

² Included in trading revenues.

The net gain associated with cash flow hedges expected to be reclassified from AOCI within the next 12 months was CHF 25 million.

Net investment hedges

in	2019	2018	2017
Foreign exchange products (CHF million)			
Gains/(losses) recognized in the cumulative translation adjustments section of AOCI	(133)	131	(475)
Gains/(losses) reclassified from the cumulative translation adjustments section of AOCI into other revenues	0	(2)	8

The Bank includes all derivative instruments not included in hedge accounting relationships in its trading activities.

→ Refer to "Note 7 – Trading revenues" for gains and losses on trading activities by product type.

Disclosures relating to contingent credit risk

The following table provides the Bank's current net exposure from contingent credit risk relating to derivative contracts with bilateral counterparties and special purpose entities (SPEs) that include credit support agreements, the related collateral posted and the additional collateral required in a one-notch, two-notch and a three-notch downgrade event, respectively. The table also includes derivative contracts with contingent credit risk features without credit support agreements that have accelerated termination event conditions. The current net exposure for derivative contracts with bilateral counterparties and contracts with accelerated termination event conditions is the aggregate fair value of derivative instruments that were in a net liability position. For SPEs, the current net exposure is the contractual amount that is used to determine the collateral payable in the event of a downgrade. The contractual amount could include both the negative replacement value and a percentage of the notional value of the derivative.

Contingent credit risk

end of	2019				2018			
	Bilateral counterparties	Special purpose entities	Accelerated terminations	Total	Bilateral counterparties	Special purpose entities	Accelerated terminations	Total
Contingent credit risk (CHF billion)								
Current net exposure	3.1	0.0	0.3	3.4	3.6	0.1	0.3	4.0
Collateral posted	2.7	0.1	-	2.8	3.4	0.1	-	3.5
Impact of a one-notch downgrade event	0.1	0.0	0.0	0.1	0.2	0.0	0.0	0.2
Impact of a two-notch downgrade event	0.2	0.0	0.0	0.2	0.9	0.0	0.1	1.0
Impact of a three-notch downgrade event	0.7	0.1	0.1	0.9	1.0	0.1	0.2	1.3

The impact of a downgrade event reflects the amount of additional collateral required for bilateral counterparties and special purpose entities and the amount of additional termination expenses for accelerated terminations, respectively.

Credit derivatives

→ Refer to "Note 32 – Derivatives and hedging activities" in VI – Consolidated financial statements – Credit Suisse Group for further information.

Credit protection sold/purchased

The following tables do not include all credit derivatives and differ from the credit derivatives in the "Fair value of derivative instruments" table. This is due to the exclusion of certain credit derivative instruments under US GAAP, which defines a credit derivative as a derivative instrument (a) in which one or more of its underlyings are related to the credit risk of a specified entity (or a group of entities) or an index based on the credit risk of a group

of entities and (b) that exposes the seller to potential loss from credit risk-related events specified in the contract.

Total return swaps (TRS) of CHF 16.7 billion and CHF 9.7 billion as of December 31, 2019 and 2018, respectively, were also excluded because a TRS does not expose the seller to potential loss from credit risk-related events specified in the contract. A TRS only provides protection against a loss in asset value and not against additional amounts as a result of specific credit events.

Credit protection sold/purchased

end of	2019					2018				
	Credit protection sold	Credit protection purchased ¹	Net credit protection (sold)/purchased	Other protection purchased	Fair value of credit protection sold	Credit protection sold	Credit protection purchased ¹	Net credit protection (sold)/purchased	Other protection purchased	Fair value of credit protection sold
Single-name instruments (CHF billion)										
Investment grade ²	(52.6)	47.9	(4.7)	11.5	0.5	(46.0)	43.1	(2.9)	11.8	0.2
Non-investment grade	(32.1)	29.5	(2.6)	16.1	0.9	(26.2)	24.3	(1.9)	17.7	(0.2)
Total single-name instruments	(84.7)	77.4	(7.3)	27.6	1.4	(72.2)	67.4	(4.8)	29.5	0.0
of which sovereign	(17.2)	15.4	(1.8)	4.1	0.0	(16.4)	15.0	(1.4)	5.5	(0.1)
of which non-sovereign	(67.5)	62.0	(5.5)	23.5	1.4	(55.8)	52.4	(3.4)	24.0	0.1
Multi-name instruments (CHF billion)										
Investment grade ²	(109.5)	108.9	(0.6)	44.0	0.7	(102.9)	102.4	(0.5)	25.1	(0.8)
Non-investment grade	(27.7)	24.5	(3.2)	17.1 ³	1.0	(26.5)	25.3	(1.2)	8.4 ³	0.1
Total multi-name instruments	(137.2)	133.4	(3.8)	61.1	1.7	(129.4)	127.7	(1.7)	33.5	(0.7)
of which sovereign	0.0	0.0	0.0	0.0	0.0	(0.2)	0.2	0.0	0.0	0.0
of which non-sovereign	(137.2)	133.4	(3.8)	61.1	1.7	(129.2)	127.5	(1.7)	33.5	(0.7)
Total instruments (CHF billion)										
Investment grade ²	(162.1)	156.8	(5.3)	55.5	1.2	(148.9)	145.5	(3.4)	36.9	(0.6)
Non-investment grade	(59.8)	54.0	(5.8)	33.2	1.9	(52.7)	49.6	(3.1)	26.1	(0.1)
Total instruments	(221.9)	210.8	(11.1)	88.7	3.1	(201.6)	195.1	(6.5)	63.0	(0.7)
of which sovereign	(17.2)	15.4	(1.8)	4.1	0.0	(16.6)	15.2	(1.4)	5.5	(0.1)
of which non-sovereign	(204.7)	195.4	(9.3)	84.6	3.1	(185.0)	179.9	(5.1)	57.5	(0.6)

¹ Represents credit protection purchased with identical underlyings and recoveries.

² Based on internal ratings of BBB and above.

³ Includes synthetic securitized loan portfolios.

The following table reconciles the notional amount of credit derivatives included in the table "Fair value of derivative instruments" to the table "Credit protection sold/purchased".

Credit derivatives

end of	2019	2018
Credit derivatives (CHF billion)		
Credit protection sold	221.9	201.6
Credit protection purchased	210.8	195.1
Other protection purchased	88.7	63.0
Other instruments ¹	16.7	9.7
Total credit derivatives	538.1	469.4

¹ Consists of total return swaps and other derivative instruments.

Maturity of credit protection sold

end of	Maturity less than 1 year	Maturity between 1 to 5 years	Maturity greater than 5 years	Total
2019 (CHF billion)				
Single-name instruments	19.2	60.6	4.9	84.7
Multi-name instruments	41.9	79.8	15.5	137.2
Total instruments	61.1	140.4	20.4	221.9
2018 (CHF billion)				
Single-name instruments	13.1	54.9	4.2	72.2
Multi-name instruments	28.8	80.6	20.0	129.4
Total instruments	41.9	135.5	24.2	201.6

32 Guarantees and commitments

Guarantees

end of	Maturity less than 1 year	Maturity between 1 to 3 years	Maturity between 3 to 5 years	Maturity greater than 5 years	Total gross amount	Total net amount ¹	Carrying value	Collateral received
2019 (CHF million)								
Credit guarantees and similar instruments	2,206	252	189	471	3,118	3,065	10	1,655
Performance guarantees and similar instruments	4,942	3,059	668	188	8,857	7,833	31	2,793
Derivatives ²	13,194	2,665	695	690	17,244	17,244	295	- ³
Other guarantees	4,257	1,386	367	493	6,503	6,457	64	4,003
Total guarantees	24,599	7,362	1,919	1,842	35,722	34,599	400	8,451
2018 (CHF million)								
Credit guarantees and similar instruments	2,229	439	218	402	3,288	3,199	14	1,752
Performance guarantees and similar instruments	5,008	1,344	552	240	7,144	6,278	44	3,153
Derivatives ^{2, 4}	16,228	3,995	1,256	778	22,257	22,257	919	- ³
Other guarantees	4,325	1,405	640	517	6,887	6,814	56	4,169
Total guarantees	27,790	7,183	2,666	1,937	39,576	38,548	1,033	9,074

¹ Total net amount is computed as the gross amount less any participations.

² Excludes derivative contracts with certain active commercial and investment banks and certain other counterparties, as such contracts can be cash settled and the Bank had no basis to conclude it was probable that the counterparties held, at inception, the underlying instruments.

³ Collateral for derivatives accounted for as guarantees is not significant.

⁴ Prior period has been corrected.

→ Refer to "Note 33 – Guarantees and commitments" in VI – Consolidated financial statements – Credit Suisse Group for further information.

Deposit-taking banks and securities dealers in Switzerland and certain other European countries are required to ensure the payout of privileged deposits in case of specified restrictions or compulsory liquidation of a deposit-taking bank. In Switzerland, deposit-taking banks and securities dealers jointly guarantee an amount of up to CHF 6 billion. Upon occurrence of a payout event triggered by a specified restriction of business imposed by the Swiss Financial Market Supervisory Authority FINMA (FINMA) or by the compulsory liquidation of another deposit-taking bank, the Bank's contribution will be calculated based on its share

of privileged deposits in proportion to total privileged deposits. Based on FINMA's estimate for the Bank, the Bank's share in the deposit insurance guarantee program for the period July 1, 2019 to June 30, 2020 is CHF 0.5 billion. These deposit insurance guarantees were reflected in other guarantees.

Representations and warranties on residential mortgage loans sold

In connection with the Global Markets division's sale of US residential mortgage loans, the Bank has provided certain representations and warranties relating to the loans sold.

Other commitments

end of	Maturity less than 1 year	Maturity between 1 to 3 years	Maturity between 3 to 5 years	Maturity greater than 5 years	Total gross amount	Total net amount ¹	Collateral received
2019 (CHF million)							
Irrevocable commitments under documentary credits	4,434	163	0	0	4,597	4,518	3,077
Irrevocable loan commitments	27,145	38,974	48,856	10,152	125,127 ²	120,436	60,118
Forward reverse repurchase agreements	41	0	0	0	41	41	41
Other commitments	630	121	121	58	930	930	127
Total other commitments	32,250	39,258	48,977	10,210	130,695	125,925	63,363
2018 (CHF million)							
Irrevocable commitments under documentary credits	5,056	182	0	0	5,238	5,077	3,651
Irrevocable loan commitments ³	26,947	34,188	45,938	11,373	118,446 ²	114,340	59,461
Forward reverse repurchase agreements	31	0	0	0	31	31	31
Other commitments	329	11	119	33	492	492	4
Total other commitments	32,363	34,381	46,057	11,406	124,207	119,940	63,147

¹ Total net amount is computed as the gross amount less any participations.

² Irrevocable loan commitments do not include a total gross amount of CHF 128,295 million and CHF 113,593 million of unused credit limits as of December 31, 2019 and 2018, respectively, which were revocable at the Bank's sole discretion upon notice to the client.

³ Prior period has been corrected.

33 Transfers of financial assets and variable interest entities

Transfers of financial assets

→ Refer to "Note 34 – Transfers of financial assets and variable interest entities" in VI – Credit Suisse Group – Consolidated financial statements for further information.

Securizations

The following table provides the gains or losses and proceeds from the transfer of assets relating to 2019, 2018 and 2017 securitizations of financial assets that qualify for sale accounting and subsequent derecognition, along with the cash flows between the Bank and the SPEs used in any securitizations in which the Bank still has continuing involvement, regardless of when the securitization occurred.

Securizations	2019	2018	2017
in			
Gains/(losses) and cash flows (CHF million)			
CMBS			
Net gain ¹	10	10	37
Proceeds from transfer of assets	7,757	5,861	6,604
Cash received on interests that continue to be held	162	41	28
RMBS			
Net gain/(loss) ¹	2	(1)	0
Proceeds from transfer of assets	21,566	22,536	14,817
Purchases of previously transferred financial assets or its underlying collateral	(1)	0	(2)
Servicing fees	2	3	3
Cash received on interests that continue to be held	312	576	368
Other asset-backed financings			
Net gain ¹	101	77	31
Proceeds from transfer of assets	11,702	6,422	7,664
Purchases of previously transferred financial assets or its underlying collateral	(763)	(318)	(380)
Fees ²	151	142	135
Cash received on interests that continue to be held	6	3	4

¹ Includes underwriting revenues, deferred origination fees, gains or losses on the sale of collateral to the SPE and gains or losses on the sale of newly issued securities to third parties, but excludes net interest income on assets prior to the securitization. The gains or losses on the sale of the collateral is the difference between the fair value on the day prior to the securitization pricing date and the sale price of the loans.

² Represents management fees and performance fees earned for investment management services provided to managed CLOs.

Continuing involvement in transferred financial assets

The following table provides the outstanding principal balance of assets to which the Bank continued to be exposed after the transfer of the financial assets to any SPE and the total assets of the SPE as of December 31, 2019 and 2018, regardless of when the transfer of assets occurred.

Principal amounts outstanding and total assets of SPEs resulting from continuing involvement

end of	2019	2018
CHF million		
CMBS		
Principal amount outstanding	21,079	25,330
Total assets of SPE	28,748	35,760
RMBS		
Principal amount outstanding	54,001	40,253
Total assets of SPE	55,595	41,242
Other asset-backed financings		
Principal amount outstanding	27,982	23,036
Total assets of SPE	54,974	47,542

Principal amount outstanding relates to assets transferred from the Bank and does not include principle amounts for assets transferred from third parties.

Fair value of beneficial interests

The fair value measurement of beneficial interests held at the time of transfer and as of the reporting date that result from any continuing involvement is determined using fair value estimation techniques, such as the present value of estimated future cash flows that incorporate assumptions that market participants customarily use in these valuation techniques. The fair value of the assets or liabilities that result from any continuing involvement does not include any benefits from financial instruments that the Bank may utilize to hedge the inherent risks.

Key economic assumptions at the time of transfer

→ Refer to "Note 34 – Financial instruments" for further information on the fair value hierarchy.

Key economic assumptions used in measuring fair value of beneficial interests at time of transfer

at time of transfer, in	2019			2018		2017
	CMBS	RMBS	CMBS	RMBS	CMBS	RMBS
CHF million, except where indicated						
Fair value of beneficial interests	549	3,171	662	3,613	445	2,400
of which level 2	455	2,978	640	3,509	444	2,221
of which level 3	94	193	22	103	1	179
Weighted-average life, in years	5.5	5.5	6.6	7.8	10.0	6.0
Prepayment speed assumption (rate per annum), in % ¹	- ²	2.0–37.3	- ²	5.0–13.5	- ²	1.0–22.9
Cash flow discount rate (rate per annum), in % ³	2.5–8.3	1.5–15.7	3.6–9.8	3.0–13.6	2.4–9.0	2.0–29.5
Expected credit losses (rate per annum), in % ⁴	1.3–1.9	1.5–7.6	1.8–3.1	2.3–7.2	0.6–3.4	0.8–6.3

Transfers of assets in which the Bank does not have beneficial interests are not included in this table.

¹ Prepayment speed assumption (PSA) is an industry standard prepayment speed metric used for projecting prepayments over the life of a residential mortgage loan. PSA utilizes the constant prepayment rate (CPR) assumptions. A 100% prepayment assumption assumes a prepayment rate of 0.2% per annum of the outstanding principal balance of mortgage loans in the first month. This increases by 0.2 percentage points thereafter during the term of the mortgage loan, leveling off to a CPR of 6% per annum beginning in the 30th month and each month thereafter during the term of the mortgage loan. 100 PSA equals 6 CPR.

² To deter prepayment, commercial mortgage loans typically have prepayment protection in the form of prepayment lockouts and yield maintenances.

³ The rate was based on the weighted-average yield on the beneficial interests.

⁴ The range of expected credit losses only reflects instruments with an expected credit loss greater than zero unless all of the instruments have an expected credit loss of zero.

Key economic assumptions as of the reporting date

The following table provides the sensitivity analysis of key economic assumptions used in measuring the fair value of beneficial interests held in SPEs as of December 31, 2019 and 2018.

Key economic assumptions used in measuring fair value of beneficial interests held in SPEs

end of	2019			2018		
	CMBS ¹	RMBS	Other asset-backed financing activities ²	CMBS ¹	RMBS	Other asset-backed financing activities ²
CHF million, except where indicated						
Fair value of beneficial interests	399	2,282	751	805	2,006	226
of which non-investment grade	46	711	15	112	307	26
Weighted-average life, in years	6.4	5.7	1.6	5.7	7.9	5.6
Prepayment speed assumption (rate per annum), in % ³	-	3.0–35.7	-	-	2.0–20.0	-
Impact on fair value from 10% adverse change	-	(38.1)	-	-	(22.3)	-
Impact on fair value from 20% adverse change	-	(72.6)	-	-	(43.2)	-
Cash flow discount rate (rate per annum), in % ⁴	2.2–15.2	1.5–36.2	0.7–13.1	3.4–14.3	3.0–21.3	1.0–21.2
Impact on fair value from 10% adverse change	(6.8)	(38.3)	(2.1)	(20.7)	(52.1)	(2.9)
Impact on fair value from 20% adverse change	(13.4)	(74.7)	(4.2)	(37.6)	(101.3)	(5.7)
Expected credit losses (rate per annum), in % ⁵	0.5–8.5	1.1–34.5	0.7–12.8	0.8–4.7	0.6–18.8	1.0–21.2
Impact on fair value from 10% adverse change	(4.1)	(24.1)	(2.0)	(10.2)	(23.8)	(2.4)
Impact on fair value from 20% adverse change	(8.1)	(47.3)	(4.0)	(17.3)	(46.7)	(4.8)

¹ To deter prepayment, commercial mortgage loans typically have prepayment protection in the form of prepayment lockouts and yield maintenances.

² CDOs within this category are generally structured to be protected from prepayment risk.

³ PSA is an industry standard prepayment speed metric used for projecting prepayments over the life of a residential mortgage loan. PSA utilizes the CPR assumptions. A 100% prepayment assumption assumes a prepayment rate of 0.2% per annum of the outstanding principal balance of mortgage loans in the first month. This increases by 0.2 percentage points thereafter during the term of the mortgage loan, leveling off to a CPR of 6% per annum beginning in the 30th month and each month thereafter during the term of the mortgage loan. 100 PSA equals 6 CPR.

⁴ The rate was based on the weighted-average yield on the beneficial interests.

⁵ The range of expected credit losses only reflects instruments with an expected credit loss greater than zero unless all of the instruments have an expected credit loss of zero.

Transfers of financial assets where sale treatment was not achieved

The following table provides the carrying amounts of transferred financial assets and the related liabilities where sale treatment was not achieved as of December 31, 2019 and 2018.

Carrying amounts of transferred financial assets and liabilities where sale treatment was not achieved		
end of	2019	2018
CHF million		
Other asset-backed financings		
Trading assets	279	255
Liability to SPE, included in other liabilities	(279)	(255)

Securities sold under repurchase agreements and securities lending transactions accounted for as secured borrowings

The following tables provide the gross obligation relating to securities sold under repurchase agreements, securities lending transactions and obligation to return securities received as collateral by the class of collateral pledged and by remaining contractual maturity as of December 31, 2019 and 2018.

Securities sold under repurchase agreements, securities lending transactions and obligation to return securities received as collateral – by class of collateral pledged

end of	2019	2018
CHF billion		
Government debt securities	14.1	31.1
Corporate debt securities	11.0	9.6
Asset-backed securities	2.5	1.8
Equity securities	0.7	0.0
Other	0.2	0.2
Securities sold under repurchase agreements	28.5	42.7
Government debt securities	0.1	1.4
Corporate debt securities	0.1	0.2
Equity securities	5.4	3.2
Other	0.1	0.2
Securities lending transactions	5.7	5.0
Government debt securities	5.3	3.6
Corporate debt securities	1.8	1.0
Asset-backed securities	0.1	0.1
Equity securities	33.0	37.0
Obligation to return securities received as collateral, at fair value	40.2	41.7
Total	74.4	89.4

Securities sold under repurchase agreements, securities lending transactions and obligation to return securities received as collateral – by remaining contractual maturity

end of	Remaining contractual maturities				Total
	On demand ¹	Up to 30 days ²	31-90 days	More than 90 days	
2019 (CHF billion)					
Securities sold under repurchase agreements	5.2	15.2	5.9	2.2	28.5
Securities lending transactions	5.7	0.0	0.0	0.0	5.7
Obligation to return securities received as collateral, at fair value	40.0	0.1	0.1	0.0	40.2
Total	50.9	15.3	6.0	2.2	74.4
2018 (CHF billion)					
Securities sold under repurchase agreements	7.4	26.3	6.7	2.3	42.7
Securities lending transactions	4.1	0.9	0.0	0.0	5.0
Obligation to return securities received as collateral, at fair value	41.4	0.1	0.2	0.0	41.7
Total	52.9	27.3	6.9	2.3	89.4

¹ Includes contracts with no contractual maturity that may contain termination arrangements subject to a notice period.

² Includes overnight transactions.

→ Refer to "Note 26 – Offsetting of financial assets and financial liabilities" for further information on the gross amount of securities sold under repurchase agreements, securities lending transactions and obligation to return securities received as collateral and the net amounts disclosed in the consolidated balance sheets.

Variable interest entities

→ Refer to "Note 34 – Transfers of financial assets and variable interest entities" in VI – Consolidated financial statements – Credit Suisse Group for further information.

Commercial paper conduit

The Bank acts as the administrator and provider of liquidity and credit enhancement facilities for Alpine Securitization Ltd (Alpine), a multi-seller asset-backed CP conduit used for client and Bank financing purposes. Alpine discloses to CP investors certain portfolio and asset data and submits its portfolio to rating agencies for public ratings on its CP. This CP conduit purchases assets such as loans and receivables or enters into reverse repurchase agreements and finances such activities through the issuance of CP backed by these assets. The Bank (including Alpine) can enter into liquidity facilities with third-party entities pursuant to which it may be required to purchase assets from these entities to provide them with liquidity and credit support. The financing transactions are structured to provide credit support in the form of over-collateralization and other asset-specific enhancements. Alpine is a separate legal entity that is wholly owned by the Bank. However, its assets are available to satisfy only the claims of its creditors. In addition, the Bank, as administrator and liquidity facility provider, has significant exposure to and power over the activities of Alpine. Alpine is considered a VIE for accounting purposes and the Bank is deemed the primary beneficiary and consolidates this entity.

The overall average maturity of Alpine's outstanding CP was approximately 116 days as of December 31, 2019. Alpine's CP was rated A-1(sf) by Standard & Poor's and P-1(sf) by Moody's and had exposures mainly in reverse repurchase agreements with a Bank entity, consumer loans, aircraft loans and leases, car loans and leases, commercial leases and small business loans.

The Bank's financial commitment to this CP conduit consists of obligations under liquidity agreements. The liquidity agreements are asset-specific arrangements, which require the Bank

to provide short-term financing to the CP conduit or to purchase assets from the CP conduit in certain circumstances, including but not limited to, a lack of liquidity in the CP market such that the CP conduit cannot refinance its obligations or a default of an underlying asset. The asset-specific credit enhancements provided by the client seller of the assets remain unchanged as a result of such a purchase. In entering into such agreements, the Bank reviews the credit risk associated with these transactions on the same basis that would apply to other extensions of credit.

The Bank enters into liquidity facilities with CP conduits administered and sponsored by third parties. These third-party CP conduits are considered to be VIEs for accounting purposes. The Bank is not the primary beneficiary and does not consolidate these third-party CP conduits. The Bank's financial commitment to these third-party CP conduits consists of obligations under liquidity agreements. The liquidity agreements are asset-specific arrangements, which require the Bank to provide short-term financing to the third-party CP conduits or to purchase assets from these CP conduits in certain circumstances, including but not limited to, a lack of liquidity in the CP market such that the CP conduits cannot refinance their obligations or a default of an underlying asset. The asset-specific credit enhancements, if any, provided by the client seller of the assets remain unchanged as a result of such a purchase. In entering into such agreements, the Bank reviews the credit risk associated with these transactions on the same basis that would apply to other extensions of credit. In some situations, the Bank can enter into liquidity facilities with these third-party CP conduits through Alpine. As of December 31, 2019, the Bank's outstanding facilities provided to these third-party conduits through Alpine are not included in the tabular disclosure of non-consolidated VIEs and represent a maximum exposure to loss of CHF 6,159 million and total assets of these non-consolidated VIEs of CHF 13,488 million.

The Bank's economic risks associated with the Alpine CP conduit and the third-party CP conduits are included in the Bank's risk management framework including counterparty, economic risk capital and scenario analysis.

Consolidated VIEs

The Bank has significant involvement with VIEs in its role as a financial intermediary on behalf of clients. The Bank consolidated all VIEs related to financial intermediation for which it was the primary beneficiary.

Consolidated VIEs in which the Bank was the primary beneficiary

end of	CDO/ CLO	CP Conduit	Securi- tizations	Financial intermediation			Total
				Funds	Loans	Other	
2019 (CHF million)							
Cash and due from banks	6	1	71	11	39	10	138
Trading assets	75	0	1,554	82	1,063	14	2,788
Other investments	0	0	0	113	1,052	247	1,412
Net loans	0	325	53	1	29	241	649
Other assets	1	21	638	4	67	943	1,674
of which loans held-for-sale	0	0	93	0	0	0	93
of which premises and equipment	0	0	0	0	17	8	25
Total assets of consolidated VIEs	82	347	2,316	211	2,250	1,455	6,661
Trading liabilities	0	0	0	0	8	0	8
Short-term borrowings	0	4,885	0	0	0	0	4,885
Long-term debt	7	0	1,614	1	13	36	1,671
Other liabilities	0	54	1	4	91	146	296
Total liabilities of consolidated VIEs	7	4,939	1,615	5	112	182	6,860
2018 (CHF million)							
Cash and due from banks	15	1	68	17	52	20	173
Trading assets	72	0	1,602	418	944	12	3,048
Other investments	0	0	0	153	1,073	279	1,505
Net loans	0	0	119	0	23	245	387
Other assets	57	16	863	4	50	1,037	2,027
of which loans held-for-sale	57	0	107	0	3	0	167
of which premises and equipment	0	0	0	0	18	0	18
Total assets of consolidated VIEs	144	17	2,652	592	2,142	1,593	7,140
Trading liabilities	0	0	0	0	3	0	3
Short-term borrowings	0	5,465	0	0	0	0	5,465
Long-term debt	48	0	1,487	174	26	29	1,764
Other liabilities	0	43	1	8	98	127	277
Total liabilities of consolidated VIEs	48	5,508	1,488	182	127	156	7,509

Non-consolidated VIEs

Total assets of non-consolidated VIEs are the assets of the non-consolidated VIEs themselves and are typically unrelated to the exposures the Bank has with these entities due to variable interests held by third-party investors. Accordingly, these amounts are not considered for risk management purposes.

Non-consolidated VIEs

end of	CDO/ CLO	Financial intermediation				Total
		Securi- tizations	Funds	Loans	Other	
2019 (CHF million)						
Trading assets	230	4,897	962	109	4,311	10,509
Net loans	456	904	1,945	7,930	709	11,944
Other assets	3	26	513	0	380	922
Total variable interest assets	689	5,827	3,420	8,039	5,400	23,375
Maximum exposure to loss	785	7,664	3,425	12,239	5,937	30,050
Total assets of non-consolidated VIEs	8,057	141,608	127,558	25,590	14,274	317,087
2018 (CHF million)						
Trading assets	209	4,527	927	183	3,703	9,549
Net loans	154	1,475	1,591	5,246	430	8,896
Other assets	3	19	112	0	444	578
Total variable interest assets	366	6,021	2,630	5,429	4,577	19,023
Maximum exposure to loss	366	7,637	2,645	8,680	5,150	24,478
Total assets of non-consolidated VIEs	7,033	96,483	65,848	20,804	8,784	198,952

34 Financial instruments

→ Refer to "Note 35 – Financial instruments" in VI – Consolidated financial statements – Credit Suisse Group for further information.

Assets and liabilities measured at fair value on a recurring basis

end of 2019	Level 1	Level 2	Level 3	Netting impact ¹	Assets measured at net asset value per share ²	Total
Assets (CHF million)						
Cash and due from banks	0	356	0	–	–	356
Central bank funds sold, securities purchased under resale agreements and securities borrowing transactions	0	85,556	0	–	–	85,556
Securities received as collateral	36,438	3,780	1	–	–	40,219
Trading assets	85,622	157,186	7,885	(97,606)	808	153,895
of which debt securities	19,430	45,677	1,923	–	–	67,030
of which foreign government	19,281	7,484	198	–	–	26,963
of which corporates	16	10,941	1,128	–	–	12,085
of which RMBS	0	23,199	317	–	–	23,516
of which equity securities	60,737	2,862	197	–	808	64,604
of which derivatives	3,539	108,263	3,534	(97,606)	–	17,730
of which interest rate products	1,091	66,763	554	–	–	–
of which foreign exchange products	23	21,754	152	–	–	–
of which equity/index-related products	2,417	13,918	1,040	–	–	–
of which credit derivatives	0	5,336	879	–	–	–
of which other derivatives	5	66	909	–	–	–
of which other trading assets	1,916	384	2,231	–	–	4,531
Investment securities	0	1,004	0	–	–	1,004
Other investments	24	5	2,523	–	996	3,548
of which other equity investments	24	5	1,463	–	589	2,081
of which life finance instruments	0	0	1,052	–	–	1,052
Loans	0	8,945	3,716	–	–	12,661
of which commercial and industrial loans	0	2,491	1,283	–	–	3,774
of which financial institutions	0	3,730	1,201	–	–	4,931
of which government and public institutions	0	2,200	830	–	–	3,030
Other intangible assets (mortgage servicing rights)	0	0	244	–	–	244
Other assets	101	8,902	1,846	(447)	–	10,402
of which loans held-for-sale	0	6,594	1,619	–	–	8,213
Total assets at fair value	122,185	265,734	16,215	(98,053)	1,804	307,885

¹ Derivative contracts are reported on a gross basis by level. The impact of netting represents legally enforceable master netting agreements.

² In accordance with US GAAP, certain investments that are measured at fair value using the net asset value per share practical expedient have not been classified in the fair value hierarchy. The fair value amounts presented in this table are intended to permit reconciliation of the fair value hierarchy to the amounts presented in the consolidated balance sheet.

Assets and liabilities measured at fair value on a recurring basis (continued)

end of 2019	Level 1	Level 2	Level 3	Netting impact ¹	Liabilities measured at net asset value per share ²	Total
Liabilities (CHF million)						
Due to banks	0	322	0	–	–	322
Customer deposits	0	2,865	474	–	–	3,339
Central bank funds purchased, securities sold under repurchase agreements and securities lending transactions	0	10,823	0	–	–	10,823
Obligation to return securities received as collateral	36,438	3,780	1	–	–	40,219
Trading liabilities	23,009	115,107	3,854	(103,786)	2	38,186
of which debt securities	3,636	5,286	0	–	–	8,922
of which foreign government	3,544	345	0	–	–	3,889
of which equity securities	15,628	109	53	–	2	15,792
of which derivatives	3,745	109,712	3,801	(103,786)	–	13,472
of which interest rate products	1,101	64,687	167	–	–	–
of which foreign exchange products	31	26,156	98	–	–	–
of which equity/index-related products	2,603	12,518	1,921	–	–	–
of which credit derivatives	0	5,963	1,211	–	–	–
Short-term borrowings	0	10,336	997	–	–	11,333
Long-term debt	0	56,657	12,749	–	–	69,406
of which structured notes over one year and up to two years	0	9,291	891	–	–	10,182
of which structured notes over two years	0	27,626	11,458	–	–	39,084
of which high-trigger instruments	0	7,621	5	–	–	7,626
of which other subordinated bonds	0	7,438	140	–	–	7,578
Other liabilities	0	6,650	1,367	(148)	–	7,869
Total liabilities at fair value	59,447	206,540	19,442	(103,934)	2	181,497

¹ Derivative contracts are reported on a gross basis by level. The impact of netting represents legally enforceable master netting agreements.

² In accordance with US GAAP, certain investments that are measured at fair value using the net asset value per share practical expedient have not been classified in the fair value hierarchy. The fair value amounts presented in this table are intended to permit reconciliation of the fair value hierarchy to the amounts presented in the consolidated balance sheet.

Assets and liabilities measured at fair value on a recurring basis (continued)

end of 2018	Level 1	Level 2	Level 3	Netting impact ¹	Assets measured at net asset value per share ²	Total
Assets (CHF million)						
Cash and due from banks	0	115	0	–	–	115
Central bank funds sold, securities purchased under resale agreements and securities borrowing transactions	0	81,818	0	–	–	81,818
Securities received as collateral	37,962	3,704	30	–	–	41,696
Trading assets ³	76,178	157,505	8,980	(109,930)	1,126	133,859
of which debt securities	23,726	37,668	2,242	–	12	63,648
of which foreign government	23,547	4,542	232	–	–	28,321
of which corporates	66	8,065	1,260	–	12	9,403
of which RMBS	0	20,919	432	–	–	21,351
of which equity securities	42,812	2,459	132	–	1,114	46,517
of which derivatives	8,000	117,034	3,298	(109,930)	–	18,402
of which interest rate products	3,557	65,823	507	–	–	–
of which foreign exchange products	25	27,526	258	–	–	–
of which equity/index-related products	4,415	18,059	1,054	–	–	–
of which credit derivatives	0	4,739	673	–	–	–
of which other derivatives	2	633	806	–	–	–
of which other trading assets	1,640	344	3,308	–	–	5,292
Investment securities ³	0	1,477	0	–	–	1,477
Other investments	14	7	1,309	–	1,100	2,430
of which life finance instruments	0	0	1,067	–	–	1,067
Loans	0	10,549	4,324	–	–	14,873
of which commercial and industrial loans	0	3,976	1,949	–	–	5,925
of which financial institutions	0	4,164	1,391	–	–	5,555
of which real estate	0	146	515	–	–	661
Other intangible assets (mortgage servicing rights)	0	0	163	–	–	163
Other assets	117	5,807	1,543	(204)	–	7,263
of which loans held-for-sale	0	4,238	1,235	–	–	5,473
Total assets at fair value	114,271	260,982	16,349	(110,134)	2,226	283,694

¹ Derivative contracts are reported on a gross basis by level. The impact of netting represents legally enforceable master netting agreements.

² In accordance with US GAAP, certain investments that are measured at fair value using the net asset value per share practical expedient have not been classified in the fair value hierarchy. The fair value amounts presented in this table are intended to permit reconciliation of the fair value hierarchy to the amounts presented in the consolidated balance sheet.

³ Residential and commercial mortgage-backed securities that were previously reported in investment securities have been reclassified to trading assets as these securities are carried at fair value under the fair value option.

Assets and liabilities measured at fair value on a recurring basis (continued)

end of 2018	Level 1	Level 2	Level 3	Netting impact ¹	Liabilities measured at net asset value per share ²	Total
Liabilities (CHF million)						
Due to banks	0	406	0	–	–	406
Customer deposits	0	2,839	453	–	–	3,292
Central bank funds purchased, securities sold under repurchase agreements and securities lending transactions	0	14,828	0	–	–	14,828
Obligation to return securities received as collateral	37,962	3,704	30	–	–	41,696
Trading liabilities	31,940	123,737	3,589	(117,105)	10	42,171
of which debt securities	4,462	3,511	25	–	–	7,998
of which foreign government	4,328	255	0	–	–	4,583
of which equity securities	18,785	118	37	–	10	18,950
of which derivatives	8,693	120,108	3,527	(117,105)	–	15,223
of which interest rate products	3,699	62,573	189	–	–	–
of which foreign exchange products	32	31,983	160	–	–	–
of which equity/index-related products	4,961	19,788	1,500	–	–	–
of which credit derivatives	0	5,485	1,140	–	–	–
Short-term borrowings	0	7,284	784	–	–	8,068
Long-term debt	0	50,356	12,671	–	–	63,027
of which structured notes over one year and up to two years	0	7,242	528	–	–	7,770
of which structured notes over two years	0	28,215	11,800	–	–	40,015
Other liabilities	0	7,877	1,327	(221)	–	8,983
Total liabilities at fair value	69,902	211,031	18,854	(117,326)	10	182,471

¹ Derivative contracts are reported on a gross basis by level. The impact of netting represents legally enforceable master netting agreements.

² In accordance with US GAAP, certain investments that are measured at fair value using the net asset value per share practical expedient have not been classified in the fair value hierarchy. The fair value amounts presented in this table are intended to permit reconciliation of the fair value hierarchy to the amounts presented in the consolidated balance sheet.

Assets and liabilities measured at fair value on a recurring basis for level 3

2019	Balance at beginning of period	Transfers in	Transfers out	Purchases	Sales	Issuances
Assets (CHF million)						
Central bank funds sold, securities purchased under resale agreements and securities borrowing transactions	0	0	(12)	0	0	12
Securities received as collateral	30	0	0	2	(31)	0
Trading assets	8,980	1,600	(2,723)	16,544	(17,005)	1,142
of which debt securities	2,242	793	(1,508)	4,037	(3,537)	0
of which foreign governments	232	30	(43)	67	(69)	0
of which corporates	1,260	485	(843)	3,076	(2,768)	0
of which RMBS	432	130	(528)	732	(465)	0
of which equity securities	132	83	(57)	174	(84)	0
of which derivatives	3,298	592	(734)	0	0	1,142
of which interest rate products	507	24	(11)	0	0	72
of which foreign exchange derivatives	258	56	(78)	0	0	16
of which equity/index-related products	1,054	224	(400)	0	0	361
of which credit derivatives	673	282	(244)	0	0	390
of which other derivatives	806	6	(1)	0	0	303
of which other trading assets	3,308	132	(424)	12,333	(13,384)	0
Other investments	1,309	48	(6)	1,184	(194)	0
of which other equity investments	227	48	(6)	1,134	10	0
of which life finance instruments	1,067	0	0	39	(186)	0
Loans	4,324	731	(470)	255	(275)	1,436
of which commercial and industrial loans	1,949	269	(335)	49	(194)	346
of which financial institutions	1,391	414	(76)	5	(81)	524
of which government and public institutions	446	48	(58)	199	0	251
Other intangible assets (mortgage servicing rights)	163	0	0	85	0	0
Other assets	1,543	470	(283)	1,970	(1,913)	703
of which loans held-for-sale	1,235	444	(222)	1,718	(1,693)	703
Total assets at fair value	16,349	2,849	(3,494)	20,040	(19,418)	3,293
Liabilities (CHF million)						
Customer deposits	453	0	0	0	0	6
Obligation to return securities received as collateral	30	0	0	2	(31)	0
Trading liabilities	3,589	743	(723)	874	(891)	2,079
of which equity securities	37	11	(1)	859	(849)	0
of which derivatives	3,527	723	(714)	1	(4)	2,079
of which interest rate derivatives	189	21	(10)	0	0	28
of which foreign exchange derivatives	160	45	(26)	0	0	8
of which equity/index-related derivatives	1,500	344	(405)	0	0	692
of which credit derivatives	1,140	314	(273)	0	0	1,101
Short-term borrowings	784	187	(494)	0	0	1,477
Long-term debt	12,671	2,707	(4,398)	0	0	6,102
of which structured notes over one year and up to two years	528	406	(479)	0	0	1,024
of which structured notes over two years	11,800	2,286	(3,708)	0	0	4,546
of which high-trigger instruments	6	0	0	0	0	(1)
of which other subordinated bonds	0	0	0	0	0	136
Other liabilities	1,327	51	(80)	80	(131)	114
Total liabilities at fair value	18,854	3,688	(5,695)	956	(1,053)	9,778
Net assets/(liabilities) at fair value	(2,505)	(839)	2,201	19,084	(18,365)	(6,485)

Settlements	Trading revenues		Other revenues		Accumulated other comprehensive income		Foreign currency translation impact	Balance at end of period
	On transfers out	On all other	On transfers out	On all other	On transfers out	On all other		
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	1
(1,641)	(80)	1,281	0	0	0	0	(213)	7,885
0	17	(41)	0	0	0	0	(80)	1,923
0	3	(13)	0	0	0	0	(9)	198
0	21	(52)	0	0	0	0	(51)	1,128
0	(4)	34	0	0	0	0	(14)	317
0	(3)	(45)	0	0	0	0	(3)	197
(1,616)	(92)	1,034	0	0	0	0	(90)	3,534
(104)	2	85	0	0	0	0	(21)	554
(28)	(8)	(60)	0	0	0	0	(4)	152
(402)	(80)	316	0	0	0	0	(33)	1,040
(765)	(6)	565	0	0	0	0	(16)	879
(317)	0	128	0	0	0	0	(16)	909
(25)	(2)	333	0	0	0	0	(40)	2,231
0	0	151	0	56	0	0	(25)	2,523
0	0	1	0	56	0	0	(7)	1,463
0	0	150	0	0	0	0	(18)	1,052
(2,170)	4	(64)	0	0	0	0	(55)	3,716
(734)	0	(49)	0	0	0	0	(18)	1,283
(957)	0	(9)	0	0	0	0	(10)	1,201
(28)	2	(9)	0	0	0	0	(21)	830
0	0	0	0	2	0	0	(6)	244
(565)	17	(48)	0	0	0	0	(48)	1,846
(564)	3	36	0	0	0	0	(41)	1,619
(4,376)	(59)	1,320	0	58	0	0	(347)	16,215
(34)	0	23	0	0	0	51	(25)	474
0	0	0	0	0	0	0	0	1
(2,478)	108	626	0	0	0	0	(73)	3,854
0	0	(2)	0	0	0	0	(2)	53
(2,478)	108	631	0	0	0	0	(72)	3,801
(60)	(2)	3	0	0	0	0	(2)	167
(58)	(11)	(20)	0	0	0	0	0	98
(761)	92	500	0	0	0	0	(41)	1,921
(1,327)	28	249	0	0	0	0	(21)	1,211
(1,151)	30	191	0	0	0	0	(27)	997
(5,668)	149	1,291	0	0	13	175	(293)	12,749
(630)	42	20	0	0	0	2	(22)	891
(4,744)	94	1,256	0	0	13	173	(258)	11,458
0	0	0	0	0	0	0	0	5
0	1	6	0	0	0	0	(3)	140
(377)	(4)	65	0	346	0	0	(24)	1,367
(9,708)	283	2,196	0	346	13	226	(442)	19,442
5,332	(342)	(876)	0	(288)	(13)	(226)	95	(3,227)

Assets and liabilities measured at fair value on a recurring basis for level 3 (continued)

2018	Balance at beginning of period	Transfers in	Transfers out	Purchases	Sales	Issuances
Assets (CHF million)						
Securities received as collateral	46	0	(15)	102	(103)	0
Trading assets ¹	8,796	1,571	(1,723)	40,338	(40,166)	1,394
of which debt securities	2,334	810	(1,025)	3,582	(3,289)	0
of which foreign governments	270	21	(12)	45	(67)	0
of which corporates	1,412	491	(593)	2,582	(2,583)	0
of which RMBS	360	219	(346)	651	(361)	0
of which equity securities	163	132	(95)	51	(185)	0
of which derivatives	3,289	510	(525)	0	0	1,394
of which interest rate products	801	18	(66)	0	0	100
of which foreign exchange derivatives	188	3	(2)	0	0	14
of which equity/index-related products	833	329	(317)	0	0	447
of which credit derivatives	634	160	(141)	0	0	505
of which other derivatives	833	0	1	0	0	328
of which other trading assets	3,010	119	(78)	36,705	(36,692)	0
Other investments	1,601	79	(102)	228	(405)	0
of which life finance instruments	1,301	0	0	151	(299)	0
Loans	4,530	934	(393)	163	(491)	1,563
of which commercial and industrial loans	2,207	348	(29)	1	(226)	783
of which financial institutions	1,480	335	(53)	150	(133)	332
of which real estate	171	196	(81)	0	0	307
Other intangible assets (mortgage servicing rights)	158	0	0	1	0	0
Other assets	1,511	288	(191)	1,610	(1,357)	300
of which loans held-for-sale	1,350	243	(166)	1,447	(1,310)	300
Total assets at fair value	16,642	2,872	(2,424)	42,442	(42,522)	3,257
Liabilities (CHF million)						
Customer deposits	455	0	0	0	0	0
Obligation to return securities received as collateral	46	0	(15)	102	(103)	0
Trading liabilities	3,226	768	(641)	127	(107)	2,573
of which debt securities	2	30	(24)	39	(23)	0
of which equity securities	55	19	(5)	87	(80)	0
of which derivatives	3,169	719	(612)	1	(4)	2,573
of which interest rate derivatives	317	25	(11)	0	0	156
of which foreign exchange derivatives	100	19	(1)	0	0	55
of which equity/index-related derivatives	1,301	429	(364)	0	0	1,306
of which credit derivatives	898	247	(235)	0	0	806
Short-term borrowings	845	335	(242)	0	0	1,090
Long-term debt	12,501	2,873	(3,108)	0	0	5,761
of which structured notes over one year and up to two years	149	452	(296)	0	0	745
of which structured notes over two years	12,259	2,368	(2,800)	0	0	4,761
Other liabilities	1,467	117	(29)	45	(128)	20
Total liabilities at fair value	18,540	4,093	(4,035)	274	(338)	9,444
Net assets/(liabilities) at fair value	(1,898)	(1,221)	1,611	42,168	(42,184)	(6,187)

¹ Residential and commercial mortgage-backed securities that were previously reported in investment securities have been reclassified to trading assets as these securities are carried at fair value under the fair value option.

Settlements	Trading revenues		Other revenues		Accumulated other comprehensive income		Foreign currency translation impact	Balance at end of period
	On transfers out	On all other	On transfers out	On all other	On transfers out	On all other		
0	0	0	0	0	0	0	0	30
(1,682)	(21)	488	0	0	0	0	(15)	8,980
(205)	25	35	0	(3)	0	0	(22)	2,242
0	0	4	0	0	0	0	(29)	232
0	31	(72)	0	(4)	0	0	(4)	1,260
(205)	(3)	111	0	0	0	0	6	432
0	8	55	0	3	0	0	0	132
(1,434)	(56)	144	0	0	0	0	(24)	3,298
(116)	17	(237)	0	0	0	0	(10)	507
(24)	(2)	79	0	0	0	0	2	258
(436)	(77)	300	0	0	0	0	(25)	1,054
(438)	5	(59)	0	0	0	0	7	673
(420)	1	61	0	0	0	0	2	806
(43)	2	254	0	0	0	0	31	3,308
0	0	(93)	0	5	0	0	(4)	1,309
0	0	(96)	0	0	0	0	10	1,067
(1,866)	7	(134)	0	(13)	0	0	24	4,324
(1,057)	0	(83)	0	(5)	0	0	10	1,949
(746)	10	8	0	0	0	0	8	1,391
(64)	2	(8)	0	(8)	0	0	0	515
0	0	0	0	1	0	0	3	163
(540)	22	(32)	0	(1)	0	0	(67)	1,543
(539)	21	(44)	0	0	0	0	(67)	1,235
(4,088)	8	229	0	(8)	0	0	(59)	16,349
0	0	32	0	0	0	(21)	(13)	453
0	0	0	0	0	0	0	0	30
(1,527)	(7)	(839)	0	(3)	0	0	19	3,589
0	0	1	0	0	0	0	0	25
0	(3)	(33)	0	(3)	0	0	0	37
(1,527)	(4)	(807)	0	0	0	0	19	3,527
(145)	16	(171)	0	0	0	0	2	189
(29)	0	15	0	0	0	0	1	160
(548)	(36)	(592)	0	0	0	0	4	1,500
(572)	16	(30)	0	0	0	0	10	1,140
(1,133)	3	(117)	0	(4)	0	0	7	784
(3,656)	(25)	(1,381)	0	0	(2)	(417)	125	12,671
(501)	(10)	(14)	0	0	0	0	3	528
(3,115)	(17)	(1,355)	0	0	(2)	(417)	118	11,800
(417)	(7)	94	0	159	0	0	6	1,327
(6,733)	(36)	(2,211)	0	152	(2)	(438)	144	18,854
2,645	44	2,440	0	(160)	2	438	(203)	(2,505)

Gains and losses on assets and liabilities measured at fair value on a recurring basis (level 3)

in	2019			2018		
	Trading revenues	Other revenues	Total revenues	Trading revenues	Other revenues	Total revenues
Gains and losses on assets and liabilities (CHF million)						
Net realized/unrealized gains/(losses) included in net revenues	(1,218)	(288)	(1,506)¹	2,484	(160)	2,324¹
Whereof:						
Unrealized gains/(losses) relating to assets and liabilities still held as of the reporting date	(1,423)	149	(1,274)	99 ²	(6)	93²

¹ Excludes net realized/unrealized gains/(losses) attributable to foreign currency translation impact.

² Prior period has been corrected.

Quantitative information about level 3 assets at fair value

end of 2019	Fair value	Valuation technique	Unobservable input	Minimum value	Maximum value	Weighted average ¹
CHF million, except where indicated						
Securities received as collateral	1	–	–	–	–	–
Trading assets	7,885					
of which debt securities	1,923					
of which foreign governments	198	Discounted cash flow	Credit spread, in bp	140	140	140
of which corporates	1,128					
of which	503	Market comparable	Price, in %	0	129	97
of which	913	Option model	Correlation, in %	(60)	100	63
			Gap risk, in % ²	0	2	0
			Volatility, in %	0	275	27
of which RMBS	317	Discounted cash flow	Default rate, in %	0	12	2
			Discount rate, in %	1	36	13
			Loss severity, in %	0	100	46
			Prepayment rate, in %	2	45	10
of which equity securities	197	Vendor price	Price, in actuals	0	36,760	383
of which derivatives	3,534					
of which interest rate products	554	Option model	Correlation, in %	0	100	69
			Prepayment rate, in %	1	28	10
			Volatility skew, in %	(4)	6	(1)
of which foreign exchange products	152	Option model	Correlation, in %	5	70	30
			Prepayment rate, in %	23	28	25
of which equity/index-related products	1,040	Option model	Buyback probability, in %	50	100	70
			Correlation, in %	(50)	100	64
			Gap risk, in % ²	0	2	0
			Volatility, in %	0	275	30
of which credit derivatives	879					
of which	691	Discounted cash flow	Correlation, in %	97	97	97
			Credit spread, in bp	2	1,033	150
			Default rate, in %	1	20	4
			Discount rate, in %	8	27	16
			Funding spread, in bp	100	115	102
			Loss severity, in %	29	85	69
			Prepayment rate, in %	0	7	4
			Recovery rate, in %	0	40	26
of which	142	Market comparable	Price, in %	86	110	98
of which other derivatives	909	Discounted cash flow	Market implied life expectancy, in years	2	15	6
			Mortality rate, in %	71	134	97
of which other trading assets	2,231					
of which	856	Discounted cash flow	Market implied life expectancy, in years	2	15	7
of which	1,118	Market comparable	Price, in %	0	112	27
of which	233	Option model	Mortality rate, in %	0	70	6

¹ Cash instruments are generally presented on a weighted average basis, while certain derivative instruments either contain a combination of weighted averages and arithmetic means of the related inputs or are presented on an arithmetic mean basis.

² Risk of unexpected large declines in the underlying values occurring between collateral settlement dates.

Quantitative information about level 3 assets at fair value (continued)

end of 2019	Fair value	Valuation technique	Unobservable input	Minimum value	Maximum value	Weighted average ¹
CHF million, except where indicated						
Other investments	2,523					
of which other equity investments	1,463					
of which	398	Discounted cash flow	Discount rate, in %	9	9	9
			Terminal growth rate, in %	3	3	3
of which	147	Market comparable	Price, in %	100	100	100
of which	857	Vendor price	Price, in actuals	1	869	231
			Market implied life expectancy, in years	2	16	6
of which life finance instruments	1,052	Discounted cash flow				
Loans	3,716					
of which commercial and industrial loans	1,283					
of which	996	Discounted cash flow	Credit spread, in bp	96	1,484	654
			Recovery rate, in %	25	25	25
of which	273	Market comparable	Price, in %	0	99	64
of which financial institutions	1,201					
of which	984	Discounted cash flow	Credit spread, in bp	111	1,261	412
			Recovery rate, in %	25	25	25
of which	135	Market comparable	Price, in %	16	100	36
of which government and public institutions	830					
of which	468	Discounted cash flow	Credit spread, in bp	457	526	500
			Recovery rate, in %	25	40	30
of which	166	Market comparable	Price, in %	62	62	62
Other intangible assets (mortgage servicing rights)	244	–	–	–	–	–
Other assets	1,846					
of which loans held-for-sale	1,619					
of which	501	Discounted cash flow	Credit spread, in bp	117	381	243
			Recovery rate, in %	0	1	1
of which	1,026	Market comparable	Price, in %	0	180	91
Total level 3 assets at fair value	16,215					

¹ Cash instruments are generally presented on a weighted average basis, while certain derivative instruments either contain a combination of weighted averages and arithmetic means of the related inputs or are presented on an arithmetic mean basis.

Quantitative information about level 3 assets at fair value (continued)

end of 2018	Fair value	Valuation technique	Unobservable input	Minimum value	Maximum value	Weighted average ¹
CHF million, except where indicated						
Securities received as collateral	30	–	–	–	–	–
Trading assets ²	8,980					
of which debt securities	2,242					
of which foreign governments	232	Discounted cash flow	Credit spread, in bp	140	140	140
of which corporates	1,260					
of which	441	Market comparable	Price, in %	0	118	94
of which	621	Option model	Correlation, in %	(60)	98	68
			Volatility, in %	0	178	30
of which RMBS	432	Discounted cash flow	Default rate, in %	0	11	3
			Discount rate, in %	1	26	7
			Loss severity, in %	0	100	63
			Prepayment rate, in %	1	22	8
of which equity securities	132					
of which	76	Market comparable	EBITDA multiple	2	9	6
			Price, in %	100	100	100
of which	49	Vendor price	Price, in actuals	0	355	1
of which derivatives	3,298					
of which interest rate products	507	Option model	Correlation, in %	0	100	69
			Prepayment rate, in %	1	26	9
			Volatility skew, in %	(4)	0	(2)
of which foreign exchange products	258					
of which	28	Discounted cash flow	Contingent probability, in %	95	95	95
of which	218	Option model	Correlation, in %	(23)	70	24
			Prepayment rate, in %	21	26	23
			Volatility, in %	80	90	85
of which equity/index-related products	1,054	Option model	Buyback probability, in %	50	100	74
			Correlation, in %	(40)	98	80
			Gap risk, in % ³	0	4	1
			Volatility, in %	2	178	34
of which credit derivatives	673	Discounted cash flow	Correlation, in %	97	97	97
			Credit spread, in bp	3	2,147	269
			Default rate, in %	1	20	4
			Discount rate, in %	3	28	15
			Loss severity, in %	16	85	56
			Prepayment rate, in %	0	12	6
			Recovery rate, in %	0	68	8
of which other derivatives	806	Discounted cash flow	Market implied life expectancy, in years	2	16	5
of which other trading assets	3,308					
of which	870	Discounted cash flow	Market implied life expectancy, in years	3	17	7
of which	2,119	Market comparable	Price, in %	0	110	30
of which	249	Option model	Mortality rate, in %	0	70	6

¹ Cash instruments are generally presented on a weighted average basis, while certain derivative instruments either contain a combination of weighted averages and arithmetic means of the related inputs or are presented on an arithmetic mean basis.

² Residential and commercial mortgage-backed securities that were previously reported in investment securities have been reclassified to trading assets as these securities are carried at fair value under the fair value option.

³ Risk of unexpected large declines in the underlying values occurring between collateral settlement dates.

Quantitative information about level 3 assets at fair value (continued)

end of 2018	Fair value	Valuation technique	Unobservable input	Minimum value	Maximum value	Weighted average ¹
CHF million, except where indicated						
Other investments	1,309					
of which life finance instruments	1,067	Discounted cash flow	Market implied life expectancy, in years	2	17	6
Loans	4,324					
of which commercial and industrial loans	1,949					
of which	1,531	Discounted cash flow	Credit spread, in bp	159	1,184	582
of which	306	Market comparable	Price, in %	0	99	65
of which financial institutions	1,391					
of which	1,157	Discounted cash flow	Credit spread, in bp	88	1,071	596
of which	73	Market comparable	Price, in %	1	100	74
of which real estate	515	Discounted cash flow	Credit spread, in bp	200	1,522	612
			Recovery rate, in %	25	40	39
Other intangible assets (mortgage servicing rights)	163	–	–	–	–	–
Other assets	1,543					
of which loans held-for-sale	1,235					
of which	422	Discounted cash flow	Credit spread, in bp	105	2,730	394
			Recovery rate, in %	25	87	56
of which	739	Market comparable	Price, in %	0	130	82
Total level 3 assets at fair value	16,349					

Quantitative information about level 3 liabilities at fair value

end of 2019	Fair value	Valuation technique	Unobservable input	Minimum value	Maximum value	Weighted average ¹
CHF million, except where indicated						
Customer deposits	474	Option model	Correlation, in %	0	100	77
			Credit spread, in bp	46	79	71
			Mean revision, in % ²	10	10	10
Obligation to return securities received as collateral	1	–	–	–	–	–
Trading liabilities	3,854					
of which equity securities	53	Vendor price	Price, in actuals	0	66	2
of which derivatives	3,801					
of which interest rate derivatives	167	Option model	Correlation, in %	0	100	47
			Prepayment rate, in %	1	28	7
of which foreign exchange derivatives	98					
of which	37	Discounted cash flow	Contingent probability, in %	95	95	95
			Credit spread, in bp	47	147	71
of which	12	Market comparable	Price, in %	100	100	100
of which	47	Option model	Correlation, in %	35	70	53
			Prepayment rate, in %	23	28	25
of which equity/index-related derivatives	1,921	Option model	Buyback probability, in % ³	50	100	70
			Correlation, in %	(60)	100	66
			Volatility, in %	0	275	26
of which credit derivatives	1,211					
of which	745	Discounted cash flow	Correlation, in %	38	45	44
			Credit spread, in bp	2	1,041	142
			Default rate, in %	1	20	4
			Discount rate, in %	8	27	15
			Funding spread, in bp	100	154	122
			Loss severity, in %	29	85	69
			Prepayment rate, in %	0	8	5
			Recovery rate, in %	0	40	31
of which	412	Market comparable	Price, in %	89	110	99
of which	23	Option model	Correlation, in %	49	50	49
			Credit spread, in bp	17	1,225	270

¹ Cash instruments are generally presented on a weighted average basis, while certain derivative instruments either contain a combination of weighted averages and arithmetic means of the related inputs or are presented on an arithmetic mean basis.

² Management's best estimate of the speed at which interest rates will revert to the long-term average.

³ Estimate of the probability of structured notes being put back to the Bank at the option of the investor over the remaining life of the financial instruments.

Quantitative information about level 3 liabilities at fair value (continued)

end of 2019	Fair value	Valuation technique	Unobservable input	Minimum value	Maximum value	Weighted average ¹
CHF million, except where indicated						
Short-term borrowings	997					
of which	56	Discounted cash flow	Credit spread, in bp	(40)	937	138
			Recovery rate, in %	40	40	40
of which	847	Option model	Buyback probability, in %	50	100	70
			Correlation, in %	(50)	100	62
			Fund gap risk, in % ²	0	2	0
			Volatility, in %	1	275	39
Long-term debt	12,749					
of which structured notes over one year and up to two years	891					
of which	78	Discounted cash flow	Credit spread, in bp	(15)	3,206	246
			Recovery rate, in %	25	25	25
of which	813	Option model	Buyback probability, in % ³	50	100	70
			Correlation, in %	(50)	100	64
			Fund gap risk, in % ²	0	2	0
			Volatility, in %	1	275	36
of which structured notes over two years	11,458					
of which	1,141	Discounted cash flow	Credit spread, in bp	(12)	1,260	40
			Recovery rate, in %	25	40	29
of which	22	Market comparable	Price, in %	43	46	43
of which	9,972	Option model	Buyback probability, in % ³	50	100	70
			Correlation, in %	(60)	100	63
			Gap risk, in % ²	0	2	0
			Mean reversion, in % ⁴	(55)	0	(7)
			Volatility, in %	0	275	26
of which high-trigger instruments	5	–	–	–	–	–
of which other subordinated bonds	140	–	–	–	–	–
Other liabilities	1,367	–	–	–	–	–
Total level 3 liabilities at fair value	19,442					

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² Risk of unexpected large declines in the underlying values occurring between collateral settlement dates.

³ Estimate of the probability of structured notes being put back to the Bank at the option of the investor over the remaining life of the financial instruments.

⁴ Management's best estimate of the speed at which interest rates will revert to the long-term average.

Quantitative information about level 3 liabilities at fair value (continued)

end of 2018	Fair value	Valuation technique	Unobservable input	Minimum value	Maximum value	Weighted average ¹
CHF million, except where indicated						
Customer deposits	453	–	–	–	–	–
Obligation to return securities received as collateral	30	–	–	–	–	–
Trading liabilities	3,589	–	–	–	–	–
of which debt securities	25	–	–	–	–	–
of which equity securities	37	Vendor price	Price, in actuals	0	3	0
of which derivatives	3,527	–	–	–	–	–
of which interest rate derivatives	189	Option model	Basis spread, in bp	(20)	147	48
			Correlation, in %	1	100	41
			Prepayment rate, in %	1	26	7
of which foreign exchange derivatives	160	–	–	–	–	–
of which	62	Discounted cash flow	Contingent probability, in %	95	95	95
			Credit spread, in bp	146	535	379
of which	37	Market comparable	Price, in %	100	100	100
of which	57	Option model	Correlation, in %	35	70	53
			Prepayment rate, in %	21	26	23
of which equity/index-related derivatives	1,500	Option model	Buyback probability, in % ²	50	100	74
			Correlation, in %	(60)	98	74
			Volatility, in %	0	178	30
of which credit derivatives	1,140	–	–	–	–	–
of which	566	Discounted cash flow	Correlation, in %	38	82	47
			Credit spread, in bp	3	2,937	262
			Default rate, in %	1	20	4
			Discount rate, in %	3	28	14
			Loss severity, in %	16	95	56
			Prepayment rate, in %	0	12	6
			Recovery rate, in %	0	80	14
of which	508	Market comparable	Price, in %	75	104	89
of which	20	Option model	Correlation, in %	50	50	50
			Credit spread, in bp	35	1,156	320
Short-term borrowings	784	–	–	–	–	–
of which	61	Discounted cash flow	Credit spread, in bp	1,018	1,089	1,067
			Recovery rate, in %	40	40	40
of which	644	Option model	Buyback probability, in %	50	100	74
			Correlation, in %	(40)	98	64
			Fund gap risk, in % ³	0	4	1
			Volatility, in %	2	178	32
Long-term debt	12,671	–	–	–	–	–
of which structured notes over one year and up to two years	528	–	–	–	–	–
of which	3	Discounted cash flow	Credit spread, in bp	112	112	112
of which	427	Option model	Correlation, in %	(40)	98	71
			Volatility, in %	2	178	31
of which structured notes over two years	11,800	–	–	–	–	–
of which	1,570	Discounted cash flow	Credit spread, in bp	(11)	1,089	136
of which	43	Market comparable	Price, in %	0	46	30
of which	9,533	Option model	Buyback probability, in % ²	50	100	74
			Correlation, in %	(60)	98	65
			Gap risk, in % ³	0	4	1
			Mean reversion, in % ⁴	(55)	(1)	(7)
			Volatility, in %	0	178	27
Other liabilities	1,327	–	–	–	–	–
Total level 3 liabilities at fair value	18,854					

¹ Cash instruments are generally presented on a weighted average basis, while certain derivative instruments either contain a combination of weighted averages and arithmetic means of the related inputs or are presented on an arithmetic mean basis.

² Estimate of the probability of structured notes being put back to the Bank at the option of the investor over the remaining life of the financial instruments.

³ Risk of unexpected large declines in the underlying values occurring between collateral settlement dates.

⁴ Management's best estimate of the speed at which interest rates will revert to the long-term average.

Fair value, unfunded commitments and term of redemption conditions of investment funds measured at NAV per share

end of	2019						2018	
	Non-redeemable	Redeemable	Total fair value	Unfunded commitments	Non-redeemable	Redeemable	Total fair value	Unfunded commitments
Fair value of investment funds and unfunded commitments (CHF million)								
Debt funds	0	0	0	0	12	0	12	0
Equity funds	58	750 ¹	808	53	103	1,011 ²	1,114	53
Equity funds sold short	0	(2)	(2)	0	(8)	(2)	(10)	0
Funds held in trading assets and trading liabilities	58	748	806	53	107	1,009	1,116	53
Debt funds	1	0	1	49	1	0	1	0
Equity funds	102	0	102	51	126	0	126	42
Real estate funds	183	0	183	36	214	0	214	34
Other private equity funds	35	0	35	25	24	5	29	29
Private equity funds	321	0	321	161	365	5	370	105
Debt funds	12	22	34	0	68	34	102	0
Equity funds	0	35	35	0	14	14	28	0
Other hedge funds	9	8	17	0	2	24	26	0
Hedge funds	21	65 ³	86	0	84	72 ⁴	156	0
Equity method investment funds	187	402	589	14	52	522	574	21
Funds held in other investments	529	467	996	175	501	599	1,100	126
Fair value of investment funds and unfunded commitments	587⁵	1,215	1,802	228	608⁵	1,608	2,216	179⁶

¹ 61% of the redeemable fair value amount of equity funds is redeemable on demand with a notice period primarily of less than 30 days, 26% is redeemable on a monthly basis with a notice period primarily of less than 30 days and 13% is redeemable on a quarterly basis with a notice period primarily of more than 60 days.

² 46% of the redeemable fair value amount of equity funds is redeemable on demand with a notice period primarily of less than 30 days, 40% is redeemable on a monthly basis with a notice period primarily of more than 30 days, 13% is redeemable on a quarterly basis with a notice period primarily of more than 45 days and 1% is redeemable on an annual basis with a notice period of less than 30 days.

³ 68% of the redeemable fair value amount of hedge funds is redeemable on demand with a notice period primarily of less than 30 days, 20% is redeemable on a quarterly basis with a notice period of more than 60 days and 12% is redeemable on a monthly basis with a notice period of less than 30 days.

⁴ 65% of the redeemable fair value amount of hedge funds is redeemable on a quarterly basis with a notice period primarily of more than 60 days and 35% is redeemable on demand with a notice period primarily of less than 30 days.

⁵ Includes CHF 41 million and CHF 102 million attributable to noncontrolling interests as of the end of 2019 and 2018, respectively.

⁶ Includes CHF 23 million attributable to noncontrolling interests.

Assets measured at fair value on a nonrecurring basis

There were no material assets measured at fair value on a nonrecurring basis as of the end of 2019 and 2018.

Difference between the aggregate fair value and the unpaid principal balances of fair value option-elected financial instruments

end of	2019			2018		
	Aggregate fair value	Aggregate unpaid principal	Difference	Aggregate fair value	Aggregate unpaid principal	Difference
Financial instruments (CHF million)						
Central bank funds sold, securities purchased under resale agreements and securities borrowing transactions	85,556	85,463	93	81,818	81,637	181
Loans	12,661	13,103	(442)	14,873	15,441	(568)
Other assets ¹	9,710	12,006	(2,296)	6,706	9,240	(2,534)
Due to banks and customer deposits	(582)	(508)	(74)	(859)	(778)	(81)
Central bank funds purchased, securities sold under repurchase agreements and securities lending transactions	(10,823)	(10,827)	4	(14,826)	(14,827)	(1)
Short-term borrowings	(11,333)	(11,187)	(146)	(8,068)	(8,647)	579
Long-term debt	(69,406)	(71,177)	1,771	(63,027)	(69,914)	6,887
Other liabilities	(709)	(1,681)	972	(2,068)	(3,125)	1,057
Non-performing and non-interest-earning loans ²	543	3,235	(2,692)	640	3,493	(2,853)

¹ Primarily loans held-for-sale.

² Included in loans or other assets.

Gains and losses on financial instruments

in	2019	2018	2017
	Net gains/(losses)	Net gains/(losses)	Net gains/(losses)
Financial instruments (CHF million)			
Interest-bearing deposits with banks	29 ¹	2 ¹	13 ¹
of which related to credit risk	11	(10)	0
Central bank funds sold, securities purchased under resale agreements and securities borrowing transactions	2,696 ¹	2,451 ¹	2,206 ¹
Other investments	268 ²	241 ³	215 ²
of which related to credit risk	2	(1)	(4)
Loans	908 ¹	717 ¹	1,542 ¹
of which related to credit risk	26	(296)	7
Other assets	892 ¹	770 ¹	480 ¹
of which related to credit risk	111	61	96
Due to banks and customer deposits	(29) ²	(39) ²	1 ²
of which related to credit risk	1	(37)	5
Central bank funds purchased, securities sold under repurchase agreements and securities lending transactions	(612) ¹	(890) ¹	(418) ¹
Short-term borrowings	(50) ²	2,807 ²	(512) ²
of which related to credit risk	8	(5)	(23)
Long-term debt	(7,950) ²	4,375 ²	(6,615) ²
of which related to credit risk	(5)	7	(32)
Other liabilities	92 ³	72 ³	181 ³
of which related to credit risk	50	4	88

¹ Primarily recognized in net interest income.

² Primarily recognized in trading revenues.

³ Primarily recognized in other revenues.

Gains/(losses) attributable to changes in instrument-specific credit risk on fair value option elected liabilities

in	Gains/(losses) recorded into AOCI ¹			Gains/(losses) recorded in AOCI transferred to net income ¹	
	2019	Cumulative	2018	2019	2018
Financial instruments (CHF million)					
Customer deposits	(51)	(65)	36	0	(6)
Short-term borrowings	(2)	(56)	6	2	2
Long-term debt	(2,125)	(2,879)	1,520	190	53
of which treasury debt over two years	(1,133)	(1,000)	676	0	0
of which structured notes over two years	(769)	(1,720)	774	179	53
Total	(2,178)	(3,000)	1,562	192	49

¹ Amounts are reflected gross of tax.

Carrying value and fair value of financial instruments not carried at fair value

end of	Carrying value	Fair value			Total
		Level 1	Level 2	Level 3	
2019 (CHF million)					
Financial assets					
Central bank funds sold, securities purchased under resale agreements and securities borrowing transactions	21,441	0	21,441	0	21,441
Loans	287,815	0	285,575	11,562	297,137
Other financial assets ¹	114,267	100,765	12,769	719	114,253
Financial liabilities					
Due to banks and customer deposits	398,032	190,251	207,786	0	398,037
Central bank funds purchased, securities sold under repurchase agreements and securities lending transactions	16,818	0	16,818	0	16,818
Short-term borrowings	17,536	0	17,536	0	17,536
Long-term debt	81,593	0	83,081	1,123	84,204
Other financial liabilities ²	16,508	0	16,343	168	16,511
2018 (CHF million)					
Financial assets					
Central bank funds sold, securities purchased under resale agreements and securities borrowing transactions	35,277	0	35,243	35	35,278
Loans	274,440	0	275,105	7,047	282,152
Other financial assets ¹	117,002	99,238	17,139	796	117,173
Financial liabilities					
Due to banks and customer deposits	376,741	197,320	179,448	0	376,768
Central bank funds purchased, securities sold under repurchase agreements and securities lending transactions	9,795	0	9,795	0	9,795
Short-term borrowings	14,351	0	14,352	0	14,352
Long-term debt	90,406	0	89,707	854	90,561
Other financial liabilities ²	16,803	0	16,547	184	16,731

¹ Primarily includes cash and due from banks, interest-bearing deposits with banks, loans held-for-sale, cash collateral on derivative instruments, interest and fee receivables and non-marketable equity securities.

² Primarily includes cash collateral on derivative instruments and interest and fee payables.

35 Assets pledged and collateral

Assets pledged

The Bank pledges assets mainly for repurchase agreements and other securities financing. Certain pledged assets may be encumbered, meaning they have the right to be sold or repledged. The encumbered assets are parenthetically disclosed on the consolidated balance sheet.

Assets pledged

end of	2019	2018
CHF million		
Total assets pledged or assigned as collateral	133,333	117,895
of which encumbered	69,681	58,672

Collateral

The Bank receives cash and securities in connection with resale agreements, securities borrowing and loans, derivative transactions and margined broker loans. A significant portion of the collateral and securities received by the Bank was sold or repledged in connection with repurchase agreements, securities sold not yet purchased, securities borrowings and loans, pledges to clearing organizations, segregation requirements under securities laws and regulations, derivative transactions and bank loans.

Collateral

end of	2019	2018
CHF million		
Fair value of collateral received with the right to sell or repledge	412,765	406,389
of which sold or repledged	185,935	193,267

Other information

end of	2019	2018
CHF million		
Swiss National Bank required minimum liquidity reserves	2,059	2,042
Other cash and securities restricted under Swiss and foreign regulations for financial institutions	24,961	24,681

→ Refer to "Note 36 – Assets pledged and collateral" in VI – Consolidated financial statements – Credit Suisse Group for further information.

36 Capital adequacy

The Bank is subject to the Basel III framework, as implemented in Switzerland, as well as Swiss legislation and regulations for systemically important banks (Swiss Requirements). The Bank, which is subject to regulation by FINMA, has based its capital adequacy calculations on US GAAP financial statements, as permitted by FINMA Circular 2013/1.

→ Refer to "Note 37 – Capital adequacy" in VI – Consolidated financial statements – Credit Suisse Group for further information.

As of December 31, 2019 and 2018, the Bank's capital position exceeded its capital requirements under the regulatory provisions outlined under Swiss Requirements.

Swiss metrics

end of	2019	2018	Phase-in
Swiss capital (CHF million)			
Swiss CET1 capital	41,899	38,810	
Going concern capital	56,924	51,634	
Gone concern capital	38,574	35,683	
Total loss-absorbing capacity (TLAC)	95,498	87,317	
Swiss risk-weighted assets and leverage exposure (CHF million)			
Swiss risk-weighted assets	291,650	286,682	
Leverage exposure	915,814	885,854	
Swiss capital ratios (%)			
Swiss CET1 ratio	14.4	13.5	
Going concern capital ratio	19.5	18.0	
Gone concern capital ratio	13.2	12.4	
TLAC ratio	32.7	30.5	
Swiss leverage ratios (%)			
Swiss CET1 leverage ratio	4.6	4.4	
Going concern leverage ratio	6.2	5.8	
Gone concern leverage ratio	4.2	4.0	
TLAC leverage ratio	10.4	9.9	
Swiss capital ratio requirements (%)			
Swiss CET1 ratio requirement	9.68	9.46	
Going concern capital ratio requirement	13.58	12.86	
Gone concern capital ratio requirement	11.6	8.9	
TLAC ratio requirement	25.18	21.76	
Swiss leverage ratio requirements (%)			
Swiss CET1 leverage ratio requirement	3.2	2.9	
Going concern leverage ratio requirement	4.5	4.0	
Gone concern leverage ratio requirement	4.0	3.0	
TLAC leverage ratio requirement	8.5	7.0	

Broker-dealer operations

Certain of the Bank's broker-dealer subsidiaries are also subject to capital adequacy requirements. As of December 31, 2019 and 2018, the Bank and its subsidiaries complied with all applicable regulatory capital adequacy requirements.

Dividend restrictions

Certain of the Bank's subsidiaries are subject to legal restrictions governing the amount of dividends they can pay (for example, pursuant to corporate law as defined by the Swiss Code of Obligations).

As of December 31, 2019 and 2018, Credit Suisse AG was not subject to restrictions on its ability to pay the proposed dividends.

37 Assets under management

The following disclosure provides information regarding client assets, assets under management and net new assets as regulated by FINMA.

→ Refer to "Note 38 – Assets under management" in VI – Consolidated financial statements – Credit Suisse Group for further information.

Assets under management

end of	2019	2018
CHF billion		
Assets in collective investment instruments managed by Credit Suisse	205.7	178.3
Assets with discretionary mandates	277.5	256.5
Other assets under management	1,017.5	902.0
Assets under management (including double counting)	1,500.7	1,336.8
of which double counting	50.2	42.4

Prior periods have been reclassified to conform to the current presentation.

Changes in assets under management

	2019	2018
Assets under management (CHF billion)		
Balance at beginning of period ¹	1,336.8	1,368.3
Net new assets/(net asset outflows)	80.3	53.2
Market movements, interest, dividends and foreign exchange	107.4	(67.7)
of which market movements, interest and dividends ²	127.1	(54.4)
of which foreign exchange	(19.7)	(13.3)
Other effects	(23.8)	(17.0)
Balance at end of period	1,500.7	1,336.8

Prior periods have been reclassified to conform to the current presentation.

¹ Including double counting.

² Net of commissions and other expenses and net of interest expenses charged.

38 Litigation

→ Refer to "Note 39 – Litigation" in VI – Consolidated financial statements – Credit Suisse Group for further information.

39 Significant subsidiaries and equity method investments

The entities presented in the table below generally include subsidiaries with total assets over CHF 100 million or net income attributable to shareholders over CHF 10 million. Also included

are entities which are deemed regionally significant or otherwise relevant from an operational perspective.

Significant subsidiaries

Company name	Domicile	Currency	Nominal capital in million	Equity interest in %
End of 2019				
Credit Suisse AG				
Alpine Securitization LTD	George Town, Cayman Islands	USD	0.0	100
Asset Management Finance LLC	Wilmington, United States	USD	167.0	100
Banco Credit Suisse (Brasil) S.A.	São Paulo, Brazil	BRL	53.6	100
Banco Credit Suisse (Mexico), S.A.	Mexico City, Mexico	MXN	1,716.7	100
Banco de Investimentos Credit Suisse (Brasil) S.A.	São Paulo, Brazil	BRL	164.8	100
Bank-now AG	Horgen, Switzerland	CHF	30.0	100
Boston Re Ltd.	Hamilton, Bermuda	USD	2.0	100
Casa de Bolsa Credit Suisse (Mexico), S.A. de C.V.	Mexico City, Mexico	MXN	274.0	100
Column Financial, Inc.	Wilmington, United States	USD	0.0	100
Credit Suisse (Australia) Limited	Sydney, Australia	AUD	34.1	100
Credit Suisse (Brasil) S.A. Corretora de Titulos e Valores Mobiliarios	São Paulo, Brazil	BRL	98.4	100
Credit Suisse (Deutschland) Aktiengesellschaft	Frankfurt, Germany	EUR	130.0	100
Credit Suisse (Hong Kong) Limited	Hong Kong, China	HKD	13,758.0	100
Credit Suisse (Italy) S.p.A.	Milan, Italy	EUR	170.0	100
Credit Suisse (Luxembourg) S.A.	Luxembourg, Luxembourg	CHF	230.9	100
Credit Suisse (Qatar) LLC	Doha, Qatar	USD	29.0	100
Credit Suisse (Schweiz) AG	Zurich, Switzerland	CHF	100.0	100
Credit Suisse (Singapore) Limited	Singapore, Singapore	SGD	743.3	100
Credit Suisse (UK) Limited	London, United Kingdom	GBP	245.2	100
Credit Suisse (USA), Inc.	Wilmington, United States	USD	0.0	100
Credit Suisse Asset Management (UK) Holding Limited	London, United Kingdom	GBP	144.2	100
Credit Suisse Asset Management Immobilien Kapitalanlagegesellschaft mbH	Frankfurt, Germany	EUR	6.1	100
Credit Suisse Asset Management International Holding Ltd	Zurich, Switzerland	CHF	20.0	100
Credit Suisse Asset Management Investments Ltd	Zurich, Switzerland	CHF	0.1	100
Credit Suisse Asset Management Limited	London, United Kingdom	GBP	45.0	100
Credit Suisse Asset Management, LLC	Wilmington, United States	USD	1,106.0	100
Credit Suisse Atlas I Investments (Luxembourg) S.à.r.l.	Luxembourg, Luxembourg	USD	0.0	100
Credit Suisse Brazil (Bahamas) Limited	Nassau, Bahamas	USD	70.0	100
Credit Suisse Business Analytics (India) Private Limited	Mumbai, India	INR	40.0	100
Credit Suisse Capital LLC	Wilmington, United States	USD	1,437.3	100
Credit Suisse Energy LLC	Wilmington, United States	USD	0.0	100
Credit Suisse Entrepreneur Capital AG	Zurich, Switzerland	CHF	15.0	100
Credit Suisse Equities (Australia) Limited	Sydney, Australia	AUD	62.5	100
Credit Suisse Finance (India) Private Limited	Mumbai, India	INR	1,050.1	100
Credit Suisse First Boston (Latam Holdings) LLC	George Town, Cayman Islands	USD	23.8	100
Credit Suisse First Boston Finance B.V.	Amsterdam, The Netherlands	EUR	0.0	100
Credit Suisse First Boston Mortgage Capital LLC	Wilmington, United States	USD	356.6	100
Credit Suisse First Boston Next Fund, Inc.	Wilmington, United States	USD	10.0	100
Credit Suisse Fund Management S.A.	Luxembourg, Luxembourg	CHF	0.3	100

Significant subsidiaries (continued)

Company name	Domicile	Currency	Nominal capital in million	Equity interest in %
Credit Suisse Fund Services (Luxembourg) S.A.	Luxembourg, Luxembourg	CHF	1.5	100
Credit Suisse Funds AG	Zurich, Switzerland	CHF	7.0	100
Credit Suisse Group Finance (U.S.) Inc.	Wilmington, United States	USD	100.0	100
Credit Suisse Hedging-Griffo Corretora de Valores S.A.	São Paulo, Brazil	BRL	29.6	100
Credit Suisse Holding Europe (Luxembourg) S.A.	Luxembourg, Luxembourg	CHF	32.6	100
Credit Suisse Holdings (Australia) Limited	Sydney, Australia	AUD	3.0	100
Credit Suisse Holdings (USA), Inc.	Wilmington, United States	USD	550.0	100
Credit Suisse Istanbul Menkul Degerler A.S.	Istanbul, Turkey	TRY	10.0	100
Credit Suisse Leasing 92A, L.P.	Wilmington, United States	USD	43.9	100
Credit Suisse Life & Pensions AG	Vaduz, Liechtenstein	CHF	15.0	100
Credit Suisse Life (Bermuda) Ltd.	Hamilton, Bermuda	USD	0.5	100
Credit Suisse Loan Funding LLC	Wilmington, United States	USD	1.5	100
Credit Suisse Management LLC	Wilmington, United States	USD	891.4	100
Credit Suisse Prime Securities Services (USA) LLC	Wilmington, United States	USD	113.3	100
Credit Suisse Private Equity, LLC	Wilmington, United States	USD	8.1	100
Credit Suisse PSL GmbH	Zurich, Switzerland	CHF	0.0	100
Credit Suisse Saudi Arabia	Riyadh, Saudi Arabia	SAR	737.5	100
Credit Suisse Securities (Canada), Inc.	Toronto, Canada	CAD	3.4	100
Credit Suisse Securities (Europe) Limited	London, United Kingdom	USD	3,859.3	100
Credit Suisse Securities (Hong Kong) Limited	Hong Kong, China	HKD	2,080.9	100
Credit Suisse Securities (India) Private Limited	Mumbai, India	INR	2,214.7	100
Credit Suisse Securities (Japan) Limited	Tokyo, Japan	JPY	78,100.0	100
Credit Suisse Securities (Johannesburg) Proprietary Limited	Johannesburg, South Africa	ZAR	0.0	100
Credit Suisse Securities (Malaysia) Sdn. Bhd.	Kuala Lumpur, Malaysia	MYR	100.0	100
Credit Suisse Securities (Singapore) Pte Limited	Singapore, Singapore	SGD	30.0	100
Credit Suisse Securities, Sociedad de Valores, S.A.	Spain, Madrid	EUR	4.8	100
Credit Suisse Securities (Thailand) Limited	Bangkok, Thailand	THB	500.0	100
Credit Suisse Securities (USA) LLC	Wilmington, United States	USD	2,887.6	100
Credit Suisse Services (India) Private Limited	Pune, India	INR	0.1	100
Credit Suisse Services (USA) LLC	Wilmington, United States	USD	13.8	100
CS Non-Traditional Products Ltd.	Nassau, Bahamas	USD	0.1	100
CSAM Americas Holding Corp.	Wilmington, United States	USD	0.0	100
DLJ Merchant Banking Funding, Inc	Wilmington, United States	USD	0.0	100
DLJ Mortgage Capital, Inc.	Wilmington, United States	USD	0.0	100
FIDES Treasury Services AG	Zurich, Switzerland	CHF	2.0	100
JSC "Bank Credit Suisse (Moscow)"	Moscow, Russia	USD	37.8	100
Lime Residential, Ltd.	Nassau, Bahamas	USD	100.0	100
LLC "Credit Suisse Securities (Moscow)"	Moscow, Russia	RUB	97.1	100
Merban Equity AG	Zug, Switzerland	CHF	0.1	100
Merchant Holding, LLC	Wilmington, United States	USD	0.0	100
Neue Aargauer Bank AG	Aarau, Switzerland	CHF	134.1	100
Solar Investco II Ltd.	George Town, Cayman Islands	USD	0.0	100
SPS Holding Enterprises Corp.	Wilmington, United States	USD	0.0	100
SR Lease Co VI Ltd.	Cayman Islands	USD	0.0	100
PT Credit Suisse Sekuritas Indonesia	Jakarta, Indonesia	IDR	235,000.0	99
Credit Suisse Hypotheken AG	Zurich, Switzerland	CHF	0.1	98
Credit Suisse International	London, United Kingdom	USD	11,366.2	98 ¹

¹ Remaining 2% held directly by Credit Suisse Group AG. 98% of voting rights and 98% of equity interest held by Credit Suisse AG.

Significant equity method investments

Company name	Domicile	Equity interest in %
End of 2019		
Credit Suisse AG		
Swisscard AECS GmbH	Horgen, Switzerland	50
Credit Suisse Founder Securities Limited	Beijing, China	33
E.L. & C. Baillieu Stockbroking (Holdings) Pty Ltd	Melbourne, Australia	23
ICBC Credit Suisse Asset Management Co., Ltd.	Beijing, China	20
York Capital Management Global Advisors, LLC	New York, United States	5 ¹
Holding Verde Empreendimentos e Participações S.A.	São Paulo, Brazil	0 ¹

¹ The Bank holds a significant noncontrolling interest.

40 Significant valuation and income recognition differences between US GAAP and Swiss GAAP banking law (true and fair view)

→ Refer to "Note 43 – Significant valuation and income recognition differences between US GAAP and Swiss GAAP banking law (true and fair view)" in VI – Consolidated financial statements – Credit Suisse Group for further information.

Controls and procedures

Evaluation of disclosure controls and procedures

The Bank has evaluated the effectiveness of the design and operation of its disclosure controls and procedures as of the end of the period covered by this report under the supervision and with the participation of management, including the Bank Chief Executive Officer (CEO) and Chief Financial Officer (CFO), pursuant to Rule 13(a)-15(a) under the Securities Exchange Act of 1934 (the Exchange Act). There are inherent limitations to the effectiveness of any system of controls and procedures, including the possibility of human error and the circumvention or overriding of the controls and procedures. Accordingly, even effective controls and procedures can only provide reasonable assurance of achieving their control objectives.

The CEO and CFO concluded that, as of December 31, 2019, the design and operation of the Bank's disclosure controls and procedures were effective, in all material respects, to ensure that information required to be disclosed in reports filed and submitted under the Exchange Act is recorded, processed, summarized and reported as and when required.

Management report on internal control over financial reporting

The management of the Bank is responsible for establishing and maintaining adequate internal control over financial reporting. The Bank's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with US GAAP. Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with policies or procedures may deteriorate.

Management has made an evaluation and assessment of the Bank's internal control over financial reporting as of December 31, 2019 using the criteria issued in 2013 by the Committee of Sponsoring Organizations of the Treadway Commission (COSO) in "Internal Control – Integrated Framework".

Based upon its review and evaluation, management, including the Bank CEO and CFO, has concluded that the Bank's internal control over financial reporting is effective as of December 31, 2019.

The Bank's independent auditors, KPMG AG, have issued an unqualified opinion on the effectiveness of the Bank's internal control over financial reporting as of December 31, 2019, as stated in their report, which follows.

Changes in internal control over financial reporting

There were no changes in the Bank's internal control over financial reporting during the period covered by this report that have materially affected, or are reasonably likely to materially affect, the Bank's internal control over financial reporting.



Report of the Independent Registered Public Accounting Firm

To the shareholders and Board of Directors
Credit Suisse AG, Zurich

Opinion on Internal Control Over Financial Reporting

We have audited Credit Suisse AG and subsidiaries' (the "Bank") internal control over financial reporting as of December 31, 2019, based on criteria established in *Internal Control – Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission. In our opinion, the Bank maintained, in all material respects, effective internal control over financial reporting as of December 31, 2019, based on criteria established in *Internal Control – Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) ("PCAOB"), the consolidated balance sheets of the Bank as of December 31, 2019 and 2018, the related consolidated statements of operations, comprehensive income, changes in equity, and cash flows for each of the years in the three-year period ended December 31, 2019, and the related notes (collectively, the "consolidated financial statements"), and our report dated March 25, 2020 expressed an unqualified opinion on those consolidated financial statements.

Basis for Opinion

The Bank's Board of Directors and management are responsible for maintaining effective internal control over financial reporting and the Bank's management is responsible for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying Management Report on Internal Control over Financial Reporting. Our responsibility is to express an opinion on the Bank's internal control over financial reporting based on our audit. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Bank in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects. Our audit of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audit also included performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

Definition and Limitations of Internal Control Over Financial Reporting

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.



Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

KPMG AG

Nicholas Edmonds
Licensed Audit Expert
Auditor in Charge

Zurich, Switzerland
March 25, 2020

Shaun Kendrigan
Licensed Audit Expert
Global Audit Partner

KPMG AG, Raffelstrasse 28, PO Box, CH-8036 Zurich

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**APPENDIX 6 — LEGAL PROCEEDINGS INFORMATION EXTRACTED
FROM CREDIT SUISSE ANNUAL REPORT 2019**

We are a wholly owned subsidiary of Credit Suisse Group AG. We have extracted the section headed “Litigation” from pages 376 to 387 of the Credit Suisse Annual Report 2019 in this appendix 6. References to page numbers in this appendix 6 are to the pages in the Credit Suisse Annual Report 2019 and not to the pages in this document.

For the purposes of the extracts of the Credit Suisse Annual Report 2019, unless the context otherwise requires, the terms “Credit Suisse Group”, “Credit Suisse”, the “Group”, “we”, “us” and “our” mean Credit Suisse Group AG and its consolidated subsidiaries. The business of Credit Suisse AG, the direct bank subsidiary of the Group, is substantially similar to the Group, these terms are used to refer to both when the subject is the same or substantially similar. The term the “Bank” is used when referring only to Credit Suisse AG and its consolidated subsidiaries. Abbreviations and selected terms are explained in the List of abbreviations and the Glossary in the back of the Credit Suisse Annual Report 2019.

39 Litigation

The Group is involved in a number of judicial, regulatory and arbitration proceedings concerning matters arising in connection with the conduct of its businesses, including those disclosed below. Some of these proceedings have been brought on behalf of various classes of claimants and seek damages of material and/or indeterminate amounts.

The Group accrues loss contingency litigation provisions and takes a charge to income in connection with certain proceedings when losses, additional losses or ranges of loss are probable and reasonably estimable. The Group also accrues litigation provisions for the estimated fees and expenses of external lawyers and other service providers in relation to such proceedings, including in cases for which it has not accrued a loss contingency provision. The Group accrues these fee and expense litigation provisions and takes a charge to income in connection therewith when such fees and expenses are probable and reasonably estimable. The Group reviews its legal proceedings each quarter to determine the adequacy of its litigation provisions and may increase or release provisions based on management's judgment and the advice of counsel. The establishment of additional provisions or releases of

litigation provisions may be necessary in the future as developments in such proceedings warrant.

The specific matters described below include (a) proceedings where the Group has accrued a loss contingency provision, given that it is probable that a loss may be incurred and such loss is reasonably estimable; and (b) proceedings where the Group has not accrued such a loss contingency provision for various reasons, including, but not limited to, the fact that any related losses are not reasonably estimable. The description of certain of the matters below includes a statement that the Group has established a loss contingency provision and discloses the amount of such provision; for the other matters no such statement is made. With respect to the matters for which no such statement is made, either (a) the Group has not established a loss contingency provision, in which case the matter is treated as a contingent liability under the applicable accounting standard, or (b) the Group has established such a provision but believes that disclosure of that fact would violate confidentiality obligations to which the Group is subject or otherwise compromise attorney-client privilege, work product protection or other protections against disclosure or compromise the Group's management of the matter. The future

outflow of funds in respect of any matter for which the Group has accrued loss contingency provisions 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 is reflected on the Group's balance sheet.

It is inherently difficult to determine whether a loss is probable or even reasonably possible or to estimate the amount of any loss or loss range for many of the Group's legal proceedings. Estimates, by their nature, are based on judgment and currently available information and involve a variety of factors, including, but not limited to, the type and nature of the proceeding, the progress of the matter, the advice of counsel, the Group's defenses and its experience in similar matters, as well as its assessment of matters, including settlements, involving other defendants in similar or related cases or proceedings. Factual and legal determinations, many of which are complex, must be made before a loss, additional losses or ranges of loss can be reasonably estimated for any proceeding.

Most matters pending against the Group seek damages of an indeterminate amount. While certain matters specify the damages claimed, such claimed amount may not represent the Group's reasonably possible losses. For certain of the proceedings discussed below the Group has disclosed the amount of damages claimed and certain other quantifiable information that is publicly available.

The following table presents a roll forward of the Group's aggregate litigation provisions.

Litigation provisions	2019
CHF million	
Balance at beginning of period	681
Increase in litigation accruals	734
Decrease in litigation accruals	(111)
Decrease for settlements and other cash payments	(495)
Reclassifications	97 ¹
Foreign exchange translation	(8)
Balance at end of period	898

¹ At the end of 2018, the Group completed its three-year restructuring plan, implemented in connection with its revised strategy. In 2019, CHF 97 million was transferred from restructuring provision to litigation provision.

The Group's aggregate litigation provisions include estimates of losses, additional losses or ranges of loss for proceedings for which such losses are probable and can be reasonably estimated. The Group does not believe that it can estimate an aggregate range of reasonably possible losses for certain of its proceedings because of their complexity, the novelty of some of the claims, the early stage of the proceedings, the limited amount of discovery that has occurred and/or other factors. The Group's estimate of the aggregate range of reasonably possible losses that are not covered by existing provisions for the proceedings discussed below for which the Group believes an estimate is possible is zero to CHF 1.3 billion.

After taking into account its litigation provisions, the Group believes, based on currently available information and advice of counsel, that the results of its legal proceedings, in the aggregate, will not have a material adverse effect on the Group's financial condition. However, in light of the inherent uncertainties of such proceedings, including those brought by regulators or other governmental authorities, the ultimate cost to the Group of resolving such proceedings may exceed current litigation provisions and any excess may be material to its operating results for any particular period, depending, in part, upon the operating results for such period.

Enron-related litigation

Credit Suisse Securities (USA) LLC (CSS LLC) and certain of its affiliates, together with Deutsche Bank Securities Inc., Deutsche Bank AG, and Merrill Lynch & Co., Inc., were named as defendants in an Enron-related action, Silvercreek Management Inc. v. Citigroup, Inc., et al., in the US District Court for the Southern District of New York (SDNY). In this action, plaintiffs asserted they relied on Enron's financial statements, and sought to hold the defendants responsible for any inaccuracies in Enron's financial statements. The plaintiffs sought to assert federal and state law claims relating to its alleged USD 280 million in losses relating to its Enron investments. On November 10, 2017, the defendants filed motions for summary judgment. On September 28, 2018, the SDNY granted in part and denied in part the defendants' motions for summary judgment, dismissing certain claims. On December 28, 2018, CSS LLC and its affiliates, together with Deutsche Bank Securities Inc., Deutsche Bank AG, and Merrill Lynch & Co., Inc. executed an agreement with the plaintiffs to settle this litigation. On January 10, 2019, the SDNY entered an order of final judgment dismissing with prejudice all claims against those defendants. This ends the last of CSS LLC and its affiliates' Enron-related litigation.

Mortgage-related matters

Government and regulatory related matters

Various financial institutions, including CSS LLC and certain of its affiliates, have received requests for information from, and/or have been defending civil actions by, certain regulators and/or government entities, including the US Department of Justice (DOJ) and other members of the Residential Mortgage-Backed Securities (RMBS) Working Group of the US Financial Fraud Enforcement Task Force, regarding the origination, purchase, securitization, servicing and trading of subprime and non-subprime residential and commercial mortgages and related issues. CSS LLC and its affiliates are cooperating with such requests for information.

DOJ RMBS settlement

As previously disclosed, on January 18, 2017, CSS LLC and its current and former US subsidiaries and US affiliates reached a settlement with the DOJ related to its legacy RMBS business, a business conducted through 2007. The settlement resolved potential civil claims by the DOJ related to certain of those Credit

Suisse entities' packaging, marketing, structuring, arrangement, underwriting, issuance and sale of RMBS. Pursuant to the terms of the settlement a civil monetary penalty was paid to the DOJ in January 2017. The settlement also required the above-mentioned entities to provide a specified amount of consumer relief measures, including affordable housing payments and loan forgiveness, within five years of the settlement, and the DOJ and Credit Suisse agreed to the appointment of an independent monitor to oversee the completion of the consumer relief requirements of the settlement. The monitor has published reports periodically noting Credit Suisse's cooperation and progress toward satisfaction of the consumer relief requirements.

NJAG litigation

On December 18, 2013, the New Jersey Attorney General (NJAG), on behalf of the State of New Jersey, filed a civil action in the Superior Court of New Jersey, Chancery Division, Mercer County (SCNJ), against CSS LLC and affiliated entities in their roles as issuer, sponsor, depositor and/or underwriter of RMBS transactions prior to 2008. The original complaint, which referenced 13 RMBS issued, sponsored, deposited and underwritten by CSS LLC and its affiliates in 2006 and 2007, alleges that CSS LLC and its affiliates misled investors and engaged in fraud or deceit in connection with the offer and sale of RMBS, and seeks an unspecified amount of damages. On August 21, 2014, the SCNJ dismissed without prejudice the action brought against CSS LLC and its affiliates by the NJAG. On September 4, 2014, the NJAG filed an amended complaint against CSS LLC and its affiliates, asserting additional allegations but not expanding the number of claims or RMBS referenced in the original complaint. On August 21, 2019, the NJAG filed a motion for partial summary judgment. On November 18, 2019, CSS LLC and its affiliates filed a cross-motion for partial summary judgment.

Civil litigation

CSS LLC and/or certain of its affiliates have also been named as defendants in various civil litigation matters related to their roles as issuer, sponsor, depositor, underwriter and/or servicer of RMBS transactions. These cases include or have included class action lawsuits, actions by individual investors in RMBS, actions by monoline insurance companies that guaranteed payments of principal and interest for certain RMBS, and repurchase actions by RMBS trusts, trustees and/or investors. Although the allegations vary by lawsuit, plaintiffs in the class actions and individual investor actions have generally alleged that the offering documents of securities issued by various RMBS securitization trusts contained material misrepresentations and omissions, including statements regarding the underwriting standards pursuant to which the underlying mortgage loans were issued; monoline insurers allege that loans that collateralize RMBS they insured breached representations and warranties made with respect to the loans at the time of securitization and that they were fraudulently induced to enter into the transactions; and repurchase action plaintiffs generally allege breached representations and warranties in respect of mortgage loans and failure to repurchase such mortgage loans as required under the applicable agreements. The amounts disclosed below do not reflect actual realized

plaintiff losses to date or anticipated future litigation exposure. Rather, unless otherwise stated, these amounts reflect the original unpaid principal balance amounts as alleged in these actions and do not include any reduction in principal amounts since issuance. Further, unless otherwise stated, amounts attributable to an "operative pleading" for the individual investor actions are not altered for settlements, dismissals or other occurrences, if any, that may have caused the amounts to change subsequent to the operative pleading. In addition to the mortgage-related actions discussed below, a number of other entities have threatened to assert claims against CSS LLC and/or its affiliates in connection with various RMBS issuances.

Individual investor actions

CSS LLC and, in some instances, its affiliates, as an RMBS issuer, underwriter and/or other participant, along with other defendants, have been named as defendants in: (i) one action brought by the Federal Deposit Insurance Corporation (FDIC), as receiver for Citizens National Bank and Strategic Capital Bank, in the SDNY, in which claims against CSS LLC and its affiliates relate to approximately USD 28 million of the RMBS at issue (approximately 20% of the USD 141 million at issue against all defendants in the operative pleading); on October 18, 2019, the SDNY denied a motion filed in September 2017 by the defendants, including CSS LLC and its affiliates, to dismiss the FDIC's second amended complaint; (ii) one action brought by the FDIC, as receiver for Colonial Bank, in the SDNY, in which claims against CSS LLC relate to approximately USD 92 million of the RMBS at issue (approximately 23% of the USD 394 million at issue against all defendants in the operative pleading); (iii) one action brought by the Federal Home Loan Bank of Seattle (FHLB Seattle) in Washington state court, in which claims against CSS LLC and its affiliates relate to approximately USD 145 million of the RMBS at issue, reduced from approximately USD 249 million of RMBS at issue; on October 3, 2019, the Washington State Supreme Court reversed the trial court's May 4, 2016 summary judgment order, previously affirmed by the Washington State Court of Appeals, dismissing with prejudice FHLB Seattle's claims, and remanded the action for further proceedings before the trial court; trial is scheduled to begin in August 2020; and (iv) one action brought by the Federal Home Loan Bank of Boston in Massachusetts state court, in which claims against CSS LLC and its affiliates relate to approximately USD 333 million of the RMBS at issue, reduced from USD 373 million (approximately 6% of the USD 5.7 billion at issue against all defendants in the operative pleading) following the October 27, 2015 stipulation of voluntary dismissal with prejudice of claims pertaining to a certain RMBS offering on which CSS LLC and its affiliates were sued, and which has a trial scheduled to begin in March 2021. These actions are at various procedural stages.

CSS LLC and certain of its affiliates are the only defendants named in an action brought by IKB Deutsche Industriebank AG and affiliated entities in the Supreme Court for the State of New York, New York County (SCNY), in which claims against CSS LLC and its affiliates relate to approximately USD 97 million of RMBS at issue; this action is at an intermediate procedural stage. CSS LLC and an affiliate were defendants in an action brought

by Royal Park Investments SA/NV (Royal Park) in the SCNY, in which claims against CSS LLC and its affiliate related to approximately USD 360 million of RMBS at issue; on October 9, 2018, the Appellate Division First Department of the SCNY (First Department) affirmed the trial court's dismissal with prejudice of all claims against CSS LLC and its affiliate and, on January 15, 2019, the New York State Court of Appeals denied Royal Park's request to further appeal.

As disclosed in Credit Suisse's second quarter Financial Report of 2019, on May 16, 2019, following a settlement, the Circuit Court of Montgomery County, Alabama presiding in the action brought by the FDIC, as receiver for Colonial Bank, dismissed with prejudice all claims against CSS LLC and its affiliates relating to approximately USD 139 million of RMBS at issue.

Monoline insurer disputes

CSS LLC and certain of its affiliates are defendants in one monoline insurer action pending in the SCNY, commenced by MBIA Insurance Corp. (MBIA) as guarantor for payments of principal and interest related to approximately USD 770 million of RMBS issued in an offering sponsored by the Credit Suisse defendants. One theory of liability advanced by MBIA is that an affiliate of CSS LLC must repurchase certain mortgage loans from the trusts at issue. MBIA claims that the vast majority of the underlying mortgage loans breach certain representations and warranties, and that the affiliate has failed to repurchase the allegedly defective loans. In addition, MBIA brought claims for fraudulent inducement, material misrepresentations, breaches of warranties, repurchase obligations, and reimbursement. MBIA submitted repurchase demands for loans with an original principal balance of approximately USD 549 million. On March 31, 2017, the SCNY granted in part and denied in part both parties' respective summary judgment motions, which resulted, among other things, in the dismissal of MBIA's fraudulent inducement claim with prejudice. On September 13, 2018, the First Department issued a decision that, among other things, affirmed the dismissal of MBIA's fraudulent inducement claim with prejudice. The First Department also ruled in favor of CSS LLC and certain of its affiliates on their cross-appeal, reversing the trial court's interpretation of certain representations and warranties and ruling that their meaning should be decided at trial. Following its decision, the First Department remanded the action to the trial court for further proceedings. On August 2, 2019, the SCNY concluded a two-week bench trial. The parties completed post-trial briefing on November 21, 2019. A decision has not yet been issued.

Repurchase litigations

DLJ Mortgage Capital, Inc. (DLJ) is a defendant in: (i) one action brought by Asset Backed Securities Corporation Home Equity Loan Trust, Series 2006-HE7, in which plaintiff alleges damages of not less than USD 374 million, increased from not less than USD 341 million, in an amended complaint filed on August 19, 2019, which action is proceeding in the SCNY following the resolution of a previously pending appeal; on January 13, 2020, DLJ filed a motion to dismiss this action in its entirety; (ii) one action brought by Home

Equity Asset Trust, Series 2006-8, in which plaintiff alleges damages of not less than USD 436 million; (iii) one action brought by Home Equity Asset Trust 2007-1, in which plaintiff alleges damages of not less than USD 420 million; on December 27, 2018, the SCNY denied DLJ's motion for partial summary judgment in this action, and the First Department affirmed the SCNY's summary judgment order on October 10, 2019; on January 30, 2020, the First Department granted DLJ leave to further appeal its decision to the New York State Court of Appeals; on March 2, 2020, trial in this action, which was scheduled to begin in October 2020, was postponed pending final resolution of DLJ's summary judgment appeal; (iv) one action brought by Home Equity Asset Trust Series 2007-3, in which plaintiff alleges damages of not less than USD 206 million, which was dismissed without prejudice by order of the SCNY on December 21, 2015 with leave to restore within one year and which plaintiff moved to restore on December 20, 2016, which the court granted on March 15, 2017 by restoring the case to active status; (v) one action brought by Home Equity Asset Trust 2007-2, in which plaintiff alleges damages of not less than USD 495 million; and (vi) one action brought by CSMC Asset-Backed Trust 2007-NC1, in which no damages amount is alleged. These actions are brought in the SCNY and are at various procedural stages. DLJ and its affiliate, Select Portfolio Servicing, Inc. (SPS), are defendants in two actions that have been consolidated for certain procedural purposes, including trial, in the SCNY: one action brought by Home Equity Mortgage Trust Series 2006-1, Home Equity Mortgage Trust Series 2006-3 and Home Equity Mortgage Trust Series 2006-4, in which plaintiffs allege damages of not less than USD 730 million, and allege that SPS obstructed the investigation into the full extent of the defects in the mortgage pools by refusing to afford the trustee reasonable access to certain origination files; and one action brought by Home Equity Mortgage Trust Series 2006-5, in which plaintiff alleges damages of not less than USD 500 million, and alleges that SPS likely discovered DLJ's alleged breaches of representations and warranties but did not notify the trustee of such breaches, in alleged violation of its contractual obligations. On January 10, 2019, the SCNY denied DLJ's motion for partial summary judgment in these actions, and the First Department affirmed the SCNY's summary judgment order on September 17, 2019. On December 12, 2019, the First Department granted DLJ leave to further appeal its decision to the New York State Court of Appeals. On December 17, 2019, trial in these actions, which was scheduled to begin in December 2019 and subsequently rescheduled to begin in January 2020, was postponed pending final resolution of DLJ's summary judgment appeal.

As disclosed in Credit Suisse's fourth quarter Financial Report of 2013, the following repurchase actions were dismissed with prejudice in 2013: the three consolidated actions brought by Home Equity Asset Trust 2006-5, Home Equity Asset Trust 2006-6 and Home Equity Asset Trust 2006-7 against DLJ. Those dismissals were upheld by the New York State Court of Appeals on February 19, 2019. On July 8, 2019, the notice of appeal plaintiffs filed before the First Department from the SCNY's April 2017 denial of plaintiffs' request that its 2013 dismissal decision be modified to allow plaintiffs to assert new claims not previously

included in plaintiffs' consolidated complaint was deemed dismissed when plaintiffs declined to further pursue their appeal by a court-ordered deadline. On August 15, 2019, the trustees for Home Equity Asset Trust 2006-5, Home Equity Asset Trust 2006-6 and Home Equity Asset Trust 2006-7 commenced a new repurchase action against DLJ in the SCNY, in which plaintiffs alleged damages of not less than USD 936 million, asserting substantially similar claims against DLJ as those alleged in the three consolidated repurchase actions that were dismissed with prejudice in 2013. On September 20, 2019, DLJ filed a motion to dismiss and on November 25, 2019, the SCNY entered an order dismissing this new action with prejudice. On December 20, 2019, the plaintiffs filed a notice of appeal to the First Department.

Bank loan litigation

CSS LLC and certain of its affiliates are the subject of certain litigation relating to certain real estate developments including Yellowstone Club and Lake Las Vegas as well as other similar real estate developments. Credit Suisse defendants in these matters arranged, and acted as the agent bank for, syndicated loans provided to borrowers affiliated with such real estate developments, and who have since gone through bankruptcy or foreclosure. Such litigation includes two cases brought in Texas and New York state courts by entities related to Highland Capital Management LP (Highland). In the case in Texas state court, a jury trial was held in December 2014 on Highland's claim for fraudulent inducement by affirmative misrepresentation and omission. A verdict was issued for the plaintiff on its claim for fraudulent inducement by affirmative misrepresentation, but the jury rejected its claim that CSS LLC and an affiliate had committed fraudulent inducement by omission. The Texas judge held a bench trial on Highland's remaining claims in May and June 2015, and entered judgment in the amount of USD 287 million (including prejudgment interest) for the plaintiff on September 4, 2015. Both parties appealed and on February 21, 2018 the appeals court affirmed the lower court's decision. On March 7, 2018, the defendants filed a motion for rehearing with the appeals court. On April 2, 2018, the motion for rehearing with the appeals court was denied. On July 18, 2018, the defendants filed a request for review by the Texas Supreme Court. On December 14, 2018, the court issued an order requiring briefs on the merits in the request for review. On October 4, 2019, the Texas Supreme Court granted the request for review. On January 8, 2020, the Texas Supreme Court heard oral argument. A decision has not yet been issued. In the case in New York state court, the court granted in part and denied in part CSS LLC and certain of its affiliates' summary judgment motion. Both parties appealed that decision, but the appellate court affirmed the decision in full. The case is currently in discovery. CSS LLC and certain of its affiliates separately sued Highland-managed funds on related trades and received a favorable judgment awarding both principal owed and prejudgment interest. Highland appealed the portion of the judgment awarding prejudgment interest, however the original decision was affirmed in its entirety. The parties subsequently agreed to settle the amount owed by the Highland-managed funds under the judgment.

Tax and securities law matters

On May 19, 2014, Credit Suisse AG entered into settlement agreements with several US regulators regarding its US cross-border matters. As part of the agreements, Credit Suisse AG, among other things, engaged an independent corporate monitor that reports to the New York State Department of Financial Services. As of July 31, 2018, the monitor has concluded both his review and his assignment. Credit Suisse AG continues to provide periodic updates to certain authorities in respect of implementing the monitor recommendations.

Rates-related matters

Regulatory matters

Regulatory authorities in a number of jurisdictions, including the US, UK, EU and Switzerland, have for an extended period of time been conducting investigations into the setting of LIBOR and other reference rates with respect to a number of currencies, as well as the pricing of certain related derivatives. These ongoing investigations have included information requests from regulators regarding LIBOR-setting practices and reviews of the activities of various financial institutions, including Credit Suisse Group AG, which is a member of three LIBOR rate-setting panels (US Dollar LIBOR, Swiss Franc LIBOR and Euro LIBOR). Credit Suisse is cooperating fully with these investigations. In particular, it has been reported that regulators are investigating whether financial institutions engaged in an effort to manipulate LIBOR, either individually or in concert with other institutions, in order to improve market perception of these institutions' financial health and/or to increase the value of their proprietary trading positions. In response to regulatory inquiries, Credit Suisse commissioned a review of these issues. To date, Credit Suisse has seen no evidence to suggest that it is likely to have any material exposure in connection with these issues.

Regulatory authorities in a number of jurisdictions, including the Swiss Competition Commission (COMCO), the European Commission (Commission), the South African Competition Commission, and the Brazilian Competition Authority have been conducting investigations into the trading activities, information sharing and the setting of benchmark rates in the foreign exchange (including electronic trading) markets.

On March 31, 2014, COMCO announced its formal investigation of numerous Swiss and international financial institutions, including Credit Suisse Group AG, in relation to the setting of exchange rates in foreign exchange trading. Credit Suisse continues to cooperate with this ongoing investigation.

On July 26, 2018, Credit Suisse Group AG and certain affiliates received a Statement of Objections from the Commission, alleging that Credit Suisse entities engaged in anticompetitive practices in connection with their foreign exchange trading business. The Statement of Objections sets out the Commission's preliminary views and does not prejudice the final outcome of its investigation.

The reference rates investigations have also included information requests from regulators concerning supranational, sub-sovereign and agency (SSA) bonds and commodities (including precious metals) markets. Credit Suisse is cooperating fully with these investigations.

On December 20, 2018, Credit Suisse Group AG and Credit Suisse Securities (Europe) Limited received a Statement of Objections from the Commission, alleging that Credit Suisse entities engaged in anticompetitive practices in connection with its SSA bonds trading business. The Statement of Objections sets out the Commission's preliminary views and does not prejudice the final outcome of its investigation.

The investigations are ongoing and it is too soon to predict the final outcome of the investigations.

Civil litigation

USD LIBOR litigation

Beginning in 2011, certain Credit Suisse entities were named in various civil lawsuits filed in the US, alleging banks on the US dollar LIBOR panel manipulated US dollar LIBOR to benefit their reputation and increase profits. All but one of these matters was consolidated for pre-trial purposes into a multi-district litigation in the SDNY. The majority of the actions have been stayed since their outset, while a handful of individual actions and putative class actions have been proceeding. The Credit Suisse entities have been dismissed from all non-stayed putative class actions.

In a series of rulings between 2013 and 2018 on motions to dismiss, the SDNY (i) narrowed the claims against the Credit Suisse entities and the other defendants (dismissing antitrust, Racketeer Influenced and Corrupt Organizations Act (RICO), Commodity Exchange Act, and state law claims), (ii) narrowed the set of plaintiffs who may bring claims, and (iii) narrowed the set of defendants in the LIBOR actions (including the dismissal of several Credit Suisse entities from various cases on personal jurisdiction grounds). The plaintiffs have appealed several of the SDNY's rulings to the United States Court of Appeals for the Second Circuit (Second Circuit). On February 23, 2018, the Second Circuit decided one of the appeals in an individual (non-class) action and largely affirmed the SDNY's rulings, including upholding the dismissal of certain state law and securities law claims as to Credit Suisse Group AG, but vacated certain rulings and remanded the case for further proceedings. Another consolidated Second Circuit appeal is still pending.

Separately, on May 4, 2017, the plaintiffs in the three non-stayed putative class actions moved for class certification. On February 28, 2018, the SDNY denied certification in two of the actions and granted certification over a single antitrust claim in an action brought by over-the-counter purchasers of LIBOR-linked derivatives. In the same decision, the court dismissed Credit Suisse AG, the only remaining Credit Suisse entity in the action, from the over-the-counter action. All parties moved for immediate appellate review of the class-certification decisions, and the Second Circuit denied their petitions for review.

On June 15, 2018, plaintiffs in several non-class actions filed amended complaints or filed for leave to amend their operative complaints. On July 13, 2018, defendants moved to dismiss the amended complaints and opposed leave to amend. On March 25, 2019, the SDNY granted in part and denied in part defendants' motions to dismiss various actions and certain plaintiffs' motions for leave to amend their complaints. The SDNY's decision narrowed the claims in several of the remaining individual investor actions on grounds relating to personal jurisdiction, the statute of limitations and the merits.

In the one matter not consolidated in the multi-district litigation, the SDNY granted the defendants' motion to dismiss on March 31, 2015. On June 1, 2015, plaintiff moved for leave to file a second amended complaint in the SDNY. On March 20, 2018, the SDNY denied the plaintiff's request for leave to file an amended pleading and dismissed the case on the merits. Plaintiff appealed to the Second Circuit. On April 30, 2019, the Second Circuit affirmed the SDNY's March 20, 2018 decision that dismissed the case. On July 29, 2019, plaintiff filed a petition for a writ of certiorari with the Supreme Court of the United States, which was denied on October 7, 2019, leaving no further avenues for appeal.

USD ICE LIBOR litigation

In January 2019, members of the US dollar Intercontinental Exchange (ICE) LIBOR panel, including Credit Suisse Group AG and certain of its affiliates, were named in three civil putative class action lawsuits alleging that panel banks suppressed US dollar ICE LIBOR to benefit defendants' trading positions. These actions have been consolidated in the SDNY. On July 1, 2019, plaintiffs filed a consolidated complaint. On August 30, 2019, defendants filed a motion to dismiss.

CHF LIBOR litigation

In February 2015, various banks that served on the Swiss franc LIBOR panel, including Credit Suisse Group AG, were named in a civil putative class action lawsuit filed in the SDNY, alleging manipulation of Swiss franc LIBOR to benefit defendants' trading positions. On September 25, 2017, the SDNY granted defendants' motion to dismiss all claims, but permitted the plaintiffs to file an amended complaint. Defendants filed motions to dismiss the amended complaint on February 7, 2018. On September 16, 2019, the SDNY granted defendants' motions to dismiss, finding that the court lacked subject matter jurisdiction over the case. On October 16, 2019, plaintiffs filed a notice of appeal.

SIBOR/SOR litigation

In July 2016, various banks that served on the Singapore Interbank Offered Rate (SIBOR) and Singapore Swap Offer Rate (SOR) panels, including Credit Suisse Group AG and affiliates, were named in a civil putative class action lawsuit filed in the SDNY, alleging manipulation of SIBOR and SOR to benefit defendants' trading positions. On August 18, 2017, the SDNY dismissed all claims against Credit Suisse Group AG and affiliates (and various other defendants) but granted the plaintiffs leave to amend their complaint. On October 4, 2018, the SDNY granted in part and

denied in part defendants' motion to dismiss plaintiffs' second amended complaint, upholding antitrust claims against Credit Suisse AG and other panel bank defendants, but narrowing the claims to those related to Singapore Dollar SIBOR and dismissing all but one plaintiff from the action. The court also dismissed the RICO claims without leave to amend. On October 25, 2018, the remaining plaintiff filed a third amended complaint. The remaining defendants moved to dismiss on November 15, 2018. On July 26, 2019, the SDNY granted defendants' motion to dismiss and denied plaintiff's motion for leave to amend, holding that the court lacked subject matter jurisdiction over the action. On August 26, 2019, plaintiff filed a notice of appeal.

Foreign exchange litigation

Credit Suisse Group AG and affiliates as well as other financial institutions are named in five pending civil lawsuits in the SDNY relating to the alleged manipulation of foreign exchange rates.

The first pending matter is a putative consolidated class action. On January 28, 2015, the court denied defendants' motion to dismiss the original consolidated complaint brought by US-based investors and foreign plaintiffs who transacted in the US, but granted their motion to dismiss the claims of foreign-based investors for transactions outside of the US. In July 2015, plaintiffs filed a second consolidated amended complaint, adding additional defendants and asserting additional claims on behalf of a second putative class of exchange investors. On September 20, 2016, the SDNY granted in part and denied in part a motion to dismiss filed by the Group and affiliates, along with other financial institutions, which reduced the size of the putative class, but allowed the primary antitrust and Commodity Exchange Act claims to survive. On May 31, 2018, plaintiffs served a motion for class certification, which the Group and affiliates opposed on October 25, 2018. On September 3, 2019, the SDNY denied plaintiffs' motion for certification of a Rule 23(b)(3) damages class, ruling that proof of both injury and damages must proceed on an individual basis, but granted certification as to two threshold issues concerning the alleged conspiracy. The SDNY also denied plaintiffs' motion for certification of a second proposed class in its entirety.

The second pending matter names Credit Suisse AG and affiliates, as well as other financial institutions in a putative class action filed in the SDNY on June 3, 2015. This action is based on the same alleged conduct as the consolidated class action and alleges violations of the US Employee Retirement Income Security Act of 1974 (ERISA). On August 23, 2016, the SDNY granted a motion to dismiss filed by affiliates of Credit Suisse AG, along with other financial institutions. Plaintiffs appealed that decision, and on July 10, 2018, the Second Circuit issued an order affirming in full the SDNY's decision to dismiss the putative ERISA class action against Credit Suisse AG and affiliates as well as other defendant financial institutions and denying plaintiffs' request for leave to amend their complaint.

The third pending matter originally named Credit Suisse Group AG and affiliates, as well as other financial institutions, in a consolidated putative class action filed in the SDNY, alleging

manipulation of the foreign exchange market on behalf of indirect purchasers of foreign exchange instruments. On March 15, 2018, the court issued a decision granting defendants' joint motion to dismiss and dismissing the consolidated complaint in its entirety. On October 25, 2018, the SDNY granted in substantial part plaintiffs' motion for leave to file a proposed second consolidated class action complaint, which plaintiffs filed on November 28, 2018. On December 20, 2018, the Group, together with other financial institutions, filed a motion to dismiss on the basis of personal jurisdiction. On February 19, 2019, plaintiffs voluntarily dismissed Credit Suisse Group AG.

The fourth pending matter names Credit Suisse Group AG and affiliates in a putative class action filed in the SDNY on July 12, 2017, alleging improper practices in connection with electronic foreign exchange trading. On April 12, 2018, the SDNY granted defendants' motion to compel arbitration.

The fifth pending matter originally named Credit Suisse Group AG and affiliates, as well as other financial institutions, in a civil action filed in the SDNY on November 13, 2018. This action is based on the same alleged conduct as the consolidated class action. On March 1, 2019, plaintiffs filed an amended complaint. On April 1, 2019, defendants filed motions to dismiss. On April 23, 2019, plaintiffs sought leave to file a second amended complaint in lieu of responding to defendants' motions. On April 26, 2019, the SDNY ordered plaintiffs to file their second amended complaint subject to defendants' right to oppose the amendment and to renew their motions to dismiss, and on June 11, 2019, plaintiffs filed a second amended complaint. On June 28, 2019, plaintiffs voluntarily dismissed Credit Suisse Group AG. On July 25, 2019, defendants filed motions to dismiss the second amended complaint. On September 6, 2019, plaintiffs voluntarily dismissed Credit Suisse International. The claims against Credit Suisse AG and CSS LLC remain pending.

Credit Suisse Group AG and certain of its affiliates, together with other financial institutions, have also been named in two Canadian putative class actions, which make allegations similar to the consolidated class action. Further, Credit Suisse Group AG and certain of its affiliates, together with other financial institutions, have also been named in two putative class actions in Israel, which make allegations similar to the consolidated class action.

Treasury markets litigation

CSS LLC, along with over 20 other primary dealers of US treasury securities, has been named in a number of putative civil class action complaints in the US relating to the US treasury markets. These complaints generally allege that defendants colluded to manipulate US treasury auctions, as well as the pricing of US treasury securities in the when-issued market, with impacts upon related futures and options. These actions have been consolidated into a multi-district litigation in the SDNY. On August 23, 2017, the SDNY appointed lead counsel, and on August 25, 2017, three purported class representatives re-filed their complaints as a collective individual action. On November 15, 2017, plaintiffs filed a consolidated amended class action complaint naming CSS LLC, Credit

Suisse Group AG, and Credit Suisse International (CSI), along with a narrower group of other defendants. The consolidated complaint contains previously-asserted allegations as well as new allegations concerning a group boycott to prevent the emergence of anonymous, all-to-all trading in the secondary market for treasury securities. On February 23, 2018, defendants served motions to dismiss on plaintiffs and the SDNY entered a stipulation voluntarily dismissing Credit Suisse Group AG and other defendant holding companies. On March 26, 2018, the SDNY entered a stipulation voluntarily dismissing CSI for lack of personal jurisdiction.

SSA bonds litigation

Credit Suisse Group AG and affiliates, along with other financial institutions and individuals, have been named in several putative class action complaints filed in the SDNY relating to SSA bonds. The complaints generally allege that defendants conspired to fix the prices of SSA bonds sold to and purchased from investors in the secondary market. These actions have been consolidated in the SDNY. On April 7, 2017, plaintiffs filed a consolidated class action complaint. Plaintiffs filed a consolidated amended class action complaint on November 3, 2017, which defendants moved to dismiss on December 12, 2017. On August 24, 2018, the SDNY granted defendants' motion to dismiss for failure to state a claim, but granted plaintiffs leave to amend. On November 6, 2018, plaintiffs filed a second consolidated amended class action complaint, which defendants moved to dismiss on December 21, 2018. On September 30, 2019, the SDNY granted the motion to dismiss for lack of personal jurisdiction and improper venue made by Credit Suisse and certain other defendants. The court indicated that it will further address defendants' motion to dismiss for failure to state a claim.

Separately, on February 7, 2019, Credit Suisse AG and certain of its affiliates, together with other financial institutions and individuals, were named in a putative class action filed in the SDNY, which makes allegations similar to the consolidated class action, but seeks to represent a putative class of indirect purchasers of US dollar SSA bonds where the purchase was made in or connected to New York.

Credit Suisse Group AG and certain of its affiliates, together with other financial institutions, have also been named in two Canadian putative class actions, which make allegations similar to the consolidated class action.

Bank Bill Swap litigation

On August 16, 2016, Credit Suisse Group AG and Credit Suisse AG, along with other financial institutions, were named in a putative class action brought in the SDNY, alleging manipulation of the Australian Bank Bill Swap reference rate. Plaintiffs filed an amended complaint on December 16, 2016, which defendants moved to dismiss on February 24, 2017. On November 26, 2018, the SDNY granted in part and denied in part defendants' motions to dismiss, including dismissing the complaint in its entirety against Credit Suisse Group AG and Credit Suisse AG. On March 4, 2019, plaintiffs were granted leave to file a second amended complaint. On April 3, 2019, plaintiffs filed a second amended

complaint. On May 20, 2019, defendants filed motions to dismiss. On February 13, 2020, the SDNY granted in part and denied in part defendants' motion to dismiss.

Mexican government bonds litigation

Credit Suisse AG and affiliates have been named in multiple putative class actions in US federal court alleging a conspiracy among Credit Suisse entities and other dealer banks to manipulate the Mexican government bond market. These actions have been consolidated in the SDNY and on July 18, 2018, plaintiffs filed their consolidated amended complaint. On September 17, 2018, defendants filed motions to dismiss the consolidated amended complaint. On September 30, 2019, the SDNY granted defendants' motion to dismiss. On December 9, 2019, plaintiffs filed a second consolidated amended complaint that does not name any Credit Suisse entity as a defendant.

Government-sponsored entity bonds litigation

Since February 22, 2019, Credit Suisse AG and CSS LLC, together with other financial institutions, have been named in multiple putative class action complaints filed in the SDNY, alleging a conspiracy among the financial institutions to fix prices for unsecured bonds issued by Freddie Mac, Fannie Mae, the Federal Home Loan Banks and the Federal Farm Credit Banks.

On April 3, 2019, the SDNY consolidated the putative class action complaints. On May 23, 2019, class plaintiffs in the consolidated putative class action filed a consolidated amended complaint that removed Credit Suisse AG as a defendant. On June 13, 2019, defendants filed a motion to dismiss. On July 12, 2019, plaintiffs filed a second consolidated amended complaint. On August 29, 2019, the SDNY granted defendants' motion to dismiss, but granted plaintiffs leave to amend. On September 10, 2019, plaintiffs filed a third consolidated amended complaint. On September 17, 2019, defendants filed a motion to dismiss certain aspects of the complaint, which was denied on October 15, 2019. On December 6, 2019, the parties reached an agreement in principle to settle the putative class action in its entirety. Class plaintiffs filed a motion seeking preliminary approval of the global settlement on December 16, 2019, and the SDNY issued an order preliminarily approving the global settlement on February 3, 2020.

Credit Suisse AG and CSS LLC, along with other financial institutions, have been named in two civil actions in the US District Court for the Middle District of Louisiana, alleging a conspiracy among financial institutions to fix prices for unsecured bonds issued by certain government-sponsored entities: one action brought by the Louisiana Attorney General on behalf of the State of Louisiana on September 23, 2019, and one action brought by the City of Baton Rouge on October 21, 2019.

OTC trading cases

Credit Suisse Group AG and affiliates, along with other financial institutions, have been named in one consolidated putative civil class action complaint and one consolidated complaint filed

by individual plaintiffs relating to interest rate swaps, alleging that dealer defendants conspired with trading platforms to prevent the development of interest rate swap exchanges. The individual lawsuits were brought by TeraExchange LLC, a swap execution facility, and affiliates, and Javelin Capital Markets LLC, a swap execution facility, and an affiliate, which claim to have suffered lost profits as a result of defendants' alleged conspiracy. All interest rate swap actions have been consolidated in a multi-district litigation in the SDNY. Both class and individual plaintiffs filed second amended consolidated complaints on December 9, 2016, which defendants moved to dismiss on January 20, 2017. On July 28, 2017, the SDNY granted in part and denied in part defendants' motions to dismiss. On May 30, 2018, class plaintiffs filed a third amended consolidated class action complaint.

On June 14, 2018, a new direct action complaint was filed by swap execution facility trueEX LLC. On June 20, 2018, the trueEX LLC complaint was added to the existing multi-district litigation. On August 9, 2018, trueEX LLC filed an amended complaint against Credit Suisse Group AG and affiliates, along with other financial institutions, which defendants moved to dismiss on August 28, 2018. On November 20, 2018, the SDNY issued an order granting in part and denying in part defendants' motion to dismiss the trueEX LLC amended complaint.

On February 20, 2019, class plaintiffs in the consolidated multi-district litigation filed a motion for class certification. On March 20, 2019, class plaintiffs filed a fourth amended consolidated class action complaint. On June 18, 2019, defendants filed their opposition to plaintiffs' motion for class certification.

On June 8, 2017, Credit Suisse Group AG and affiliates, along with other financial institutions, were named in a civil action filed in the SDNY by Tera Group, Inc. and related entities (collectively "Tera"), alleging violations of antitrust law in connection with the allegation that credit default swap (CDS) dealers conspired to block Tera's electronic CDS trading platform from successfully entering the market. On September 11, 2017, defendants filed a motion to dismiss. On July 30, 2019, the SDNY granted in part and denied in part defendants' motion to dismiss. On January 30, 2020, plaintiffs filed an amended complaint.

Credit Suisse Group AG and certain of its affiliates, as well as other financial institutions, were originally named in a number of civil lawsuits in the SDNY, certain of which are brought by class action plaintiffs alleging that the defendants conspired to keep stock-loan trading in an over-the-counter market and collectively boycotted certain trading platforms that sought to enter the market, and certain of which are brought by trading platforms that sought to enter the market alleging that the defendants collectively boycotted the platforms. The SDNY denied defendants' motions to dismiss in the putative class action. In each of the lawsuits, the court entered a stipulation voluntarily dismissing Credit Suisse Group AG and other defendant holding companies, although certain Credit Suisse Group AG affiliates remain part of the ongoing action.

On August 6, 2019, in one of the civil actions filed in the SDNY by a purported successor in interest to a trading platform for stock loans that sought to enter the market, the SDNY granted defendants' motion to dismiss and entered judgment in favor of the defendants. On September 3, 2019, plaintiff filed a motion to amend the judgment to permit plaintiff to file an amended complaint or, in the alternative, to dismiss certain claims without prejudice. On September 10, 2019, the SDNY denied in part plaintiff's motion to amend the judgment but ordered additional briefing on whether certain claims should be dismissed without prejudice. On January 6, 2020, the SDNY denied plaintiff's motion to amend the judgment.

ATA litigation

A lawsuit was filed on November 10, 2014 in the US District Court for the Eastern District of New York (EDNY) against a number of banks, including Credit Suisse AG, alleging claims under the United States Anti-Terrorism Act (ATA). The action alleges a conspiracy between Iran and various international financial institutions, including the defendants, in which they agreed to alter, falsify or omit information from payment messages that involved Iranian parties for the express purpose of concealing the Iranian parties' financial activities and transactions from detection by US authorities. The complaint, brought by approximately 200 plaintiffs, alleges that this conspiracy has made it possible for Iran to transfer funds to Hezbollah and other terrorist organizations actively engaged in harming US military personnel and civilians. On July 12, 2016, plaintiffs filed a second amended complaint in the EDNY against a number of banks, including Credit Suisse AG, alleging claims under the ATA. On September 14, 2016, Credit Suisse AG and the other defendants filed motions to dismiss the plaintiffs' second amended complaint in the EDNY. On September 16, 2019, the EDNY granted defendants' motion to dismiss. Plaintiffs moved for partial reconsideration of portions of the dismissal that do not relate to Credit Suisse, which the court denied on October 28, 2019. On November 26, 2019, plaintiffs filed a notice of appeal.

Another lawsuit was filed on November 9, 2017, in the SDNY against a number of banks, including Credit Suisse AG, alleging claims under the ATA. On March 2, 2018, Credit Suisse AG and other defendants filed motions to dismiss the plaintiffs' complaint. On March 28, 2019, the SDNY granted the motion to dismiss. On April 22, 2019, plaintiffs filed a motion for leave to amend their complaint, which defendants opposed on May 20, 2019. On February 25, 2020, the court denied plaintiffs' motion to amend their complaint and dismissed the case with prejudice as to Credit Suisse AG and the other moving bank defendants.

In December 2018, five additional lawsuits were filed in the EDNY or SDNY against a number of banks, including Credit Suisse AG and, in two instances, Credit Suisse AG, New York Branch alleging claims under the ATA and the Justice Against Sponsors of Terrorism Act. These actions similarly allege a conspiracy between Iran and various international financial institutions, including the defendants, in which they agreed to alter, falsify or omit information from payment messages that involved Iranian parties, and that

this conspiracy made it possible for Iran to transfer funds to terrorist organizations actively engaged in harming US military personnel and civilians.

On April 11, 2019, another action alleging claims under the ATA was filed in the EDNY that is related to, and makes allegations materially similar to, the other ATA cases already pending in the EDNY. On January 6, 2020, defendants filed a motion to dismiss two of these cases, which are pending before the same EDNY judge that granted defendants' motion to dismiss.

Other than cases that have been decided or where a motion to dismiss is pending, these cases have been stayed pending the outcome of certain of the decisions described above.

MPS

In late 2014, the Monte dei Paschi di Siena Foundation (Foundation) filed a lawsuit in the Civil Court of Milan, Italy seeking EUR 3 billion in damages jointly from Credit Suisse Securities (Europe) Limited (CSSEL), Banca Leonardo & Co S.p.A. and former members of the Foundation's management committee. The lawsuit relates to the fairness opinions CSSEL and Banca Leonardo & Co S.p.A. delivered to the Foundation in connection with the EUR 9 billion acquisition of Banca Antonveneta S.p.A. by Banca Monte dei Paschi di Siena S.p.A. (BMPS) in 2008. BMPS funded the acquisition by a EUR 5 billion rights offer and the issuance of unredeemable securities convertible into BMPS shares, in which the Foundation invested EUR 2.9 billion and EUR 490 million, respectively. The Foundation alleges that the fairness opinions were issued in the absence of key financial information. CSSEL believes that the claim lacks merit and is not supported by the available evidence. In November 2017, the Civil Court of Milan rejected the Foundation's claims, ruling in favor of CSSEL. In January 2018, the Foundation filed an appeal against this ruling. On June 11, 2019, following a settlement, the Civil Court of Milan dismissed all claims.

Customer account matters

Several clients have claimed that a former relationship manager in Switzerland had exceeded his investment authority in the management of their portfolios, resulting in excessive concentrations of certain exposures and investment losses. Credit Suisse AG is investigating the claims, as well as transactions among the clients. Credit Suisse AG filed a criminal complaint against the former relationship manager with the Geneva Prosecutor's Office upon which the prosecutor initiated a criminal investigation. Several clients of the former relationship manager also filed criminal complaints with the Geneva Prosecutor's Office. On February 9, 2018, the former relationship manager was sentenced to five years in prison by the Geneva criminal court for fraud, forgery and criminal mismanagement and ordered to pay damages of approximately USD 130 million. Several parties have appealed the judgement. On June 26, 2019, the Criminal Court of Appeals of Geneva ruled in the appeal of the judgment against the former relationship manager, upholding the main findings of the Geneva

criminal court. Several parties have appealed the decision to the Swiss Federal Supreme Court. On February 19, 2020, the Swiss Federal Supreme Court rendered its judgment on the appeals, substantially confirming the findings of the Criminal Court of Appeals of Geneva. Civil lawsuits were initiated between August 7, 2017 and August 25, 2017 in the High Court of Singapore, the High Court of New Zealand and the Supreme Court of Bermuda against Credit Suisse AG and certain affiliates, based on the findings established in the criminal proceedings against the former relationship manager. On July 17, 2018, the High Court of New Zealand dismissed the civil lawsuit brought against Credit Suisse AG and stayed the same lawsuit against a New Zealand incorporated affiliate. On August 31, 2018, the civil lawsuit was stayed by an Assistant Registrar of the High Court of Singapore. Plaintiffs in both the New Zealand and Singapore civil proceedings have appealed these decisions. On January 18, 2019 the Singapore High Court dismissed the plaintiffs' appeal and upheld the Assistant Registrar's decision to stay the civil proceedings in Singapore. On April 29, 2019, the plaintiffs appealed the decision of the Singapore High Court only with respect to their action against the Credit Suisse affiliate. On June 21, 2019, the plaintiffs discontinued their action against Credit Suisse AG in the Singapore courts. On May 3, 2019, the plaintiffs filed a notice of abandonment of appeal in the Court of Appeal of New Zealand.

FIFA-related matters

In connection with investigations by US and Swiss government authorities into the involvement of financial institutions in the alleged bribery and corruption surrounding the Fédération Internationale de Football Association (FIFA), Credit Suisse received inquiries from these authorities regarding its banking relationships with certain individuals and entities associated with FIFA, including but not limited to certain persons and entities named and/or described in the May 20, 2015 indictment and the November 25, 2015 superseding indictment filed by the Eastern District of New York US Attorney's Office. The US and Swiss investigations encompassed whether multiple financial institutions, including Credit Suisse, permitted the processing of suspicious or otherwise improper transactions, or failed to observe anti-money laundering laws and regulations, with respect to the accounts of certain persons and entities associated with FIFA. Credit Suisse continues to cooperate with US authorities on this matter. As previously disclosed, the Swiss Financial Market Supervisory Authority FINMA has announced the conclusion of its investigation.

External asset manager matter

Several clients have claimed that an external asset manager based in Geneva misappropriated funds, forged bank statements, transferred assets between client accounts at Credit Suisse AG as custodian to conceal losses and made investments without the authorization of those clients. The Geneva Prosecutor's Office initiated a criminal investigation against representatives of the external asset manager and two former Credit Suisse AG employees. This investigation was expanded in November 2018 to also include one former and one current Credit Suisse AG employee

and Credit Suisse AG itself in order to assess the sufficiency of Credit Suisse AG's controls and supervision. In the third quarter of 2019, Credit Suisse AG entered into a two stage, conditional settlement agreement with affected clients. With the cooperation of the Geneva Prosecutor's Office, the first stage of the settlement was completed in November 2019.

Mossack Fonseca/Israel Desk matters

Credit Suisse, along with many financial institutions, has received inquiries from governmental and regulatory authorities concerning banking relationships between financial institutions, their clients and the Panama-based law firm of Mossack Fonseca. Credit Suisse has also received governmental and regulatory inquiries concerning cross-border services provided by Credit Suisse's Switzerland-based Israel Desk. Credit Suisse is conducting a review of these issues and has been cooperating with the authorities.

Mozambique matter

Credit Suisse is responding to requests from regulatory and enforcement authorities related to certain Credit Suisse entities' arrangement of loan financing to Mozambique state enterprises, ProIndicus S.A. and Empresa Mocambicana de Atum S.A. (EMATUM), a distribution to private investors of loan participation notes (LPN) related to the EMATUM financing in September 2013, and certain Credit Suisse entities' subsequent role in arranging the exchange of those LPNs for Eurobonds issued by the Republic of Mozambique. On January 3, 2019, the United States Attorney for the Eastern District of New York unsealed an indictment against several individuals in connection with the matter, including three former Credit Suisse employees. On May 20, 2019, July 19, 2019 and September 6, 2019, the three former employees pleaded guilty to accepting improper personal benefits in connection with financing transactions carried out with two Mozambique state enterprises. Credit Suisse is cooperating with the authorities on this matter. On February 27, 2019, certain Credit Suisse entities, the same three former employees, and several other unrelated entities were sued in the English High Court by the Republic of Mozambique. On January 21, 2020, Credit Suisse filed its defense. The Republic of Mozambique seeks a declaration that the sovereign guarantee issued in connection with the ProIndicus loan syndication arranged and funded, in part, by a Credit Suisse subsidiary is void and also seeks unspecified damages alleged to have arisen in connection with the transactions involving ProIndicus and EMATUM, and a transaction in which Credit Suisse had no involvement with Mozambique Asset Management S.A.

Cross-border private banking matters

Credit Suisse offices in various locations, including the UK, the Netherlands and France, have been contacted by regulatory and law enforcement authorities that are seeking records and information concerning investigations into our historical private banking services on a cross-border basis and in part through our local

branches and banks. Credit Suisse has conducted a review of these issues and is cooperating with the authorities. Credit Suisse applies a strict zero tolerance policy on tax evasion.

Hiring practices investigation

On May 30, 2018, Credit Suisse (Hong Kong) Limited (CSHKL) entered into a non-prosecution agreement to resolve the investigation of past hiring practices between 2007 and 2013 in the Asia Pacific region by the DOJ, under which CSHKL paid a penalty of USD 47 million. No criminal charges were filed and no monitor was required. As part of the agreement, Credit Suisse AG has ongoing obligations, including cooperating with the DOJ, maintaining prescribed standards in its compliance programs and reporting to the DOJ on the functioning of its enhanced compliance programs. On July 5, 2018, Credit Suisse Group AG reached a settlement with the US Securities and Exchange Commission to resolve the parallel investigation of the same conduct for USD 29.8 million.

Write-downs litigation

On December 22, 2017, Credit Suisse Group AG and certain current and former executives were named in a class action complaint filed in the SDNY on behalf of a putative class of purchasers of Credit Suisse Group AG American Depositary Receipts (ADRs), asserting claims for violations of Sections 10(b) and 20(a) of the US Securities Exchange Act of 1934 and Rule 10b-5 thereunder, alleging that defendants sanctioned increases to trading limits that ultimately led to write-downs in the fourth quarter of 2015 and the first quarter of 2016 and a decline in the market value of the ADRs. On April 18, 2018, plaintiffs filed an amended complaint, which asserts substantially the same claims as the original complaint. On February 19, 2019, the SDNY granted in part and denied in part, defendants' motion to dismiss the amended complaint. The decision narrows the scope of the action to claims related to statements concerning Credit Suisse's risk limits and controls. On May 16, 2019, the SDNY denied defendants' motion for reconsideration. Discovery is ongoing.

ETN-related litigation

Since March 14, 2018, three class action complaints were filed in the SDNY on behalf of a putative class of purchasers of VelocityShares Daily Inverse VIX Short Term Exchange Traded Notes linked to the S&P 500 VIX Short-Term Futures Index due December 4, 2030 (XIV ETNs). On August 20, 2018, plaintiffs filed a consolidated amended class action complaint, naming Credit Suisse Group AG and certain affiliates and executives, along with Janus Index & Calculation Services LLC and affiliates, which asserts claims for violations of Sections 9(a)(4), 9(f), 10(b) and 20(a) of the US Securities Exchange Act of 1934 and Rule 10b-5 thereunder and Sections 11 and 15 of the US Securities Act of 1933 and alleges that the defendants are responsible for losses to investors following a decline in the value of XIV ETNs on February 5, 2018. Defendants moved to dismiss the amended complaint on November 2, 2018. On September 25, 2019, the SDNY

granted defendants' motion to dismiss and dismissed with prejudice all claims against the defendants. On October 18, 2019, plaintiffs filed a notice of appeal.

On April 17, 2018, Credit Suisse AG, along with Janus Index & Calculation Services LLC, was named in an individual civil action in the Northern District of Alabama that makes allegations similar to those alleged in the consolidated New York class action. On August 10, 2018, defendants filed a motion to transfer the action to the SDNY, which was denied on December 17, 2018. On September 26, 2018, defendants filed a motion to dismiss the Alabama complaint. On December 4, 2018, plaintiffs filed an amended complaint, which defendants moved to dismiss on January 11, 2019. On August 22, 2019, the court granted in part and denied in part defendants' motion to dismiss.

On February 4, 2019, Credit Suisse Group AG and certain affiliates and executives, along with Janus Index & Calculation Services LLC and affiliates, were named in a separate individual action brought in the EDNY, which asserts claims substantially similar to those brought in the consolidated class action. On March 29, 2019, plaintiff voluntarily dismissed its action and filed a substantially similar complaint in the SDNY. On May 16, 2019, defendants filed a motion to dismiss. On January 2, 2020, the SDNY granted defendants' motion to dismiss. On February 3, 2020, plaintiff filed a notice of appeal.

On June 3, 2019, Credit Suisse AG, an affiliate and executives were named in a separate individual action brought in the SDNY by a purchaser of XIV ETNs, which asserts claims similar to those brought in the consolidated class action complaint as well as additional claims under New York and Pennsylvania state law. On November 12, 2019, defendants filed a motion to dismiss. Plaintiffs responded to the motion to dismiss by filing an amended complaint in lieu of opposing the motion to dismiss. The action has been stayed pending a resolution of the appeal in the consolidated class action.

On February 4, 2019, Credit Suisse Group AG and certain affiliates and executives, along with Janus Index & Calculation Services LLC and affiliates, were named in a class action complaint filed in the SDNY brought on behalf of a putative class of purchasers of VelocityShares Daily Inverse VIX Medium Term Exchange Traded Notes linked to the S&P 500 VIX Mid-Term Futures Index due December 4, 2030 (ZIV ETNs). The complaint asserts claims for

violations of Sections 9(a)(4), 9(f), 10(b) and 20(a) of the US Securities Exchange Act of 1934 and Rule 10b-5 thereunder and Sections 11 and 15 of the US Securities Act of 1933 and alleges that the defendants are responsible for losses to investors following a decline in the value of ZIV ETNs in February 2018. On August 20, 2019, plaintiffs filed an amended complaint. On October 21, 2019, defendants filed a motion to dismiss.

TWINT

On November 13, 2018, COMCO announced an investigation into several Swiss financial institutions, including UBS Switzerland AG, Credit Suisse (Schweiz) AG, Aduno Holding AG, PostFinance AG, and Swisscard AECS GmbH. According to COMCO, its investigation is focused on whether these institutions entered into an agreement to boycott mobile payment solutions of international providers, including Apple Pay and Samsung Pay, in order to protect TWINT, their own Swiss payment solution.

SWM

CSI is the defendant in a lawsuit brought by the German public utility company Stadtwerke München GmbH (SWM) in a German court, in connection with a series of interest rate swaps entered into between 2008 and 2012. The claimant alleges breach of an advisory duty to provide both investor- and investment-specific advice, including in particular a duty to disclose the initial mark-to-market value of the trades at inception. On March 22, 2019, the trial court (the Regional Court of Frankfurt am Main) dismissed in their entirety claims against CSI. On April 29, 2019, plaintiff filed a notice of appeal and an application for a supplementary judgment. On November 29, 2019, the court ruled on the supplementary judgment application, finding that SWM was entitled to a refund of negative interest from CSI. CSI is appealing this ruling.

Bulgarian former clients matter

Credit Suisse AG has been responding to an investigation by the Swiss Office of the Attorney General concerning the diligence and controls applied to a historical relationship with Bulgarian former clients who are alleged to have laundered funds through Credit Suisse AG accounts. Credit Suisse AG believes its diligence and controls complied with applicable legal requirements, and intends to defend itself vigorously.

APPENDIX 7 — A BRIEF GUIDE TO CREDIT RATINGS

Information set out in this appendix 7 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.moody.com>, as at the day immediately preceding the date of this document. Information appearing on those websites does not form part of this 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 7 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 7 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 at the day immediately preceding the date of this 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.moody.com/Pages/amr002002.aspx> for further details.

Rating Outlooks

A rating outlook indicates the potential direction of a long-term credit rating over the intermediate term (for example, this is typically six months to two years for S&P). A rating outlook issued by S&P or Moody's will usually indicate whether the potential 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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