

VIII – Consolidated financial statements – Credit Suisse (Bank)

Report of the Statutory Auditor	425
Consolidated financial statements	427
Notes to the consolidated financial statements	434
Controls and procedures	502
Report of the Independent Registered Public Accounting Firm	504

Notes to the consolidated financial statements

1	Summary of significant accounting policies	434
2	Recently issued accounting standards.....	434
3	Business developments, significant shareholders and subsequent events	434
4	Segment information	435
5	Net interest income	435
6	Commissions and fees.....	436
7	Trading revenues.....	436
8	Other revenues	436
9	Provision for credit losses	436
10	Compensation and benefits	436
11	General and administrative expenses	436
12	Restructuring expenses	437
13	Revenue from contracts with customers	438
14	Securities borrowed, lent and subject to repurchase agreements	439
15	Trading assets and liabilities	439
16	Investment securities.....	440
17	Other investments.....	441
18	Loans, allowance for loan losses and credit quality	442
19	Goodwill	447
20	Other intangible assets.....	448
21	Other assets and other liabilities.....	448
22	Leases.....	449
23	Deposits.....	450
24	Long-term debt.....	451
25	Accumulated other comprehensive income	452
26	Offsetting of financial assets and financial liabilities	453
27	Tax	455
28	Employee deferred compensation.....	459
29	Related parties.....	462
30	Pension and other post-retirement benefits	463
31	Derivatives and hedging activities	469
32	Guarantees and commitments	473
33	Transfers of financial assets and variable interest entities	474
34	Financial instruments.....	480
35	Assets pledged and collateral.....	497
36	Capital adequacy	497
37	Assets under management	498
38	Litigation	498
39	Significant subsidiaries and equity method investments.....	499
40	Significant valuation and income recognition differences between US GAAP and Swiss GAAP banking law (true and fair view).....	501



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

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

How the matter was addressed

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

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.

How the matter was addressed

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.

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.

The primary procedures we performed to address this critical audit matter included the following.

- 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

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.

How the matter was addressed

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

Shaun Kendrigan
Licensed Audit Expert
Global Audit Partner

Zurich, Switzerland
March 25, 2020

KPMG AG, Raffelstrasse 28, PO Box, CH-8036 Zurich

KPMG AG is a subsidiary of KPMG Holding AG, which is a member of the KPMG network of independent firms affiliated with KPMG International Cooperative ("KPMG International"), a Swiss legal entity. All rights reserved.

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				
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							Non-controlling interests	Total equity
	Common shares	Additional paid-in capital	Retained earnings	Treasury shares, at cost ¹	AOCI	Total shareholders' equity			
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							Non-controlling interests	Total equity
	Common shares/participation securities	Additional paid-in capital	Retained earnings	Treasury shares, at cost	AOI	Total shareholders' equity			
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)	(646)	(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.

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.

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

The Bank's contract terms are generally such that they do not result in any contract assets.

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.

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.		
Short positions	24,714	26,948	2 Recorded as cash collateral on derivative instruments in Note 21 – Other assets and other liabilities.		
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

	2019				2018 ¹			
end of	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

	Less than 12 months		12 months or more		Total	
end of	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

	2019		2018		2017	
in	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

			Debt securities available-for-sale	
end of	Amortized cost	Fair value	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

2019	Swiss Universal Bank	International Wealth Management	Asia Pacific	Global Markets	Investment Banking & Capital Markets	Bank ¹
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
Other assets (CHF million)		
Cash collateral on derivative instruments	4,570	7,057
Cash collateral on non-derivative transactions	428	465
Derivative instruments used for hedging	183	33
Assets held-for-sale	8,971	6,744
of which loans ¹	8,886	6,630
of which real estate ²	38	54
of which long-lived assets	47	60
Premises, equipment and right-of-use assets ³	6,652	4,530
Assets held for separate accounts	111	125
Interest and fees receivable	5,301	5,506
Deferred tax assets	4,337	4,887
Prepaid expenses	343	560
of which cloud computing arrangement implementation costs	21	–
Failed purchases	1,643	1,283
Defined benefit pension and post-retirement plan assets	1,067	1,001
Other	3,463	4,482
Other assets	37,069	36,673

end of	2019	2018
Other liabilities (CHF million)		
Cash collateral on derivative instruments	7,457	6,903
Cash collateral on non-derivative transactions	516	514
Derivative instruments used for hedging	48	8
Operating leases liabilities	2,388	–
Provisions	1,171	920
of which off-balance sheet risk	172	151
Restructuring liabilities	–	342
Liabilities held for separate accounts	111	125
Interest and fees payable	5,690	5,521
Current tax liabilities	658	907
Deferred tax liabilities	167	268
Failed sales	936	2,187
Defined benefit pension and post-retirement plan liabilities	455	518
Other	10,809	12,114
Other liabilities	30,406	30,327

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

	Sales-type leases	Direct financing leases
end of 2019		
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

	Sales-type leases	Direct financing leases	Operating leases
end of 2019			
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

end of	2019
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.

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 products ¹	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 agreements ²	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

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
Curtailement 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 derivatives²	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 products³	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	469.4	5.4	6.6	0.0	0.0	0.0
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		
	Carrying amount	Hedging adjustments ¹	Discontinued hedges ²
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

in	2019	2018	2017
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	Financial intermediation				Total
			Securi- tizations	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)	2,324 ¹
Whereof:						
Unrealized gains/(losses) relating to assets and liabilities still held as of the reporting date	(1,423)	149	(1,274)	99 ²	(6)	93 ²

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
of which life finance instruments	1,052	Discounted cash flow	Market implied life expectancy, in years	2	16	6
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
			Mortality rate, in %	87	106	101
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					

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.

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	(14,828)	(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, Raffelstrasse 28, PO Box, CH-8036 Zurich

KPMG AG is a subsidiary of KPMG Holding AG, which is a member of the KPMG network of independent firms affiliated with KPMG International Cooperative ("KPMG International"), a Swiss legal entity. All rights reserved.