

Pillar 3 and regulatory disclosures

4Q20

For purposes of this report, unless the context otherwise requires, the terms “Credit Suisse,” the “Group,” “we,” “us” and “our” mean Credit Suisse Group AG and its consolidated subsidiaries. The business of Credit Suisse AG, the direct bank subsidiary of the Group, is substantially similar to the Group, and we use these terms to refer to both when the subject is the same or substantially similar. We use the term the “Bank” when we are only referring to Credit Suisse AG and its consolidated subsidiaries.

Abbreviations are explained in the List of abbreviations in the back of this report.

Publications referenced in this report, whether via website links or otherwise, are not incorporated into this report.

In various tables, use of “–” indicates not meaningful or not applicable.

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Introduction

General

This report as of December 31, 2020 is based on the revised Circular 2016/1 "Disclosure – banks" (FINMA circular) issued by the Swiss Financial Market Supervisory Authority FINMA (FINMA) on October 31, 2019. The revised FINMA circular includes the implementation of the revised Pillar 3 disclosure requirements issued by the Basel Committee on Banking Supervision (BCBS) in August and December 2019.

This report is produced and published quarterly, in accordance with FINMA requirements. The reporting frequency for each disclosure requirement is either annual, semi-annual or quarterly. This document should be read in conjunction with the Pillar 3 and regulatory disclosures – Credit Suisse Group AG 2Q20 and 3Q20 and the Credit Suisse Annual Report 2020, which includes important information on regulatory capital, risk management (specific references have been made herein to these documents) and regulatory developments and proposals.

The highest consolidated entity in the Group to which the FINMA circular applies is Credit Suisse Group.

These disclosures were verified and approved internally in line with our board-approved policy on disclosure controls and procedures. The level of internal control processes for these disclosures is similar to those applied to the Group's quarterly and annual financial reports. This report has not been audited by the Group's external auditors.

For certain prescribed table formats where line items have zero balances, such line items have not been presented.

This report reflects certain updates and corrections to prior period metrics which have been noted in the relevant tabular disclosures, where applicable.

Other regulatory disclosures

In connection with the implementation of Basel III, certain regulatory disclosures for the Group and certain of its subsidiaries are required. The Group's Pillar 3 disclosure, regulatory disclosures, additional information on capital instruments, including the main features of regulatory capital instruments and total loss-absorbing capacity (TLAC)-eligible instruments that form part of the eligible capital base and TLAC resources, Global systemically important bank (G-SIB) financial indicators, reconciliation requirements, leverage ratios and certain liquidity disclosures as well as regulatory disclosures for subsidiaries can be found on our website.

→ Refer to credit-suisse.com/regulatorydisclosures for additional information.

Regulatory developments

COVID-19 pandemic and related regulatory measures

The Swiss government, the Swiss National Bank and FINMA have already taken various measures to mitigate the consequences for the economy and the financial system. Governments and regulators in other jurisdictions where we have operations have also taken a number of emergency and temporary measures to address the financial and economic pressures arising from the COVID-19 pandemic.

→ Refer to "COVID-19 pandemic and related regulatory measures" (pages 68 to 69) in II – Operating and financial review – Credit Suisse in the Credit Suisse Annual Report 2020 for further information.

Location of disclosure

This report provides the Pillar 3 and regulatory disclosures required by the FINMA circular for the Group to the extent that these disclosures are not included in the Credit Suisse Annual Report 2020 or in the regulatory disclosures on our website.

→ Refer to "Annual Report" under credit-suisse.com/ar for disclosures included in the Credit Suisse Annual Report 2020.

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¹ The disclosure will be available by the end of April 2021.

Swiss capital requirements

FINMA requires the Group to fully comply with the special requirements for systemically important financial institutions operating internationally. The following tables present the Swiss capital and leverage requirements and metrics as required by FINMA.

→ Refer to "Swiss requirements" (pages 123 to 125) in III – Treasury, Risk, Balance sheet and Off-balance sheet – Capital management – Regulatory framework and "Swiss metrics" (pages 132 to 133) in III – Treasury, Risk, Balance sheet and Off-balance sheet – Capital management in the Credit Suisse Annual Report 2020 for further information on general Swiss requirements and the related metrics.

Swiss capital requirements and metrics

end of 4Q20	CHF million	in % of RWA
Swiss risk-weighted assets		
Swiss risk-weighted assets	275,576	–
Risk-based capital requirements (going-concern) based on Swiss capital ratios		
Total	39,468	14.322
of which CET1: minimum	12,401	4.5
of which CET1: buffer	15,157	5.5
of which CET1: countercyclical buffers	60	0.022
of which additional tier 1: minimum	9,645	3.5
of which additional tier 1: buffer	2,205	0.8
Swiss eligible capital (going-concern)		
Swiss CET1 capital and additional tier 1 capital ¹	51,192	18.6
of which CET1 capital ²	35,351	12.8
of which additional tier 1 high-trigger capital instruments	11,410	4.1
of which additional tier 1 low-trigger capital instruments ³	4,431	1.6
Risk-based requirements for additional total loss-absorbing capacity (gone-concern) based on Swiss capital ratios		
Total according to size and market share ⁴	39,407	14.3
Reductions due to rebates in accordance with article 133 of the CAO	(7,069)	(2.565)
Reductions due to the holding of additional instruments in the form of convertible capital in accordance with Art. 132 para 4 CAO	(1,201)	(0.436)
Total, net	31,138	11.299
Eligible additional total loss-absorbing capacity (gone-concern) ⁵		
Total ⁶	41,852	15.2
of which bail-in instruments	39,450	14.3
of which tier 2 low-trigger capital instruments	2,402	0.9

The Swiss capital requirements have been fully phased-in as of January 1, 2020. Rounding differences may occur.

¹ Excludes tier 1 capital, which is used to fulfill gone-concern requirements.

² Excludes CET1 capital, which is used to fulfill gone-concern requirements.

³ If issued before July 1, 2016, such capital instruments qualify as additional tier 1 high-trigger capital instruments until their first call date according to the transitional Swiss "Too Big to Fail" rules.

⁴ Consists of a base requirement of 12.86%, or CHF 35,439 million, and a surcharge of 1.44%, or CHF 3,968 million.

⁵ Excludes formally eligible gone-concern capacity of CHF 3,900 million which the Group has to provide to the Bank in order to cover specifically a part of the Bank's exposure, originating from unsecured loans toward the Group.

⁶ Amounts are shown on a look-through basis. Certain tier 2 capital instruments are subject to phase out through 2022. As of 4Q20, total eligible gone-concern capital was CHF 42,198 million including CHF 346 million of such instruments.

Swiss leverage requirements and metrics

end of 4Q20	CHF million	in % of LRD
Leverage exposure for going concern		
Leverage ratio denominator	799,853 ¹	–
Unweighted capital requirements (going-concern) based on Swiss leverage ratio		
Total	39,993	5.0
of which CET1: minimum	11,998	1.5
of which CET1: buffer	15,997	2.0
of which additional tier 1: minimum	11,998	1.5
Swiss eligible capital (going-concern)		
Swiss CET1 capital and additional tier 1 capital ²	51,192	6.4 ³
of which CET1 capital ⁴	35,351	4.4
of which additional tier 1 high-trigger capital instruments	11,410	1.4
of which additional tier 1 low-trigger capital instruments ⁵	4,431	0.6
Leverage exposure for gone concern		
Leverage ratio denominator	910,530	–
Unweighted requirements for additional total loss-absorbing capacity (gone-concern) based on the Swiss leverage ratio		
Total according to size and market share ⁶	45,527	5.0
Reductions due to rebates in accordance with article 133 of the CAO	(8,195)	(0.9)
Reductions due to the holding of additional instruments in the form of convertible capital in accordance with Art. 132 para 4 CAO	(1,201)	(0.132)
Total, net	36,131	3.968
Eligible additional total loss-absorbing capacity (gone-concern) ⁷		
Total ⁸	41,852	4.6
of which bail-in instruments	39,450	4.3
of which tier 2 low-trigger capital instruments	2,402	0.3

The Swiss capital requirements have been fully phased-in as of January 1, 2020. Rounding differences may occur.

¹ Reflects the temporary exclusion of central bank deposits in all currencies from the leverage exposure, after adjusting for the dividend paid in 2Q20 and 4Q20, in accordance with FINMA Guidance 02/2020, 03/2020 and 06/2020.

² Excludes tier 1 capital, which is used to fulfill gone-concern requirements.

³ The going concern ratio would be 5.6%, if calculated using a leverage exposure of CHF 910,530 million without the temporary exclusion of central bank deposits in all currencies from the leverage exposure, after adjusting for the dividend paid in 2Q20 and 4Q20, of CHF 110,677 million.

⁴ Excludes CET1 capital, which is used to fulfill gone-concern requirements.

⁵ If issued before July 1, 2016, such capital instruments qualify as additional tier 1 high-trigger capital instruments until their first call date according to the transitional Swiss "Too Big to Fail" rules.

⁶ Consists of a base requirement of 4.5%, or CHF 40,974 million, and a surcharge of 0.5%, or CHF 4,553 million.

⁷ Excludes formally eligible gone-concern capacity of CHF 3,900 million which the Group has to provide to the Bank in order to cover specifically a part of the Bank's exposure, originating from unsecured loans toward the Group.

⁸ Amounts are shown on a look-through basis. Certain tier 2 capital instruments are subject to phase out through 2022. As of 4Q20, total eligible gone-concern capital was CHF 42,198 million including CHF 346 million of such instruments.

Overview of risk management

General

Fundamental to our business is the prudent taking of risk in line with our strategic priorities. The primary objectives of risk management are to protect our financial strength and reputation, while ensuring that capital is well deployed to support business activities. Our risk management framework is based on transparency, management accountability and independent oversight. Risk management is an integral part of our business planning process with strong involvement of senior management and the Board of Directors. Risk measurement models are reviewed by the Model Risk Management team, an independent validation function, and regularly presented to and approved by the relevant oversight committee.

→ Refer to "Risk management oversight" (pages 141 to 144), "Risk appetite framework" (pages 144 to 147) and "Risk coverage and management" (pages 147 to 165) in III – Treasury, Risk, Balance sheet and Off-balance sheet – Risk management in the Credit Suisse Annual Report 2020 for information on risk management oversight including risk culture, risk governance, risk organization, risk types, risk appetite, risk limits, stress testing and strategies/processes to manage, hedge and mitigate risks.

Risk reporting

Risk reporting is performed regularly and there are numerous internal control procedures in place, in particular the standard operating procedures, risk and control assessment and independent report review. These ensure the reporting and measurement systems are up to date and are working as intended. They cover: validation and authorization of risk measurement data, status summary reports, data reconciliation, independent checks/validation and error reports to capture any failings. Senior management and the Board of Directors are informed about key risk metrics aligned to our Strategic Risk Objectives (SRO) in the monthly Group Risk Report.

Key risks

The Group is exposed to several key banking risks such as:

- Credit risk (refer to section "Credit risk" on pages 12 to 43);
- Counterparty credit risk (refer to section "Counterparty credit risk" on pages 44 to 53);
- Securitization risk (refer to section "Securitization risk" on pages 54 to 61);
- Market risk (refer to section "Market risk" on pages 62 to 66);
- Interest rate risk in the banking book (refer to section "Interest rate risk in the banking book" on pages 67 to 70); and
- Operational risk.

→ Refer to "Non-financial risk regulatory capital measurement" (page 159) in III – Treasury, Risk, Balance sheet and Off-balance sheet – Risk management – Risk coverage and management in the Credit Suisse Annual Report 2020 for information on operational risk.

The Basel framework proposes various approaches for determining capital requirements which banks have to abide by in order to maintain regulatory compliance. Credit Suisse has adopted a modelled approach with respect to most of its risk types, both for regulatory and internal requirements, in order to ensure our capital resources are appropriate to our risk profile.

Risk-weighted assets

With the adoption of the revised FINMA circular, risk-weighted assets (RWA) presented in this report, including prior period comparisons, are based on the Swiss capital requirements.

→ Refer to "Swiss requirements" (pages 123 to 125) in III – Treasury, Risk, Balance sheet and Off-balance sheet – Capital management – Regulatory framework in the Credit Suisse Annual Report 2020 for further information on Swiss capital requirements.

The following table presents an overview of total Swiss RWA forming the denominator of the risk-based capital requirements. Further breakdowns of RWA are presented in subsequent sections of this report.

RWA were CHF 275.6 billion as of the end of 4Q20, a 4% decrease compared to the end of 3Q20. Decreases in RWA were

mainly related to foreign exchange movements, movements in risk levels in credit risk and internal model and parameter updates related to credit risk. These decreases were partially offset by methodology and policy changes related to credit risk and movements in risk levels in market risk. The movement in methodology and policy changes reflected the phase-in of certain Basel III revisions for credit risk, SA-CCR for derivatives, equity investments in funds and central counterparty default fund contributions.

RWA flow statements for credit risk, counterparty credit risk (CCR) and market risk are presented in subsequent parts of this report.

→ Refer to "Risk-weighted assets" (pages 129 to 131) in III – Treasury, Risk, Balance sheet and Off-balance sheet – Capital management in the Credit Suisse Annual Report 2020 for further information on risk-weighted assets movements in 2020.

OV1 – Overview of Swiss risk-weighted assets and capital requirements

end of	Risk-weighted assets			Capital requirement ¹
	4Q20	3Q20	4Q19	4Q20
CHF million				
Credit risk (excluding counterparty credit risk)	134,648	136,264	144,984	10,772
of which standardized approach (SA)	26,237	26,789	25,518	2,099
of which supervisory slotting approach	4,246	4,101	4,212	340
of which advanced internal ratings-based (A-IRB) approach	104,165	105,374	115,254	8,333
Counterparty credit risk	22,577	23,209	20,365	1,806
of which standardized approach for counterparty credit risk (SA-CCR)	4,283	4,105	1,830	343
of which internal model method (IMM)	16,589	17,888	17,486	1,327
of which other counterparty credit risk ²	1,705	1,216	1,049	136
Credit valuation adjustments (CVA)	8,498	11,064	6,892	680
Equity positions in the banking book under the simple risk weight approach	4,427	7,182	10,202	354
Equity investments in funds – look-through approach ³	2,998	3,017	–	240
Equity investments in funds – mandate-based approach ³	71	41	–	6
Equity investments in funds – fall-back approach ³	506	848	–	40
Settlement risk	249	378	219	20
Securitization exposures in the banking book	12,962	13,561	13,333	1,037
of which securitization internal ratings-based approach (SEC-IRBA)	7,322	7,601	7,751	586
of which securitization external ratings-based approach (SEC-ERBA), including internal assessment approach (IAA)	1,285	1,228	1,555	103
of which securitization standardized approach (SEC-SA)	4,355	4,732	4,027	348
Market risk	18,317	17,241	15,192	1,465
of which standardized approach (SA)	1,478	1,945	1,981	118
of which internal model approach (IMA)	16,839	15,296	13,211	1,347
Operational risk (AMA)	58,655	61,371	68,318	4,692
Amounts below the thresholds for deduction (subject to 250% risk weight)	11,668	11,681	11,777	934
Total	275,576	285,857	291,282	22,046

¹ Calculated as 8% of Swiss risk-weighted assets, based on total capital minimum requirements, excluding capital conservation buffer and G-SIB buffer requirements.

² Includes RWA for contributions to the default fund of a central counterparty and loans hedged by centrally cleared CDS.

³ Following the adoption of the new regulation introduced in January 2020, the calculation of RWA for investments in funds is now presented separately. Prior to this, investments in funds were included under equity positions under the simple risk weight approach.

Linkages between financial statements and regulatory exposures

This section shows the various sources of differences between the carrying values presented in the Group's financial statements prepared in accordance with accounting principles generally accepted in the US (US GAAP) and the exposure amounts used for regulatory purposes. The identification, classification and presentation of these sources of differences requires a significant amount of management judgement and is based on the information available at the time. As such, reclassifications have been made compared to the prior year. Management believes that the estimates and assumptions used in the preparation of these disclosures are prudent, reasonable and consistently applied.

The following table shows the differences between the scope of accounting consolidation and the scope of regulatory consolidation, broken down by how the amounts reported in the Group's financial statements correspond to regulatory risk categories. The column about the securitization framework includes securitizations in the banking book, whereas securitizations in the trading book are included in the column about market risk. Foreign exchange risk in the banking book is captured by the Internal Model Approach (IMA) in market risk. Positions with foreign exchange risk in the banking book are not included in the column about market risk. Cash collateral is excluded from market risk. However, the cash leg of securities financing transactions (SFT) in the trading book is included in the column about market risk.

LI1 – Differences between accounting and regulatory scopes of consolidation and mapping of financial statements with regulatory risk categories

	Carrying values		Carrying values of items subject to:				
	Published financial statements	Regulatory scope of consolidation	Credit risk framework	Counter-party credit risk framework	Securitization framework	Market risk framework	Not subject to capital requirements or subject to deduction from capital
end of 4Q20							
Assets (CHF million)							
Cash and due from banks	139,112	138,641	137,374	0	0	0	1,267
Interest-bearing deposits with banks	1,298	1,737	1,555	182	0	0	0
Central bank funds sold, securities purchased under resale agreements and securities borrowing transactions	79,133	79,133	0	79,133	0	67,520	0
Securities received as collateral, at fair value	50,773	50,773	0	50,773	0	50,666	0
Trading assets, at fair value ¹	157,338	151,391	7,528	69,103 ²	1,050	158,304	0
Investment securities	607	607	597	0	10	0	0
Other investments	5,412	5,593	2,978	0	335	244	2,036
Net loans	291,908	291,534	262,862	178	27,766	906	0
Goodwill	4,426	4,430	0	0	0	0	4,430
Other intangible assets	237	237	0	0	0	0	237
Brokerage receivables	35,941	35,941	2,074	30,285	0	0	3,582
Other assets	39,637	38,347	18,711	8,160	949	3,921	6,812
Total assets	805,822	798,364	433,679	237,814	30,110	281,561	18,364
Liabilities (CHF million)							
Due to banks	16,423	16,765	0	0	0	0	16,765
Customer deposits	390,921	390,765	0	0	0	0	390,765
Central bank funds purchased, securities sold under repurchase agreements and securities lending transactions	23,851	27,805	0	27,805	0	21,909	0
Obligation to return securities received as collateral, at fair value	50,773	50,773	0	50,773	0	50,666	0
Trading liabilities, at fair value ¹	45,871	45,905	61	17,770	0	70,539	1,193
Short-term borrowings	20,868	16,608	0	0	0	11,876	4,732
Long-term debt	161,087	159,341	0	0	0	51,090	108,251
Brokerage payables	21,653	21,653	0	17,150	0	0	4,503
Other liabilities	31,434	25,746	340	8,376	0	709	16,326
Total liabilities	762,881	755,361	401	121,874	0	206,789	542,535

There are items in the table which attract capital charges according to more than one risk category framework. As an example, derivatives assets/liabilities held in the regulatory trading book are shown in the column about market risk and in the column about counterparty credit risk.

¹ Trading assets/liabilities on the balance sheet reflect the balance after considering netting benefit of cash collateral hence reflect a lower balance than disclosed in the market risk column as cash collateral is not part of the market risk framework.

² Includes assets pledged as collateral since collateral posted is subject to counterparty credit risk.

LI1 – Differences between accounting and regulatory scopes of consolidation and mapping of financial statements with regulatory risk categories (continued)

	Carrying values		Carrying values of items subject to:				
	Published financial statements	Regulatory scope of consolidation	Credit risk framework	Counter-party credit risk framework	Securitization framework	Market risk framework	Not subject to capital requirements or subject to deduction from capital
end of 4Q19							
Assets (CHF million)							
Cash and due from banks	101,879	101,487	99,956	10	0	0	1,521
Interest-bearing deposits with banks	741	1,167	1,167	0	0	0	0
Central bank funds sold, securities purchased under resale agreements and securities borrowing transactions	106,997	106,997	25	106,972	0	98,244	0
Securities received as collateral, at fair value	40,219	40,219	0	40,219	0	40,190	0
Trading assets, at fair value ¹	153,797	147,302	8,883	56,012 ^{2, 3}	1,718	150,080	0
Investment securities	1,006	1,006	990	0	16	0	0
Other investments	5,666	5,848	3,086	0	382	464	1,916
Net loans	296,779	297,095	267,741 ³	208	27,806 ³	1,586	0 ³
Goodwill	4,663	4,668	0	0	0	0	4,668
Other intangible assets	291	291	0	0	0	0	291
Brokerage receivables	35,648	35,648	2,245	28,159	0	0	5,249
Other assets	39,609	38,917	18,502	5,137	1,551	6,386	7,380
Total assets	787,295	780,645	402,595 ³	236,717 ³	31,473 ³	296,950	21,025 ³
Liabilities (CHF million)							
Due to banks	16,744	17,139	0	0	0	0	17,139
Customer deposits	383,783	383,793	0	0	0	0	383,793
Central bank funds purchased, securities sold under repurchase agreements and securities lending transactions	27,533	32,597	0	32,573	0	20,988	24
Obligation to return securities received as collateral, at fair value	40,219	40,219	0	40,219	0	40,190	0
Trading liabilities, at fair value ¹	38,186	38,252	12	14,577	0	56,746	478
Short-term borrowings	28,385	23,370	0	0	0	5,628	17,742
Long-term debt	152,005	150,364	0	0	0	50,966	99,398
Brokerage payables	25,683	25,683	0	20,413	0	0	5,270
Other liabilities	31,043	25,402	418	8,563	0	639	15,810
Total liabilities	743,581	736,819	430	116,345	0	175,157	539,654

There are items in the table which attract capital charges according to more than one risk category framework. As an example, derivatives assets/liabilities held in the regulatory trading book are shown in the column about market risk and in the column about counterparty credit risk.

¹ Trading assets/liabilities on the balance sheet reflect the balance after considering netting benefit of cash collateral hence reflect a lower balance than disclosed in the market risk column as cash collateral is not part of the market risk framework.

² Includes assets pledged as collateral since collateral posted is subject to counterparty credit risk.

³ Prior period has been corrected.

For financial reporting purposes, our consolidation principles comply with US GAAP. For capital adequacy reporting purposes, however, entities that are not active in banking and finance are not subject to consolidation (i.e. insurance, commercial and certain real estate companies). Also, FINMA does not require consolidating private equity and other fund type vehicles for capital adequacy reporting. Further differences in consolidation principles between US GAAP and capital adequacy reporting relate to special purpose entities (SPEs) that are consolidated under a control-based approach for US GAAP but are assessed under a risk-based approach for capital adequacy reporting. In addition, FINMA requires us to consolidate companies which form an economic unit with Credit Suisse or if Credit Suisse is obliged to provide compulsory financial support to a company. The investments

into such entities, which are not material to the Group, are treated in accordance with the regulatory rules and are either subject to a risk-weighted capital requirement or a deduction from regulatory capital.

All significant equity method investments represent investments in the capital of banking, financial and insurance entities and are subject to a threshold calculation in accordance with the Basel framework and the Swiss Capital Adequacy Ordinance.

→ Refer to "Note 41 – Significant subsidiaries and equity method investments" (pages 411 to 414) in VI – Consolidated financial statements – Credit Suisse Group in the Credit Suisse Annual Report 2020 for a list of significant subsidiaries and associated entities.

In addition to the differences between accounting and regulatory scopes of consolidation as shown in table LI1 there are further main sources of differences between the financial statements'

carrying value amounts and the exposure amounts used for regulatory purposes.

LI2 – Main sources of differences between regulatory exposure amounts and carrying values in financial statements

	Items subject to:			
	Credit risk frame-work	Counter-party credit risk frame-work ¹	Securitization frame-work	Market risk frame-work
end of				
4Q20 (CHF million)				
Asset carrying value amount under regulatory scope of consolidation	433,679	237,814	30,110	281,561
Liabilities carrying value amount under regulatory scope of consolidation	401	121,874	0	206,789
Total net amount under regulatory scope of consolidation	433,278	115,940	30,110	74,772
Off-balance sheet amounts	65,796	0	29,269	0
Differences due to consideration of provisions	556	0	82	0
Derivatives: Differences due to application of internal models (IMM) and SA-CCR	0	34,204	0	0
SFT: Differences due to the application of internal models (VaR)	0	(60,778)	0	0
Other differences not classified above	(2,668)	4,065	(2,717)	0
Exposure amounts considered for regulatory purposes	496,962	93,431	56,744	- ²
4Q19 (CHF million) ³				
Asset carrying value amount under regulatory scope of consolidation	402,595	236,717	31,473	296,950
Liabilities carrying value amount under regulatory scope of consolidation	430	116,345	0	175,157
Total net amount under regulatory scope of consolidation	402,165	120,372	31,473	121,793
Off-balance sheet amounts	67,994	0	28,902	0
Differences due to consideration of provisions	229	0	5	0
Derivatives: Differences due to application of internal models (IMM) and SA-CCR ⁴	0	44,004	0	0
SFT: Differences due to the application of internal models (VaR)	0	(82,273)	0	0
Other differences not classified above	1,075	2,113	(2,858)	0
Exposure amounts considered for regulatory purposes	471,463	84,216	57,522	- ²

The funded portion of the default funds for clearing houses are recorded as a brokerage receivable in accounting. For these positions there is no exposure amount considered for regulatory purposes.

¹ Counterparty credit risk includes client cleared exposures, whereas such agency exposures are not reported in the financial statements. Additionally, the column counterparty credit risk and the column market risk take into account the impact of collateral pledges received in SFTs.

² The concept of "exposure amounts considered for regulatory purposes" is not applicable for market risk as for example for the VaR model.

³ Prior period has been corrected.

⁴ Calculated under the current exposure method.

→ Refer to "Comparison of the standardized and internal model approaches" (pages 19 to 23) in Credit risk – Credit risk under the standardized approach for further information on the origins of differences between carrying values and amounts considered for regulatory purposes shown in the table above.

Valuation process

The Basel capital adequacy framework and the Swiss regulation provide guidance for systems and controls, valuation methodologies and valuation adjustments and reserves to provide prudent and reliable valuation estimates.

Financial instruments in the trading book are carried at fair value. The fair value of the majority of these financial instruments is marked to market based on quoted prices in active markets or observable inputs. Additionally, the Group holds financial instruments which are marked to models where the determination of fair values requires subjective assessment and varying degrees of judgment depending on liquidity, concentration, pricing assumptions and the risks affecting the specific instrument.

Control processes are applied to ensure that the reported fair values of the financial instruments, including those derived from pricing models, are appropriate and determined on a reasonable basis. These control processes include approval of new instruments, timely review of profit and loss, risk monitoring, price verification procedures and validation of models used to estimate the fair value. These functions are managed by senior management and personnel with relevant expertise, independent of the trading and investment functions.

In particular, the price verification function is performed by Product Control, independent from the trading and investment functions, reporting directly to the Chief Financial Officer (CFO), a member of the Executive Board.

The valuation process is governed by separate policies and procedures. To arrive at fair values, the following type of valuation adjustments are typically considered and regularly assessed for appropriateness: model, parameter, credit and exit-risk-related adjustments.

Management believes it complies with the relevant valuation guidance and that the estimates and assumptions used in valuation of financial instruments are prudent, reasonable and consistently applied.

→ Refer to "Fair valuations" (page 73) in II – Operating and financial review – Credit Suisse – Other information, to "Fair value" (page 106) in II – Operating and financial review – Critical accounting estimates and to "Note 36 – Financial instruments" (pages 370 to 396) in VI – Consolidated financial statements – Credit Suisse Group in the Credit Suisse Annual Report 2020 for further information on fair value.

Credit risk

General

This section covers credit risk as defined by the Basel framework. CCR, including those that are in the banking book for regulatory purposes, and all positions subject to the securitization framework are presented in separate sections.

- Refer to "Counterparty credit risk" (pages 44 to 53) for further information on the capital requirements relating to counterparty credit risk.
- Refer to "Securitization" (pages 54 to 61) for further information on the securitization framework.

The Basel framework permits banks to choose between two broad methodologies in calculating their capital requirements for credit risk: the standardized approach or the internal ratings-based (IRB) approach. Off-balance-sheet items are converted into credit exposure equivalents through the use of credit conversion factors (CCF).

The reported credit risk arises from the execution of the Group's business strategy through the divisions and is predominantly driven by cash and balances with central banks, loans and commitments provided to corporate and institutional clients, loans to private clients including residential mortgages and lending against financial collateral.

Risk management objectives and policies for credit risk

- Refer to "Credit risk" (pages 150 to 153) in III – Treasury, Risk, Balance sheet and Off-balance sheet – Risk management – Risk coverage and management in the Credit Suisse Annual Report 2020 for information on risk management objectives and policies for credit risk, including our credit risk profile, the setting of credit risk limits, the structure and organization of credit risk management.

Credit risk reporting

Credit risk is subject to daily monitoring and reporting, and is governed by internal policies & procedures and a framework of limits and controls. The Group's credit risk exposure is subject to formal monthly reporting through the Group Risk Report which provides summary information in relation to the credit risk portfolio composition, rating profile, and the largest single name loans and commitments. The Group Risk Report also provides qualitative commentary on key credit risk matters and developments, and is discussed at Board of Directors Risk Committee and distributed to the Board of Directors and Executive Board members.

Credit quality of assets

The amounts shown in the following tables are the US GAAP carrying values according to the regulatory scope of consolidation that are subject to the credit risk framework.

The following tables present a breakdown of exposures by geographical areas, industry and residual maturity.

CRB – Geographic concentration of gross credit exposures

end of	Switzerland	Americas	Asia Pacific	EMEA	Total
4Q20 (CHF million)					
Loans and debt securities	225,614	55,529	39,504	107,178	427,825
Off-balance sheet exposures ¹	16,154	45,995	5,005	28,534	95,688
Total	241,768	101,524	44,509	135,712	523,513
4Q19 (CHF million)					
Loans and debt securities	207,888	56,330	45,228	86,644	396,090
Off-balance sheet exposures ¹	17,842	55,521	5,191	26,024	104,578
Total	225,730	111,851	50,419	112,668	500,668

The geographic distribution is based on the domicile of the counterparty, shown pre-substitution.

¹ Revocable loan commitments, which are excluded from the disclosed exposures, can attract risk-weighted assets.

CRB – Industry concentration of gross credit exposures

end of	Financial institutions ¹	Commercial	Consumer	Public authorities	Total
4Q20 (CHF million)					
Loans and debt securities	200,311	84,318	138,984	4,212	427,825
Off-balance sheet exposures ²	27,839	65,921	843	1,085	95,688
Total	228,150	150,239	139,827	5,297	523,513
4Q19 (CHF million)					
Loans and debt securities	164,034	86,141	140,687	5,228	396,090
Off-balance sheet exposures ²	31,064	72,445	888	181	104,578
Total	195,098	158,586	141,575	5,409	500,668

Exposures are shown pre-substitution.

¹ Includes exposures to central banks of CHF 125.2 billion and CHF 89.1 billion as of the end of 4Q20 and 4Q19, respectively.

² Revocable loan commitments, which are excluded from the disclosed exposures, can attract risk-weighted assets.

CRB – Remaining contractual maturity of gross credit exposures

end of	within 1 year ¹	within 1-5 years	Thereafter	Total
4Q20 (CHF million)				
Loans and debt securities	188,838	179,972	59,015	427,825
Off-balance sheet exposures ²	33,267	55,057	7,364	95,688
Total	222,105	235,029	66,379	523,513
4Q19 (CHF million)				
Loans and debt securities	170,769	169,680	55,641	396,090
Off-balance sheet exposures ²	41,778	56,880	5,920	104,578
Total	212,547	226,560	61,561	500,668

¹ Includes positions without agreed residual contractual maturity.

² Revocable loan commitments, which are excluded from the disclosed exposures, can attract risk-weighted assets.

The following tables show the amounts of impaired exposures and related allowances and write-offs, broken down by geographical areas and industry.

CRB – Geographic concentration of allowances, impaired loans and write-offs

end of	Allowances individually evaluated	Allowances collectively evaluated	Total allowances	Impaired loans with specific allowances	Impaired loans without specific allowances	Total impaired loans	Gross write- offs
4Q20 (CHF million)							
Switzerland	572	402	974	1,251	316	1,567	184
EMEA	46	63	109	320	173	493	13
Americas	101	167	268	465	0	465	94
Asia Pacific	147	40	187	675	0	675	39
Total	866	672	1,538	2,711	489	3,200	330
4Q19 (CHF million)							
Switzerland	511	182	693	1,301	335	1,636	152
EMEA	26	29	55	177	68	245	60
Americas	57	83	140	150	13	163	20
Asia Pacific	14	49	63	87	0	87	75
Total	608	343	951	1,715	416	2,131	307

CRB – Industry concentration of allowances, impaired loans and write-offs

end of	Allowances individually evaluated	Allowances collectively evaluated	Total allowances	Impaired loans with specific allowances	Impaired loans without specific allowances	Total impaired loans	Gross write- offs
4Q20 (CHF million)							
Financial institutions	36	70	106	91	24	115	0
Commercial	600	509	1,109	1,841	326	2,167	238
Consumer	230	90	320	779	129	908	92
Public authorities	0	3	3	0	10	10	0
Total	866	672	1,538	2,711	489	3,200	330
4Q19 (CHF million)							
Financial institutions	37	25	62	48	0	48	0
Commercial	426	272	698	1,059	335	1,394	213
Consumer	145	46	191	608	81	689	94
Total	608	343	951	1,715	416	2,131	307

The following table presents a comprehensive picture of the credit quality of the Group's on and off-balance sheet assets.

CR1 – Credit quality of assets

end of	Defaulted exposures	Non-defaulted exposures	Gross exposures	Allowances/ impairments	of which CECL-related provisions on SA exposures			Net exposures
					Regulatory category – specific	Regulatory category – general	of which CECL-related provisions on IRB exposures	
4Q20 (CHF million)								
Loans ¹	3,761	413,915	417,676	(1,334)	(76)	0	(492)	416,342
Debt securities	75	10,074	10,149	0	0	0	0	10,149
Off-balance sheet exposures ²	396	95,292	95,688	(273)	(35)	0	(222)	95,415
Total	4,232	519,281	523,513	(1,607)	(111)	0	(714)	521,906
2Q20 (CHF million)								
Loans ¹	4,356	407,468	411,824	(1,537)	(57)	0	(686)	410,287
Debt securities	71	10,377	10,448	0	0	0	0	10,448
Off-balance sheet exposures ²	204	85,937	86,141	(279)	(14)	0	(201)	85,862
Total	4,631	503,782	508,413	(1,816)	(71)	0	(887)	506,597

The new current expected credit loss (CECL) model under US GAAP became effective for Credit Suisse as of January 1, 2020.

¹ Loans include all on-balance sheet exposures that give rise to a credit risk charge and exclude debt securities, derivatives, securities financing transactions and off-balance sheet exposures.

² Revocable loan commitments, which are excluded from the disclosed exposures, can attract risk-weighted assets.

The definitions of “past due” and “impaired” are aligned between accounting and regulatory purposes. However, there are some exemptions for impaired positions related to troubled debt restructurings where the default definition is different for accounting and regulatory purposes.

→ Refer to “Note 1 – Summary of significant accounting policies” (pages 283 to 285) and “Note 20 – Financial instruments measured at amortized cost and credit losses” (pages 304 to 316) in VI – Consolidated financial statements – Credit Suisse Group in the Credit Suisse Annual Report 2020 for further information on the new CECL model under US GAAP, the classification of CECL-related provisions and the credit quality of loans, including past due and impaired loans.

The following table presents the changes in the Group's defaulted loans, debt securities and off-balance sheet exposures, the flows between non-defaulted and defaulted exposure categories and reductions in the defaulted exposures due to write-offs.

CR2 – Changes in defaulted exposures

	2H20
CHF million	
Defaulted exposures at beginning of period	4,631
Exposures that have defaulted since the last reporting period	1,101
Returned to non-defaulted status	(433)
Amounts written-off	(312)
Other changes	(755)
Defaulted exposures at end of period	4,232

The following table shows the aging analysis of accounting past-due exposures.

CRB – Aging analysis of accounting past-due exposures

	Current	Past due					
end of		Up to 30 days	31–60 days	61–90 days	More than 90 days	Total	Total
4Q20 (CHF million)							
Financial institutions	14,315	42	15	72	46	175	14,490
Commercial	97,161	684	57	148	759	1,648	98,809
Consumer	167,035	275	141	82	635	1,133	168,168
Public authorities	969	37	4	0	0	41	1,010
Gross loans held at amortized cost	279,480	1,038	217	302	1,440	2,997	282,477
Gross loans held at fair value							11,409
Gross loans							293,886
4Q19 (CHF million)							
Financial institutions	15,315	88	1	3	47	139	15,454
Commercial	108,805	642	74	73	728	1,517	110,322
Consumer	157,676	504	83	57	493	1,137	158,813
Public authorities	1,208	26	0	0	0	26	1,234
Gross loans held at amortized cost	283,004	1,260	158	133	1,268	2,819	285,823
Gross loans held at fair value							12,662
Gross loans							298,485

Troubled debt restructurings, also referred to as restructured loans, are considered impaired credit exposures in line with the Group's policies and subject to individual assessment and provisioning for expected credit losses by the Group's recovery functions. Restructured loans that defaulted again within 12 months from the last restructuring remain impaired or are impaired if they were considered non-impaired at the time of the subsequent default. As of December 31, 2020, CHF 260 million were reported as restructured loans.

→ Refer to "Note 20 – Financial instruments measured at amortized cost and credit losses" (pages 304 to 316) in VI – Consolidated financial statements – Credit Suisse Group in the Credit Suisse Annual Report 2020 for further information on restructured exposure.

→ Refer to "Note 28 – Offsetting of financial assets and financial liabilities" (pages 326 to 329) in VI – Consolidated financial statements – Credit Suisse Group in the Credit Suisse Annual Report 2020 for further information on the offsetting of derivatives, reverse repurchase and repurchase agreements, and securities lending and borrowing transactions.

Collateral valuation and management

The policies and processes for collateral valuation and management are driven by:

- a legal document framework that is bilaterally agreed with our clients;
- a collateral management risk framework enforcing transparency through self-assessment and management reporting; and
- any prevailing regulatory terms which must be complied with.

For exposures collateralized by financial collateral (e.g. marketable securities), collateral valuations are performed on a daily basis and any requirement for additional collateral (e.g. frequency and process for margin calls) is governed by the legal documentation. The market prices used for daily collateral valuation are a combination of internal pricing sources, as well as market prices sourced from trading platforms and external service providers where appropriate.

For exposures collateralized by non-financial collateral (e.g. real estate, ships, aircraft), valuations are performed at the time of credit approval and periodically thereafter depending on the type of collateral and the loan-to-value (LTV) ratio in accordance with documented internal policies and controls. Valuations are based on a combination of internal and external reference price sources.

Credit risk mitigation

Credit Suisse actively mitigates credit exposure through the use of legal netting agreements, security over supporting financial and non-financial collateral or financial guarantees and through the use of credit hedging techniques, primarily credit default swaps (CDS). The recognition of credit risk mitigation (CRM) against exposures is governed by a robust set of policies and processes that ensure enforceability and effectiveness.

Netting

→ Refer to "Derivative instruments" (pages 170 to 172) in III – Treasury, Risk, Balance sheet and Off-balance sheet – Risk management – Risk portfolio analysis and to "Note 1 – Summary of significant accounting policies" (pages 281 to 282) in VI – Consolidated financial statements – Credit Suisse Group in the Credit Suisse Annual Report 2020 for information on policies and procedures for on- and off-balance sheet netting.

Primary types of collateral

The primary types of collateral are described below.

Collateral securing foreign exchange transactions and over-the-counter (OTC) trading activities primarily includes:

- Cash and US Treasury instruments;
- G-10 government securities; and
- Other assets that are eligible as per the uncleared margin rules (including supranationals and equities).

Collateral securing loan transactions primarily includes:

- Financial collateral pledged against loans collateralized by securities of clients of the private, corporate and institutional banking businesses (primarily cash, marketable securities and unlisted securities);
- Real estate property for mortgages, mainly residential, but also multi-family buildings, offices and commercial properties; and
- Other types of lending collateral, such as accounts receivable, inventory, plant and equipment.

Concentrations within risk mitigation

Credit Suisse, primarily through its Global Markets division, is an active participant in the credit derivatives market and trades with a variety of market participants, principally commercial and investment banks. Credit derivatives are primarily used to mitigate investment grade credit exposures. Where required or practicable, these trades are cleared through central counterparties (CCP), reducing the potential risk against individual CRM providers.

As a result of a strong domestic franchise, Credit Suisse has a significant volume of residential mortgage lending in Switzerland and a resultant concentration of residential real estate collateral.

Credit Suisse has clear underwriting standards with regard to mortgage lending and ensures that the composition of the real estate portfolio is subject to ongoing monitoring, periodic revaluation, and assessment of the geographical and borrower composition of the portfolio.

Credit Suisse provides loan facilities to private clients against financial collateral such as cash and marketable securities (e.g. equities, bonds, or funds). The financial collateral portfolio within risk mitigation is generally diversified and the portfolio is subject to ongoing monitoring and reporting to identify any concentrations, which may result in lower LTV ratios or other mitigating actions.

→ Refer to "Credit risk" (pages 165 to 174) in III – Treasury, Risk, Balance sheet and Off-balance sheet – Risk management – Risk portfolio analysis in the Credit Suisse Annual Report 2020 for further information on credit derivatives, including a breakdown by rating class.

CRM techniques – overview

The following table presents the use of CRM techniques. Credit Suisse recognizes the CRM effect of eligible collateral either as a reduction from the exposure at default (EAD) value of the secured instrument or as an adjustment to the probability of default (PD) or loss given default (LGD) associated with the exposure. All exposures that are secured through eligible collateral are disclosed as "Net exposures partially or fully secured". Eligible collateral amounts, regardless of which CRM technique has been applied, are disclosed as "Exposures secured by collateral". Exposures secured by credit derivatives do not include certain immaterial positions, where the credit derivative is recognized with an adjustment to the LGD.

CR3 – CRM techniques

end of	Net exposures			Exposures secured by		
	Unsecured	Partially or fully secured	Total	Collateral	Financial guarantees	Credit derivatives
4Q20 (CHF million)						
Loans ¹	184,053	232,289	416,342	191,146	8,170	66
Debt securities	9,854	295	10,149	225	44	0
Total	193,907	232,584	426,491	191,371	8,214	66
of which defaulted	1,137	1,934	3,071	1,645	135	0
2Q20 (CHF million)						
Loans ¹	176,736	233,551	410,287	191,131	8,098	28
Debt securities	10,033	415	10,448	329	47	0
Total	186,769	233,966	420,735	191,460	8,145	28
of which defaulted	1,090	2,759	3,849	2,429	142	0

¹ Loans include all on-balance sheet exposures that give rise to a credit risk charge and exclude debt securities, derivatives, securities financing transactions and off-balance sheet exposures.

Credit risk under the standardized approach

General

Under the standardized approach, risk weights are determined either according to credit ratings provided by recognized external

credit assessment institutions (ECAI) or, for unrated exposures, by using the applicable regulatory risk weights.

Credit risk exposure and CRM effects

The following table presents the effect of CRM (comprehensive and simple approach) on the standardized approach capital requirements' calculations. RWA density provides a synthetic metric on the riskiness of each portfolio.

CR4 – Credit risk exposure and CRM effects

end of	Exposures pre-CCF and CRM			Exposures post-CCF and CRM			RWA	RWA density
	On-balance sheet	Off-balance sheet	Total	On-balance sheet	Off-balance sheet	Total		
4Q20 (CHF million)								
Sovereigns	84,804	54	84,858	84,804	14	84,818	164	0%
Institutions – Banks and securities dealer	2,258	728	2,986	2,258	358	2,616	892	34%
Institutions – Other institutions	593	2,242	2,835	592	287	879	604	69%
Corporates	9,238	8,662	17,900	8,225	2,297	10,522	9,100	87%
Retail	1,802	1,465	3,267	1,516	301	1,817	1,508	83%
Other exposures	16,417	1,190	17,607	16,159	1,148	17,307	13,969	81%
of which non-counterparty related assets	7,300	0	7,300	7,300	0	7,300	7,300	100%
Total	115,112	14,341	129,453	113,554	4,405	117,959	26,237	22%
2Q20 (CHF million)								
Sovereigns	94,724	47	94,771	94,525	6	94,531	233	0%
Institutions – Banks and securities dealer	2,784	747	3,531	2,689	370	3,059	954	31%
Institutions – Other institutions	488	2,037	2,525	488	151	639	439	69%
Corporates	9,963	7,938	17,901	9,146	2,057	11,203	9,403	84%
Retail	1,874	1,581	3,455	1,573	461	2,034	1,714	84%
Other exposures	16,155	1,149	17,304	15,968	1,117	17,085	14,644	86%
of which non-counterparty related assets	7,575	0	7,575	7,575	0	7,575	7,575	100%
Total	125,988	13,499	139,487	124,389	4,162	128,551	27,387	21%

Exposures by asset class and risk weight

The following table presents the breakdown of credit exposures by asset class and risk weight, which correspond to the riskiness attributed to the exposure according to the standardized approach.

CR5 – Exposures by asset class and risk weight

	Risk weight								Exposures post-CCF and CRM
end of	0%	20%	35%	50%	75%	100%	150%	Others	
4Q20 (CHF million)									
Sovereigns	84,560	34	0	133	0	91	0	0	84,818
Institutions – Banks and securities dealer	0	1,817	0	601	0	136	62	0	2,616
Institutions – Other institutions	0	0	0	551	0	328	0	0	879
Corporates	0	1,066	26	1,298	1	7,937	194	0	10,522
Retail	0	0	136	0	884	797	0	0	1,817
Other exposures	3,435	0	0	0	0	13,864	0	8	17,307
of which non-counterparty related assets	0	0	0	0	0	7,300	0	0	7,300
Total	87,995	2,917	162	2,583	885	23,153	256	8	117,959
of which secured by real estate	0	0	164	0	0	0	0	0	164
of which past due	0	0	0	0	0	270	87	0	357
2Q20 (CHF million)									
Sovereigns	94,199	25	0	183	0	98	26	0	94,531
Institutions – Banks and securities dealer	0	2,202	0	691	0	162	4	0	3,059
Institutions – Other institutions	0	0	0	400	0	239	0	0	639
Corporates	0	1,144	23	1,934	1	7,907	194	0	11,203
Retail	0	0	161	0	860	1,013	0	0	2,034
Other exposures	2,544	0	0	0	0	14,532	0	9	17,085
of which non-counterparty related assets	0	0	0	0	0	7,575	0	0	7,575
Total	96,743	3,371	184	3,208	861	23,951	224	9	128,551
of which secured by real estate	0	0	184	0	0	0	0	0	184
of which past due	0	0	0	0	0	372	133	0	505

Comparison of the standardized and internal model approaches

Background

We have regulatory approval to use a number of internal models for calculating our Pillar 1 capital charge for credit risk (default risk). These include the advanced-internal ratings-based (A-IRB) approach for risk weights, Internal Models Method (IMM) for derivatives credit exposure, and repo VaR for securities financing transactions (SFT). These modelled based approaches are used for the vast majority of credit risk exposures, with the standardized approaches used for only a relatively small proportion of credit exposures.

Regulators and investors are interested in the differences between capital requirements under modelled and standardized approaches. This is due, in part, to ongoing and future regulatory changes by the BCBS, such as the new standardized approaches for counterparty credit risk (SA-CCR) and credit risk as well as the future restrictions on the use of internal models for certain portfolios. As such, FINMA requires us to disclose information on differences between credit risk RWA computed under internal modelled approaches, and current standardized approaches. FINMA also requires us to disclose the differences between the EAD based on internal modelled approaches and the EAD used in the leverage ratio.

Key methodological differences

The differences between credit risk RWA calculated under the internal modelled approaches and the standardized approaches are driven by the risk weights applied to counterparties and the calculations used for measuring EAD.

Risk weights: Under the A-IRB approach, the maturity of a transaction, and internal estimates of the PD and downturn LGD are used as inputs to the Basel risk-weight formula for calculating RWA. In the standardized approach, risk weights are less granular and are driven by ratings provided by ECAI.

EAD calculations: Under the IMM and repo VaR methods, counterparty exposure is computed using monte-carlo simulation models or VaR models. These models allow for the recognition of netting impacts at exposure and collateral levels for each counterparty portfolio. The standardized approach is based on market values at the balance sheet date plus conservative add-ons to account for potential market movements. This approach gives very limited recognition to netting benefits and portfolio effects.

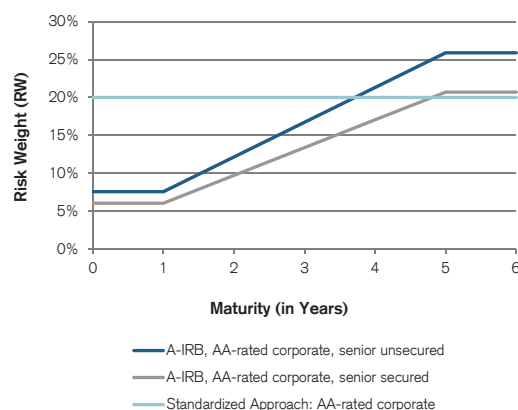
The following table provides a summary of the key conceptual differences between the internal models approach and the current standardized approach.

Key differences between the standardized approach and the internal model approach

	Standardized approach	Internal model approach	Key impact
EAD for derivatives	Current Exposure Method is simplistic (market value and add-on); replaced with SA-CCR in 2020.	Internal Models Method (IMM) allows Monte-Carlo simulation to estimate exposure.	For large diversified derivatives portfolios, standardized EAD is higher than model EAD.
	No differentiation between margined and unmargined transactions.	Ability to net and offset risk factors within the portfolio (i.e. diversification).	Impact applies across all asset classes.
	Differentiates add-ons by five exposure types and three maturity buckets only.	Application of multiplier on IMM exposure estimate.	
	Limited ability to net.	Variability in holding period applied to collateralized transactions, reflecting liquidity risks.	
Risk weighting	Reliance on ECAs: where no rating is available a 100% risk weight is applied (i.e. for most small and medium-size enterprises and funds).	Reliance on internal ratings where each counterparty/transaction receives a rating.	Model approach produces lower RWA for high-quality short-term transactions.
	Crude risk weight differentiation with 4 key weights: 20%, 50%, 100%, 150% (and 0% for AAA sovereigns; 35%, 75% or 100% for mortgages; 75% or 100% for retail).	Granular risk sensitive risk weights differentiation via individual PDs and LGDs.	Standardized approach produces lower RWA for non-investment grade and long-term transactions.
	No differentiation for transaction features.	LGD captures transaction quality features incl. collateralization.	Impact relevant across all asset classes.
		Application of a 1.06 scaling factor.	
Risk mitigation	Limited recognition of risk mitigation.	Risk mitigation recognized via risk sensitive LGD or EAD.	Standardized approach RWA higher than model approach RWA for most collaterals.
	Restricted list of eligible collateral.	Wider variety of collateral types eligible.	Impact particularly relevant for lombard lending and SFTs.
	Conservative and crude regulatory haircuts.	Repo VaR allows use of VaR models to estimate exposure and collateral for SFTs. Approach permits full diversification and netting across all collateral types.	
Maturity in risk weight	No differentiation for maturity of transactions, except for interbank exposures in a coarse manner.	No internal modelling of maturity.	Model approach produces lower RWA for high-quality short-term transactions.
		Regulatory RWA function considers maturity: the longer the maturity the higher the risk weight (see chart "Risk weight by maturity").	

The following chart shows standardized risk weights, and model based (A-IRB) risk weights for loans of varying maturity. The graphs are plotted for a AA-rated corporate senior unsecured loan with a LGD of 45% (consistent with Foundation-IRB, F-IRB), and a AA-rated corporate senior secured loan with a LGD of 36%. The graphs show that standardized risk weights are not sensitive to maturity, whereas A-IRB risk weights are sensitive to maturity. In particular, under A-IRB, lower maturity loans receive lower risk weights reflecting an increased likelihood of repayment for loans with a shorter maturity.

Risk weight by maturity



Key methodological differences between internally modelled EAD and EAD used in leverage ratio

The exposure measure used in the leverage ratio also differs from the exposure measure used in the internal modelled approach.

The main methodological difference is that leverage ratio exposure estimates do not take into account physical or financial collateral, guarantees or other CRM techniques to reduce the credit risk. Leverage ratio exposures also do not fully reflect netting and portfolio diversification. As a result, leverage ratio exposures are typically larger than model based exposures.

The following table shows the internal model-based EAD, along with average risk weight, compared to an estimate of the exposure measure used in the leverage ratio calculation. Estimates are provided at Basel asset class level. As expected, leverage exposure measures exceed internal model-based EAD for banks and corporates where the impacts of netting, diversification and CRM are large.

Leverage exposure estimate

	Internal model approach		Leverage exposures ¹
	EAD	Risk weight	
Basel asset class (CHF billion, except where indicated)			
Corporates	172	53%	320
Banks	30	29%	59
Sovereigns	51	7%	26
Retail	198	16%	200

¹ The leverage exposure estimates only consider those exposures which are comparable to the credit risk RWA calculation under internal model approach and hence excludes exposures such as trading book, securitization and non-credit exposures. Asset class leverage ratio based exposures are approximate and provided on a best efforts basis.

It should be noted that credit risk capital requirements based on the internal model based approach are not directly comparable to capital requirements under the leverage ratio. The reason for this is that the 3% leverage ratio capital requirement can be met with total tier 1 capital, including capital for market risk and operational risk.

Risk-weighted assets under the standardized and internal model approaches

Credit risk RWA computed under the standardized approach are higher than those based on the internal models for which we have received regulatory approval. Higher risk-weights under the standardized approach rules are a material driver of the higher RWA for all Basel asset classes. The standardized exposure calculations also lead to some higher RWA, with the corporate and bank asset classes being most significantly affected.

Corporate asset class

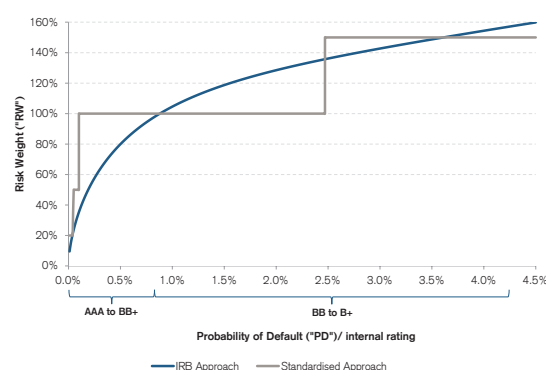
The table "Leverage exposure estimate" shows that the EAD for corporates computed under the internal model approach is

CHF 172 billion. The EAD for corporates under the standardized approach is significantly higher. This difference is driven mainly by the standardized exposure calculations for OTC derivatives and secured financing transactions. For these products, exposures calculated under the standardized approach are higher than the model based exposures because the standardized approach does not fully recognize the benefits of netting, portfolio diversification and collateral. The exposure calculated under the leverage ratio is higher than the EAD computed using internal models. This is because CRM, netting and portfolio diversification are not reflected in the leverage ratio exposure calculation.

Another significant driver of the increase in credit risk RWA under the standardized approach is higher risk weights. The exposure weighted-average risk weight under the internal model approach is 49%. This is significantly lower than the risk weights assigned to corporates under the standardized approach.

The following graph shows the risk weights assigned to counterparties under the A-IRB approach and the standardized approach. For the IRB risk weight curve, an LGD value of 45% and a maturity adjustment of 2.5 years are chosen, as these are the Basel Foundation IRB parameters. For counterparties in the AAA to BB+ range (based on external ratings), higher risk weights (20%, 50% and 100%) are assigned under the standardized approach than under the A-IRB approach. For the corporate asset class, approximately three-quarters of the Group's exposures are in this range (based on internal ratings), and this is a key driver for the higher RWA under the standardized approach. The different treatments of loan maturity in the model based approach and standardized approach are not a material cause of RWA differences.

Corporates



The Group's exposure weighted-average maturity of its corporate portfolio is lower than the foundation IRB value of 2.5 years, and lower maturities would result in a lower model-based risk weight curve than shown in the graph. In addition, the PD for each rating shown in the graph are consistent with the Group's PD masterscale.

An additional driver of higher risk weights within the corporate asset class are counterparties without an external rating. Under the standardized approach, counterparties without an external rating receive a fixed risk weight of 100%. This applies to a large proportion of the Group's exposures, among them non-banking financial institutions and specialized lending. This fixed standardized risk weight is typically higher than the model based risk weight with for example, the average model based risk weight of specialized lending being approximately 45%.

→ Refer to "CR6 – Credit exposures by portfolio and PD range" (pages 28 to 35) for further information on EAD and risk weights for each credit rating for the corporate asset class.

Bank asset class

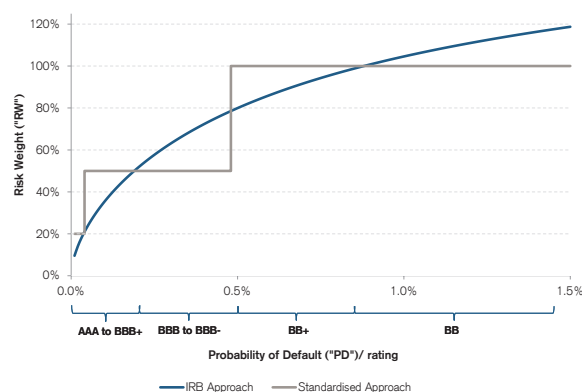
The table "Leverage exposure estimate" shows that the EAD for banks under the internal model approach is CHF 30 billion. The EAD for banks calculated under the standardized approach is significantly higher. This is driven predominantly by the exposure calculations for both OTC derivatives and secured financing transactions and, to a lesser extent, the exposure calculations for listed and centrally cleared derivatives. For these products, exposures calculated under the standardized approach are much higher than the model based exposures because the standardized approach does not fully recognize the benefits of netting, portfolio diversification and collateral. The exposures calculated under the leverage ratio are significantly higher than the EAD computed using internal models. This is because CRM, netting and portfolio diversification are not reflected in the leverage ratio exposure calculation.

In addition, there is a significant increase in credit risk RWA under the standardized approach due to higher credit risk-weights. The exposure weighted-average risk-weight under the internal model approach is 27%. This is significantly lower than the risk weights assigned to banks under the standardized approach where a significant amount of the Group's exposures would attract a risk weight of 50%.

The following graph shows the risk weights assigned to counterparties under the A-IRB approach and the standardized approach. For the IRB risk weight curve, an LGD value of 45% and a maturity adjustment of 2.5 years are chosen, as these are the Basel Foundation IRB parameters. The graph shows that counterparties in the AAA to BBB+ range (based on external ratings) attract higher risk weights (20% and 50%) under the standardized approach than under the A-IRB approach. In excess of three-quarters of the Group's exposures fall in this range (based on internal ratings) and this leads to higher RWA under the standardized approach for these counterparties. The different treatments of loan maturity in the model based approach and standardized approach are not a material cause of RWA differences.

→ Refer to "CR6 – Credit exposures by portfolio and PD range" (pages 28 to 35) for further information on EAD and risk weights for each credit rating for the bank asset class.

Banks



The Group's exposure weighted-average maturity of its bank portfolio is lower than the foundation IRB value of 2.5 years, and lower maturities would result in a lower model based risk weight curve than shown in the graph. In addition, the PD for each rating shown in the graph are consistent with the Group's PD masterscale.

Sovereign asset class

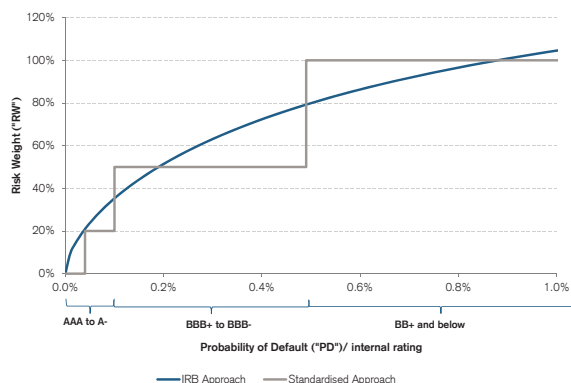
The table "Leverage exposure estimate" shows that the EAD for sovereigns under the internal model approach is CHF 51 billion. This is comparable to the EAD calculated under the standardized approach and the leverage ratio exposure. This is because the majority of the sovereign exposure is in the form of uncollateralized loans, i.e. there are no material differences in the exposure calculation.

The impact of employing standardized credit risk weights to the sovereign portfolio is an overall increase in credit risk RWA. The exposure weighted-average risk weight under the internal model approach is less than 4%. This is lower than the risk weights assigned to counterparties under the standardized approach.

The following graph shows the risk weights assigned to counterparties under the A-IRB approach and the standardized approach. For the IRB risk weight curve, an LGD value of 45% and a maturity adjustment of 2.5 years are chosen, as these are the Basel Foundation IRB parameters. The graph shows that counterparties in the AAA to A range (based on external ratings) would attract lower risk weights (0% and 20%) under the standardized approach than under the A-IRB approach. The majority of the Group's exposures have extremely low risk-weights under the A-IRB approach and would attract risk weights of 0% under the standardized approach. The remaining exposures would receive higher risk weights under the standardized approach (20%, 50% or 100%) than under the A-IRB approach. Overall, this would lead to higher RWA under the standardized approach. The different treatments of loan maturity in the model based approach and standardized approach are not a material cause of RWA differences.

→ Refer to "CR6 – Credit exposures by portfolio and PD range" (pages 28 to 35) for further information on EAD and risk weights for each credit rating for the sovereign asset class.

Sovereigns



The Group's exposure weighted-average maturity of its sovereign portfolio is lower than the foundation IRB value of 2.5 years, and lower maturities would result in a lower model-based risk weight curve than shown in the following graph. In addition, the PD for each rating shown in the graph are consistent with the Group's PD masterscale.

Retail asset class

The EAD of the retail asset class under the internal model approach is CHF 198 billion, which is comparable to the EAD calculated under the standardized approach and the leverage ratio. This is because the majority of retail exposure is on-balance sheet exposure.

The application of the standardized approach would lead to higher credit risk RWA. The exposure weighted-average risk weight is 16% using internal model approach. This is lower than the risk weights assigned to counterparties under the standardized approach. The maturity of the loan has no impact on the modelled risk weights in the retail asset class.

The retail portfolio consists mainly of residential mortgage loans, lombard lending and other retail exposures, and further analysis for each of these portfolios is provided below:

Residential mortgages: Under the standardized approach, fixed risk weights are applied depending on the LTV, i.e. risk weight of 100% for LTV > 80%, risk weight of 75% for 80% > LTV > 67% and risk weight of 35% for LTV < 67%. The internal model-based approach however takes into account borrowers' ability to service debt more accurately, including mortgage affordability and calibration to large amounts of historic data. The Group's residential mortgage portfolio is focused on the Swiss market and the Group has robust review processes over borrowers' ability to repay. This results in the Group's residential mortgage portfolio having a low average LTV and results in an average risk weight of 17% under the A-IRB approach.

Lombard lending: For lombard lending, the average risk weight using internal models is 12%. RWA under the standardized approach would be higher for these exposures.

Other retail exposures: Other retail exposures are risk-weighted at 75% or 100% under the standardized approach. This yields higher RWA compared to the A-IRB approach where the average risk-weight is 38%.

Conclusion

Overall, the Group's credit risk RWA would be significantly higher under the standardized approach than under the internal model based approach. For most Basel asset classes, this is due to standardized risk weights being much higher than the IRB risk weights for high quality investment grade lending, which is where the majority of the Group's exposures are. For certain asset classes, standardized exposure calculations also lead to significantly higher RWA. This is where the standardized exposure methods give limited recognition to economic offsetting and diversification for derivatives and SFTs at a portfolio level.

The credit risk RWA under the standardized approaches described above is not reflective of the capital charges under the new standardized approach for credit risk on which the BCBS published new rules in December 2017. This new standardized approach for credit risk is more risk sensitive and employs a different approach for incorporating external ratings. This regulatory change could potentially lead to very different results to the ones described above.

The credit risk RWA computed under the internal model-based approach provide a more risk-sensitive indication of the credit risk capital requirements and are more reflective of the economic risk of the Group. The use of models produces a strong link between capital requirements and business drivers, and promotes a proactive risk culture at the origination of a transaction and strong capital consciousness within the organization. A rigorous monitoring and control framework also ensures compliance with internal as well as regulatory standards.

Credit risk under internal ratings-based approaches

General

Under the IRB approach, risk weights are determined by using internal risk parameters and applying an asset value correlation multiplier uplift where exposures are to financial institutions meeting regulatory defined criteria. We have received approval from FINMA to use, and have fully implemented, the A-IRB approach whereby we provide our own estimates for PD, LGD and EAD.

PD parameters capture the risk of a counterparty defaulting over a one-year time horizon. PD estimates are mainly derived from models tailored to the specific business of the respective obligor. The models are calibrated to the long run average of annual internal or external default rates where applicable. For portfolios with a small number of empirical defaults, low default portfolio techniques are used.

LGD parameters consider seniority, collateral, counterparty industry and in certain cases fair value markdowns. LGD estimates are mainly based on an empirical analysis of historical loss rates. To reflect time value of money, recovered amounts on defaulted obligations are discounted to the time of default and to account for potential adverse outcomes in a downturn environment, final parameters are chosen such as they reflect periods where economic downturns have been observed and/or where increased losses manifested. For portfolios with limited empirical data available conservative values are chosen based on proxy analysis and expert judgement. For much of the private, corporate and institutional banking businesses loan portfolio, the LGD is primarily dependent upon the type and amount of collateral pledged. The credit approval and collateral monitoring processes are based on LTV limits. For mortgages (residential or commercial), recovery rates are differentiated by type of property.

EAD for a non-defaulted facility is an estimate of the expected exposure upon default of the obligor. Estimates are derived based on a CCF approach using default-weighted averages of historical realized conversion factors on defaulted loans by facility type. Estimates are calibrated to capture negative operating environment effects. To comply with regulatory guidance in deriving individual observed CCF values as basis for the estimation are floored at zero, i.e. it is assumed that drawn exposure can never become lower in the run to default.

→ Refer to "Credit risk" (pages 150 to 153) in III – Treasury, Risk, Balance sheet and Off-balance sheet – Risk management – Risk coverage and management in the Credit Suisse Annual Report 2020 for further information on PD and LGD.

Risk weights are calculated using either the PD/LGD approach or the supervisory risk weights approach for certain types of specialized lending.

Reporting related to credit risk models

→ Refer to "Model validation" (pages 25 to 26), "Use of internal ratings" (page 27) and "Credit Risk Review" (page 27) for further information on the scope and main content of the reporting related to credit risk models.

Rating models

The majority of the credit rating models used in Credit Suisse are developed internally by Core Credit Models, a specialized unit within the Quantitative Analysis and Technology area in the risk organization. These models are independently validated by Model Risk Management team prior to use in the Basel III regulatory capital calculation, and thereafter on a regular basis. Credit Suisse also uses models purchased from recognized data and model providers (e.g. credit rating agencies). These models are owned by Core Credit Models and are validated internally following the same governance process as models developed internally.

All new or material changes to rating models are subject to a robust governance process. Post development and validation of a rating model or model change, the model is taken through a number of committees where model developers, validators and users of the models discuss the technical and regulatory aspects of the model. The relevant committees opine on the information provided and decide to either approve or reject the model or model change. The ultimate decision making committee is the Risk Processes & Standards Committee (RPSC). The responsible Executive Board Member for the RPSC is the Chief Risk and Compliance Officer (CRCO). The RPSC sub-group responsible for credit risk models is the Model Approval and Controls Committee (MACC). MACC also reviews and monitors the continued use of existing models on an annual basis.

The following table provides an overview of the main PD and LGD models used by Credit Suisse. It reflects the portfolio segmentation from a credit risk model point of view, showing the RWA, type and number of the most significant models, and the loss period available for model development by portfolio. As the table follows an internal risk segmentation and captures the most significant models only, these figures do not match regulatory asset class or other A-IRB based segmentation.

Some of the portfolios shown in the table sum up multiple rating models. The distinction criteria determining which model applies, differs from portfolio to portfolio. Corporates, banks and non-banking financial institutions are split by turnover and geography. For funds, the distinction criteria is the different form of funds e.g. mutual-, hedge-funds etc., whereas for income producing real estate (IPRE), it is corporate vs. private counterparties.

CRE – Main PD and LGD models used by Credit Suisse

Portfolio	Asset class	RWA (in CHF billion) as of 3Q20	Number of years loss data	No. of models	PD		LGD
					No. of models	Model comment	
Corporates	Corporates, retail	54	>15 years	2	3	Statistical scorecards using e.g. balance sheet, P&L data and qualitative factors	Statistical and hybrid models using e.g. industry and counterparty segmentation, collateral types and amounts, seniority and other transaction specific factors with granularity enhancements by public research and expert judgement
Banks and other financial institutions	Banks, corporates	10	>30 years	5		Statistical scorecard and constrained expert judgement using e.g. balance sheet, P&L data and qualitative factors	
Funds	Corporates	12	>10 years	4		Statistical scorecards using e.g. net asset value, volatility of returns and qualitative factors	
Residential mortgages	Retail	13	>15 years	1	1	Statistical scorecard using e.g. LTV, affordability, assets and qualitative factors	Statistical model using e.g. counterparty segmentation, collateral types and amounts
Income producing real estate	Specialized lending, retail	19	>15 years	2		Statistical scorecards using e.g. LTV, debt service coverage and qualitative factors	
Commodity traders	Corporates, specialized lending	2	>15 years	1		Statistical scorecard using e.g. volume, liquidity and duration of financed commodity transactions	
Sovereign	Sovereign, corporates	2	>15 years	1	1	Statistical scorecards using e.g. GDP, financials and qualitative factors	Statistical models using e.g. industry and counterparty segmentation, seniority and other transaction specific factors
Ship finance	Specialized lending	3	>15 years	1	1	Statistical scorecard using e.g. freight rates, ship market values, operational expenses and group information	
Lombard, Securities Borrowing & Lending	Retail, corporates	12	>15 years	1	1	Merton type model using e.g. LTV, collateral volatility and counterparty attributes	

Model development

The techniques to develop models are carefully selected by Core Credit Models to meet industry standards in the banking industry as well as regulatory requirements. The models are developed to exhibit “through-the-cycle” characteristics, reflecting a PD in a 12 month period across the credit cycle.

All models have clearly defined model owners who have primary responsibility for development, enhancement, review, maintenance and documentation. The models have to pass statistical performance tests, where feasible, followed by usability tests by designated Credit Risk Management experts to proceed to formal approval and implementation. The development process of a new model is thoroughly documented and foresees a separate schedule for model updates.

The level of calibration of the models is based on a range of inputs, including internal and external benchmarks where available. Additionally, the calibration process ensures that the estimated calibration level accounts for variations of default rates through the economic cycle and that the underlying data contains a representative mix of economic states. Conservatism is incorporated in the model development process to compensate for any known or suspected limitations and uncertainties.

Model validation

Model validation for risk capital models is performed by the Model Risk Management function. Model governance is subject to clear and objective internal standards as outlined in the Model Risk Management policy and the Model Validation Policy. The governance framework ensures a consistent and meaningful approach for the validation of models in scope across the bank. All models whose outputs fall into the scope of the Basel internal model framework are subject to full independent validation. Externally developed models are subject to the same governance and validation standards as internal models.

The governance process requires each in scope model to be validated and approved before go-live; the same process is followed for material changes to an existing model. Existing models are subject to an ongoing governance process which requires each model to be periodically validated and the performance to be monitored annually. The validation process is a comprehensive quantitative and qualitative assessment with goals that include:

- to confirm that the model remains conceptually sound and the model design is suitable for its intended purpose;
- to verify that the assumptions are still valid and weaknesses and limitations are known and mitigated;
- to determine that the model outputs are accurate compared to realized outcome;
- to establish whether the model is accepted by the users and used as intended with appropriate data governance;

- to check whether a model is implemented correctly;
- to ensure that the model is fully transparent and sufficiently documented.

To meet these goals, models are validated against a series of quantitative and qualitative criteria. Quantitative analyses may include a review of model performance (comparison of model output against realized outcome), calibration accuracy against the longest time series available, assessment of a model's ability to rank order risk and performance against available benchmarks. Qualitative assessment typically includes a review of the appropriateness of the key model assumptions, the identification of the model limitations and their mitigation, and ensuring appropriate model use. The modeling approach is re-assessed in light of developments in the academic literature and industry practice.

Results and conclusions are presented to senior risk management and relevant committees; shortcomings and required improvements identified during validation must be remediated within an agreed deadline. The Model Risk Management function is independent of model developers and users and has the final say on the content of each validation report.

Model governance at Credit Suisse follows the “three lines of defense” principle. Model developers and owners provide the first line of defense, Model Risk Management the second line, and Internal Audit the third line of defense. Organization independence ensures that these functions are able to provide appropriate oversight. For Credit Risk models, the development and validation functions are independent up to the CRCO (Executive Board level). Internal Audit has fully independent reporting into the Chair of the Board of Directors Audit Committee.

Stress testing of parameters

The potential biases in PD estimates in unusual market conditions are accounted for by the use of long run average estimates. For specific models, Credit Suisse additionally uses stress-testing when back-testing PD models. When predefined thresholds are breached during back-testing, a review of the calibration level is undertaken. For LGD/CCF calibration stress testing can be applied in defining Downturn LGD/CCF values, reflecting potentially increased losses during stressed periods.

Descriptions of the rating processes

All counterparties that Credit Suisse is exposed to are assigned an internal credit rating. The rating is assigned at the time of initial credit approval and subsequently reviewed and updated regularly. Where available, Credit Risk Management employs rating models relative to the counterparty type that incorporate qualitative and quantitative factors. Expert judgement may further be applied through a well governed model override process in the assignment of a credit rating or PD, which measures the counterparty's risk of default over a one-year period.

Corporates (excluding corporates managed on the Swiss platform), banks and sovereigns (primarily in the investment banking businesses)

Where used, rating models are an integral part of the rating process. To ensure all relevant information is considered when rating a counterparty, experienced credit officers complement the outputs from the models with other relevant information not otherwise captured via a robust model-override framework. Other relevant information may include, but is not limited to peer analysis, industry comparisons, external ratings and research and the judgment of credit experts. This analysis emphasizes a forward looking approach, concentrating on economic trends and financial fundamentals.

For structured and asset finance deals, the approach is more quantitative. The focus is on the performance of the underlying assets, which represent the collateral of the deal. The ultimate rating is dependent upon the expected performance of the underlying assets and the level of credit enhancement of the specific transaction. Additionally, a review of the originator and/or servicer is performed. External ratings and research (rating agency and/or fixed income and equity), where available, are incorporated into the rating justification, as is any available market information (e.g., bond spreads, equity performance).

Transaction ratings are based on the analysis and evaluation of both quantitative and qualitative factors. The specific factors analyzed include seniority, industry and collateral.

Corporates managed on the Swiss platform, mortgages and other retail (primarily in the private, corporate and institutional banking businesses)

For corporates managed on the Swiss platform and mortgage lending, the PD is calculated directly by proprietary statistical rating models, which are based on internally compiled data comprising both quantitative factors (primarily LTV ratio and the borrower's income level for mortgage lending and balance sheet information for corporates) and qualitative factors (e.g., credit histories from credit reporting bureaus, management quality). In this case, an equivalent rating is assigned for reporting purposes, based on the PD band associated with each rating. Collateral loans (margin lending), which form the largest part of “Other retail”, is also following an individual PD and LGD approach. This approach is already rolled out for loans booked on the Swiss platform and for the majority of international locations; the remaining international locations follow a pool PD and pool LGD approach. Both approaches are calibrated to historical loss experience. Most of the collateral loans are loans collateralized by securities.

The internal rating grades are mapped to the Credit Suisse Internal Masterscale. The PDs assigned to each rating grade are reflected in the following table.

CRE – Credit Suisse counterparty ratings

Ratings	PD bands (%) ¹	Definition	S&P	Fitch	Moody's	Details
AAA	0.000 – 0.021	Substantially risk free	AAA	AAA	Aaa	Extremely low risk, very high long-term stability, still solvent under extreme conditions
AA+	0.021 – 0.027	Minimal risk	AA+	AA+	Aa1	Very low risk, long-term stability, repayment sources sufficient under lasting adverse conditions, extremely high medium-term stability
AA	0.027 – 0.034		AA	AA	Aa2	
AA-	0.034 – 0.044		AA-	AA-	Aa3	
A+	0.044 – 0.056	Modest risk	A+	A+	A1	Low risk, short- and mid-term stability, small adverse developments can be absorbed long term, short- and mid-term solvency preserved in the event of serious difficulties
A	0.056 – 0.068		A	A	A2	
A-	0.068 – 0.097		A-	A-	A3	
BBB+	0.097 – 0.167	Average risk	BBB+	BBB+	Baa1	Medium to low risk, high short-term stability, adequate substance for medium-term survival, very stable short term
BBB	0.167 – 0.285		BBB	BBB	Baa2	
BBB-	0.285 – 0.487		BBB-	BBB-	Baa3	
BB+	0.487 – 0.839	Acceptable risk	BB+	BB+	Ba1	Medium risk, only short-term stability, only capable of absorbing minor adverse developments in the medium term, stable in the short term, no increased credit risks expected within the year
BB	0.839 – 1.442		BB	BB	Ba2	
BB-	1.442 – 2.478		BB-	BB-	Ba3	
B+	2.478 – 4.259	High risk	B+	B+	B1	Increasing risk, limited capability to absorb further unexpected negative developments
B	4.259 – 7.311		B	B	B2	
B-	7.311 – 12.550		B-	B-	B3	
CCC+	12.550 – 21.543	Very high risk	CCC+	CCC+	Caa1	High risk, very limited capability to absorb further unexpected negative developments
CCC	21.543 – 100.00		CCC	CCC	Caa2	
CCC-	21.543 – 100.00		CCC-	CCC-	Caa3	
CC	21.543 – 100.00		CC	CC	Ca	
C	100	Imminent or actual loss	C	C	C	Substantial credit risk has materialized, i.e. counterparty is distressed and/or non-performing. Adequate specific provisions must be made as further adverse developments will result directly in credit losses.
D1	Risk of default has materialized		D	D		
D2						

Transactions rated C are potential problem loans; those rated D1 are non-performing assets and those rated D2 are non-interest earning.

¹ For Ratings AAA to CCC+, the PD bands are exclusive of the left-hand side and inclusive of the right-hand side PD band boundary. For Ratings CCC to CC, the PD bands are exclusive of the left-hand and exclusive of the right-hand side. For Rating C, the PD equals 100%.

Use of internal ratings

Internal ratings play an essential role in the decision-making and the credit approval processes. The portfolio credit quality is set in terms of the proportion of investment and non-investment grade exposures. Investment/non-investment grade is determined by the internal rating assigned to a counterparty.

Internal counterparty ratings (and associated PDs), transaction ratings (and associated LGDs) and CCF for loan commitments are inputs to RWA and ERC calculations. Model outputs are the basis for risk-adjusted-pricing or assignment of credit competency levels.

The internal ratings are also integrated into the risk management reporting infrastructure and are reviewed in senior risk management committees. These committees include the RPSC and the Capital Allocation & Risk Management Committee (CARMC).

Credit Risk Review

Governance and supervisory checks within credit risk management are supplemented by the credit risk review function. The credit risk review function is independent from credit risk management with a direct functional reporting line to the Risk Committee Chair, administratively reporting to the Group CRCO.

Credit risk review's primary responsibility is to provide timely and independent assessments of the Group's credit exposures and credit risk management processes and practices. Any findings and agreed actions are reported to senior management and, as necessary, to the Risk Committee.

EAD covered by the various approaches

The following table shows the part of EAD covered by the standardized and the A-IRB approach for each of the asset classes. The F-IRB approach is currently not applied.

CRE – EAD covered by the various approaches

end of 4Q20	Standardized approach	A-IRB approach
EAD (in %)		
Sovereigns	64	36
Institutions – Banks and securities dealer	15	85
Institutions – Other institutions	56	44
Corporates	8	92
Residential mortgages	0	100
Retail	2	98
Other exposures	100	0
Total	24	76

Credit risk exposures by portfolio and PD range

The following table presents the main parameters used for the calculation of capital requirements for IRB models.

CR6 – Credit risk exposures by portfolio and PD range (continued)

end of 4Q20	Original on-balance sheet gross exposure	Off-balance sheet exposures pre CCF	Total exposures	Average CCF
Sovereigns (CHF million, except where indicated)				
0.00% to <0.15%	46,913	43	46,956	100%
0.15% to <0.25%	0	0	0	0%
0.25% to <0.50%	119	19	138	100%
0.50% to <0.75%	23	0	23	0%
0.75% to <2.50%	91	3	94	45%
2.50% to <10.00%	342	0	342	50%
10.00% to <100.00%	200	0	200	0%
100.00% (Default)	383	0	383	0%
Sub-total	48,071	65	48,136	98%
Institutions – Banks and securities dealer				
0.00% to <0.15%	10,208	1,533	11,741	58%
0.15% to <0.25%	419	217	636	48%
0.25% to <0.50%	787	306	1,093	55%
0.50% to <0.75%	69	85	154	45%
0.75% to <2.50%	369	92	461	46%
2.50% to <10.00%	576	194	770	40%
10.00% to <100.00%	1	0	1	50%
100.00% (Default)	7	0	7	0%
Sub-total	12,436	2,427	14,863	54%
Institutions – Other institutions				
0.00% to <0.15%	213	1,420	1,633	11%
0.15% to <0.25%	2	60	62	3%
0.25% to <0.50%	12	1	13	45%
2.50% to <10.00%	51	396	447	45%
Sub-total	278	1,877	2,155	18%
Corporates – Specialized lending				
0.00% to <0.15%	7,076	1,983	9,059	43%
0.15% to <0.25%	4,280	1,572	5,852	34%
0.25% to <0.50%	2,335	847	3,182	40%
0.50% to <0.75%	2,820	2,122	4,942	30%
0.75% to <2.50%	7,942	2,972	10,914	40%
2.50% to <10.00%	2,330	30	2,360	52%
10.00% to <100.00%	46	64	110	45%
100.00% (Default)	172	7	179	39%
Sub-total	27,001	9,597	36,598	37%

¹ CRM is reflected by shifting the counterparty exposure from the underlying obligor to the protection provider.

² Reflects RWA post CCF.

EAD post-CRM and post-CCF ¹	Average PD	Number of obligors (thousands)	Average LGD	Average maturity (years)	RWA ²	RWA density	Expected loss	Provisions
47,395	0.02%	< 0.1	4%	1.2	790	2%	1	–
–	0.22%	< 0.1	56%	2.5	0	63%	0	–
127	0.37%	< 0.1	52%	2.4	94	74%	0	–
23	0.64%	< 0.1	58%	2.9	26	113%	0	–
92	1.18%	< 0.1	45%	2.8	98	106%	0	–
176	6.45%	< 0.1	47%	2.4	333	189%	6	–
29	28.23%	< 0.1	61%	4.0	108	375%	5	–
180	100.00%	< 0.1	57%	1.5	190	106%	105	–
48,022	0.44%	0.1	4%	1.2	1,639	3%	117	105
12,416	0.06%	1.6	54%	0.6	1,889	15%	4	–
507	0.22%	0.1	54%	1.2	258	51%	1	–
702	0.37%	0.2	52%	0.6	429	61%	1	–
113	0.61%	0.1	24%	0.6	44	39%	0	–
359	1.31%	0.1	52%	0.7	392	109%	2	–
542	5.16%	0.2	57%	1.2	1,045	193%	16	–
1	17.18%	< 0.1	53%	0.2	2	254%	0	–
7	100.00%	< 0.1	51%	2.5	7	106%	0	–
14,647	0.35%	2.3	54%	0.6	4,066	28%	24	0
444	0.04%	0.4	41%	3.4	98	22%	0	–
4	0.20%	< 0.1	35%	1.1	1	25%	0	–
13	0.37%	< 0.1	58%	2.4	10	81%	0	–
230	4.77%	< 0.1	5%	4.0	43	19%	1	–
691	1.63%	0.5	29%	3.6	152	22%	1	0
7,924	0.06%	0.8	29%	2.3	1,741	22%	1	–
4,814	0.20%	0.7	30%	2.3	1,975	41%	3	–
2,675	0.37%	0.5	33%	1.7	1,542	58%	3	–
3,449	0.58%	0.3	28%	1.4	1,585	46%	6	–
9,133	1.50%	0.7	18%	2.8	4,498	49%	24	–
2,345	4.43%	0.2	14%	3.2	1,204	51%	15	–
75	12.45%	< 0.1	4%	4.9	18	25%	0	–
48	100.00%	< 0.1	61%	1.1	51	106%	127	–
30,463	1.12%	3.2	25%	2.4	12,614	41%	179	127

CR6 – Credit risk exposures by portfolio and PD range (continued)

end of 4Q20	Original on-balance sheet gross exposure	Off-balance sheet exposures pre CCF	Total exposures	Average CCF
Corporates without specialized lending (CHF million, except where indicated)				
0.00% to <0.15%	13,429	49,738	63,167	40%
0.15% to <0.25%	5,077	10,170	15,247	37%
0.25% to <0.50%	5,100	5,126	10,226	37%
0.50% to <0.75%	3,726	4,697	8,423	41%
0.75% to <2.50%	9,125	8,369	17,494	41%
2.50% to <10.00%	10,199	14,670	24,869	48%
10.00% to <100.00%	895	640	1,535	51%
100.00% (Default)	1,842	563	2,405	37%
Sub-total	49,393	93,973	143,366	41%
Residential mortgages				
0.00% to <0.15%	29,787	1,711	31,498	40%
0.15% to <0.25%	32,136	1,942	34,078	40%
0.25% to <0.50%	39,642	1,994	41,636	44%
0.50% to <0.75%	4,656	363	5,019	47%
0.75% to <2.50%	4,536	562	5,098	28%
2.50% to <10.00%	447	28	475	63%
10.00% to <100.00%	12	0	12	70
100.00% (Default)	616	7	623	82%
Sub-total	111,832	6,607	118,439	41%
Qualifying revolving retail				
0.75% to <2.50%	298	5,592	5,890	0%
100.00% (Default)	0	0	0	0%
Sub-total	298	5,592	5,890	0%
Other retail				
0.00% to <0.15%	52,803	134,338	187,141	7%
0.15% to <0.25%	2,377	8,588	10,965	8%
0.25% to <0.50%	1,941	2,358	4,299	14%
0.50% to <0.75%	714	879	1,593	25%
0.75% to <2.50%	5,169	1,949	7,118	27%
2.50% to <10.00%	3,750	747	4,497	24%
10.00% to <100.00%	34	25	59	36%
100.00% (Default)	457	41	498	33%
Sub-total	67,245	148,925	216,170	7%
Sub-total (all portfolios)				
0.00% to <0.15%	160,429	190,766	351,195	16%
0.15% to <0.25%	44,291	22,549	66,840	26%
0.25% to <0.50%	49,936	10,651	60,587	34%
0.50% to <0.75%	12,008	8,146	20,154	36%
0.75% to <2.50%	27,530	19,539	47,069	27%
2.50% to <10.00%	17,695	16,065	33,760	47%
10.00% to <100.00%	1,188	729	1,917	50%
100.00% (Default)	3,477	618	4,095	38%
Sub-total (all portfolios)	316,554	269,063	585,617	21%
Alternative treatment				
Exposures from free deliveries applying standardized risk weights or 100% under the alternative treatment	–	–	–	–
IRB – maturity and export finance buffer	–	–	–	–
Total (all portfolios and alternative treatment)	316,554	269,063	585,617	21%

1 CRM is reflected by shifting the counterparty exposure from the underlying obligor to the protection provider.

2 Reflects RWA post CCF.

EAD post-CRM and post-CCF ¹	Average PD	Number of obligors (thousands)	Average LGD	Average maturity (years)	RWA ²	RWA density	Expected loss	Provisions
35,077	0.07%	2.7	40%	2.3	8,056	23%	10	–
8,907	0.21%	1.3	40%	2.1	3,505	39%	7	–
6,929	0.37%	1.8	36%	2.5	3,437	50%	9	–
5,282	0.62%	1.3	40%	2.6	3,707	70%	13	–
11,788	1.50%	2.2	35%	2.8	10,837	92%	64	–
16,043	5.70%	1.8	33%	2.8	20,995	131%	286	–
942	19.34%	0.1	28%	2.6	1,655	176%	53	–
1,552	100.00%	0.2	53%	1.7	1,621	104%	499	–
86,520	3.39%	11.3	38%	2.5	53,813	62%	941	499
30,486	0.09%	44.1	14%	2.9	2,172	7%	4	–
32,913	0.18%	38.8	15%	3.0	4,300	13%	9	–
40,521	0.30%	52.5	15%	3.1	7,767	19%	19	–
4,821	0.59%	6.5	17%	2.9	1,637	34%	5	–
4,695	1.23%	6.6	18%	2.6	2,692	57%	10	–
464	4.17%	0.7	19%	2.1	555	119%	4	–
12	17.12%	< 0.1	13%	2.8	22	188%	0	–
583	100.00%	0.3	18%	1.4	618	106%	39	–
114,495	0.78%	149.3	15%	3.0	19,763	17%	90	39
320	1.30%	767.2	50%	1.0	79	25%	2	–
–	100.00%	0.3	50%	1.0	0	106%	0	–
320	1.30%	767.5	50%	1.0	79	25%	2	0
61,094	0.04%	50.9	63%	1.3	4,956	8%	16	–
3,086	0.19%	3.9	42%	1.3	527	17%	2	–
2,270	0.36%	6.0	31%	1.4	438	19%	3	–
938	0.62%	10.6	44%	1.8	351	37%	3	–
5,698	1.51%	83.2	36%	2.0	2,590	45%	30	–
3,933	5.19%	80.7	39%	2.9	2,389	61%	81	–
43	15.79%	1.4	49%	1.4	44	103%	3	–
353	100.00%	5.4	86%	1.8	374	106%	306	–
77,415	0.90%	242.0	58%	1.5	11,669	15%	444	306
194,836	0.05%	100.5	35%	1.7	19,702	10%	36	–
50,231	0.19%	44.8	23%	2.6	10,566	21%	22	–
53,237	0.32%	61.0	20%	2.8	13,717	26%	35	–
14,626	0.60%	18.8	30%	2.3	7,350	50%	27	–
32,085	1.46%	859.9	28%	2.6	21,186	66%	132	–
23,733	5.45%	83.5	32%	2.8	26,564	112%	409	–
1,102	18.94%	1.5	28%	2.8	1,849	168%	61	–
2,723	100.00%	6.2	50%	1.6	2,861	105%	1,076	–
372,573	1.38%	1,176.2	30%	2.2	103,795	28%	1,798	1,076
7	–	–	–	–	4	–	–	–
–	–	–	–	–	366	–	–	–
372,580	1.38%	1,176.2	30%	2.2	104,165	28%	1,798	1,076

CR6 – Credit risk exposures by portfolio and PD range

end of 2Q20

	Original on-balance sheet gross exposure	Off-balance sheet exposures pre CCF	Total exposures	Average CCF
Sovereigns (CHF million, except where indicated)				
0.00% to <0.15%	30,138	162	30,300	100%
0.15% to <0.25%	0	0	0	–
0.25% to <0.50%	144	15	159	100%
0.75% to <2.50%	74	54	128	50%
2.50% to <10.00%	636	44	680	55%
10.00% to <100.00%	176	0	176	–
100.00% (Default)	281	1	282	55%
Sub-total	31,449	276	31,725	83%
Institutions – Banks and securities dealer				
0.00% to <0.15%	9,703	1,365	11,068	61%
0.15% to <0.25%	538	89	628	53%
0.25% to <0.50%	576	224	800	60%
0.50% to <0.75%	93	45	138	50%
0.75% to <2.50%	143	118	261	54%
2.50% to <10.00%	618	284	903	53%
10.00% to <100.00%	4	5	9	50%
100.00% (Default)	7	0	7	–
Sub-total	11,683	2,130	13,813	59%
Institutions – Other institutions				
0.00% to <0.15%	462	1,000	1,462	2%
0.15% to <0.25%	4	247	250	1%
0.25% to <0.50%	13	1	14	45%
0.50% to <0.75%	0	0	0	–
2.50% to <10.00%	30	104	134	45%
10.00% to <100.00%	9	52	61	45%
Sub-total	518	1,405	1,922	7%
Corporates – Specialized lending				
0.00% to <0.15%	7,106	1,692	8,799	44%
0.15% to <0.25%	4,278	1,786	6,064	37%
0.25% to <0.50%	2,589	1,056	3,645	42%
0.50% to <0.75%	2,550	2,047	4,597	34%
0.75% to <2.50%	8,045	2,942	10,987	39%
2.50% to <10.00%	3,095	52	3,147	37%
10.00% to <100.00%	69	155	224	45%
100.00% (Default)	164	5	168	43%
Sub-total	27,897	9,734	37,631	39%

1 CRM is reflected by shifting the counterparty exposure from the underlying obligor to the protection provider.

2 Reflects RWA post CCF.

EAD post-CRM and post-CCF ¹	Average PD	Number of obligors (thousands)	Average LGD	Average maturity (years)	RWA ²	RWA density	Expected loss	Provisions
30,300	0.03%	< 0.1	4%	1.2	411	1%	0	–
–	0.22%	< 0.1	58%	0.2	0	34%	0	–
154	0.37%	< 0.1	53%	2.7	121	79%	0	–
100	1.64%	< 0.1	51%	1.9	117	116%	1	–
217	5.83%	< 0.1	49%	2.4	405	186%	7	–
62	28.23%	< 0.1	45%	4.0	169	275%	8	–
172	100.00%	< 0.1	58%	1.1	182	106%	109	–
31,005	0.68%	0.1	5%	1.2	1,405	5%	125	109
11,951	0.06%	1.6	53%	0.6	1,890	16%	4	–
549	0.22%	0.1	53%	1.1	245	45%	1	–
572	0.37%	0.2	52%	0.7	355	62%	1	–
125	0.64%	0.1	52%	0.4	95	76%	0	–
208	1.51%	0.1	52%	0.9	247	119%	2	–
535	4.87%	0.1	51%	1.1	875	163%	13	–
4	27.60%	< 0.1	51%	0.0	10	271%	1	–
7	100.00%	< 0.1	51%	1.0	8	106%	0	–
13,951	0.35%	2.2	53%	0.7	3,725	27%	21	0
546	0.04%	0.4	43%	1.9	90	16%	0	–
5	0.20%	< 0.1	37%	1.2	1	27%	0	–
14	0.37%	< 0.1	58%	2.4	11	80%	0	–
0	0.58%	< 0.1	52%	0.2	0	57%	0	–
81	3.33%	< 0.1	8%	4.1	23	28%	0	–
33	19.31%	< 0.1	2%	5.0	3	10%	0	–
679	1.37%	0.5	37%	2.3	128	19%	0	0
7,851	0.06%	0.8	29%	2.1	1,615	21%	1	–
4,933	0.21%	0.8	26%	2.3	1,864	38%	3	–
3,028	0.37%	0.5	30%	1.8	1,500	50%	3	–
3,334	0.58%	0.3	32%	1.5	1,700	51%	6	–
9,206	1.51%	0.7	17%	2.8	4,318	47%	22	–
3,114	4.02%	0.2	10%	3.3	1,097	35%	13	–
139	13.56%	< 0.1	6%	4.6	43	31%	1	–
71	100.00%	< 0.1	41%	1.8	75	106%	95	–
31,676	1.26%	3.3	24%	2.4	12,212	39%	144	95

CR6 – Credit risk exposures by portfolio and PD range (continued)

end of 2Q20	Original on-balance sheet gross exposure	Off-balance sheet exposures pre CCF	Total exposures	Average CCF
Corporates without specialized lending (CHF million, except where indicated)				
0.00% to <0.15%	14,521	48,016	62,537	40%
0.15% to <0.25%	4,580	9,862	14,442	37%
0.25% to <0.50%	4,533	6,846	11,379	36%
0.50% to <0.75%	4,906	4,564	9,470	42%
0.75% to <2.50%	9,898	6,696	16,594	42%
2.50% to <10.00%	10,797	9,535	20,332	48%
10.00% to <100.00%	1,315	649	1,964	46%
100.00% (Default)	1,935	460	2,395	31%
Sub-total	52,485	86,628	139,112	41%
Residential mortgages				
0.00% to <0.15%	27,915	1,665	29,579	35%
0.15% to <0.25%	31,422	1,845	33,267	38%
0.25% to <0.50%	39,615	2,274	41,889	38%
0.50% to <0.75%	5,945	386	6,331	44%
0.75% to <2.50%	4,695	579	5,275	32%
2.50% to <10.00%	471	55	526	8%
10.00% to <100.00%	14	0	14	–
100.00% (Default)	637	8	645	74%
Sub-total	110,713	6,812	117,525	37%
Qualifying revolving retail				
0.75% to <2.50%	317	5,702	6,020	0%
10.00% to <100.00%	0	0	0	–
100.00% (Default)	0	0	0	–
Sub-total	317	5,703	6,020	0%
Other retail				
0.00% to <0.15%	49,373	124,636	174,009	6%
0.15% to <0.25%	3,056	8,726	11,781	8%
0.25% to <0.50%	1,518	2,248	3,766	15%
0.50% to <0.75%	645	703	1,347	19%
0.75% to <2.50%	4,428	2,141	6,570	21%
2.50% to <10.00%	4,061	664	4,724	22%
10.00% to <100.00%	132	6	138	25%
100.00% (Default)	581	52	632	62%
Sub-total	63,793	139,174	202,967	7%
Sub-total (all portfolios)				
0.00% to <0.15%	139,217	178,536	317,753	17%
0.15% to <0.25%	43,877	22,554	66,431	25%
0.25% to <0.50%	48,988	12,664	61,652	34%
0.50% to <0.75%	14,139	7,745	21,883	38%
0.75% to <2.50%	27,601	18,233	45,834	26%
2.50% to <10.00%	19,708	10,738	30,446	46%
10.00% to <100.00%	1,720	866	2,586	45%
100.00% (Default)	3,604	526	4,130	35%
Sub-total (all portfolios)	298,855	251,861	550,716	21%
Alternative treatment				
Exposures from free deliveries applying standardized risk weights or 100% under the alternative treatment	–	–	–	–
IRB – maturity and export finance buffer	–	–	–	–
Total (all portfolios and alternative treatment)	298,855	251,861	550,716	21%

1 CRM is reflected by shifting the counterparty exposure from the underlying obligor to the protection provider.

2 Reflects RWA post CCF.

EAD post-CRM and post-CCF ¹	Average PD	Number of obligors (thousands)	Average LGD	Average maturity (years)	RWA ²	RWA density	Expected loss	Provisions
36,043	0.07%	3.1	40%	2.4	8,522	24%	10	–
8,205	0.21%	1.3	39%	2.3	3,255	40%	7	–
6,814	0.37%	1.8	37%	2.3	3,455	51%	9	–
6,507	0.62%	1.3	37%	2.6	4,306	66%	15	–
12,280	1.47%	2.2	36%	2.9	11,471	93%	65	–
13,825	5.66%	1.7	32%	3.1	23,072	167%	239	–
1,333	20.95%	0.1	33%	2.7	3,384	254%	93	–
1,573	100.00%	0.2	50%	1.7	1,618	103%	486	–
86,581	3.37%	11.7	38%	2.6	59,083	68%	924	486
29,526	0.09%	43.8	14%	2.9	2,108	7%	4	–
32,120	0.18%	38.4	15%	2.9	4,234	13%	9	–
40,475	0.30%	53.0	15%	3.0	7,780	19%	19	–
5,118	0.58%	6.7	17%	2.8	1,740	34%	5	–
4,881	1.22%	6.8	18%	2.6	2,864	59%	11	–
475	4.21%	0.7	19%	2.2	569	120%	4	–
14	16.54%	< 0.1	14%	2.4	27	189%	0	–
611	100.00%	0.3	18%	1.5	648	106%	32	–
113,220	0.82%	149.7	15%	2.9	19,969	18%	82	32
340	1.30%	783.7	50%	1.0	84	25%	2	–
0	0%	91.3	0%	0.0	0	0%	0	–
0	100.00%	0.3	50%	1.0	0	106%	0	–
340	1.30%	875.3	50%	1.0	84	25%	2	0
57,345	0.04%	50.5	63%	1.3	4,677	8%	15	–
3,792	0.18%	3.9	41%	1.3	626	17%	3	–
1,844	0.36%	6.0	40%	1.6	468	25%	3	–
776	0.64%	13.1	42%	2.0	281	36%	2	–
4,889	1.60%	76.7	33%	2.1	2,077	42%	26	–
4,204	5.16%	82.8	39%	2.7	2,592	62%	86	–
134	27.89%	1.4	38%	1.6	134	100%	15	–
479	100.00%	5.3	86%	1.7	508	106%	375	–
73,463	1.16%	239.7	58%	1.5	11,362	15%	524	375
173,563	0.05%	100.3	37%	1.8	19,313	11%	33	–
49,604	0.19%	44.4	23%	2.6	10,225	21%	21	–
52,900	0.32%	61.4	20%	2.8	13,691	26%	35	–
15,861	0.60%	21.6	30%	2.4	8,123	51%	29	–
31,905	1.46%	870.3	28%	2.7	21,178	66%	130	–
22,451	5.28%	85.5	30%	3.0	28,631	128%	362	–
1,718	21.10%	92.8	31%	2.9	3,770	219%	117	–
2,913	100.00%	6.1	49%	1.6	3,039	104%	1,097	–
350,916	1.53%	1,282.4	31%	2.2	107,970	31%	1,823	1,097
14	–	–	–	–	12	–	–	–
–	–	–	–	–	1,312	–	–	–
350,930	1.53%	1,282.4	31%	2.2	109,294	31%	1,823	1,097

Credit derivatives used as CRM techniques

The following table presents the effect on RWA of credit derivatives used as CRM techniques by portfolio.

For exposures covered by recognized credit derivatives, the substitution approach is applied, which means the risk weight of the

obligor is substituted with the risk weight of the protection provider. The CRM effect is reflected according to the actual post-risk mitigation asset class for pre-credit derivatives and actual RWA. The table does not include the impact of certain immaterial positions where the credit derivative was recognized with an adjustment to LGD.

CR7 – Effect on risk-weighted assets of credit derivatives used as CRM techniques

	4Q20		2Q20	
	Pre-credit derivatives RWA	Actual RWA	Pre-credit derivatives RWA	Actual RWA
end of				
CHF million				
Sovereigns – A-IRB	1,639	1,639	1,405	1,405
Institutions – Banks and securities dealers – A-IRB	4,158	4,066	3,822	3,728
Institutions – Other institutions – A-IRB	152	152	128	128
Corporates – Specialized lending – A-IRB	16,860	16,860	16,508	16,508
Corporates without specialized lending – A-IRB	53,893	53,817	59,148	59,092
Residential mortgages	19,763	19,763	19,969	19,969
Qualifying revolving retail	79	79	84	84
Other retail	11,669	11,669	11,362	11,362
Maturity and export finance buffer – IRB	366	366	1,312	1,312
Total	108,579	108,411	113,739	113,589

Includes RWA related to the A-IRB approach and supervisory slotting approach.

RWA flow statements of credit risk exposures under IRB

The following table presents the 4Q20 flow statement explaining the variations in the credit risk RWA determined under the IRB approach.

Credit risk RWA under IRB decreased CHF 1.1 billion to CHF 108.4 billion compared to the end of 3Q20, primarily driven by a negative foreign exchange impact and decreases related to model and parameter updates, partially offset by increases related to movements in risk levels primarily attributable to asset size. The decreases related to model and parameter updates were mainly driven by the phase-out of a multiplier on certain corporate exposures accompanied by the corresponding progressive implementation of a new model for corporate clients.

CR8 – Risk-weighted assets flow statements of credit risk exposures under IRB

	4Q20
CHF million	
Risk-weighted assets at beginning of period	109,475
Asset size	3,021
Asset quality	(585)
Model and parameter updates	(1,479)
Foreign exchange impact	(2,021)
Risk-weighted assets at end of period	108,411

Includes RWA related to the A-IRB approach and supervisory slotting approach.

Definition of risk-weighted assets movement components related to credit risk and CCR

Description	Definition
Asset size	Represents changes on the portfolio size arising in the ordinary course of business (including new businesses). Asset size also includes movements arising from the application of the comprehensive approach with regard to the treatment of financial collateral
Asset quality/credit quality of counterparties	Represents changes in average risk weighting across credit risk classes
Model and parameter updates	Represents movements arising from internally driven or externally mandated updates to models and recalibrations of model parameters specific only to Credit Suisse
Methodology and policy changes	Represents movements arising from externally mandated regulatory methodology and policy changes to accounting and exposure classification and treatment policies not specific only to Credit Suisse
Acquisitions and disposals	Represents changes in book sizes due to acquisitions and disposals of entities
Foreign exchange impact	Represents changes in exchange rates of the transaction currencies compared to the Swiss franc
Other	Represents changes that cannot be attributed to any other category

Model performance

The A-IRB models are subject to a comprehensive backtesting process to demonstrate that model performance can be confirmed annually during the entire lifecycle of each model. As evidenced during model development and confirmed via annual performance monitoring, typically discriminatory power of credit models is well above industry standard and calibration targets are set conservatively.

The following table provides backtesting data to validate the reliability of PD calculations. The estimated PDs are compared with the actual default rates by PD ranges within each exposure class. The estimated PDs are forward-looking average PDs at the beginning of the twelve-month period, which started at the end of December 2018. The estimated PDs are compared with the simple average of historical default rates covering a period starting at the earliest in 2001 and ending at the end of 2019.

CR9 – Backtesting of PD per portfolio

	Master scale from CRM S&P	Master scale from CRM Fitch	Master scale from CRM Moody	Weighted average PD
Sovereigns				
0.00% to <0.15%	AAA to BBB+	AAA to BBB+	Aaa to Baa1	0.02%
0.15% to <0.25%	BBB	BBB	Baa2	0.22%
0.25% to <0.50%	BBB-	BBB-	Baa3	0.37%
0.50% to <0.75%	BB+	BB+	Ba1	0.64%
0.75% to <2.50%	BB to BB-	BB to BB-	Ba2 to Ba3	1.40%
2.50% to <10.00%	B+ to B-	B+ to B-	B1 to B3	6.45%
10.00% to <100.00%	CCC+ to CC	CCC+ to CC	Caa1 to Ca	–
Institutions – Banks and securities dealer				
0.00% to <0.15%	AAA to BBB+	AAA to BBB+	Aaa to Baa1	0.06%
0.15% to <0.25%	BBB	BBB	Baa2	0.22%
0.25% to <0.50%	BBB-	BBB-	Baa3	0.37%
0.50% to <0.75%	BB+	BB+	Ba1	0.60%
0.75% to <2.50%	BB to BB-	BB to BB-	Ba2 to Ba3	1.25%
2.50% to <10.00%	B+ to B-	B+ to B-	B1 to B3	4.92%
10.00% to <100.00%	CCC+ to CC	CCC+ to CC	Caa1 to Ca	16.44%
Institutions – Other institutions				
0.00% to <0.15%	AAA to BBB+	AAA to BBB+	Aaa to Baa1	0.04%
0.15% to <0.25%	BBB	BBB	Baa2	0.21%
0.25% to <0.50%	BBB-	BBB-	Baa3	0.36%
0.50% to <0.75%	BB+	BB+	Ba1	0.58%
0.75% to <2.50%	BB to BB-	BB to BB-	Ba2 to Ba3	1.03%
2.50% to <10.00%	B+ to B-	B+ to B-	B1 to B3	5.08%
Corporates – Specialized lending				
0.00% to <0.15%	AAA to BBB+	AAA to BBB+	Aaa to Baa1	0.06%
0.15% to <0.25%	BBB	BBB	Baa2	0.22%
0.25% to <0.50%	BBB-	BBB-	Baa3	0.37%
0.50% to <0.75%	BB+	BB+	Ba1	0.58%
0.75% to <2.50%	BB to BB-	BB to BB-	Ba2 to Ba3	1.33%
2.50% to <10.00%	B+ to B-	B+ to B-	B1 to B3	4.59%
10.00% to <100.00%	CCC+ to CC	CCC+ to CC	Caa1 to Ca	14.08%

1 The number of obligors used in the calculation is based on the transactional-based approach.

2 Reflects risk data where prudential portfolios are not captured. Accordingly for these columns approximations are required. For the qualifying revolving retail portfolio – CR7 (PD range 10.00% to <100.00%), no results are reported as portfolio in that scope has moved to standardized approach in 2020. Further, fast defaults are in tendency understated since capturing of fast defaults is not available for all clients in risk data. Underlying default rates are determined on client level, i.e. a client can have more than one transaction/credit.

	Arithmetic average PD by obligors ¹	Number of obligors (thousands)		Defaulted obligors in the year ²	of which: new defaulted obligors in the year ²	Average historical annual default rate ²
		End of previous year	End of the year			
	0.03%	0.1	< 0.1	0	0	0.04%
	0.21%	< 0.1	< 0.1	0	0	0.00%
	0.37%	< 0.1	< 0.1	0	0	0.00%
	0.59%	< 0.1	< 0.1	0	0	0.00%
	1.49%	< 0.1	< 0.1	0	0	0.00%
	6.61%	< 0.1	< 0.1	0	0	1.02%
	–	–	< 0.1	–	–	–
	0.07%	0.7	1.6	0	0	0.03%
	0.22%	0.1	0.1	0	0	0.15%
	0.37%	0.2	0.2	0	0	0.29%
	0.60%	0.1	0.1	0	0	0.19%
	1.24%	0.2	0.1	0	0	0.13%
	5.20%	0.1	0.1	0	0	0.62%
	18.41%	< 0.1	< 0.1	0	0	2.48%
	0.05%	0.4	0.4	0	0	0.00%
	0.20%	< 0.1	< 0.1	0	0	0.00%
	0.37%	< 0.1	< 0.1	0	0	0.00%
	0.58%	0.1	< 0.1	0	0	0.08%
	1.32%	< 0.1	< 0.1	0	0	0.00%
	4.46%	< 0.1	< 0.1	–	–	–
	0.07%	0.9	0.8	0	0	0.01%
	0.20%	0.7	0.7	0	0	0.03%
	0.37%	0.6	0.5	0	0	0.04%
	0.60%	0.4	0.3	1	0	0.17%
	1.33%	0.8	0.8	1	0	0.39%
	4.18%	0.1	0.2	6	1	4.53%
	14.94%	< 0.1	< 0.1	0	0	18.81%

CR9 – Backtesting of PD per portfolio (continued)

	Master scale from CRM S&P	Master scale from CRM Fitch	Master scale from CRM Moody	Weighted average PD
Corporates without specialized lending				
0.00% to <0.15%	AAA to BBB+	AAA to BBB+	Aaa to Baa1	0.07%
0.15% to <0.25%	BBB	BBB	Baa2	0.21%
0.25% to <0.50%	BBB-	BBB-	Baa3	0.37%
0.50% to <0.75%	BB+	BB+	Ba1	0.62%
0.75% to <2.50%	BB to BB-	BB to BB-	Ba2 to Ba3	1.51%
2.50% to <10.00%	B+ to B-	B+ to B-	B1 to B3	5.54%
10.00% to <100.00%	CCC+ to CC	CCC+ to CC	Caa1 to Ca	17.41%
Residential mortgages				
0.00% to <0.15%	AAA to BBB+	AAA to BBB+	Aaa to Baa1	0.08%
0.15% to <0.25%	BBB	BBB	Baa2	0.18%
0.25% to <0.50%	BBB-	BBB-	Baa3	0.31%
0.50% to <0.75%	BB+	BB+	Ba1	0.59%
0.75% to <2.50%	BB to BB-	BB to BB-	Ba2 to Ba3	1.24%
2.50% to <10.00%	B+ to B-	B+ to B-	B1 to B3	4.42%
10.00% to <100.00%	CCC+ to CC	CCC+ to CC	Caa1 to Ca	17.83%
Qualifying revolving retail				
0.75% to <2.50%	BB to BB-	BB to BB-	Ba2 to Ba3	1.30%
10.00% to <100.00%	CCC+ to CC	CCC+ to CC	Caa1 to Ca	25.00%
Other retail				
0.00% to <0.15%	AAA to BBB+	AAA to BBB+	Aaa to Baa1	0.04%
0.15% to <0.25%	BBB	BBB	Baa2	0.19%
0.25% to <0.50%	BBB-	BBB-	Baa3	0.36%
0.50% to <0.75%	BB+	BB+	Ba1	0.61%
0.75% to <2.50%	BB to BB-	BB to BB-	Ba2 to Ba3	1.62%
2.50% to <10.00%	B+ to B-	B+ to B-	B1 to B3	5.19%
10.00% to <100.00%	CCC+ to CC	CCC+ to CC	Caa1 to Ca	14.02%

1 The number of obligors used in the calculation is based on the transactional-based approach.

2 Reflects risk data where prudential portfolios are not captured. Accordingly for these columns approximations are required. For the qualifying revolving retail portfolio – CR7 (PD range 10.00% to <100.00%), no results are reported as portfolio in that scope has moved to standardized approach in 2020. Further, fast defaults are in tendency understated since capturing of fast defaults is not available for all clients in risk data. Underlying default rates are determined on client level, i.e. a client can have more than one transaction/credit.

	Arithmetic average PD by obligors ¹	Number of obligors (thousands)		Defaulted obligors in the year ²	of which: new defaulted obligors in the year ²	Average historical annual default rate ²
		End of previous year	End of the year			
	0.07%	2.9	2.7	0	0	0.03%
	0.20%	1.3	1.2	0	0	0.10%
	0.37%	1.8	1.7	1	0	0.11%
	0.63%	1.4	1.3	5	0	0.25%
	1.29%	3.0	1.9	16	1	0.76%
	4.65%	2.4	1.6	42	1	1.93%
	19.75%	0.1	0.1	9	1	12.77%
	0.08%	46.4	43.5	5	0	0.02%
	0.18%	40.1	38.2	13	0	0.04%
	0.31%	48.3	52.9	19	0	0.06%
	0.60%	6.8	6.9	12	0	0.14%
	1.29%	6.8	7.0	24	1	0.27%
	4.45%	0.8	0.8	16	0	3.85%
	17.54%	0.1	< 0.1	11	1	18.27%
	1.30%	808.3	794.4	5,571	0	1.03%
	25.00%	93.3	96.0	–	–	–
	0.04%	49.9	50.1	7	1	0.05%
	0.19%	3.6	3.6	0	0	0.25%
	0.36%	5.6	5.8	36	0	0.82%
	0.60%	11.6	11.8	0	0	0.14%
	1.68%	80.6	84.3	1,251	140	1.00%
	5.43%	85.0	84.2	2,945	295	3.51%
	18.07%	0.3	0.4	1	0	0.00%

Specialized lending

The following tables present the carrying values, exposure amounts and RWA for the Group's specialized lending under the supervisory slotting approach.

CR10 – Specialized lending

end of		On- balance sheet amount	Off- balance sheet amount	Risk weight	Exposure amount ¹	RWA	Expected losses
4Q20 (CHF million, except where indicated)							
Other than high-volatility commercial real estate							
Regulatory categories and remaining maturity							
Strong	Less than 2.5 years	195	745	50%	604	320	0
	Equal to or more than 2.5 years	539	426	70%	776	576	3
Good	Less than 2.5 years	704	142	70%	782	580	3
	Equal to or more than 2.5 years	946	336	90%	1,122	1,070	9
Satisfactory		852	51	115% ²	881	1,074	25
Weak		51	59	250%	84	222	7
Default		56	0	–	56	0	28
Total		3,343	1,759	–	4,305	3,842	75
High-volatility commercial real estate							
Regulatory categories and remaining maturity							
Good	Equal to or more than 2.5 years	3	11	120%	9	11	0
Satisfactory		38	0	140%	38	56	1
Weak		90	67	250%	127	337	10
Default		0	2	–	2	0	1
Total		131	80	–	176	404	12
2Q20 (CHF million, except where indicated)							
Other than high-volatility commercial real estate							
Regulatory categories and remaining maturity							
Strong	Less than 2.5 years	190	445	50%	434	230	0
	Equal to or more than 2.5 years	580	444	70%	825	612	3
Good	Less than 2.5 years	436	218	70%	556	412	2
	Equal to or more than 2.5 years	758	168	90%	850	811	7
Satisfactory		1,122	75	115% ²	1,163	1,417	33
Weak		124	44	250%	148	393	12
Default		32	0	–	32	0	16
Total		3,240	1,394	–	4,008	3,876	73
High-volatility commercial real estate							
Regulatory categories and remaining maturity							
Strong	Equal to or more than 2.5 years	41	48	95%	67	67	0
Good	Equal to or more than 2.5 years	23	13	120%	31	40	0
Satisfactory		36	0	140%	36	54	1
Weak		98	0	250%	98	258	8
Default		11	2	–	13	0	6
Total		208	64	–	244	419	15

¹ Exposure amounts in connection with IPRE.

² For a portion of the exposure, a risk weight of 120% is applied.

Equity positions in the banking book

For equity type securities in the banking book, risk weights are determined using the simple risk-weight approach, which differentiates by equity sub-asset types, such as exchange-traded and other equity exposures.

CR10 – Equity positions in the banking book under the simple risk-weight approach

end of	On-balance sheet amount	Off-balance sheet amount	Risk weight	Exposure amount	RWA
4Q20 (CHF million)					
Exchange-traded equity exposures	54	0	300%	54	173
Other equity exposures	1,003	0	400%	1,003	4,254
Total	1,057	0	–	1,057	4,427
2Q20 (CHF million)					
Exchange-traded equity exposures	52	0	300%	52	165
Other equity exposures	1,435	0	400%	1,435	6,085
Total	1,487	0	–	1,487	6,250

Equity investments in funds exposures of CHF 885 million are not included in the above table.

Counterparty credit risk

General

Counterparty exposure

CCR arises from over-the-counter (OTC) and exchange-traded derivatives, as well securities financing transactions (SFTs), such as repurchase agreements, securities lending and borrowing and other similar products. CCR exposures depend on the value of underlying market factors, for example, interest rates and foreign exchange rates, which may be volatile.

Credit Suisse has received approval from FINMA to use the IMM for measuring CCR for the majority of the derivatives and the VaR model for SFTs.

- Refer to "Credit risk" (pages 150 to 153) in III – Treasury, Risk, Balance sheet and Off-balance sheet – Risk management – Risk coverage and management in the Credit Suisse Annual Report 2020 for further information on counterparty credit risk, including transaction rating, credit approval process and provisioning.
- Refer to "Credit risk reporting" (page 12) in Credit risk – General for information on our counterparty risk reporting.

Credit limits

All credit exposure is approved, either through approval of an individual transaction/facility (e.g., lending facilities), or under a system of credit limits (e.g., OTC derivatives). Credit exposure is monitored daily to ensure it does not exceed the approved credit limit. Credit limits are set either on a potential exposure basis or on a notional exposure basis. Moreover, these limits are ultimately governed by the Group Risk Appetite Framework. Potential exposure means the possible future value that would be lost upon default of the counterparty on a particular future date, and is taken as a high percentile of a distribution of possible exposures computed by the internal exposure models. Secondary debt inventory positions are subject to separate limits that are set at the issuer level.

- Refer to "Credit risk" (pages 150 to 153) in III – Treasury, Risk, Balance sheet and Off-balance sheet – Risk management – Risk coverage and management in the Credit Suisse Annual Report 2020 for further information on credit limits.

Central counterparties risk

The Basel III framework provides specific requirements for exposures the Group has to CCPs arising from OTC derivatives, exchange-traded derivative transactions and SFTs. Exposures to CCPs which are considered to be qualifying CCPs by the regulator will receive a preferential capital treatment compared to exposures to non-qualifying CCPs.

The Group can incur exposure to CCPs as either a clearing member, or clearing through another member. Qualifying CCPs are expected to be subject to best-practice risk management, and sound regulation and oversight to ensure that they reduce risk, both for their participants and for the financial system. Most CCPs are benchmarked against standards issued by the Committee on Payment and Settlement Systems and the Technical Committee of the International Organization of Securities Commissions, herein collectively referred to as "CPSS-IOSCO".

The exposures to CCP (represented as "Central counterparties (CCP) risks") consist of trade exposure, default fund exposure and contingent exposure based on trade replacement due to a clearing member default. Trade exposure represents the current and potential future exposure of the clearing member (or a client) to a CCP arising from the underlying transaction and the initial margin posted to the CCP. Default fund exposure represents existing and potential future additional contributions to a CCPs default fund. Credit Risk Management performs credit assessment and annual review of the risk profile of CCPs as counterparties including an assessment of qualitative and quantitative factors. As part of its assessment, Credit Risk Management conducts periodic due diligence and in conjunction with General Counsel will make a determination whether (i) the CCP is a qualifying CCP and (ii) the collateral posted is considered bankruptcy remote. The determinations are subject to Credit Risk Management guidelines and include a review of collateral bankruptcy remoteness and verification that CCP collateral positions are held in custody with entities that employ account segregation and safekeeping procedures with internal controls that fully protect these securities. The determination is made in the context of "Authorization of CCP" (European Market Infrastructure Regulation (EMIR), Article 14) and "Third Countries" (EMIR, Article 25). This information will be appropriately reflected in the risk weightings within the capital calculations.

The Group monitors its daily exposure to the CCP as part of its ongoing limit and exposure monitoring process.

- Refer to "Risk management objectives and policies for credit risk" (page 12) in Credit risk – General for further information.

Credit valuation adjustment risk

Credit valuation adjustment (CVA) is a regulatory capital charge designed to capture the risk associated with potential mark-to-market losses associated with the deterioration in the creditworthiness of a counterparty.

Under Basel III, banks are required to calculate capital charges for CVA under either the Standardized CVA approach or the Advanced CVA approach (ACVA). The CVA rules stipulate that where banks have permission to use market risk VaR and counterparty risk IMM, they are to use the ACVA unless their regulator decides otherwise. FINMA has confirmed that the ACVA should be used for both IMM and non-IMM exposures.

The regulatory CVA capital charge applies to all counterparty exposures arising from OTC derivatives, excluding those with CCP. Exposures arising from SFTs are not required to be included in the CVA charge unless they could give rise to a material loss. FINMA has confirmed that Credit Suisse can exclude these exposures from the regulatory capital charge.

Guarantees and other risk mitigants

- Refer to "Credit risk mitigation" (pages 16 to 17) in Credit risk for further information on policies relating to guarantees and other risk mitigants.

Wrong-way exposure

Wrong-way risk arises when Credit Suisse enters into a financial transaction in which exposure is adversely correlated to the creditworthiness of the counterparty. In a wrong-way situation, the exposure to the counterparty increases while the counterparty's financial condition and its ability to pay on the transaction diminishes.

Exposure adjusted risk calculation

Regulatory guidance distinguishes two types of wrong-way risk, general and specific:

- General wrong-way risk arises when the probability of default of counterparties is positively correlated with general market risk factors.
- Specific wrong-way risk arises when the exposure to a particular counterparty is positively correlated with the probability of default of the counterparty due to the nature of the transactions with the counterparty.

Capturing wrong-way risk requires checking if there is a legal relationship or a correlation between the trade/collateral and the counterparty.

The management of wrong-way risk is integrated within Credit Suisse's overall credit risk assessment approach and is subject to a framework for identification and treatment of wrong-way risk, which includes multiple processes, methodologies, governance, reporting, review and escalation. A conservative treatment for the purpose of calculating exposure profiles is applied to material trades with wrong-way risk features. The wrong-way risk framework applies to OTC, SFTs, loans and centrally cleared trades.

In instances where a material wrong-way risk has been identified, limit utilization and default capital are accordingly adjusted through more conservative exposure calculations. These adjustments cover both transactions and collateral and form part of the daily credit exposure calculation process, resulting in a higher utilization of the counterparty credit limit.

Regular reporting of wrong-way risk at both the individual trade and portfolio level allows wrong-way risk to be identified and corrective actions taken by Credit Risk Management. The Front Office is responsible as a first line of defense for identifying and escalating trades that could potentially give rise to wrong-way risk. Any material wrong-way risk at portfolio or trade level would be escalated to senior Credit Risk Management executives and risk committees.

Effect of a credit rating downgrade

On a daily basis, we monitor the level of incremental collateral that would be required by derivative counterparties in the event of a Credit Suisse ratings downgrade. Collateral triggers are maintained by our collateral management department and vary by counterparty.

→ Refer to "Credit ratings" (pages 120 to 121) in III – Treasury, Risk, Balance sheet and Off-balance sheet – Liquidity and funding management – Funding management in the Credit Suisse Annual Report 2020 for further information on the effect of a one, two or three notch downgrade as of December 31, 2020.

The impact of downgrades in the Bank's long-term debt ratings are considered in the stress assumptions used to determine the conservative funding profile of our balance sheet and would not be material to our liquidity and funding needs.

Details of counterparty credit risk exposures

Analysis of counterparty credit risk exposure by approach

The following table presents a comprehensive view of the methods used to calculate CCR regulatory requirements and the main parameters used within each method.

CCR1 – Analysis of counterparty credit risk exposure by approach

end of	Re-placement cost	PFE	EEPE	Alpha used for computing regulatory EAD	EAD post-CRM	RWA
4Q20 (CHF million, except where indicated)						
SA-CCR (for derivatives)	2,939	5,098	–	1.4	11,251	4,120
IMM (for derivatives)	–	–	19,764	1.6 ¹	31,410	10,950
Comprehensive Approach for CRM (for SFTs)	–	–	–	–	0	0
VaR for SFTs	–	–	–	–	34,467	5,499
Total	–	–	–	–	77,128	20,569
2Q20 (CHF million, except where indicated)						
SA-CCR (for derivatives)	2,782	4,815	–	1.4	10,636	3,669
IMM (for derivatives)	–	–	22,226	1.6 ¹	35,401	9,601
Comprehensive Approach for CRM (for SFTs)	–	–	–	–	2	1
VaR for SFTs	–	–	–	–	51,201	9,334
Total	–	–	–	–	97,240	22,605

¹ Alpha factor is set equal to 1.0 in case of wrong way risk.

CVA capital charge

The following table presents the CVA regulatory calculations by advanced and standardized approaches.

RWA decreased CHF 6.8 billion to CHF 8.5 billion compared to the end of 2Q20, mainly reflecting reductions in derivative

exposures, the credit spread tightening across multiple counterparties and an increase in hedging benefits. These decreases were partially offset by methodology and policy changes related to the phase-in of SA-CCR for derivatives.

CCR2 – CVA capital charge

end of	4Q20		2Q20	
	EAD post-CRM	RWA	EAD post-CRM	RWA
CHF million				
Total portfolios subject to the advanced CVA capital charge	39,771	8,368	44,355	15,078
of which VaR component (including the 3 x multiplier)	–	2,112	–	7,582
of which stressed VaR component (including the 3 x multiplier)	–	6,256	–	7,496
All portfolios subject to the standardized CVA capital charge	110	130	165	265
Total subject to the CVA capital charge	39,881	8,498	44,520	15,343

EAD post-CRM is disclosed as of the end of the period (end of day), whereas the RWA is an average as of the last 12 weeks.

CCR exposures by regulatory portfolio and risk weight – standardized approach

The following table presents a breakdown of CCR exposures by regulatory portfolio (type of counterparties) and by risk weight (riskiness attributed to the exposure according to the standardized approach).

CCR3 – CCR exposures by regulatory portfolio and risk weight – standardized approach

	Risk weight						Exposures post-CCF and CRM
end of	0%	20%	50%	75%	100%	150%	
4Q20 (CHF million)							
Sovereigns	451	0	0	0	0	0	451
Institutions – Banks and securities dealer	0	243	485	0	1	3	732
Institutions – Other institutions	0	0	274	0	0	0	274
Corporates	0	138	8	0	1,254	40	1,440
Retail	0	0	0	55	324	0	379
Other exposures	0	0	0	0	248	0	248
Total	451	381	767	55	1,827	43	3,524
2Q20 (CHF million)							
Sovereigns	689	0	0	0	2	0	691
Institutions – Banks and securities dealer	0	369	495	0	1	41	906
Institutions – Other institutions	0	0	296	0	1	0	297
Corporates	0	199	11	0	1,591	26	1,827
Retail	0	0	0	57	231	0	288
Other exposures	0	0	0	0	672	0	672
Total	689	568	802	57	2,498	67	4,681

CCR exposures by portfolio and PD scale – IRB models

The following table presents all relevant parameters used for the calculation of CCR capital requirements for IRB models.

→ Refer to "Rating models" (pages 24 to 25) in Credit risk – Credit risk under internal risk-based approaches for further information on key models used at the group-wide level, explanation how the scope of models was determined and the risk-weighted assets covered by the models shown for each of the regulatory portfolios.

CCR4 – CCR exposures by portfolio and PD scale – IRB models

end of 4Q20	EAD post- CRM	Average PD	Number of obligors (thousands)	Average LGD	Average maturity (years)	RWA	RWA density
Sovereigns (CHF million, except where indicated)							
0.00% to <0.15%	2,253	0.03%	< 0.1	49%	0.5	144	6%
0.15% to <0.25%	0	0.22%	< 0.1	58%	1.0	0	44%
0.25% to <0.50%	122	0.37%	< 0.1	41%	1.0	52	42%
2.50% to <10.00%	199	3.25%	< 0.1	41%	1.0	217	109%
Sub-total	2,574	0.29%	< 0.1	48%	0.6	413	16%
Institutions – Banks and securities dealer							
0.00% to <0.15%	13,757	0.06%	0.4	58%	0.7	2,739	20%
0.15% to <0.25%	522	0.22%	0.1	59%	0.9	271	52%
0.25% to <0.50%	525	0.37%	0.1	58%	0.6	335	64%
0.50% to <0.75%	122	0.64%	< 0.1	51%	0.3	83	68%
0.75% to <2.50%	236	1.56%	0.1	54%	0.4	267	113%
2.50% to <10.00%	163	5.07%	0.1	53%	0.8	268	164%
10.00% to <100.00%	22	27.35%	< 0.1	58%	1.0	71	322%
Sub-total	15,347	0.20%	0.8	58%	0.7	4,034	26%
Institutions – Other institutions							
0.00% to <0.15%	96	0.04%	< 0.1	11%	0.7	3	3%
Sub-total	96	0.04%	< 0.1	11%	0.7	3	3%
Corporates – Specialized lending							
0.50% to <0.75%	4	0.58%	< 0.1	50%	1.0	2	66%
0.75% to <2.50%	23	2.03%	< 0.1	50%	1.0	26	113%
2.50% to <10.00%	14	3.91%	< 0.1	50%	1.0	19	140%
Sub-total	41	2.55%	< 0.1	50%	1.0	47	118%

CCR4 – CCR exposures by portfolio and PD scale – IRB models (continued)

end of 4Q20	EAD post- CRM	Average PD	Number obligors (thousands)	Average LGD	Average maturity (years)	RWA	RWA density
Corporates without specialized lending (CHF million, except where indicated)							
0.00% to <0.15%	42,043	0.05%	9.2	48%	0.5	4,745	11%
0.15% to <0.25%	1,988	0.21%	0.7	49%	0.9	748	38%
0.25% to <0.50%	1,337	0.37%	0.7	54%	0.9	780	58%
0.50% to <0.75%	587	0.63%	0.3	71%	0.8	654	111%
0.75% to <2.50%	2,205	1.50%	1.1	65%	0.8	3,202	145%
2.50% to <10.00%	1,287	5.92%	0.6	44%	1.0	2,563	199%
10.00% to <100.00%	26	16.44%	< 0.1	42%	1.0	70	269%
100.00% (Default)	18	100.00%	< 0.1	39%	1.0	19	106%
Sub-total	49,491	0.33%	12.6	49%	0.5	12,781	26%
Other retail							
0.00% to <0.15%	5,058	0.06%	6.1	67%	1.6	628	12%
0.15% to <0.25%	497	0.17%	0.5	21%	1.2	41	8%
0.25% to <0.50%	194	0.28%	0.3	60%	1.2	63	32%
0.50% to <0.75%	14	0.56%	0.3	29%	2.2	3	23%
0.75% to <2.50%	103	1.79%	0.1	12%	3.6	15	14%
2.50% to <10.00%	133	5.43%	< 0.1	56%	1.8	117	88%
10.00% to <100.00%	0	15.86%	< 0.1	35%	0.6	0	67%
100.00% (Default)	4	100.00%	< 0.1	31%	1.0	4	106%
Sub-total	6,003	0.29%	7.4	62%	1.6	871	15%
Total (all portfolios)							
0.00% to <0.15%	63,207	0.05%	15.8	52%	0.6	8,259	13%
0.15% to <0.25%	3,007	0.20%	1.3	46%	1.0	1,060	35%
0.25% to <0.50%	2,178	0.36%	1.1	55%	0.9	1,230	56%
0.50% to <0.75%	727	0.63%	0.7	66%	0.8	742	102%
0.75% to <2.50%	2,567	1.52%	1.3	62%	0.9	3,510	137%
2.50% to <10.00%	1,796	5.50%	0.7	46%	1.0	3,184	177%
10.00% to <100.00%	48	21.40%	< 0.1	49%	1.0	141	292%
100.00% (Default)	22	100.00%	< 0.1	38%	1.0	23	106%
Total (all portfolios)	73,552	0.30%	20.9	52%	0.6	18,149	25%
SA-CCR phase-in relief ¹	–	–	–	–	–	–	–
Total (all portfolios including SA-CCR phase-in relief)	73,552	0.30%	20.9	52%	0.6	18,149	25%

¹ In response to the COVID-19 pandemic, FINMA has advised the Group that it may phase in the impact that arises from certain Basel III revisions to the capital requirements equally throughout 2020.

EAD post-CRM decreased CHF 18.9 billion to CHF 73.6 billion, compared to the end of 2Q20, primarily reflecting decreases in corporates without specialized lending and institutions – banks and securities dealer.

CCR4 – CCR exposures by portfolio and PD scale – IRB models

end of 2Q20	EAD post- CRM	Average PD	Number of obligors (thousands)	Average LGD	Average maturity (years)	RWA	RWA density
Sovereigns (CHF million, except where indicated)							
0.00% to <0.15%	2,742	0.03%	< 0.1	48%	0.3	121	4%
0.15% to <0.25%	0	0.22%	< 0.1	58%	1.0	0	44%
0.25% to <0.50%	164	0.37%	< 0.1	44%	0.8	71	44%
0.75% to <2.50%	0	1.10%	< 0.1	42%	1.0	0	75%
2.50% to <10.00%	250	3.75%	< 0.1	44%	0.8	299	120%
Sub-total	3,156	0.34%	< 0.1	47%	0.4	492	16%
Institutions – Banks and securities dealer							
0.00% to <0.15%	16,130	0.06%	0.4	58%	0.6	3,104	19%
0.15% to <0.25%	498	0.22%	< 0.1	60%	0.8	238	48%
0.25% to <0.50%	723	0.37%	< 0.1	58%	0.7	473	65%
0.50% to <0.75%	198	0.64%	< 0.1	50%	0.4	133	67%
0.75% to <2.50%	378	1.78%	< 0.1	54%	0.3	449	119%
2.50% to <10.00%	227	4.30%	< 0.1	53%	0.4	339	149%
10.00% to <100.00%	23	27.24%	< 0.1	58%	0.9	73	321%
Sub-total	18,177	0.21%	0.8	58%	0.6	4,808	26%
Institutions – Other institutions							
0.00% to <0.15%	139	0.04%	< 0.1	28%	0.8	11	8%
0.15% to <0.25%	6	0.16%	< 0.1	0%	0.2	0	0%
Sub-total	145	0.04%	< 0.1	27%	0.8	11	8%
Corporates – Specialized lending							
0.75% to <2.50%	38	1.84%	< 0.1	50%	1.0	40	107%
2.50% to <10.00%	17	3.71%	< 0.1	50%	1.0	23	139%
Sub-total	55	2.42%	< 0.1	50%	1.0	64	117%

CCR4 – CCR exposures by portfolio and PD scale – IRB models (continued)

end of 2Q20	EAD post- CRM	Average PD	Number of obligors (thousands)	Average LGD	Average maturity (years)	RWA	RWA density
Corporates without specialized lending (CHF million, except where indicated)							
0.00% to <0.15%	57,570	0.05%	10.1	49%	0.4	6,179	11%
0.15% to <0.25%	2,275	0.21%	1.0	48%	1.0	831	37%
0.25% to <0.50%	1,571	0.37%	0.9	60%	0.9	1,058	67%
0.50% to <0.75%	841	0.64%	0.8	69%	0.7	919	109%
0.75% to <2.50%	2,619	1.48%	1.4	73%	0.7	4,239	162%
2.50% to <10.00%	1,365	5.56%	0.7	43%	1.0	3,107	228%
10.00% to <100.00%	36	18.78%	< 0.1	39%	1.0	105	290%
100.00% (Default)	6	100.00%	< 0.1	50%	1.0	6	106%
Sub-total	66,283	0.26%	15.0	50%	0.5	16,445	25%
Other retail							
0.00% to <0.15%	3,707	0.06%	5.0	64%	1.5	445	12%
0.15% to <0.25%	585	0.17%	0.5	27%	1.3	65	11%
0.25% to <0.50%	205	0.32%	1.0	75%	1.0	86	42%
0.50% to <0.75%	24	0.57%	4.7	41%	1.7	8	34%
0.75% to <2.50%	55	1.19%	0.6	48%	1.1	30	54%
2.50% to <10.00%	89	4.48%	0.2	52%	1.0	71	80%
10.00% to <100.00%	0	12.46%	< 0.1	65%	1.0	0	125%
100.00% (Default)	4	100.00%	< 0.1	31%	1.0	4	106%
Sub-total	4,669	0.27%	12.0	59%	1.4	709	15%
Total (all portfolios)							
0.00% to <0.15%	80,288	0.05%	15.7	52%	0.5	9,860	12%
0.15% to <0.25%	3,364	0.21%	1.6	46%	1.0	1,133	34%
0.25% to <0.50%	2,663	0.37%	2.0	59%	0.8	1,688	63%
0.50% to <0.75%	1,063	0.64%	5.6	65%	0.7	1,061	100%
0.75% to <2.50%	3,090	1.51%	2.2	70%	0.7	4,758	154%
2.50% to <10.00%	1,948	5.12%	1.0	45%	0.9	3,840	197%
10.00% to <100.00%	59	22.05%	< 0.1	46%	1.0	178	302%
100.00% (Default)	10	100.00%	< 0.1	42%	1.0	10	106%
Total (all portfolios)	92,485	0.25%	28.0	52%	0.5	22,529	24%
SA-CCR phase-in relief ¹	–	–	–	–	–	(3,129)	–
Total (all portfolios including SA-CCR phase-in relief)	92,485	0.25%	28.0	52%	0.5	19,400	21%

¹ In response to the COVID-19 pandemic, FINMA has advised the Group that it may phase in the impact that arises from certain Basel III revisions to the capital requirements equally throughout 2020.

Composition of collateral for CCR exposure

The following table presents a breakdown of all types of collateral posted or received by banks to support or reduce CCR exposures related to derivative transactions or SFTs, including transactions cleared through a CCP. For disclosure purposes, the collateral values are presented as the market value of the collateral without any adjustments for haircuts.

CCR5 – Composition of collateral for CCR exposure

end of	Collateral used in derivative transactions						Collateral used in SFTs	
	Fair value of collateral received			Fair value of posted collateral			Fair value of collateral received	Fair value of posted collateral
	Segregated	Unsegregated	Total	Segregated	Unsegregated	Total		
4Q20 (CHF million)								
Cash – domestic currency	0	7,181	7,181	0	2,511	2,511	304	3,944
Cash – other currencies	0	54,962	54,962	608	50,834	51,442	94,558	94,005
Domestic sovereign debt	0	56	56	0	0	0	2,314	143
Other sovereign debt	0	21,959	21,959	4,575	15,531	20,106	144,882	82,427
Government agency debt	0	88	88	0	7	7	1,314	3,390
Corporate bonds	0	9,677	9,677	0	317	317	60,355	29,459
Equity securities	0	30,725	30,725	1,216	1,218	2,434	232,220 ¹	157,929 ¹
Other collateral	0	4,044	4,044	5	44	49	27,244	13,098
Total	0	128,692	128,692	6,404	70,462	76,866	563,191	384,395
2Q20 (CHF million)								
Cash – domestic currency	0	7,001	7,001	0	2,957	2,957	389	5,661
Cash – other currencies	0	58,136	58,136	639	54,608	55,247	104,158	130,398
Domestic sovereign debt	0	96	96	0	33	33	3,560	259
Other sovereign debt	0	22,577	22,577	2,770	14,306	17,076	174,723	121,987
Government agency debt	0	177	177	0	9	9	1,442	4,168
Corporate bonds	0	10,187	10,187	0	279	279	70,047	27,186
Equity securities	0	18,741	18,741	3,657	636	4,293	194,224 ¹	109,851 ¹
Other collateral	0	4,733	4,733	3	18	21	28,808	12,889
Total	0	121,648²	121,648	7,069	72,846²	79,915	577,351²	412,399²

¹ The Equity Prime Brokerage business consists of clients acquiring long and short positions in the market in a Credit Suisse account along with the appropriate margins. In the case of a counterparty default, Credit Suisse gains control over the long positions and are free to sell them to cover the exposure and the long positions are thus considered as "collateral received". On the other hand, the short positions are considered as "trades" and are not reported in the disclosure as "posted collateral".

² Reflects an update of the dataset, primarily related to revised reporting of agency lending transactions, as well as an enhanced collateral allocation for derivatives. Prior period has been corrected.

Credit derivatives exposures

We enter into derivative contracts in the normal course of business for market making, positioning and arbitrage purposes, as well as for our own risk management needs, including mitigation of interest rate, foreign currency and credit risk. Derivative exposure also includes economic hedges where the Group enters into derivative contracts for its own risk management purposes, but where the contracts do not qualify for hedge accounting under US GAAP. Derivative exposures are calculated according to regulatory methods, using either the current exposures method or approved IMM. These regulatory methods take into account potential future movements and as a result generate risk exposures that are greater than the net replacement values disclosed for US GAAP.

As of the end of 4Q20, no credit derivatives were utilized that qualify for hedge accounting under US GAAP.

- Refer to "Derivative instruments" (pages 170 to 172) in III – Treasury, Risk, Balance sheet and Off-balance sheet – Risk management – Risk portfolio analysis in the Credit Suisse Annual Report 2020 for further information on derivative instruments, including counterparties and their creditworthiness.
- Refer to "Note 33 – Derivatives and hedging activities" (pages 351 to 357) in VI – Consolidated financial statements – Credit Suisse Group in the Credit Suisse Annual Report 2020 for further information on the fair value of derivative instruments and the distribution of current credit exposures by types of credit exposures.

→ Refer to "Note 28 – Offsetting of financial assets and financial liabilities" (pages 326 to 329) in VI – Consolidated financial statements – Credit Suisse Group in the Credit Suisse Annual Report 2020 for further information on netting benefits, netted current credit exposures, collateral held and net derivatives credit exposure.

The following table presents the extent of the Group's exposures to credit derivative transactions as protection bought or sold.

CCR6 – Credit derivatives exposures

end of	4Q20		2Q20	
	Protection bought	Protection sold	Protection bought	Protection sold
Notionals (CHF billion)				
Single-name CDS	104.8	88.0	111.9	91.7
Index CDS	170.1	149.4	202.6	171.3
Total return swaps	7.4	7.0	8.5	7.3
Credit options	0.5	0.0	0.5	0.0
Other credit derivatives	33.1	22.1	51.9	30.2
of which credit default swaptions	33.1	22.1	51.9	30.2
Total notionals	315.9	266.5	375.4	300.5
Fair values (CHF billion)				
Positive fair value (asset)	2.5	4.0	4.6	2.3
Negative fair value (liability)	5.8	2.1	3.8	3.7

Includes the client leg of cleared credit derivatives.

RWA flow statements of CCR exposures under IMM

The following table presents the 4Q20 flow statement explaining changes in CCR RWA determined under the IMM for CCR (derivatives and SFTs).

CCR7 – Risk-weighted assets flow statements of CCR exposures under IMM

	4Q20
CHF million	
Risk-weighted assets at beginning of period	17,888
Asset size	(2,694)
Credit quality of counterparties	443
Model and parameter updates	362
Methodology and policy changes	1,316
Foreign exchange impact	(726)
Risk-weighted assets at end of period	16,589

→ Refer to "RWA flow statements of credit risk exposures under IRB" (pages 36 to 37) in Credit risk for definitions of the RWA flow statements components.

CCR RWA under IMM decreased CHF 1.3 billion to CHF 16.6 billion compared to the end of 3Q20, primarily driven by decreases relating to movements in risk levels attributable to asset size and a negative foreign exchange impact, partially offset by methodology and policy changes. The decreases in risk levels attributable to asset size were primarily driven by decreased secured financing exposures. The movement in methodology and policy changes reflected the phase-in of certain Basel III revisions for counterparty credit risk pertaining to SA-CCR for derivatives.

Exposures to central counterparties

The following table presents a comprehensive picture of the Group's exposure to CCPs.

CCR8 – Exposures to central counterparties

	4Q20		2Q20	
end of	EAD (post-CRM)	RWA	EAD (post-CRM)	RWA
CHF million				
QCCPs				
Exposures for trades at QCCPs	16,282	343	22,205	464
of which OTC derivatives	10,593	229	12,696	274
of which exchange-traded derivatives	5,206	104	8,670	173
of which SFTs	483	10	839	17
Segregated initial margin	4,132	–	2,844	–
Non-segregated initial margin ¹	–	–	–	–
Pre-funded default fund contributions	3,685	1,560	3,700	788
Total exposures to QCCPs	–	1,903	–	1,252
Non-QCCPs				
Exposures for trades at non-QCCPs	21	21	36	36
of which SFTs	21	21	36	36
Pre-funded default fund contributions	7	84	1	12
Total exposures to non-QCCPs	–	105	–	48

¹ Exposures associated with initial margin, where the exposures are measured under the IMM/SA-CCR, have been included within the exposures for trades.

Securitization

General

The following disclosures, which also considers the “Industry good practice guidelines on Pillar 3 disclosure requirements for securitization”, refer to traditional and synthetic securitizations held in the banking and trading book and regulatory capital on these exposures calculated according to the Basel framework for securitizations.

→ Refer to “Note 35 – Transfers of financial assets and variable interest entities” (pages 361 to 370) in VI – Consolidated financial statements – Credit Suisse Group in the Credit Suisse Annual Report 2020 for further information on securitization, the various roles, the use of SPEs, the involvement of the Group in consolidated and non-consolidated SPEs, the accounting policies for securitization activities and methods and key assumptions applied in valuing positions retained/purchased and gains/losses relating to RMBS and CMBS securitization activity in 2020.

A traditional securitization is a structure where an underlying pool of assets is sold to an SPE which pays for the assets by issuing tranching securities collateralized by the underlying asset pool. A synthetic securitization is a tranching structure where the credit risk of an underlying pool of assets is transferred, in whole or in part, through the use of credit derivatives or guarantees that may serve to hedge the credit risk of the portfolio. Many synthetic securitizations are not accounted for as securitizations under US GAAP. In both traditional and synthetic securitizations, risk is dependent on the seniority of the retained interest and the performance of the underlying asset pool.

Roles and activities in connection with securitization

Securitization in the banking book

The Group is active in various roles in connection with securitization, including originator, investor and sponsor. As originator, the Group creates or purchases financial assets (e.g., commercial mortgages or corporate loans) and then securitizes them in a traditional or synthetic transaction that achieves significant risk transfer to third party investors. The Group acts as liquidity provider to Alpine Securitization Ltd. (Alpine), a multi-seller commercial paper conduit administered by Credit Suisse and also provides liquidity to a couple of Asset Backed Commercial Paper programs managed by third party administrators.

In addition, the Group invests in securitization-related products created by third parties.

The Group has both securitization and re-securitization transactions in the trading and banking book referencing different types of underlying assets including real estate loans (commercial and residential).

Securitization in the trading book

Within its mortgage business there are four key roles that the Group undertakes within securitization markets: issuer, underwriter, market maker and financing counterparty. The Group holds one of the top trading franchises in market making in all major securitized product types and is a top issuer and underwriter in the re-securitization market in the US as well as being one of the

top underwriters in asset-backed securities (ABS) and residential mortgage-backed securities (RMBS) securitization in the US. Since the last quarter of 2019, the Group has not held eligible correlation trading positions.

The Group's key objective in relation to trading book securitization is to meet clients' investment and divestment needs by making markets in securitized products across all major collateral types, including residential mortgages, commercial mortgages, asset finance (i.e. auto loans, credit card receivables, etc.) and corporate loans. The Group focuses on opportunities to intermediate transfers of risk between sellers and buyers.

The Group is also active in new issue securitization and re-securitization. The Group's Securitized Products Finance team provides short-term secured warehouse financing to clients who originate credit card, auto loan, and other receivables, and the Group sells asset-backed securities collateralized by these receivables to provide its clients long-term financing that matches the lives of their assets.

At times, the Group purchases loans and bonds for the purpose of securitization and sells these assets to SPEs which in turn issue new securities. Re-securitizations of previously issued mortgage-backed securities (typically RMBS) securities occur when certificates issued out of an existing securitization vehicle are sold into a newly created and separate securitization vehicle.

Risks assumed and retained

Key risks retained while securities or loans remain in inventory are related to the performance of the underlying assets (residential real estate loans, commercial loans, credit card loans, etc.) and to movements in spreads. These risks are summarized in the securitization pool level attributes: PD of underlying loans (default rate), the severity of loss and prepayment speeds. The transactions may also be exposed to general market risk, credit spread and counterparty credit risk.

The Group maintains models for both government-guaranteed and private label mortgage products. These models project the above risk drivers based on market interest rates and volatility as well as macro-economic variables such as housing price index, projected GDP and inflation, unemployment etc.

In its role as a market maker, the Group actively trades in and out of positions. Both Front Office and Risk Management continuously monitor liquidity risk as reflected in trading spreads and trading volumes. To address liquidity concerns a specific set of limits on the size of aged positions are in place for the securitized positions we hold.

The Group classifies securities within the transactions by the nature of the collateral (residential, commercial, ABS, CLOs, etc.) and the seniority each security has in the capital structure (i.e. senior, mezzanine, subordinate etc.), which in turn will be reflected in the transaction risk assessment. Risk Management

monitors portfolio composition by capital structure and collateral type on a daily basis with subordinate exposure and each collateral type subject to separate risk limits and risk flags. In addition, the Group's internal risk methodology is designed such that risk charges are based on the place the particular security holds in the capital structure, the less senior the bond the higher the risk charges.

For re-securitization risk, the Group's risk management models take a 'look through' approach where they model the behavior of the underlying securities or constituent counterparties based on their own particular collateral and then transmit that to the re-securitized position. No additional risk factors are considered within the re-securitization portfolios in addition to those identified and measured within securitization risk.

With respect to both the wind-down corporate correlation trading portfolio and the on-going transactions the key risks that need to be managed includes default risk, counterparty credit risk, correlation risk and cross effects between spread and correlation. The impacts of liquidity risk for securitization products is embedded within the firm's historical simulation model through the incorporation of market data from stressed periods, and in the scenario framework through the calibration of price shocks to the same period.

Both correlation and first-to-default are valued using a correlation model which uses the market implied correlation and detailed market data such as constituent spread term structure and constituent recovery. The risks embedded in securitization and re-securitizations are similar and include spread risk, recovery risk, default risk and correlation risk. The risks for different seniority of tranches will be reflected in the tranche price sensitivities to each constituent in the pools. The complexity of the correlation portfolio's risk lies in the level of convexity and cross risk inherent, for example, the risks to large spread moves and the risks to spread and correlation moving together. The risk limit framework is carefully designed to address the key risks for the correlation trading portfolio.

Monitoring of changes in credit and market risk of securitization exposures

The Group has in place a comprehensive risk management process whereby the Front Office and Risk Management work together to monitor positions and position changes, portfolio structure and trading activity and calculate a set of risk measures on a daily basis using risk sensitivities and exposures.

For the mortgage business the Group also uses monthly remittance reports (available from public sources) to get up to date information on collateral performance (delinquencies, defaults,

pre-payment etc.). Monthly or quarterly reports (sourced directly from the originator or sponsor of the securitization) are used to monitor performance of most banking book securitizations.

Risk Management has also put in place a set of key risk limits for the purpose of managing the Group's risk appetite framework in relation to securitizations/re-securitizations. These limits will cover exposure measures, risk sensitivities, VaR and capital measures with the majority monitored on a daily basis. In addition within the Group's risk management framework an extensive scenario analysis framework is in place whereby all underlying risk factors are stressed to determine portfolio sensitivity.

Re-securitized products in the mortgage business go through the same risk management process but looking through the structures with the focus on the risk of the underlying securities or constituent names.

Retained banking book exposures for mortgage, ABS, commercial mortgage-backed securities (CMBS) and collateralized debt obligation (CDO) transactions are risk managed on the same basis as similar trading book transactions.

Risk mitigation

In addition to the strict exposure limits noted above, the Group uses a number of different risk mitigation approaches to manage risk appetite for securitization and re-securitization exposures. Where true counterparty credit risk exposure is identified for a particular transaction, there is a requirement for it to be approved through normal credit risk management processes with collateral taken as required. The Group also may use various proxies including corporate single name and index hedges and equity hedges to mitigate the price and spread risks to which it is exposed. Hedging decisions are made by the trading desk based on current market conditions and will be made in consultation with Risk Management. Trades that are unusual and material trades are required to be reviewed and approved under the Group's Pre-Trade Approval governance process. International investment banks are the main counterparties to the hedges that are used across these business areas.

Affiliated entities

In the normal course of business it is possible for the Group's managed separate account portfolios and the Group's controlled investment entities, such as mutual funds, fund of funds, private equity funds and other fund linked products to invest in the securities issued by other vehicles sponsored by the Group engaged in securitization and re-securitization activities. To address potential conflicts, standards governing investments in affiliated products and funds have been adopted.

Regulatory capital treatment of securitization structures

Banking book securitization

For banking book securitizations, the regulatory capital requirements are calculated since January 2018 with the following approaches: the Securitization Internal Ratings-Based Approach (SEC-IRBA), the Securitization External Ratings-Based Approach (SEC-ERBA), or the Securitization Standardized Approach (SEC-SA). External ratings used in regulatory capital calculations for securitization risk exposures in the banking book are obtained from Fitch, Moody's, Standard & Poor's or Dominion Bond Rating Service.

Trading book securitization

We use the standardized measurement method (SMM) which is based on the ratings-based approach and the supervisory formula approach for securitization purposes and other supervisory approaches for trading book securitization positions covering the approach for nth-to-default products and portfolios covered by the weighted average risk weight approach.

Securitization exposures in the banking book

Securitization exposures presented in the following table represent the EAD.

Securitization exposures in the banking book where the Group acts as originator decreased CHF 2.1 billion compared to the end of 2Q20, primarily reflecting a negative foreign exchange impact and updates in trades in wholesale exposures.

Securitization exposures in the banking book where the Group acts as investor decreased CHF 1.5 billion compared to the end of 2Q20, primarily relating to reductions in exposures for residential mortgages.

SEC1 – Securitization exposures in the banking book

end of	Bank acts as originator			Bank acts as sponsor			Bank acts as investor		
	Traditional	Synthetic	Total	Traditional	Synthetic	Total	Traditional	Synthetic	Total
4Q20 (CHF million)									
Residential mortgages	134	1,246	1,380	0	0	0	1,387	233	1,620
Credit card	0	0	0	205	0	205	1,445	0	1,445
Other retail exposures	195	456	651	3,148	0	3,148	2,704	190	2,894
Re-securitization	17	0	17	0	0	0	145	1	146
Total retail	346	1,702	2,048	3,353	0	3,353	5,681	424	6,105
Loans to corporates	0	24,187	24,187	652	0	652	2,179	0	2,179
Commercial mortgages	49	12,091	12,140	0	0	0	1,003	3	1,006
Lease and receivables	0	0	0	1,263	0	1,263	643	0	643
Other wholesale	834	0	834	1,127	0	1,127	1,173	34	1,207
Re-securitization	0	0	0	0	0	0	0	0	0
Total wholesale	883	36,278	37,161	3,042	0	3,042	4,998	37	5,035
Total	1,229	37,980	39,209	6,395	0	6,395	10,679	461	11,140
2Q20 (CHF million)									
Residential mortgages	140	1,145	1,285	0	0	0	2,935	254	3,189
Credit card	0	0	0	340	0	340	1,558	0	1,558
Other retail exposures	124	439	563	2,803	0	2,803	2,405	161	2,566
Re-securitization	19	0	19	0	0	0	179	1	180
Total retail	283	1,584	1,867	3,143	0	3,143	7,077	416	7,493
Loans to corporates	0	26,122	26,122	499	0	499	2,338	0	2,338
Commercial mortgages	48	11,836	11,884	1,159	0	1,159	569	4	573
Lease and receivables	0	0	0	1,383	0	1,383	826	0	826
Other wholesale	1,396	0	1,396	600	0	600	1,261	134	1,395
Total wholesale	1,444	37,958	39,402	3,641	0	3,641	4,994	138	5,132
Total	1,727	39,542	41,269	6,784	0	6,784	12,071	554	12,625

Securitization exposures in the trading book

SEC2 – Securitization exposures in the trading book

end of	Bank acts as originator			Bank acts as sponsor			Bank acts as investor		
	Traditional	Synthetic	Total	Traditional	Synthetic	Total	Traditional	Synthetic	Total
4Q20 (CHF million)									
Residential mortgages	4	0	4	0	0	0	1,790	32	1,822
Credit card	0	0	0	0	0	0	34	33	67
Other retail exposures	0	0	0	0	0	0	57	42	99
Re-securitization	13	0	13	0	0	0	42	1	43
Total retail	17	0	17	0	0	0	1,923	108	2,031
Loans to corporates	0	0	0	0	0	0	156	109	265
Commercial mortgages	62	0	62	0	0	0	757	84	841
Lease and receivables	0	0	0	0	0	0	188	51	239
Total wholesale	62	0	62	0	0	0	1,101	244	1,345
Total	79	0	79	0	0	0	3,024	352	3,376
2Q20 (CHF million)									
Residential mortgages	103	0	103	0	0	0	2,956	21	2,977
Credit card	0	0	0	0	0	0	21	8	29
Other retail exposures	0	0	0	0	0	0	107	56	163
Re-securitization	17	0	17	0	0	0	75	2	77
Total retail	120	0	120	0	0	0	3,159	87	3,246
Loans to corporates	0	0	0	0	0	0	234	20	254
Commercial mortgages	90	0	90	0	0	0	675	24	699
Lease and receivables	0	0	0	0	0	0	105	4	109
Total wholesale	90	0	90	0	0	0	1,014	48	1,062
Total	210	0	210	0	0	0	4,173	135	4,308

Calculation of capital requirements

The following tables present the securitization exposures in the banking book and the associated regulatory capital requirements.

→ Refer to "Market risk under standardized approach" (page 62) in Market risk for capital charges related to securitization positions in the trading book.

SEC3 – Securitization exposures in the banking book and associated regulatory capital requirements – Credit Suisse acting as originator or as sponsor

end of	Exposure value (by RW band)				
	<=20% RW	>20% to 50% RW	>50% to 100% RW	>100% to <1250% RW	1250% RW
4Q20 (CHF million)					
Total exposures	41,145	3,175	1,016	211	57
Traditional securitization	4,372	2,106	949	162	36
of which securitization	4,372	2,106	949	162	19
of which retail underlying	2,779	733	150	15	7
of which wholesale	1,593	1,373	799	147	12
of which re-securitization	0	0	0	0	17
of which senior	0	0	0	0	12
of which non-senior	0	0	0	0	5
Synthetic securitization	36,773	1,069	67	49	21
of which securitization	36,773	1,069	67	49	21
of which retail underlying	1,573	119	0	4	5
of which wholesale	35,200	950	67	45	16
2Q20 (CHF million)					
Total exposures	39,882	6,416	1,061	635	59
Traditional securitization	5,136	1,759	993	587	36
of which securitization	5,136	1,759	993	587	17
of which retail underlying	2,565	533	282	16	12
of which wholesale	2,571	1,226	711	571	5
of which re-securitization	0	0	0	0	19
of which senior	0	0	0	0	15
of which non-senior	0	0	0	0	4
Synthetic securitization	34,746	4,657	68	48	23
of which securitization	34,746	4,657	68	48	23
of which retail underlying	1,498	77	0	4	4
of which wholesale	33,248	4,580	68	44	19

Exposure value (by regulatory approach)				RWA (by regulatory approach)				Capital charge after cap			
SEC-IRBA	SEC-ERBA	SEC-SA	1250% RW	SEC-IRBA	SEC-ERBA	SEC-SA	1250% RW	SEC-IRBA	SEC-ERBA	SEC-SA	1250% RW
38,473	742	6,332	57	7,187	803	1,889	711	542	59	143	57
834	742	6,013	36	523	803	1,767	447	24	59	133	36
834	742	6,013	19	523	803	1,767	231	24	59	133	19
0	506	3,170	7	0	330	654	84	0	21	44	7
834	236	2,843	12	523	473	1,113	147	24	38	89	12
0	0	0	17	0	0	0	216	0	0	0	17
0	0	0	12	0	0	0	155	0	0	0	12
0	0	0	5	0	0	0	61	0	0	0	5
37,639	0	319	21	6,664	0	122	264	518	0	10	21
37,639	0	319	21	6,664	0	122	264	518	0	10	21
1,697	0	0	5	338	0	0	65	27	0	0	5
35,942	0	319	16	6,326	0	122	199	491	0	10	16
40,733	707	6,554	59	8,017	772	1,558	738	603	56	125	59
1,396	707	6,372	36	861	772	1,489	450	31	56	119	36
1,396	707	6,372	17	861	772	1,489	216	31	56	119	17
0	483	2,913	12	0	342	571	150	0	22	46	12
1,396	224	3,459	5	861	430	918	66	31	34	73	5
0	0	0	19	0	0	0	234	0	0	0	19
0	0	0	15	0	0	0	192	0	0	0	15
0	0	0	4	0	0	0	42	0	0	0	4
39,337	0	182	23	7,156	0	69	288	572	0	6	23
39,337	0	182	23	7,156	0	69	288	572	0	6	23
1,580	0	0	4	328	0	0	52	26	0	0	4
37,757	0	182	19	6,828	0	69	236	546	0	6	19

**SEC4 – Securitization exposures in the banking book and associated regulatory capital requirements –
Credit Suisse acting as investor**

end of	Exposure value (by RW band)				
	<=20% RW	>20% to 50% RW	>50% to 100% RW	>100% to <1250% RW	1250% RW
4Q20 (CHF million)					
Total exposures	8,224	1,594	922	396	4
Traditional securitization	8,049	1,396	845	384	4
of which securitization	8,049	1,396	845	239	4
of which retail underlying	4,188	1,011	292	45	0
of which wholesale	3,861	385	553	194	4
of which re-securitization	0	0	0	145	0
of which senior	0	0	0	145	0
Synthetic securitization	175	198	77	12	0
of which securitization	175	198	77	11	0
of which retail underlying	138	198	77	11	0
of which wholesale	37	0	0	0	0
of which re-securitization	0	0	0	1	0
of which senior	0	0	0	1	0
2Q20 (CHF million)					
Total exposures	8,970	2,544	788	322	1
Traditional securitization	8,739	2,316	706	311	0
of which securitization	8,739	2,316	706	132	0
of which retail underlying	5,002	1,497	345	55	0
of which wholesale	3,737	819	361	77	0
of which re-securitization	0	0	0	179	0
of which non-senior	0	0	0	179	0
Synthetic securitization	231	228	82	11	1
of which securitization	231	228	82	11	0
of which retail underlying	93	228	82	11	0
of which wholesale	138	0	0	0	0
of which re-securitization	0	0	0	0	1
of which senior	0	0	0	0	1

Exposure value (by regulatory approach)				RWA (by regulatory approach)				Capital charge after cap			
SEC-IRBA	SEC-ERBA	SEC-SA	1250% RW	SEC-IRBA	SEC-ERBA	SEC-SA	1250% RW	SEC-IRBA	SEC-ERBA	SEC-SA	1250% RW
1,896	858	8,382	4	284	365	2,624	46	22	29	181	4
1,896	581	8,197	4	284	219	2,576	46	22	18	178	4
1,896	581	8,053	4	284	219	2,384	46	22	18	163	4
0	114	5,422	0	0	62	1,108	0	0	5	89	0
1,896	467	2,631	4	284	157	1,276	46	22	13	74	4
0	0	144	0	0	0	192	0	0	0	15	0
0	0	144	0	0	0	192	0	0	0	15	0
0	277	185	0	0	146	48	0	0	11	3	0
0	277	184	0	0	146	46	0	0	11	3	0
0	274	150	0	0	144	41	0	0	11	3	0
0	3	34	0	0	2	5	0	0	0	0	0
0	0	1	0	0	0	2	0	0	0	0	0
0	0	1		0	0	2	0	0	0	0	0
2,172	978	9,474	1	326	444	3,299	12	26	35	193	1
2,172	659	9,240	0	326	292	3,255	0	26	23	190	0
2,172	659	9,061	0	326	292	3,008	0	26	23	170	0
0	158	6,740	0	0	84	1,676	0	0	7	114	0
2,172	501	2,321	0	326	208	1,332	0	26	16	56	0
0	0	179	0	0	0	247	0	0	0	20	0
0	0	179	0	0	0	247	0	0	0	20	0
0	319	234	1	0	152	44	12	0	12	3	1
0	319	234	0	0	152	44	0	0	12	3	0
0	315	100	0	0	151	24	0	0	12	2	0
0	4	134	0	0	1	20	0	0	0	1	0
0	0	0	1	0	0	0	12	0	0	0	1
0	0	0	1	0	0	0	12	0	0	0	1

Market risk

General

We use the advanced approach for calculating the market risk capital requirements for the majority of our market risk exposures. As of December 31, 2020, 92% of our market risk RWA are computed using internal models. In line with regulatory requirements, the SMM is used for the specific risk of securitized exposures.

- Refer to "Regulatory capital treatment of securitization structures" (page 56) in Securitization – General for further information on the standardized measurement method and other supervisory approaches.

Risk management objectives and policies for market risk

- Refer to "Market risk" (pages 153 to 157) in III – Treasury, Risk, Balance sheet and Off-balance sheet – Risk management – Risk coverage and management in the Credit Suisse Annual Report 2020 for information on our risk management objectives and policies for market risk.
- Refer to "Note 1 – Summary of significant accounting policies" (pages 281 to 282) and "Note 33 – Derivatives and hedging activities" (pages 351 to 357) in VI – Consolidated financial statements – Credit Suisse Group in the Credit Suisse Annual Report 2020 for further information on policies for hedging risk and strategies/processes for monitoring the continuing effectiveness of hedges.

Market risk reporting

Market risk reporting is performed on a daily, weekly and monthly basis across various levels of the organization, including the Group, its legal entities and the business divisions. The audience of these reports includes senior management within CRCO, the Front Office and the Board of Directors.

Market risk under standardized approach

The following table shows the components of the capital requirement under the standardized approach for market risk.

MR1 – Market risk under standardized approach

end of	4Q20	2Q20
Risk-weighted assets (CHF million)		
Securitization	1,478	1,792
Total risk-weighted assets	1,478	1,792

Market risk under internal model approach

General

The market risk internal model approach (IMA) framework includes regulatory VaR, stressed VaR, risks not in VaR (RNIV) and Incremental Risk Charge (IRC). RNIV includes certain stressed RNIV. In 2014, Comprehensive Risk Measure was discontinued due to the small size of the correlation trading portfolio. Since the last quarter of 2019, the Group has not held eligible correlation trading positions.

The following table shows the main characteristics of the different models.

MRB – Internal model approach – overview

	Regulatory VaR	Stressed VaR	IRC
Method applied	Historical simulation	Historical simulation	Portfolio loss simulation
Data set	2 years	1 Year	–
Holding period	10 days (overlapping)	10 days (overlapping)	One-year liquidity horizon
Confidence level	99% equivalent	99% equivalent	99.9%
Population	Regulatory trading book (where applicable, foreign exchange and commodity risks in the regulatory banking book are added)	Regulatory trading book (where applicable, foreign exchange and commodity risks in the regulatory banking book are added)	Regulatory trading book subject to issuer default and migration risk (excl. securitizations and correlation trades)

The following table shows a breakdown of RWA covered by each of the models.

MRB – IMA – Risk-weighted assets

end of 4Q20	CHF billion	in %
Risk-weighted assets		
Regulatory VaR	3.9	23
Stressed VaR	5.7	33
RNIV	5.0	30
IRC	2.3	14
Total risk-weighted assets	16.8	100

Regulatory VaR, stressed VaR and risks not in VaR

The regulatory VaR and stressed VaR models primarily cover the activities of Credit Suisse's business units that are held within trading books. The models are predominantly based on the industry standard historical simulation approach. They include risk types covering equity, currency, interest rate, commodity and credit spread risks. The models are also used to capture foreign exchange and commodity risk within banking books where required by the regulator.

The objective of Credit Suisse is to ensure the greatest consistency possible between the model used for the Group and the one used for subsidiaries and other legal entities. The model used in all instances is based on the same historical simulation approach but precise configuration and inclusion of risk types may differ for a variety of reasons. These include timing differences in receiving the necessary regulatory approvals (in which case the differences may be temporary) or different supervisory requirements or interpretations (in which case the differences may be expected to remain).

The Group model is used for Credit Suisse AG (consolidated and parent company), Credit Suisse (Schweiz) AG and Credit Suisse (Hong Kong) Ltd. The model used for Credit Suisse Holdings (USA), Credit Suisse Capital LLC, Credit Suisse International and Credit Suisse Securities (Europe) Limited is similar but is based on a one-tailed percentile rather than expected shortfall.

The market data in the model is updated on an at least weekly basis (some current rates/spreads required by the model are updated on a daily basis). Expected shortfall is the preferred tail measure where permitted and is calibrated to be equivalent to a 99% confidence level.

The risk management VaR model for the Group is similar to the regulatory VaR model with a few differences. Certain positions excluded from regulatory and stressed VaR can be included for risk management purposes, such as specific risk from securitization positions and certain banking book exposures. The holding period for risk management VaR is 1 day. The tail measure for risk management is calibrated to be equivalent to a 98% confidence level rather than the regulatory 99%.

The regulatory VaR model for the Group and its entities uses a two-year lookback window and an exponential weighting scheme with a time decay factor of 0.994. The weighting is calibrated to ensure a balance between responsiveness to shifts in market regime changes and regulatory requirements. The requirement to have a 10-day holding period is met by using actual 10-day overlapping historical scenarios, it does not scale 1-day historical scenarios. The methods used to simulate the potential movements, i.e. the historical scenarios, in risk factors are primarily dependent on the risk types. For risk types pertaining to equity prices, foreign exchange rates and volatilities, the scenarios are modelled as a function of proportional historical moves. For certain spread risks, the scenarios are modelled as a function of absolute historical moves. For some risk types, such as swap spreads and emerging markets credit spreads, a mixed approach is used. The P&L vectors are generated by applying the historical scenarios to a variety of exposure measures; Taylor Series approximations, partial revaluation ladders and grids as well as full revaluation, depending on the complexity and linearity of the underlying risks.

The stressed VaR model for the Group and its entities uses 10 day historical scenarios calculated within a 1 year historical stressed observation period with no exponential weighting applied, except for Credit Suisse Holdings (USA) where stressed VaR uses regulatory VaR time weighting parameters. The underlying risk types are simulated using the same approaches as for regulatory VaR. The 1-year period of stress is assessed on a monthly basis by calculating stressed VaR for a range of alternative 1-year periods taking into account recent portfolio compositions.

The Group has IMA permission for modelling both general market and specific risk of debt and equity instruments. There are two approaches used to model general and specific risk:

- **Full simulation approach:** This approach uses an individual risk factor for each security. Therefore, for each security, this approach incorporates both specific risk and general risk within the same risk factor.
- **Regression approach:** This approach uses a common risk factor across related securities in conjunction with additional specific risk add-ons for each security. This modelling approach segregates historical price variations into general and specific risk components.

Under the full simulation approach, scenario P&Ls incorporating both specific and general risk are aggregated in the historical simulation VaR via individual risk factor time series. Under the regression approach, scenario P&Ls corresponding to general risk are aggregated in the historical simulation VaR, while for each specific risk, a VaR is calculated by applying either a 1st or a 99th percentile historical move (depending on the direction of the position). Specific risk VaR components are then aggregated with historical simulation VaR under a zero correlation assumption (square root sum of squares).

In addition to the regulatory VaR and stressed VaR models Credit Suisse operates a RNIV framework. This is applied to the same activities as the VaR/stressed VaR model but covers risk types that are not included in the internal model due, for example, to a lack of historical data or other model constraints. The purpose of the RNIV framework is to ensure that capital is held to meet all risks which are not captured, or not captured adequately, by the firm's VaR and stressed VaR models. These include, but are not limited to risk factors such as cross-risks and higher-order risks.

The performance of our internal models is regularly monitored and discussed at internal risk governance committees which review the regulatory backtesting results in addition to internal metrics of model performance. Position information flowing into the VaR model is reviewed daily, historical market data is reviewed before going live on a weekly basis, and model parameters are reviewed regularly.

Stress testing analysis is performed on a periodic basis to ensure model stability and robustness against an adverse market environment. For this purpose, impacts from large changes in inputs and parameters are simulated and assessed against expected model outputs under different stress scenarios.

→ Refer to "Market risk" (pages 153 to 157) in III – Treasury, Risk, Balance sheet and Off-balance sheet – Risk management – Risk coverage and management in the Credit Suisse Annual Report 2020 for further information on VaR, including VaR limitations, VaR backtesting, stress testing, VaR governance and differences between the model used for risk management purposes and the model used for regulatory purposes.

Incremental Risk Charge

The IRC capitalizes issuer default and migration risk in the trading book, arising from positions such as bonds or CDS, but excluding securitizations and the correlation trading portfolio. Credit Suisse has received approval from FINMA, as well as from regulators of several of our subsidiaries, to use our IRC model.

The IRC model assesses risk at 99.9% confidence level over a one-year time horizon assuming the Constant Position Assumption, i.e. a single liquidity horizon of one year. This corresponds to the most conservative assumption on liquidity that is available under IRC regulatory rules.

The IRC portfolio model is a Merton-type portfolio model designed to calculate the cumulative loss at the 99.9% confidence level. The model's design is based on the same principles as industry standard credit portfolio models including the Basel II A-IRB model. Systematic risks are captured in the IRC model by employing a multi-factor asset correlation framework that enables the capture of sectorial and regional concentrations.

As part of the exposure aggregation model, stochastic recovery rates are used to capture recovery rate uncertainty, including the case of basis risks on default, where different instruments issued by the same issuer can experience different recovery rates.

To achieve the IRB soundness standard, Credit Suisse uses IRC parameters that typically are either based on the A-IRB reference data sets (migration matrices including PDs, LGDs, LGD correlation and volatility), or parameters based on other internal or external data covering more than ten years of history and including periods of stress.

RWA flow statements of market risk exposures under an IMA

The following table presents the 4Q20 flow statement explaining variations in the market risk RWA determined under an internal model approach (IMA).

Market risk RWA under an IMA increased 10% to CHF 16.8 billion compared to the end of 3Q20, primarily due to an increase in stressed VaR, reflecting an increase in average risk levels.

MR2 – Risk-weighted assets flow statements of market risk exposures under an IMA

4Q20	Regulatory VaR	Stressed VaR	IRC	Other ¹	Total
CHF million					
Risk-weighted assets at beginning of period	3,453	4,731	1,934	5,178	15,296
Regulatory adjustment	182	932	0	(80)	1,034
Risk-weighted assets at beginning of period (end of day)	3,635	5,663	1,934	5,098	16,330
Movement in risk levels	1,191	954	492	290	2,927
Model and parameter updates	(52)	0	0	146	94
Foreign exchange impact	(162)	(236)	(92)	(224)	(714)
Risk-weighted assets at end of period (end of day)	4,612	6,381	2,334	5,310	18,637
Regulatory adjustment	(755)	(715)	0	(328)	(1,798)
Risk-weighted assets at end of period	3,857	5,666	2,334	4,982	16,839

¹ Risks not in VaR (RNIV).

Definitions of risk-weighted assets movement components related to market risk

Description	Definition
RWA as of the end of the previous/current reporting periods	Represents RWA at quarter-end
Regulatory adjustment	Indicates the difference between RWA and RWA (end of day) at beginning and end of period
RWA as of the previous/current quarters end (end of day)	For a given component (e.g., VaR) it refers to the RWA that would be computed if the snapshot quarter end amount of the component determines the quarter end RWA, as opposed to a 60-day average for regulatory
Movement in risk levels	Represents movements due to position changes
Model and parameter updates	Represents movements arising from internally driven or externally mandated updates to models and recalibrations of model parameters specific only to Credit Suisse
Methodology and policy changes	Represents movements arising from externally mandated regulatory methodology and policy changes to accounting and exposure classification and treatment policies not specific only to Credit Suisse
Acquisitions and disposals	Represents changes in book sizes due to acquisitions and disposals of entities
Foreign exchange impact	Represents changes in exchange rates of the transaction currencies compared to the Swiss franc
Other	Represents changes that cannot be attributed to any other category

IMA approach values for trading portfolios

The following table presents the maximum, minimum, average and period end values resulting from the different types of models used for computing regulatory capital charge at the Group level, before any additional capital charge is applied.

MR3 – Regulatory VaR, stressed VaR and Incremental Risk Charge

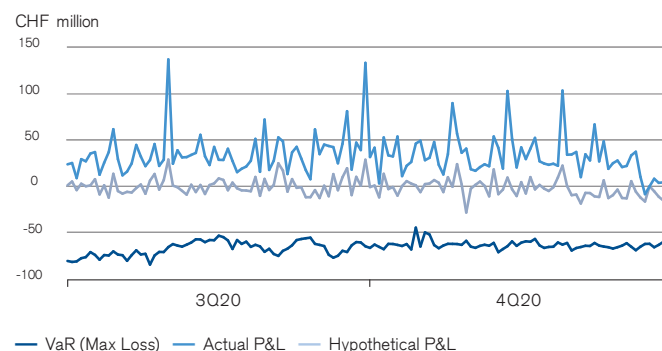
in / end of	2H20	1H20
CHF million		
Regulatory VaR (10 day 99%)		
Maximum value	123	267
Average value	98	112
Minimum value	81	60
Period end	123	94
Stressed VaR (10 day 99%)		
Maximum value	179	282
Average value	141	169
Minimum value	102	96
Period end	170	168
IRC (99.9%)		
Maximum value	208	160
Average value	152	109
Minimum value	112	76
Period end	187	113

During 2H20, the increases in period end regulatory VaR and IRC were primarily driven by the model enhancements related to credit products and increased traded credit exposures.

Comparison of VaR estimates with gains/losses

The following chart compares the results of estimates from the regulatory VaR model with both hypothetical and actual trading outcomes.

MR4 – Comparison of VaR estimates with actual/hypothetical profits and losses



Backtesting involves comparing the results produced by the VaR model with the hypothetical trading revenues on the trading book. Hypothetical trading revenues are defined in compliance with regulatory requirements and aligned with the VaR model output by excluding (i) non-market elements (such as fees, commissions, cancellations and terminations, net cost of funding and credit-related valuation adjustments) and (ii) gains and losses from intra-day trading. A backtesting exception occurs when a hypothetical trading loss exceeds the daily VaR estimate.

For capital purposes and in line with Bank for International Settlements (BIS) requirements, FINMA increases the capital multiplier for every regulatory VaR backtesting exception above four in the prior rolling 12-month period, resulting in an incremental market risk capital requirement for the Group. VaR models with less than five backtesting exceptions are considered by regulators to be classified in a defined “green zone”. The “green zone” corresponds to backtesting results that do not themselves suggest a problem with the quality or accuracy of a bank’s model.

In April 2020, FINMA allowed a temporary freeze on backtesting exceptions impacting the capital multiplier, expiring on July 1, 2020. In June 2020, FINMA confirmed that (i) all recent exceptions that are proven by the institution as not attributable to a lack of precision of the risk aggregation model can be disregarded; and (ii) the exemption will be fundamentally incorporated into future supervisory practice.

In 2H20, we had no backtesting exception in our regulatory VaR model. Since there were fewer than five backtesting exceptions in the rolling 12-month period through the end of 4Q20, in line with BIS industry guidelines, the bank is in the “green zone”.

Interest rate risk in the banking book

Risk management objectives and policies

Overview

The Group manages interest rate risk in the banking book (IRRBB) both in terms of risk to earnings as well as risk to the economic value of the asset and liability position, arising from changes in interest rates.

The Group monitors IRRBB through established systems, processes and controls. Risk measures are provided to estimate the impact of changes in interest rates, which is one of the primary ways in which IRRBB is assessed for risk management purposes.

The Group does not have a regulatory requirement to hold capital against IRRBB. The economic impacts of adverse shifts in interest rates from FINMA-defined scenarios are significantly below 15% of tier 1 capital – the threshold used by the regulator to identify banks that potentially run excessive levels of interest rate risk at group and legal entity levels.

Major sources of interest rate risk in the banking book

We assume interest rate risks in our banking book through lending and deposit-taking, money market and funding activities, and the deployment of our consolidated equity, as well as other activities involving banking book positions at the divisional level. Non-maturing products, such as savings accounts, have no contractual maturity date or direct market-linked interest rate and are risk-managed on a pooled basis using replication portfolios on behalf of the business divisions. Replicating portfolios transform non-maturing products into a series of fixed-term products that approximate the re-pricing and volume behavior of the pooled client transactions.

Risk management and control governance

The Group's overarching objective is to manage the risk of banking book positions in an efficient and controlled manner, across both regulatory constraints and the Group's risk appetite frameworks. The Group applies the three lines of defense model to IRRBB with clear segregation between the CFO and the businesses (first line), the CRCO (second line) and Internal Audit (third line).

Oversight of business strategies, new initiatives, risk measures and risk appetite is provided by a set of governance committees. The CARMC is the main governance committee for the Group's funding, liquidity and capital management. The CARMC

is responsible for the Group's IRRBB risk control framework and escalation of risk constraint breaches.

The Group's RPSC and associated sub-committees are responsible for the oversight and approval of IRRBB-related risk models, global policies, manuals, guidelines and procedures. Divisional and legal entity risk management committees review IRRBB-related matters specific to their local entities and jurisdictions.

Independent model validation is performed by the model risk management function, a CRCO unit independent from model developers, which follows specific quality standards and procedures, such as minimum revalidation cycles. The validation outcome is presented to management and to the RPSC for model approval, in accordance with model development policies.

IRRBB is integrated into the Group's risk appetite framework and is considered by risk constraints formulated by the Group's Board of Directors for both earnings- and economic value-based risk measures. The Group's IRRBB risk appetite level – in terms of the change in net present values, also referred to as "delta economic value of equity (Δ EVE)" – is primarily driven by the available capital and is allocated to the Group's material legal entities.

Additionally, the crisis response framework can be triggered by management, for example, due to changing market conditions, and requires IRRBB to be quantitatively assessed in response to a specific crisis event. Since crisis reporting can be triggered anytime, the risk measures may need to be generated on an ad hoc basis, outside the recurring production cycles, to provide management with timely reports focused on the identified driver.

Internal Audit regularly assesses the design and operating effectiveness of our interest rate risk management processes and controls, according to the annual audit plan. Internal Audit is independent from the departments involved in the measurement and management of IRRBB and directly reports to the Group's Board of Directors.

Hedging

The Group assumes a conservative IRRBB risk strategy, which aims to keep a low exposure profile to economic value risks while maintaining high earnings' stability. This is achieved mainly by systematic hedging of issued debt and open interest rate risk arising from loans and deposit maturity mismatches in the private banking business.

The main instruments used for hedging are interest rate swaps. Most of these swaps qualify for hedge accounting treatment under US GAAP, which allows for the reduction of economic risks without increasing accounting volatility.

Key risk measures

We monitor the change in net interest income, also referred to as “delta net interest income (Δ NII)” on a monthly basis at both the Group and the divisional levels. This is performed by running internal interest rate stress test scenarios on a proprietary model, which follows the Group’s business logic and the expected client behavior. The regulatory Δ NII uses the modelling and parameter assumptions summarized below.

From an economic value perspective, key risk measures are the Δ EVE, representing the change in economic value based on shocked interest rate curves, and the interest rate sensitivity of a one basis point parallel increase in yield curves (DV01). Both are available to management on a daily basis. For internal risk management purposes, we monitor a Δ EVE measure, which covers all banking book positions. For the regulatory Δ EVE measure, we exclude bonds issued as additional tier 1 capital; this is in line with FINMA guidance. Additional Δ EVE modelling and parameter assumptions are summarized below. The regulatory Δ EVE measure is used for both the IRRBB outlier test and for the Pillar 3 disclosures. We monitor this regulatory risk measure on a monthly basis.

Risk measure scenarios

The Group has implemented the FINMA-mandated scenarios on the regulatory Δ EVE and Δ NII risk measures. Beyond the regulatory scenarios, we have also defined a comprehensive set of internal stress test scenarios. The scenarios are reviewed periodically in terms of both scenario selection and calibration of the shocks applied, reflecting changes in macroeconomic conditions and specific interest rate environments.

Key modelling and parametric assumptions

The following list summarizes the key modelling and parameter assumptions used in the IRRBBA1 and IRRBB1 tables:

Regulatory Δ EVE:

- Δ EVE is measured by excluding client margins and applying risk-free discounting.
- Following the internal approach for Δ EVE, the aggregation logic for each of the six prescribed regulatory scenarios allows for diversification between the different currencies.
- Additional tier 1 capital is excluded from the regulatory Δ EVE measure.
- Δ EVE is calculated using a sensitivity-based approach.

Regulatory Δ NII:

- The regulatory constant balance sheet assumptions prescribe using both constant volumes and constant margins throughout the one-year horizon.
- Volumes are kept constant, both in balance sheet size and product composition.
- Margins are kept at a constant level for the new positions, in line with the maturing positions.
- In accordance with regulatory guidance, cash positions held at central banks are excluded.
- Under the regulatory banking book definition, the Group’s banking book contains more liabilities than assets. This is mainly due to trading book assets, which are funded out of banking books. The funding costs out of the banking book are included, while trading book revenues are excluded from the reporting. As a result, the banking book Δ NII disclosed does not include a material source of income.
- Δ NII is measured including additional tier 1 capital instruments.
- As of the reporting date, there are no material exposures to customer loans with prepayment optionality.

Additional assumptions and internal approach:

- All the above-mentioned risk measures are generated based on granular position data and reflect the individual contractual details, while utilizing the latest available market data.
- The non-maturing deposits’ average repricing maturity has been calculated based on the internal term-replication strategy.
- The regulatory Δ EVE disclosure results are higher than the internal Δ EVE. This is due to the previously noted exclusion of additional tier 1 capital instruments in the regulatory Δ EVE.
- The Group manages risks to NII considering internal models that differ from the regulatory Δ NII definition by including dynamic adjustments to client margins and volumes, benefits to or costs from holding cash at central banks and interest received from internal funding of assets by excess banking book liabilities. Under these assumptions, the NII results for the regulatory interest rate scenarios are more stable.

Quantitative disclosures

The following table presents the exposure's structure and repricing period.

IRRBB A1 – Quantitative information on the exposure's structure and repricing period

end of 4Q20	Volume ¹				Average repricing period (years)		Maximum repricing period for exposures with modelled (not determined) repricing date (years)	
	Total	of which CHF	of which USD	of which EUR	Total	of which CHF	Total	of which CHF
CHF million, except where indicated								
Definite repricing date ²								
Due from banks	114,776	3,604	67,912	12,385	0.1	0.0	–	–
Due from customers	137,465	24,048	70,803	25,922	0.6	1.0	–	–
Money market mortgages	38,373	38,373	0	0	0.3	0.3	–	–
Fixed-rate mortgages	97,656	97,656	0	0	4.7	4.7	–	–
Financial investments	3,154	139	123	0	0.3	0.1	–	–
Other receivables	154	154	0	0	0.1	0.1	–	–
Receivables from interest rate derivatives ³	1,266,402	211,047	809,186	146,684	1.0	1.2	–	–
Due to banks	(49,104)	(5,888)	(34,560)	(1,191)	0.1	0.1	–	–
Customer deposits	(98,526)	(13,173)	(50,096)	(12,601)	0.2	0.3	–	–
Cash bonds	(195)	(195)	0	0	2.0	2.0	–	–
Bonds issues and central mortgage institution loans	(125,990)	(15,637)	(70,413)	(27,393)	3.3	8.0	–	–
Other payables	(46,745)	(2,741)	(28,266)	(11,285)	0.2	0.2	–	–
Payables to interest rate derivatives ³	(1,263,498)	(291,511)	(750,585)	(129,366)	0.8	1.2	–	–
Indefinite repricing date								
Variable mortgages	1,175	1,175	0	0	0.1	0.1	–	–
Other receivables on demand	2,048	734	698	530	0.1	0.1	–	–
Payables on demand from personal accounts and current accounts	(191,389)	(91,049)	(55,254)	(33,191)	1.4	2.2	–	–
Other payables on demand	0	0	0	0	0.1	0.1	–	–
Payables arising from client deposits, terminable but not transferable (savings)	(37,014)	(37,014)	0	0	2.6	2.6	–	–
Total	–	–	–	–	–	–	8.0	8.0

¹ Volume figures may differ from the respective accounting values under US GAAP, due to the impact of effective interest rate calculations and the treatment of loan loss provisions.

² Additional Tier 1 capital is excluded.

³ Receivables and payables from interest rate derivatives are shown as gross figures, including intercompany transactions.

The following table presents information on the exposure's regulatory Δ EVE and regulatory Δ NII.

IRRBB1 – Quantitative information on the regulatory Δ EVE and regulatory Δ NII

end of	Δ EVE ¹		Δ NII ²	
	4Q20	4Q19	4Q20	4Q19
Interest rate shock scenarios (CHF million) ³				
Parallel up	(1,955)	(1,629)	(3,103)	(3,506)
Parallel down	2,585	1,939	3,812	4,277
Steeper shock	(428)	(129)	–	–
Flattener shock	90	(260)	–	–
Rise in short-term interest rates	(755)	(953)	–	–
Fall in short-term interest rates	1,075	918	–	–
Maximum	(1,955)	(1,629)	(3,103)	(3,506)

¹ Reflects changes in the net present value.

² Reflects changes in the earnings value.

³ All scenarios are in line with FINMA circular 2019/2.

IRRBB1 – Tier 1 capital

end of	4Q20	4Q19
Tier 1 capital (CHF million)		
Swiss CET1 capital and additional tier 1 capital ¹	51,192	52,691

¹ Excludes tier 1 capital, which is used to fulfill gone concern requirements.

The change in Δ EVE was due to DV01 exposure movements on our banking book positions in 2020. The main drivers are related to regular management of banking book activities and net interest income hedging activities, partially offset by the appreciation of the Swiss franc against the US dollar. The results are inflated due to the required exclusion of additional tier 1 capital instruments while the respective hedges have to be included in the Δ EVE. In 2020 additional tier 1 capital instrument issuances occurred.

Regarding Δ NII, changes are mainly driven by a decreased volume gap between assets and liabilities falling under the regulatory scope for the risk measure. This banking book liability excess is primarily arising from trading book assets being funded out of banking books as well as from the exclusion of cash at central banks and shareholders' equity from the regulatory scope of Δ NII.

Additional regulatory disclosures

Composition of capital

Credit Suisse is a systemically important financial institution.

→ Refer to "Swiss capital requirements" (pages 4 to 5) for the systemically important financial institution view.

The following tables provide details on the composition of Swiss regulatory capital including common equity tier 1 (CET1) capital, additional tier 1 capital and tier 2 capital as if the Group was not a systemically important financial institution.

CC1 – Composition of regulatory capital

end of 4Q20

Amounts Reference ¹

Swiss CET1 capital (CHF million)

1	Directly issued qualifying common share (and equivalent for non-joint stock companies) capital plus related stock surplus	33,421	1
2	Retained earnings	32,789	2
3	Accumulated other comprehensive income (and other reserves) ²	(23,534)	3
6	CET1 capital before regulatory adjustments	42,676	
8	Goodwill, net of tax	(4,681)	4
9	Other intangible assets (excluding mortgage servicing rights), net of tax	(271)	5
10	Deferred tax assets that rely on future profitability (excluding temporary differences), net of tax	(1,070)	6
11	Cash flow hedge reserve	(214)	
12	Shortfall of provisions to expected losses	(176)	
14	Gains/(losses) due to changes in own credit on fair-valued liabilities	2,466	
15	Defined benefit pension plan assets	(2,249)	7
16	Investments in own shares	(397)	
21	Deferred tax assets arising from temporary differences (amount above 10% threshold, net of tax)	0	8
26b	National specific regulatory adjustments	(733)	
28	Total regulatory adjustments to CET1 capital	(7,325)	
29	CET1 capital	35,351	
30	Directly issued qualifying additional tier 1 instruments plus related stock surplus ³	15,888	
32	of which classified as liabilities under applicable accounting standards	15,888	9
36	Additional tier 1 capital before regulatory adjustments	15,888	
37	Investments in own additional tier 1 instruments	(47)	
43	Total regulatory adjustments to additional tier 1 capital	(47)	
44	Additional tier 1 capital	15,841	

Swiss tier 1 capital (CHF million)

45	Tier 1 capital	51,192	
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Swiss tier 2 capital (CHF million)

46	Directly issued qualifying tier 2 instruments plus related stock surplus ⁴	961	10
47	Directly issued capital instruments subject to phase-out from tier 2 capital	273	11
58	Tier 2 capital	1,234	

Swiss eligible capital (CHF million)

59	Total eligible capital	52,426	
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¹ Refer to the balance sheet under regulatory scope of consolidation in the table "CC2 – Reconciliation of regulatory capital to balance sheet". Only material items are referenced to the balance sheet.

² Includes treasury shares.

³ Consists of high-trigger and low-trigger capital instruments. Of this amount, CHF 11.4 billion consists of capital instruments with a capital ratio write-down trigger of 7% and CHF 4.4 billion consists of capital instruments with a capital ratio write-down trigger of 5.125%.

⁴ Consists of low-trigger capital instruments with a capital ratio write-down trigger of 5%.

CC1 – Composition of regulatory capital (continued)

end of 4Q20 Amounts Reference ¹

Swiss risk-weighted assets (CHF million)

60	Risk-weighted assets	275,576
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Swiss risk-based capital ratios as a percentage of risk-weighted assets (%)

61	CET1 capital ratio	12.8
62	Tier 1 capital ratio	18.6
63	Total capital ratio	19.0

BIS CET1 buffer requirements (%) ²

64	Total BIS CET buffer requirement	3.522
65	of which capital conservation buffer ³	2.5
66	of which extended countercyclical buffer	0.022
67	of which progressive buffer for G-SIB and/or D-SIB ³	1.0
68	CET1 capital ratio available after meeting the bank's minimum capital requirements ⁴	8.3

Amounts below the thresholds for deduction (before risk weighting) (CHF million)

72	Non-significant investments in the capital and other TLAC liabilities of other financial entities	2,572
73	Significant investments in the common stock of financial entities	1,653
74	Mortgage servicing rights, net of tax	155
75	Deferred tax assets arising from temporary differences, net of tax	2,859

Applicable caps on the inclusion of provisions in tier 2 (CHF million)

77	Cap on inclusion of provisions in tier 2 under standardized approach	297
79	Cap for inclusion of provisions in tier 2 under internal ratings-based approach	784

Capital instruments subject to phase-out arrangements (CHF million)

84	Current cap on tier 2 instruments subject to phase-out arrangements	273
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¹ Refer to the balance sheet under regulatory scope of consolidation in the table "CC2 – Reconciliation of regulatory capital to balance sheet". Only material items are referenced to the balance sheet.

² CET1 buffer requirements are based on BIS requirements as a percentage of Swiss risk-weighted assets.

³ Reflects the phase-in requirement.

⁴ Reflects the Swiss CET1 capital ratio of 12.8%, less the BIS minimum CET1 ratio requirement of 4.5%.

The following table presents the balance sheet as published in the consolidated financial statements of the Group and the balance sheet under the regulatory scope of consolidation.

CC2 – Reconciliation of regulatory capital to balance sheet

end of 4Q20	Financial statements	Regulatory scope of consolidation	Reference to composition of capital
Assets (CHF million)			
Cash and due from banks	139,112	138,641	
Interest-bearing deposits with banks	1,298	1,737	
Central bank funds sold, securities purchased under resale agreements and securities borrowing transactions	79,133	79,133	
Securities received as collateral, at fair value	50,773	50,773	
Trading assets, at fair value	157,338	151,391	
Investment securities	607	607	
Other investments	5,412	5,593	
Net loans	291,908	291,534	
Goodwill	4,426	4,430	4
Other intangible assets	237	237	
of which other intangible assets (excluding mortgage servicing rights)	57	57	5
Brokerage receivables	35,941	35,941	
Other assets	39,637	38,347	
of which deferred tax assets related to net operating losses	1,070	1,070	6
of which deferred tax assets from temporary differences	2,597	2,103	8
of which defined benefit pension plan assets	2,872	2,872	7
Total assets	805,822	798,364	
Liabilities and equity (CHF million)			
Due to banks	16,423	16,765	
Customer deposits	390,921	390,765	
Central bank funds purchased, securities sold under repurchase agreements and securities lending transactions	23,851	27,805	
Obligation to return securities received as collateral, at fair value	50,773	50,773	
Trading liabilities, at fair value	45,871	45,905	
Short-term borrowings	20,868	16,608	
Long-term debt	161,087	159,341	
Brokerage payables	21,653	21,653	
Other liabilities	31,434	25,746	
Total liabilities	762,881	755,361	
of which additional tier 1 instruments, fully eligible	16,615	14,335	9
of which tier 2 instruments, fully eligible	2,404	2,919	10
of which tier 2 instruments subject to phase-out	372	297	11
Common shares	98	107	1
Additional paid-in capital	33,323	33,314	1
Retained earnings	32,834	32,789	2
Treasury shares, at cost	(428)	(424)	3
Accumulated other comprehensive income/(loss)	(23,150)	(23,110)	3
Total shareholders' equity ¹	42,677	42,676	
Noncontrolling interests ²	264	327	
Total equity	42,941	43,003	
Total liabilities and equity	805,822	798,364	

¹ Eligible as CET1 capital, prior to regulatory adjustments.

² The difference between the accounting and regulatory scope of consolidation primarily represents private equity and other fund type vehicles, which FINMA does not require to consolidate for capital adequacy reporting.

Composition of TLAC

The following table presents the composition of our TLAC.

TLAC1 – TLAC composition for G-SIBs	
end of	4Q20
TLAC (CHF million)	
CET1 capital	35,351
Additional tier 1 instruments eligible under TLAC framework	15,841
Tier 2 capital before TLAC adjustments	1,234
TLAC adjustments	1,514
of which amortized portion of tier 2 instruments where remaining maturity > 1 year	1,514
Tier 2 instruments eligible under TLAC framework	2,748
TLAC arising from regulatory capital	53,940
External TLAC instruments issued directly by Credit Suisse Group AG and subordinated to excluded liabilities	38,246
External TLAC instruments issued by funding vehicles prior to January 1, 2022	7,402
TLAC arising from non-regulatory capital instruments before adjustments	45,648
TLAC before deductions	99,588
Deduction of investment in own other TLAC liabilities	93
Other adjustments to TLAC	6,105
TLAC	93,390
Risk-weighted assets and leverage exposure (CHF million)	
Swiss risk-weighted assets	275,576
Leverage exposure	799,853
TLAC ratios and buffers (%)	
TLAC ratio	33.9
TLAC leverage ratio	11.7
CET1 capital ratio available after meeting the resolution group's minimum capital and TLAC requirements	8.3
Institution-specific buffer requirement (capital conservation buffer plus countercyclical buffer requirements plus higher loss absorbency requirement, expressed as a percentage of risk-weighted assets)	3.522
of which capital conservation buffer requirement	2.5
of which bank specific countercyclical buffer requirement	0.022
of which higher loss absorbency requirement	1.0

The following table presents information regarding creditors rankings of the liabilities structure of the resolution entity.

TLAC3 – Resolution entity – Creditor ranking at legal entity level

	Creditor ranking			Total
	Shareholders' equity ¹	Subordinated debt instruments Additional tier 1	Bail-in debt instruments and pari passu liabilities ²	
end of 4Q20				
CHF million				
Total capital and liabilities net of credit risk mitigation	44,506	15,413	37,446	97,365
Excluded liabilities	–	–	416	416
Total capital and liabilities less excluded liabilities	44,506	15,413	37,030	96,949
of which potentially eligible as TLAC ³	44,506	15,176	36,657	96,339
of which residual maturity between 1 to 2 years	–	–	53	53
of which residual maturity between 2 to 5 years	–	–	16,126	16,126
of which residual maturity between 5 to 10 years	–	–	14,133	14,133
of which residual maturity greater than 10 years, excluding perpetual securities	–	–	6,345	6,345
of which perpetual securities	44,506	15,176	–	59,682

Presented for Credit Suisse Group AG at the legal entity level and therefore instruments issued by subsidiaries and special purpose entities are excluded. Effective November 3, 2020, Credit Suisse Group AG and Credit Suisse Group Funding (Guernsey) Limited exercised the voluntary issuer substitution clause included in the terms of senior unsecured notes issued by Credit Suisse Group Funding (Guernsey) Limited with a maturity date post December 31, 2022. The issuer of these notes, which qualify as TLAC, has migrated from Credit Suisse Group Funding (Guernsey) Limited to Credit Suisse Group AG. Amounts are prepared in accordance with the provisions of the Swiss Law on Accounting and Financial Reporting (32nd title of the Swiss Code of Obligations).

¹ Includes nominal share capital of CHF 98 million.

² Amount does not include CHF 6,853 million of intercompany liabilities, which are pari passu to the external bail-in debt instruments and are not considered to be excluded liabilities.

³ Accrued but not yet paid interest on TLAC instruments is not eligible as TLAC, but can be bailed in by FINMA.

Key prudential metrics

Most line items in the following table presents the view as if the Group was not a systemically important financial institution.

KM1 – Key metrics

end of	4Q20	3Q20	2Q20	1Q20	4Q19
Capital (CHF million)					
Swiss CET1 capital	35,351	37,076	37,339	36,305	36,740
Fully loaded CECL accounting model Swiss CET1 capital ¹	35,297	37,076	37,339	36,305	–
Swiss tier 1 capital	51,192	52,317	51,674	50,798	49,757
Fully loaded CECL accounting model Swiss tier 1 capital ¹	51,139	52,317	51,674	50,798	–
Swiss total eligible capital	52,426	53,618	54,890	54,036	53,005
Fully loaded CECL accounting model Swiss total eligible capital ¹	52,373	53,618	54,890	54,036	–
Minimum capital requirement (8% of Swiss risk-weighted assets) ²	22,046	22,869	23,991	24,096	23,303
Risk-weighted assets (CHF million)					
Swiss risk-weighted assets	275,576	285,857	299,893	301,200	291,282
Risk-based capital ratios as a percentage of risk-weighted assets (%)					
Swiss CET1 capital ratio	12.8	13.0	12.5	12.1	12.6
Fully loaded CECL accounting model Swiss CET1 capital ratio ¹	12.8	13.0	12.5	12.1	–
Swiss tier 1 capital ratio	18.6	18.3	17.2	16.9	17.1
Fully loaded CECL accounting model Swiss tier 1 capital ratio ¹	18.6	18.3	17.2	16.9	–
Swiss total capital ratio	19.0	18.8	18.3	17.9	18.2
Fully loaded CECL accounting model Swiss total capital ratio ¹	19.0	18.8	18.3	17.9	–
BIS CET1 buffer requirements (%) ³					
Capital conservation buffer	2.5	2.5	2.5	2.5	2.5
Extended countercyclical buffer	0.022	0.022	0.026	0.04	0.104
Progressive buffer for G-SIB and/or D-SIB	1.0	1.0	1.0	1.0	1.0
Total BIS CET1 buffer requirement	3.522	3.522	3.526	3.54	3.604
CET1 capital ratio available after meeting the bank's minimum capital requirements ⁴	8.3	8.5	8.0	7.6	8.1
Basel III leverage ratio (CHF million)					
Leverage exposure	799,853 ⁵	824,420 ⁵	836,755 ⁵	869,706	909,994
Basel III leverage ratio (%)	6.4	6.3	6.2	5.8	5.5
Fully loaded CECL accounting model Basel III leverage ratio (%) ¹	6.4	6.3	6.2	5.8	–
Liquidity coverage ratio (CHF million) ⁶					
Numerator: total high-quality liquid assets	203,536	210,526	202,998	161,668	164,503
Denominator: net cash outflows	107,376	110,882	103,743	88,783	83,255
Liquidity coverage ratio (%)	190	190	196	182	198

The new current expected credit loss (CECL) model under US GAAP became effective for Credit Suisse as of January 1, 2020.

¹ The fully loaded US GAAP CECL accounting model excludes the transitional relief of recognizing CECL allowances and provisions in CET1 capital in accordance with FINMA Circular 2013/1 "Eligible capital – banks".

² Calculated as 8% of Swiss risk-weighted assets, based on total capital minimum requirements, excluding the BIS CET1 buffer requirements.

³ CET1 buffer requirements are based on BIS requirements as a percentage of Swiss risk-weighted assets.

⁴ Reflects the Swiss CET1 capital ratio of 12.8%, less the BIS minimum CET1 ratio requirement of 4.5%.

⁵ Reflects the temporary exclusion of central bank deposits in all currencies from the leverage exposure, after adjusting for the dividend paid in 2Q20 and 4Q20, in accordance with FINMA Guidance 02/2020, 03/2020 and 06/2020.

⁶ Calculated using a three-month average, which is calculated on a daily basis.

→ Refer to "Swiss capital requirements" (pages 4 to 5) for the systemically important financial institution view.

→ Refer to "Swiss metrics" (pages 132 to 133) and "Risk-weighted assets" (pages 129 to 131) in III – Treasury, Risk, Balance sheet and Off-balance sheet – Capital management in the Credit Suisse Annual Report 2020 for further information on movements in capital, capital ratios, risk-weighted assets and leverage ratios.

→ Refer to "Liquidity coverage ratio" (pages 116 to 117) in III – Treasury, Risk, Balance sheet and Off-balance sheet – Liquidity and funding management – Liquidity management in the Credit Suisse Annual Report 2020 for further information on movements in liquidity coverage ratio.

→ Refer to "Swiss requirements" (pages 123 to 125) in III – Treasury, Risk, Balance sheet and Off-balance sheet – Capital management – Regulatory framework in the Credit Suisse Annual Report 2020 for further information on additional CET1 buffer requirements.

The following table presents information about available TLAC and TLAC requirements applied at the resolution group level, which is defined as Credit Suisse Group AG consolidated.

KM2 – Key metrics – TLAC requirements (at resolution group level)

end of	4Q20	3Q20	2Q20	1Q20	4Q19
CHF million					
TLAC	93,390	96,820	98,757	93,298	91,267
Fully loaded CECL accounting model TLAC ¹	93,336	96,820	98,757	93,298	–
Swiss risk-weighted assets	275,576	285,857	299,893	301,200	291,282
TLAC ratio (%)	33.9	33.9	32.9	31.0	31.3
Fully loaded CECL accounting model TLAC ratio ¹	33.9	33.9	32.9	31.0	–
Leverage exposure	799,853 ²	824,420 ²	836,755 ²	869,706	909,994
TLAC leverage ratio (%)	11.7	11.7	11.8	10.7	10.0
Fully loaded CECL accounting model TLAC leverage ratio ¹	11.7	11.7	11.8	10.7	–
Does the subordination exemption in the antepenultimate paragraph of Section 11 of the FSB TLAC Term Sheet apply?	No	No	No	No	No
Does the subordination exemption in the penultimate paragraph of Section 11 of the FSB TLAC Term Sheet apply?	No	No	No	No	No
If the capped subordination exemption applies, the amount of funding issued that ranks pari passu with Excluded Liabilities and that is recognized as external TLAC, divided by funding issued that ranks pari passu with Excluded Liabilities and that would be recognized as external TLAC if no cap was applied (%)	N/A – refer to our response above	N/A – refer to our response above	N/A – refer to our response above	N/A – refer to our response above	N/A – refer to our response above

The new current expected credit loss (CECL) model under US GAAP became effective for Credit Suisse as of January 1, 2020.

¹ The fully loaded US GAAP CECL accounting model excludes the transitional relief of recognizing CECL allowances and provisions in CET1 capital in accordance with FINMA Circular 2013/1 "Eligible capital – banks".

² Reflects the temporary exclusion of central bank deposits in all currencies from the leverage exposure, after adjusting for the dividend paid in 2Q20 and 4Q20, in accordance with FINMA Guidance 02/2020, 03/2020 and 06/2020.

Macroprudential supervisor measures

The following table presents an overview of the geographical distribution of RWA for private sector credit exposures used in the calculation of the extended countercyclical buffer (CCyB).

CCyB1 – Geographical distribution of risk-weighted assets used in the CCyB

end of	CCyB rate (%)	RWA used in the computation of the CCyB	Bank-specific CCyB rate (%)	CCyB amount
4Q20 (CHF million)				
Hong Kong	1.000	2,604	–	–
Sweden	0.000	699	–	–
UK	0.000	7,347	–	–
France	0.000	2,613	–	–
Luxembourg	0.250	5,067	–	–
Germany	0.000	4,439	–	–
Subtotal	–	22,769	–	–
Other countries	0.0	153,840	–	–
Total ¹	–	176,609	0.022	60
2Q20 (CHF million)				
Hong Kong	1.000	3,638	–	–
Sweden	0.000	877	–	–
UK	0.000	10,299	–	–
France	0.000	3,086	–	–
Luxembourg	0.250	5,490	–	–
Germany	0.000	4,272	–	–
Subtotal	–	27,662	–	–
Other countries	0.0	165,349	–	–
Total ¹	–	193,011	0.026	78

¹ Reflects the total of RWA for private sector credit exposures across all jurisdictions to which the Group is exposed, including jurisdictions with no CCyB rate or with a CCyB rate set at zero, and value of the Group specific CCyB rate and resulting CCyB amount.

Leverage metrics

Credit Suisse has adopted the BIS leverage ratio framework, as issued by the BCBS and implemented in Switzerland by FINMA.

→ Refer to "Leverage metrics" (page 132) and "Swiss metrics" (pages 132 to 133) in III – Treasury, Risk, Balance sheet and Off-balance sheet – Capital management in the Credit Suisse Annual Report 2020 for further information on leverage metrics, including the calculation methodology and movements in leverage exposures.

LR1 – Summary comparison of accounting assets vs leverage ratio exposure

end of	4Q20
Reconciliation of consolidated assets to leverage exposure (CHF million)	
Total consolidated assets as per published financial statements	805,822
Adjustment for investments in banking, financial, insurance or commercial entities that are consolidated for accounting purposes but outside the scope of regulatory consolidation ¹	(16,681)
Adjustments for derivatives financial instruments	68,577
Adjustments for SFTs (i.e. repos and similar secured lending)	(39,009)
Adjustments for off-balance sheet items (i.e. conversion to credit equivalent amounts of off-balance sheet exposures)	88,944
Other adjustments ²	(107,800)
Leverage exposure	799,853

¹ Includes adjustments for investments in banking, financial, insurance or commercial entities that are consolidated for accounting purposes but outside the scope of regulatory consolidation and tier 1 capital deductions related to balance sheet assets.

² Reflects the temporary exclusion of central bank deposits in all currencies from the leverage exposure of CHF 110,677 million, after adjusting for the dividend paid in 2Q20 and 4Q20, in accordance with FINMA Guidance 02/2020, 03/2020 and 06/2020.

LR2 – Leverage ratio common disclosure template

end of	4Q20	3Q20
Reconciliation of consolidated assets to leverage exposure (CHF million)		
On-balance sheet items (excluding derivatives and SFTs, but including collateral) ¹	511,058	519,495
Asset amounts deducted from Basel III tier 1 capital	(9,164)	(9,674)
Total on-balance sheet exposures	501,894	509,821
Reconciliation of consolidated assets to leverage exposure (CHF million)		
Replacement cost associated with all derivatives transactions (i.e. net of eligible cash variation margin)	31,851	32,582
Add-on amounts for PFE associated with all derivatives transactions	65,545	71,212
Gross-up for derivatives collateral provided where deducted from the balance sheet assets pursuant to the operative accounting framework	26,815	26,620
Deductions of receivables assets for cash variation margin provided in derivatives transactions	(24,352)	(25,449)
Exempted CCP leg of client-cleared trade exposures	(11,484)	(10,194)
Adjusted effective notional amount of all written credit derivatives	189,693	275,045
Adjusted effective notional offsets and add-on deductions for written credit derivatives	(183,831)	(268,075)
Derivative Exposures	94,237	101,741
Securities financing transaction exposures (CHF million)		
Gross SFT assets (with no recognition of netting), after adjusting for sale accounting transactions	110,947	124,883
Netted amounts of cash payables and cash receivables of gross SFT assets	(7,932)	(10,176)
Counterparty credit risk exposure for SFT assets	11,763	11,954
Agent transaction exposures	0	0
Securities financing transaction exposures	114,778	126,661
Other off-balance sheet exposures (CHF million)		
Off-balance sheet exposure at gross notional amount	276,387	267,892
Adjustments for conversion to credit equivalent amounts	(187,443)	(181,695)
Other off-balance sheet exposures	88,944	86,197
Swiss tier 1 capital (CHF million)		
Swiss tier 1 capital	51,192	52,317
Leverage exposure (CHF million)		
Leverage exposure	799,853	824,420
Leverage ratio (%)		
Basel III leverage ratio	6.4	6.3

¹ Reflects the temporary exclusion of central bank deposits in all currencies from the leverage exposure, after adjusting for the dividend paid in 2Q20 and 4Q20, in accordance with FINMA Guidance 02/2020, 03/2020 and 06/2020.

Liquidity

Liquidity risk management framework

Our liquidity and funding policy is designed to ensure that funding is available to meet all obligations in times of stress, whether caused by market events or issues specific to Credit Suisse.

→ Refer to "Liquidity and funding management" (pages 114 to 121) in III – Treasury, Risk, Balance sheet and Off-balance sheet in the Credit Suisse Annual Report 2020 for further information on our liquidity risk management framework including governance, stress testing, liquidity metrics, funding sources and uses and contractual maturity of assets and liabilities.

Liquidity coverage ratio

Our calculation methodology for the liquidity coverage ratio (LCR) is prescribed by FINMA. For disclosure purposes our LCR is calculated using a three-month average which, is measured using daily calculations during the quarter.

→ Refer to "Liquidity metrics" (pages 116 to 117) and "Funding sources" (page 118) in III – Treasury, Risk, Balance sheet and Off-balance sheet – Liquidity and funding management in the Credit Suisse Annual Report 2020 for further information on the Group's liquidity coverage ratio including high-quality liquid assets, liquidity pool and funding sources.

LIQ1 – Liquidity coverage ratio

end of 4Q20	Unweighted value ¹	Weighted value ²
High-quality liquid assets (CHF million)		
High-quality liquid assets ³	–	203,536
Cash outflows (CHF million)		
Retail deposits and deposits from small business customers	161,262	19,825
of which less stable deposits	161,262	19,825
Unsecured wholesale funding	235,302	89,758
of which operational deposits (all counterparties) and deposits in networks of cooperative banks	51,117	12,779
of which non-operational deposits (all counterparties)	117,924	63,050
of which unsecured debt	13,542	13,542
Secured wholesale funding	–	44,979
Additional requirements	175,292	35,989
of which outflows related to derivative exposures and other collateral requirements	69,070	15,166
of which outflows related to loss of funding on debt products	800	800
of which credit and liquidity facilities	105,422	20,023
Other contractual funding obligations	56,751	56,751
Other contingent funding obligations	214,181	5,574
Total cash outflows	–	252,876
Cash inflows (CHF million)		
Secured lending	124,593	59,090
Inflows from fully performing exposures	62,541	28,081
Other cash inflows	58,329	58,329
Total cash inflows	245,463	145,500
Liquidity cover ratio (CHF million)		
High-quality liquid assets	–	203,536
Net cash outflows	–	107,376
Liquidity coverage ratio (%)	–	190

Calculated based on an average of 66 data points in 4Q20.

¹ Calculated as outstanding balances maturing or callable within 30 days.

² Calculated after the application of haircuts for high-quality liquid assets or inflow and outflow rates.

³ Consists of cash and eligible securities as prescribed by FINMA and reflects a post-cancellation view.

List of abbreviations

A

ABS	Asset-backed securities
ACVA	Advanced credit valuation adjustment approach
A-IRB	Advanced-Internal Ratings-Based Approach
AMA	Advanced Measurement Approach

B

BCBS	Basel Committee on Banking Supervision
BIS	Bank for International Settlements

C

CAO	Capital Adequacy Ordinance
CARMC	Capital Allocation & Risk Management Committee
CCF	Credit Conversion Factor
CCO	Chief Credit Officer
CCP	Central counterparties
CCR	Counterparty credit risk
CCyB	Countercyclical buffer
CDO	Collateralized debt obligation
CDS	Credit default swap
CECL	Current expected credit loss
CET1	Common equity tier 1
CFO	Chief Financial Officer
CLO	Collateralized loan obligation
CMBS	Commercial mortgage-backed securities
CMSC	Credit Model Steering Committee
CRCO	Chief Risk and Compliance Officer
CRM	Credit Risk Mitigation
CVA	Credit valuation adjustment

D

D-SIB	Domestic systemically important banks
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E

EAD	Exposure at default
ECAI	External credit assessment institutions
EEPE	Effective Expected Positive Exposure
EMIR	European Market Infrastructure Regulation
ERC	Economic Risk Capital

F

FINMA	Swiss Financial Market Supervisory Authority FINMA
FSB	Financial Stability Board

G

GDP	Gross Domestic Product
G-SIB	Global systemically important banks

I

IAA	Internal Assessment Approach
IMA	Internal Models Approach
IMM	Internal Models Method
IPRE	Income producing real estate
IRB	Internal Ratings-Based Approach
IRRBB	Interest rate risk in the banking book
IRC	Incremental Risk Charge

L

LCR	Liquidity coverage ratio
LGD	Loss given default
LRD	Leverage ratio denominator
LTV	Loan-to-value

N

NII	Net interest income
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O

OTC	Over-the-counter
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P

P&L	Profits and losses
PD	Probability of default
PFE	Potential future exposure

Q

QCCP	Qualifying central counterparty
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R

RMBS	Residential mortgage-backed securities
RNIV	Risks not in value-at-risk
RPSC	Risk Processes & Standards Committee
RW	Risk weight
RWA	Risk-weighted assets

S

SA	Standardized Approach
SA-CCR	Standardized Approach – counterparty credit risk
SEC-ERBA	Securitization External Ratings-Based Approach
SEC-IRBA	Securitization Internal Ratings-Based Approach
SEC-SA	Securitization Standardized Approach
SFT	Securities financing transactions
SMM	Standardized Measurement Method
SPE	Special purpose entity

T

TLAC	Total loss-absorbing capacity
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U

US GAAP	Accounting principles generally accepted in the US
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V

VaR	Value-at-Risk
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Δ

ΔEVE	Delta economic value of equity
ΔNII	Delta net interest income

Cautionary statement regarding forward-looking information

This document contains statements that constitute forward-looking statements. In addition, in the future we, and others on our behalf, may make statements that constitute forward-looking statements. Such forward-looking statements may include, without limitation, statements relating to the following:

- our plans, targets or goals;
- our future economic performance or prospects;
- the potential effect on our future performance of certain contingencies; and
- assumptions underlying any such statements.

Words such as “believes,” “anticipates,” “expects,” “intends” and “plans” and similar expressions are intended to identify forward-looking statements but are not the exclusive means of identifying such statements. We do not intend to update these forward-looking statements.

By their very nature, forward-looking statements involve inherent risks and uncertainties, both general and specific, and risks exist that predictions, forecasts, projections and other outcomes described or implied in forward-looking statements will not be achieved. We caution you that a number of important factors could cause results to differ materially from the plans, targets, goals, expectations, estimates and intentions expressed in such forward-looking statements and that the COVID-19 pandemic creates significantly greater uncertainty about forward-looking statements in addition to the factors that generally affect our business. These factors include:

- the ability to maintain sufficient liquidity and access capital markets;
- market volatility and interest rate fluctuations and developments affecting interest rate levels, including the persistence of a low or negative interest rate environment;
- the strength of the global economy in general and the strength of the economies of the countries in which we conduct our operations, in particular the risk of negative impacts of COVID-19 on the global economy and financial markets and the risk of continued slow economic recovery or downturn in the EU, the US or other developed countries or in emerging markets in 2021 and beyond;
- the emergence of widespread health emergencies, infectious diseases or pandemics, such as COVID-19, and the actions that may be taken by governmental authorities to contain the outbreak or to counter its impact;
- potential risks and uncertainties relating to the severity of impacts from COVID-19 and the duration of the pandemic, including potential material adverse effects on our business, financial condition and results of operations;
- the direct and indirect impacts of deterioration or slow recovery in residential and commercial real estate markets;
- adverse rating actions by credit rating agencies in respect of us, sovereign issuers, structured credit products or other credit-related exposures;
- the ability to achieve our strategic goals, including those related to our targets, ambitions and financial goals;
- the ability of counterparties to meet their obligations to us and the adequacy of our allowance for credit losses;
- the effects of, and changes in, fiscal, monetary, exchange rate, trade and tax policies;

- the effects of currency fluctuations, including the related impact on our business, financial condition and results of operations due to moves in foreign exchange rates;
- political, social and environmental developments, including war, civil unrest or terrorist activity and climate change;
- the ability to appropriately address social, environmental and sustainability concerns that may arise from our business activities;
- the effects of, and the uncertainty arising from, the UK’s withdrawal from the EU;
- the possibility of foreign exchange controls, expropriation, nationalization or confiscation of assets in countries in which we conduct our operations;
- operational factors such as systems failure, human error, or the failure to implement procedures properly;
- the risk of cyber attacks, information or security breaches or technology failures on our reputation, business or operations, the risk of which is increased while large portions of our employees work remotely;
- the adverse resolution of litigation, regulatory proceedings and other contingencies;
- actions taken by regulators with respect to our business and practices and possible resulting changes to our business organization, practices and policies in countries in which we conduct our operations;
- the effects of changes in laws, regulations or accounting or tax standards, policies or practices in countries in which we conduct our operations;
- the expected discontinuation of LIBOR and other interbank offered rates and the transition to alternative reference rates;
- the potential effects of changes in our legal entity structure;
- competition or changes in our competitive position in geographic and business areas in which we conduct our operations;
- the ability to retain and recruit qualified personnel;
- the ability to maintain our reputation and promote our brand;
- the ability to increase market share and control expenses;
- technological changes instituted by us, our counterparties or competitors;
- the timely development and acceptance of our new products and services and the perceived overall value of these products and services by users;
- acquisitions, including the ability to integrate acquired businesses successfully, and divestitures, including the ability to sell non-core assets; and
- other unforeseen or unexpected events and our success at managing these and the risks involved in the foregoing.

We caution you that the foregoing list of important factors is not exclusive. When evaluating forward-looking statements, you should carefully consider the foregoing factors and other uncertainties and events, including the information set forth in “Risk factors” in *I – Information on the company* in our Annual Report 2020.



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