CREDIT SUISSE

Pillar 3 and regulatory disclosures 4Q22

Credit Suisse Group AG

For purposes of this report, unless the context otherwise requires, the terms “Credit Suisse Group, “Credit Suisse,” the “Group,” “we,” “us” and “our” mean Credit Suisse Group AG and its consolidated subsidiaries. The business of Credit Suisse AG, the direct bank subsidiary of the Group, is substantially similar to the Group, 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. We use the term the “Bank parent company” when we are referring only to the standalone parent entity Credit Suisse AG. 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. Rounding differences may occur.

Pillar 3 and regulatory disclosures 4Q22

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Introduction

General

This report as of December 31, 2022 is based on the Circular 2016/1 "Disclosure – banks" (FINMA circular) issued by the Swiss Financial Market Supervisory Authority FINMA (FINMA).

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 2Q22 and 3Q22, the Credit Suisse Earnings Release 4Q22 as well as the Credit Suisse Annual Report 2022, which include important information on regulatory capital, risk management (specific references have been made herein to these documents) and regulatory developments and proposals.

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

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

→ Refer to "Regulatory developments" (pages 118 to 119) in III – Treasury, Risk, Balance sheet and Off-balance sheet – Capital management in the Credit Suisse Annual Report 2022 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 2022 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 2022.

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1 The disclosure will be available by the end of April 2023.

Swiss capital requirements

FINMA requires the Group to comply fully 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 116 to 118) in III – Treasury, Risk, Balance sheet and Off-balance sheet – Capital management – Regulatory framework and "Swiss metrics" (pages 125 to 126) in III – Treasury, Risk, Balance sheet and Off-balance sheet – Capital management in the Credit Suisse Annual Report 2022 for further information on general Swiss requirements and the related metrics.

Swiss capital requirements and metrics

end of 4Q22	CHF million	in % of RWA
Swiss risk-weighted assets		
Swiss risk-weighted assets	250,963	–
Risk-based capital requirements (going-concern) based on Swiss capital ratios		
Total [1]	36,722	14.63
of which CET1: minimum	11,293	4.5
of which CET1: buffer	11,996	4.78
of which CET1: countercyclical buffers	791	0.315
of which additional tier 1: minimum	8,784	3.5
of which additional tier 1: buffer	2,008	0.8
Swiss eligible capital (going-concern)		
Swiss CET1 capital and additional tier 1 capital [2]	50,026	19.9
of which CET1 capital [3]	35,290	14.1
of which additional tier 1 high-trigger capital instruments	10,495	4.2
of which additional tier 1 low-trigger capital instruments [4]	4,241	1.7
Risk-based requirements for additional total loss-absorbing capacity (gone-concern) based on Swiss capital ratios		
Total according to size and market share [5]	34,081	13.58
Reductions due to rebates in accordance with article 133 of the CAO	(7,811)	(3.113)
Total, net	26,270	10.468
Eligible additional total loss-absorbing capacity (gone-concern)		
Total	49,117	19.6
of which bail-in instruments [6]	49,117	19.6

1 The total requirement includes the FINMA Pillar 2 capital add-on of CHF 1,850 million relating to the supply chain finance funds matter. This Pillar 2 capital add-on equates to an additional Swiss CET1 capital ratio requirement of 74 basis points.
2 Excludes tier 1 capital that is used to fulfill gone-concern requirements.
3 Excludes CET1 capital that is used to fulfill gone-concern requirements.
4 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.
5 Consists of a base requirement of 12.86%, or CHF 32,274 million, and a surcharge of 0.72%, or CHF 1,807 million.
6 Includes instruments issued, which are eligible as gone-concern capacity, where the Group used the proceeds of CHF 6,982 million to reduce an exposure that Credit Suisse AG has from providing net senior funding to the Group. As of the end of 4Q22, the Group had a net funding liability against Credit Suisse AG of CHF 227 million, resulting from existing net senior funding provided by Credit Suisse AG to the Group of CHF 2,516 million offset by CHF 2,289 million of funding provided by the Group to Credit Suisse AG.

Swiss leverage requirements and metrics

end of 4Q22	CHF million	in % of LRD
Leverage exposure		
Leverage ratio denominator	650,551	–
Unweighted capital requirements (going-concern) based on Swiss leverage ratio		
Total [1]	32,751	5.034
of which CET1: minimum	9,758	1.5
of which CET1: buffer	11,385	1.75
of which additional tier 1: minimum	9,758	1.5
Swiss eligible capital (going-concern)		
Swiss CET1 capital and additional tier 1 capital [2]	50,026	7.7
of which CET1 capital [3]	35,290	5.4
of which additional tier 1 high-trigger capital instruments	10,495	1.6
of which additional tier 1 low-trigger capital instruments [4]	4,241	0.7
Unweighted requirements for additional total loss-absorbing capacity (gone-concern) based on the Swiss leverage ratio		
Total according to size and market share [5]	30,901	4.75
Reductions due to rebates in accordance with article 133 of the CAO	(6,506)	(1.0)
Total, net	24,396	3.75
Eligible additional total loss-absorbing capacity (gone-concern)		
Total	49,117	7.6
of which bail-in instruments [6]	49,117	7.6

1 The total requirement includes the FINMA Pillar 2 capital add-on of CHF 1,850 million relating to the supply chain finance funds matter. This Pillar 2 capital add-on equates to an additional Swiss CET1 leverage ratio requirement of 28 basis points.
2 Excludes tier 1 capital that is used to fulfill gone-concern requirements.
3 Excludes CET1 capital that is used to fulfill gone-concern requirements.
4 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.
5 Consists of a base requirement of 4.5%, or CHF 29,275 million, and a surcharge of 0.25%, or CHF 1,626 million.
6 Includes instruments issued, which are eligible as gone-concern capacity, where the Group used the proceeds of CHF 6,982 million to reduce an exposure that Credit Suisse AG has from providing net senior funding to the Group. As of the end of 4Q22, the Group had a net funding liability against Credit Suisse AG of CHF 227 million, resulting from existing net senior funding provided by Credit Suisse AG to the Group of CHF 2,516 million offset by CHF 2,289 million of funding provided by the Group to Credit Suisse AG.

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 133 to 135), "Risk appetite framework" (pages 135 to 138) and "Risk coverage and management" (pages 138 to 154) in III – Treasury, Risk, Balance sheet and Off-balance sheet – Risk management in the Credit Suisse Annual Report 2022 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. In addition, there are controls to ensure the risk data and measurement systems are up to date and are working as intended. They cover: validation of data, 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 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 65);
- Interest rate risk in the banking book (refer to section "Interest rate risk in the banking book" on pages 66 to 69); and
- Operational risk.

→ Refer to "Non-financial risk regulatory capital measurement" (page 150) in III – Treasury, Risk, Balance sheet and Off-balance sheet – Risk management – Risk coverage and management in the Credit Suisse Annual Report 2022 for information on operational risk.

The Basel framework prescribes various approaches for determining capital requirements which banks have to abide by in order maintain regulatory compliance. For the majority of the types of risks, Credit Suisse uses internally developed models for both regulatory and internal purposes, in order to ensure our capital resources are appropriate to our risk profile.

Risk-weighted assets

Risk-weighted assets (RWA) presented in this report, including prior period comparisons, are based on the Swiss capital requirements.

→ Refer to "Swiss requirements" (pages 116 to 118) in III – Treasury, Risk, Balance sheet and Off-balance sheet – Capital management – Regulatory framework in the Credit Suisse Annual Report 2022 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 of CHF 251.0 billion as of the end of 4Q22 decreased 8% compared to CHF 274.1 billion as of the end of 3Q22, mainly due to movements in risk levels in credit risk and a negative foreign exchange impact. The movements in risk levels in credit risk included a decrease in lending exposures.

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 122 to 124) in III – Treasury, Risk, Balance sheet and Off-balance sheet – Capital management in the Credit Suisse Annual Report 2022 for further information on risk-weighted assets movements in 2022.

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

	Risk-weighted assets			Capital requirement [1]
end of	**4Q22**	3Q22	4Q21	**4Q22**
CHF million				
Credit risk (excluding counterparty credit risk)	120,369	131,023	126,878	9,629
of which standardized approach (SA)	26,974	30,870	25,591	2,158
of which supervisory slotting approach	3,703	4,063	4,040	296
of which advanced internal ratings-based (A-IRB) approach	89,692	96,090	97,247	7,175
Counterparty credit risk	10,147	13,443	15,640	812
of which standardized approach for counterparty credit risk (SA-CCR)	1,970	3,434	3,064	158
of which internal model method (IMM)	7,518	9,203	11,536	601
of which other counterparty credit risk [2]	659	806	1,040	53
Credit valuation adjustments (CVA)	3,301	4,032	5,046	264
Equity positions in the banking book under the simple risk weight approach	3,775	5,479	7,071	302
Equity investments in funds – look-through approach	2,181	2,298	2,431	174
Equity investments in funds – mandate-based approach	11	11	21	1
Equity investments in funds – fall-back approach	671	662	505	54
Settlement risk	422	387	465	34
Securitization exposures in the banking book	13,282	13,731	13,396	1,063
of which securitization internal ratings-based approach (SEC-IRBA)	7,431	7,864	7,736	595
of which securitization external ratings-based approach (SEC-ERBA), including internal assessment approach (IAA)	922	916	1,429	74
of which securitization standardized approach (SEC-SA)	4,929	4,951	4,231	394
Market risk	15,025	16,725	16,355	1,202
of which standardized approach (SA)	1,802	1,964	1,648	144
of which internal models approach (IMA)	13,223	14,761	14,707	1,058
Operational risk (AMA)	74,500	78,880	67,627	5,960
Amounts below the thresholds for deduction (subject to 250% risk weight)	7,279	7,467	12,983	582
Total	**250,963**	**274,138**	**268,418**	**20,077**

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.

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:				
end of 4Q22	Published financial statements	Regulatory scope of consolidation	Credit risk framework	Counterparty credit risk framework	Securitization framework	Market risk framework	Not subject to capital requirements or subject to deduction from capital
Assets (CHF million)							
Cash and due from banks	68,478	68,293	67,593	0	0	0	700
Interest-bearing deposits with banks	455	1,006	981	25	0	0	0
Central bank funds sold, securities purchased under resale agreements and securities borrowing transactions	58,798	58,798	0	58,448	350	44,042	0
Securities received as collateral, at fair value	2,978	2,978	0	2,978	0	2,978	0
Trading assets, at fair value [1]	65,461	64,681	8,657	32,980 [2]	781	62,160	0
Investment securities	1,718	1,718	1,718	0	0	0	0
Other investments	5,518	5,768	3,485	0	213	16	2,054
Net loans	264,165	264,543	229,295	375	34,234	1,251	0
Goodwill	2,903	2,903	0	0	0	0	2,903
Other intangible assets	458	458	0	0	0	0	458
Brokerage receivables	13,818	13,818	1,220	2,452	0	0	10,153
Other assets	46,608	44,466	22,277	8,413	6,633	2,719	4,556
Total assets	**531,358**	**529,430**	**335,226**	**105,671**	**42,211**	**113,166**	**20,824**
Liabilities (CHF million)							
Due to banks	11,905	12,032	0	0	0	0	12,032
Customer deposits	233,235	233,320	0	0	0	0	233,320
Central bank funds purchased, securities sold under repurchase agreements and securities lending transactions	20,280	20,282	0	20,282	0	15,038	0
Obligation to return securities received as collateral, at fair value	2,978	2,978	0	2,978	0	2,978	0
Trading liabilities, at fair value [1]	18,338	18,372	0	9,198	0	28,181	746
Short-term borrowings	12,414	12,444	0	0	0	7,783	4,661
Long-term debt	157,235	155,113	1,371	0	0	39,157	114,585
Brokerage payables	11,442	11,442	0	794	0	0	10,648
Other liabilities	18,200	17,987	444	4,227	0	973	12,343
Total liabilities	**486,027**	**483,970**	**1,815**	**37,479**	**0**	**94,110**	**388,335**

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:				
end of 4Q21	Published financial statements	Regulatory scope of consolidation	Credit risk framework	Counterparty credit risk framework	Securitization framework	Market risk framework	Not subject to capital requirements or subject to deduction from capital
Assets (CHF million)							
Cash and due from banks	164,818	164,524	163,292	0	0	0	1,232
Interest-bearing deposits with banks	1,323	1,590	1,498	92	0	0	0
Central bank funds sold, securities purchased under resale agreements and securities borrowing transactions	103,906	103,900	0	103,900	0	81,295	0
Securities received as collateral, at fair value	15,017	15,017	0	15,017	0	15,017	0
Trading assets, at fair value [1]	111,141	110,246	9,327	47,737 [2]	944	110,544	0
Investment securities	1,005	1,005	1,002	0	3	0	0
Other investments	5,826	5,770	3,705	0	289	0	1,776
Net loans	291,686	292,126	259,842	201	30,842	1,473	0
Goodwill	2,917	2,921	0	0	0	0	2,921
Other intangible assets	276	276	0	0	0	0	276
Brokerage receivables	16,687	16,687	2,071	12,941	0	0	1,675
Other assets	41,231	40,701	19,801	8,161	938	3,984	8,107
Total assets	**755,833**	**754,763**	**460,538**	**188,049**	**33,016**	**212,313**	**15,987**
Liabilities (CHF million)							
Due to banks	18,965	19,016	0	0	0	0	19,016
Customer deposits	392,819	392,784	0	0	0	0	392,784
Central bank funds purchased, securities sold under repurchase agreements and securities lending transactions	35,274	35,274	0	35,274	0	18,307	0
Obligation to return securities received as collateral, at fair value	15,017	15,017	0	15,017	0	15,017	0
Trading liabilities, at fair value [1]	27,535	27,563	42	10,865	0	44,144	439
Short-term borrowings	19,393	19,473	0	0	0	11,816	7,657
Long-term debt	166,896	165,670	1,487	0	0	41,801	122,382
Brokerage payables	13,060	13,060	0	8,810	0	0	4,250
Other liabilities	22,644	22,606	407	6,053	0	1,388	14,871
Total liabilities	**711,603**	**710,463**	**1,936**	**76,019**	**0**	**132,473**	**561,399**

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.

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 (CAO).

→ Refer to "Note 41 – Significant subsidiaries and equity method investments" (pages 400 to 402) in VI – Consolidated financial statements – Credit Suisse Group in the Credit Suisse Annual Report 2022 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:	
end of	Credit risk frame-work	Counter-party credit risk frame-work [1]	Securiti-zation frame-work	Market risk frame-work
4Q22 (CHF million)				
Asset carrying value amount under regulatory scope of consolidation	335,226	105,671	42,211	113,166
Liabilities carrying value amount under regulatory scope of consolidation	1,815	37,479	0	94,110
Total net amount under regulatory scope of consolidation	333,411	68,192	42,211	19,056
Off-balance sheet amounts	56,485	0	26,468	0
Differences due to consideration of valuation adjustments and provisions	436	0	95	0
Derivatives: Differences due to application of internal models (IMM) and SA-CCR	0	20,504	0	0
SFT: Differences due to the application of internal models (VaR)	0	(41,342)	0	0
Other differences not classified above	552	3,750	(3,732)	0
Exposure amounts considered for regulatory purposes	**390,884**	**51,104**	**65,042**	**– [2]**
4Q21 (CHF million)				
Asset carrying value amount under regulatory scope of consolidation	460,538	188,049	33,016	212,313
Liabilities carrying value amount under regulatory scope of consolidation	1,936	76,019	0	132,473
Total net amount under regulatory scope of consolidation	458,602	112,030	33,016	79,840
Off-balance sheet amounts	65,075	0	33,158	0
Differences due to consideration of valuation adjustments and provisions	507	0	64	0
Derivatives: Differences due to application of internal models (IMM) and SA-CCR	0	30,489	0	0
SFT: Differences due to the application of internal models (VaR)	0	(76,949)	0	0
Other differences not classified above	(6,042)	3,649	(3,247)	0
Exposure amounts considered for regulatory purposes	**518,142**	**69,219**	**62,991**	**– [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.

→ 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, pricing assumptions, the current economic and competitive environment 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 72) in II – Operating and financial review – Credit Suisse – Other information, to "Fair value" (page 97) in II – Operating and financial review – Critical accounting estimates and to "Note 36 – Financial instruments" (pages 358 to 385) in VI – Consolidated financial statements – Credit Suisse Group in the Credit Suisse Annual Report 2022 for further information on fair value measurement.

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 (SA) 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 140 to 144) in III – Treasury, Risk, Balance sheet and Off-balance sheet – Risk management – Risk coverage and management in the Credit Suisse Annual Report 2022 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**
4Q22 (CHF million)					
Loans and debt securities	154,413	69,679	27,477	83,065	334,634
Off-balance sheet exposures [1]	14,716	33,500	4,793	19,029	72,038
Total	**169,129**	**103,179**	**32,270**	**102,094**	**406,672**
4Q21 (CHF million)					
Loans and debt securities	222,872	69,927	39,977	122,844	455,620
Off-balance sheet exposures [1]	18,444	41,595	5,696	27,913	93,648
Total	**241,316**	**111,522**	**45,673**	**150,757**	**549,268**

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**
4Q22 (CHF million)					
Loans and debt securities	119,263	75,118	134,809	5,444	334,634
Off-balance sheet exposures [2]	22,689	47,294	591	1,464	72,038
Total	**141,952**	**122,412**	**135,400**	**6,908**	**406,672**
4Q21 (CHF million)					
Loans and debt securities	228,794	79,468	142,656	4,702	455,620
Off-balance sheet exposures [2]	32,794	57,391	1,701	1,762	93,648
Total	**261,588**	**136,859**	**144,357**	**6,464**	**549,268**

Exposures are shown pre-substitution.

1 Includes exposures to central banks of CHF 62.9 billion and CHF 155.0 billion as of the end of 4Q22 and 4Q21, 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	Due in 1 year or less [1]	Due between 1 year and 5 years	Due over 5 years	**Total**
4Q22 (CHF million)				
Loans and debt securities	187,869	92,543	54,222	334,634
Off-balance sheet exposures [2]	26,882	41,277	3,879	72,038
Total	**214,751**	**133,820**	**58,101**	**406,672**
4Q21 (CHF million) [3]				
Loans and debt securities	296,892	99,986	58,742	455,620
Off-balance sheet exposures [2]	37,579	47,600	8,469	93,648
Total	**334,471**	**147,586**	**67,211**	**549,268**

1 Includes positions without agreed residual contractual maturity.

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

3 Prior period has been revised.

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**
4Q22 (CHF million)							
Switzerland	481	320	801	1,504	349	1,853	118
EMEA	23	37	60	267	98	365	19
Americas	4,149	112	4,261	518	94	612	17
Asia Pacific	238	48	286	594	4	598	30
Total	**4,891**	**517**	**5,408**	**2,883**	**545**	**3,428**	**184**
4Q21 (CHF million)							
Switzerland	472	319	791	1,090	300	1,390	252
EMEA	31	52	83	339	129	468	22
Americas	4,218	108	4,326	268	19	287	25
Asia Pacific	216	32	248	624	0	624	0
Total	**4,937**	**511**	**5,448**	**2,321**	**448**	**2,769**	**299**

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**
4Q22 (CHF million)							
Financial institutions	4,104	34	4,138	345	42	387	0
Commercial	511	396	907	1,779	362	2,141	117
Consumer	273	86	359	748	141	889	67
Public authorities	3	1	4	11	0	11	0
Total	**4,891**	**517**	**5,408**	**2,883**	**545**	**3,428**	**184**
4Q21 (CHF million)							
Financial institutions	4,187	65	4,252	42	44	86	0
Commercial	473	360	833	1,396	193	1,589	242
Consumer	273	84	357	873	202	1,075	57
Public authorities	4	2	6	10	9	19	0
Total	**4,937**	**511**	**5,448**	**2,321**	**448**	**2,769**	**299**

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 non-specific provisions for expected credit losses on SA exposures: Regulatory category – specific	of which non-specific provisions for expected credit losses on SA exposures: Regulatory category – general	of which non-specific provisions for expected credit losses on IRB exposures	**Net exposures**
4Q22 (CHF million)								
Loans [1]	8,006	313,811	321,817	(5,242)	(26)	0	(434)	316,575
Debt securities	52	12,765	12,817	0	0	0	0	12,817
Off-balance sheet exposures [2]	671	71,367	72,038	(144)	(3)	0	(95)	71,894
Total	**8,729**	**397,943**	**406,672**	**(5,386)**	**(29)**	**0**	**(529)**	**401,286**
2Q22 (CHF million)								
Loans [1]	8,097	428,505	436,602	(5,441)	(38)	0	(483)	431,161
Debt securities	20	11,027	11,047	0	0	0	0	11,047
Off-balance sheet exposures [2]	628	86,913	87,541	(178)	(8)	0	(118)	87,363
Total	**8,745**	**526,445**	**535,190**	**(5,619)**	**(46)**	**0**	**(601)**	**529,571**

1 Loans include all on-balance sheet exposures that give rise to a credit risk charge and are not limited to exposures that are recognized as net loans under US GAAP. Loans 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 – Loans" (pages 269 to 271) and "Note 20 – Financial instruments measured at amortized cost and credit losses" (pages 290 to 303) in VI – Consolidated financial statements – Credit Suisse Group in the Credit Suisse Annual Report 2022 for further information on the current expected credit losses (CECL) model under US GAAP, the classification of non-specific provisions for expected credit losses 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

	2H22
CHF million	
Defaulted exposures at beginning of period	**8,745**
Exposures that have defaulted since the last reporting period	1,222
Returned to non-defaulted status	(226)
Amounts written-off	(100)
Other changes	(912)
Defaulted exposures at end of period	**8,729**

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**
4Q22 (CHF million)							
Financial institutions	21,302	258	1	1	159	419	21,721
Commercial	83,257	339	115	25	867	1,346	84,603
Consumer	149,887	413	136	73	762	1,384	151,271
Public authorities	1,171	5	0	0	11	16	1,187
Gross loans held at amortized cost	**255,617**	**1,015**	**252**	**99**	**1,799**	**3,165**	**258,782**
Gross loans held at fair value							7,361
Gross loans							**266,143**
4Q21 (CHF million)							
Financial institutions	20,815	61	7	1	41	110	20,925
Commercial	93,009	167	18	12	797	994	94,003
Consumer	165,734	350	148	107	713	1,318	167,052
Public authorities	1,253	16	0	0	19	35	1,288
Gross loans held at amortized cost	**280,811**	**594**	**173**	**120**	**1,570**	**2,457**	**283,268**
Gross loans held at fair value							10,243
Gross loans							**293,511**

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, 2022, CHF 264 million were reported as restructured loans.

→ Refer to "Note 20 – Financial instruments measured at amortized cost and credit losses" (pages 290 to 303) in VI – Consolidated financial statements – Credit Suisse Group in the Credit Suisse Annual Report 2022 for further information on restructured exposure.

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 160 to 162) in III – Treasury, Risk, Balance sheet and Off-balance sheet – Risk management – Risk portfolio analysis and to "Note 1 – Summary of significant accounting policies – Derivatives" (pages 267 to 268) in VI – Consolidated financial statements – Credit Suisse Group in the Credit Suisse Annual Report 2022 for information on policies and procedures for on- and off-balance sheet netting.

→ Refer to "Note 28 – Offsetting of financial assets and financial liabilities" (pages 313 to 316) in VI – Consolidated financial statements – Credit Suisse Group in the Credit Suisse Annual Report 2022 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.

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 Investment Bank 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 140 to 144) in III – Treasury, Risk, Balance sheet and Off-balance sheet – Risk management – Risk portfolio analysis in the Credit Suisse Annual Report 2022 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

	Net exposures			Exposures secured by		
end of	Unsecured	Partially or fully secured	**Total**	Collateral	Financial guarantees	Credit derivatives
4Q22 (CHF million)						
Loans [1]	108,336	208,239	316,575	170,869	3,562	22
Debt securities	12,652	165	12,817	152	0	0
Total	**120,988**	**208,404**	**329,392**	**171,021**	**3,562**	**22**
of which defaulted	1,337	1,937	**3,274**	966	79	0
2Q22 (CHF million)						
Loans [1]	203,558	227,603	431,161	184,912	5,446	15
Debt securities	9,545	1,502	11,047	1,460	0	0
Total	**213,103**	**229,105**	**442,208**	**186,372**	**5,446**	**15**
of which defaulted	1,402	1,794	**3,196**	1,068	74	0

1 Loans include all on-balance sheet exposures that give rise to a credit risk charge and are not limited to exposures that are recognized as net loans under US GAAP. Loans 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 according to credit ratings provided by recognized external credit assessment institutions (ECAI) or by using the applicable regulatory risk weights for unrated exposures. Credit Suisse is using credit ratings provided by Standard & Poor's, Moody's and Fitch Ratings for calculating risk-weighted assets associated with exposures classified as sovereigns, banks and securities dealer, other institutions and corporates. Only issuer rating are applied to calculate risk-weighted assets.

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

	Exposures pre-CCF and CRM			Exposures post-CCF and CRM				
end of	On-balance sheet	Off-balance sheet	**Total**	On-balance sheet	Off-balance sheet	**Total**	RWA	RWA density
4Q22 (CHF million)								
Sovereigns	34,756	21	34,777	34,756	0	34,756	98	0%
Institutions – Banks and securities dealer	2,127	730	2,857	1,943	374	2,317	788	34%
Institutions – Other institutions	703	1,796	2,499	703	145	848	244	29%
Corporates	9,700	8,146	17,846	9,082	2,443	11,525	10,663	93%
Retail	2,827	1,768	4,595	2,541	284	2,825	2,438	86%
Other exposures	13,551	1,229	14,780	13,268	1,108	14,376	12,743	89%
of which non-counterparty related assets	6,931	0	6,931	6,931	0	6,931	6,931	100%
Total	**63,664**	**13,690**	**77,354**	**62,293**	**4,354**	**66,647**	**26,974**	**40%**
2Q22 (CHF million)								
Sovereigns	119,874	20	119,894	119,874	0	119,874	101	0%
Institutions – Banks and securities dealer	2,780	768	3,548	2,578	388	2,966	986	33%
Institutions – Other institutions	814	2,122	2,936	814	298	1,112	369	33%
Corporates	12,260	8,783	21,043	11,444	2,822	14,266	12,179	85%
Retail	2,944	1,933	4,877	2,654	410	3,064	2,736	89%
Other exposures	15,442	1,443	16,885	15,172	1,257	16,429	14,465	88%
of which non-counterparty related assets	7,403	0	7,403	7,403	0	7,403	7,403	100%
Total	**154,114**	**15,069**	**169,183**	**152,536**	**5,175**	**157,711**	**30,836**	**20%**

Exposures by asset class and risk weight

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

CR5 – Exposures by asset class and risk weight

	Risk weight								
end of	0%	20%	35%	50%	75%	100%	150%	Others	Exposures post-CCF and CRM
4Q22 (CHF million)									
Sovereigns	34,611	49	0	39	0	32	25	0	34,756
Institutions – Banks and securities dealer	0	1,607	0	497	0	204	9	0	2,317
Institutions – Other institutions	363	0	0	483	0	0	2	0	848
Corporates	0	956	25	1,270	0	8,166	1,108	0	11,525
Retail	0	0	79	0	1,674	907	165	0	2,825
Other exposures	1,729	0	0	0	0	12,639	0	8	14,376
of which non-counterparty related assets	0	0	0	0	0	6,931	0	0	6,931
Total	**36,703**	**2,612**	**104**	**2,289**	**1,674**	**21,948**	**1,309**	**8**	**66,647**
of which secured by real estate	0	0	104	0	40	742	0	0	**886**
of which past due	0	0	0	0	0	182	640	0	**822**
2Q22 (CHF million)									
Sovereigns	119,737	53	0	32	0	10	42	0	119,874
Institutions – Banks and securities dealer	0	1,912	0	913	0	131	10	0	2,966
Institutions – Other institutions	374	4	0	732	0	0	2	0	1,112
Corporates	0	1,734	27	2,189	0	9,489	827	0	14,266
Retail	0	0	91	0	1,716	936	321	0	3,064
Other exposures	2,062	0	0	0	0	14,358	0	9	16,429
of which non-counterparty related assets	0	0	0	0	0	7,403	0	0	7,403
Total	**122,173**	**3,703**	**118**	**3,866**	**1,716**	**24,924**	**1,202**	**9**	**157,711**
of which secured by real estate	0	0	118	0	44	591	0	0	**753**
of which past due	0	0	0	0	0	254	465	0	**719**

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 SFTs. These modelled based approaches are used for the 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 Basel Committee on Banking Supervision (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.

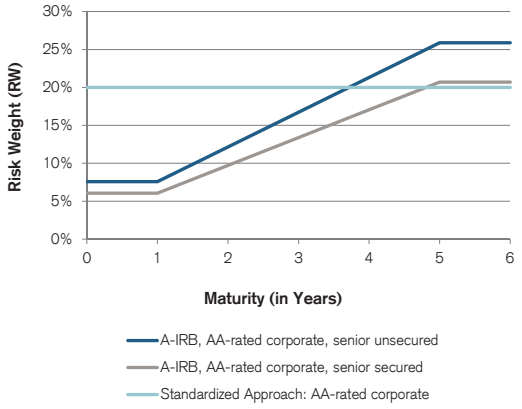
The following table provides a summary of the key conceptual differences between the internal models approach and the current standardized approach.

Key differences between the standardized approach and the internal model approach

	Standardized approach	Internal model approach	Key impact
EAD for derivatives	SA-CCR is calculated as the replacement costs plus regulatory add-ons that take into account potential future market moves at predetermined fixed rates.	Internal Models Method (IMM) allows Monte-Carlo simulation to estimate exposure.	For large diversified derivatives portfolios, standardized EAD is higher than model EAD.
	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 ECAIs: 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		
	EAD	Risk weight	Leverage exposures [1]
Basel asset class (CHF billion, except where indicated)			
Corporates	124	50%	199
Banks	20	23%	59
Sovereigns	39	5%	35
Retail	174	16%	171

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.

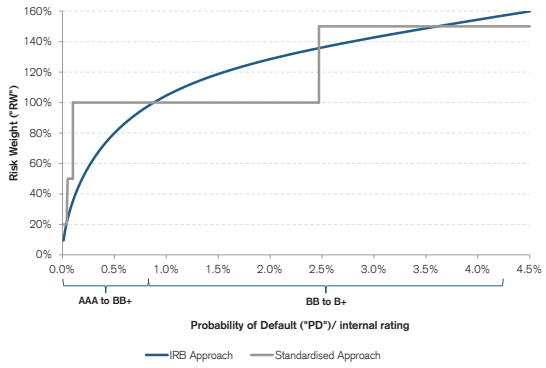
Corporate asset class

The table "Leverage exposure estimate" shows that the EAD for corporates computed under the internal model approach is CHF 124 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 50%. 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.

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.

→ 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

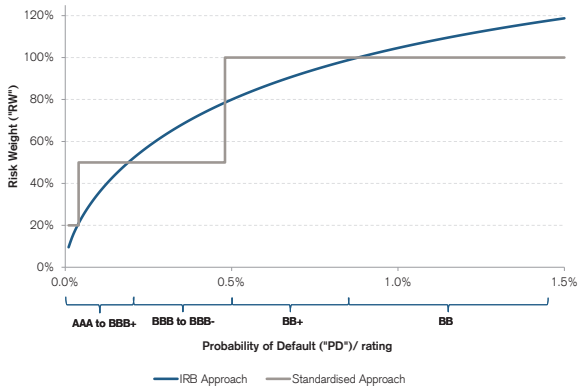
The table “Leverage exposure estimate” shows that the EAD for banks under the internal model approach is CHF 20 billion. The EAD for banks calculated under the standardized approach is significantly higher. This is driven by factors such as the exposure calculations for OTC derivatives and secured financing transactions. 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 23%. 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.

→ 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

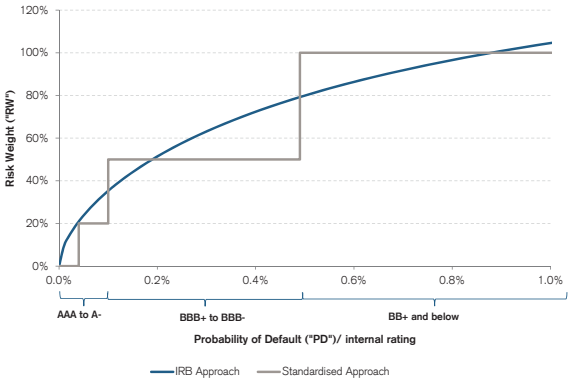
The table “Leverage exposure estimate” shows that the EAD for sovereigns under the internal model approach is CHF 39 billion. This is comparable to the EAD calculated under the standardized approach and the leverage ratio exposure. This is because the majority of the sovereign exposure is in the form 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 5%. 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.

→ 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 174 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 10%. 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 40%.

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 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 140 to 144) in III – Treasury, Risk, Balance sheet and Off-balance sheet – Risk management – Risk coverage and management in the Credit Suisse Annual Report 2022 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 Officer (CRO). 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 data history 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. The figures represent values after consideration of applicable securitization hedges and do not include CCR exposures.

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

				PD		LGD	
Portfolio	Asset class	RWA (in CHF billion) as of 3Q22	Data history	No. of models	Model comment	No. of models	Model comment
Corporates	Corporates, retail	36	>15 years	2	Statistical scorecards using e.g. balance sheet, P&L data and qualitative factors	2	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	5	>30 years	5	Statistical scorecard and constrained expert judgement using e.g. balance sheet, P&L data and qualitative factors		
Funds	Corporates	5	>10 years	4	Statistical scorecards using e.g. net asset value, volatility of returns and qualitative factors		
Residential mortgages & other wealth-management financing	Retail, corporates	15	>15 years	2	Statistical scorecard using e.g. LTV, affordability, assets and qualitative factors	2	Statistical model using e.g. counterparty segmentation, collateral types and amounts
Income producing real estate	Specialized lending, retail	12	>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	3	>15 years	1	Statistical scorecards using e.g. GDP, financials and qualitative factors	1	Statistical models using e.g. industry and counterparty segmentation, seniority and other transaction specific factors
Ship finance	Specialized lending	1	>15 years	1	Statistical scorecard using e.g. freight rates, ship market values, operational expenses and group information	1	Statistical model using e.g. LTV and counterparty attributes
Lombard, Securities Borrowing & Lending	Retail, corporates	9	>15 years	1	Merton type model using e.g. LTV, collateral volatility and counterparty attributes	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 CRO (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). Collateral loans (margin lending), which form the largest part of "Other retail", is also following an individual PD and LGD approach. The approach is 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+ AA AA-	0.021 – 0.027 0.027 – 0.034 0.034 – 0.044	Minimal risk	AA+ AA AA-	AA+ AA AA-	Aa1 Aa2 Aa3	Very low risk, long-term stability, repayment sources sufficient under lasting adverse conditions, extremely high medium-term stability
A+ A A-	0.044 – 0.056 0.056 – 0.068 0.068 – 0.097	Modest risk	A+ A A-	A+ A A-	A1 A2 A3	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
BBB+ BBB BBB-	0.097 – 0.167 0.167 – 0.285 0.285 – 0.487	Average risk	BBB+ BBB BBB-	BBB+ BBB BBB-	Baa1 Baa2 Baa3	Medium to low risk, high short-term stability, adequate substance for medium-term survival, very stable short term
BB+ BB BB-	0.487 – 0.839 0.839 – 1.442 1.442 – 2.478	Acceptable risk	BB+ BB BB-	BB+ BB BB-	Ba1 Ba2 Ba3	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
B+ B B-	2.478 – 4.259 4.259 – 7.311 7.311 – 12.550	High risk	B+ B B-	B+ B B-	B1 B2 B3	Increasing risk, limited capability to absorb further unexpected negative developments
CCC+ CCC CCC- CC	12.550 – 21.543 21.543 – 100.00 21.543 – 100.00 21.543 – 100.00	Very high risk	CCC+ CCC CCC- CC	CCC+ CCC CCC- CC	Caa1 Caa2 Caa3 Ca	High risk, very limited capability to absorb further unexpected negative developments
C D1 D2	100 Risk of default has materialized	Imminent or actual loss	C D	C D	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.

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 economic risk capital 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.

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

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 4Q22	Standardized approach	A-IRB approach [1]
EAD (in %)		
Sovereigns	51	49
Institutions – Banks and securities dealer	17	83
Institutions – Other institutions	62	38
Corporates	10	90
Residential mortgages	0	100
Retail	5	95
Other exposures	100	0
Total	**17**	**83**

1 Includes EAD related to the supervisory slotting approach.

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

end of 4Q22	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%	38,993	740	39,733	55%
0.15% to <0.25%	26	0	26	0%
0.25% to <0.50%	113	0	113	0%
0.50% to <0.75%	31	0	31	0%
0.75% to <2.50%	42	3	45	45%
2.50% to <10.00%	61	24	85	20%
10.00% to <100.00%	318	0	318	0%
100.00% (Default)	295	0	295	0%
Sub-total	**39,879**	**767**	**40,646**	**54%**
Institutions – Banks and securities dealer				
0.00% to <0.15%	7,692	1,186	8,878	59%
0.15% to <0.25%	250	265	515	47%
0.25% to <0.50%	424	193	617	45%
0.50% to <0.75%	33	102	135	48%
0.75% to <2.50%	89	46	135	51%
2.50% to <10.00%	589	186	775	48%
10.00% to <100.00%	7	8	15	35%
100.00% (Default)	7	0	7	0%
Sub-total	**9,091**	**1,986**	**11,077**	**54%**
Institutions – Other institutions				
0.00% to <0.15%	165	1,883	2,048	2%
0.15% to <0.25%	34	8	42	14%
0.25% to <0.50%	12	0	12	0%
0.50% to <0.75%	4	4	8	45%
0.75% to <2.50%	0	0	0	0%
2.50% to <10.00%	79	104	183	45%
10.00% to <100.00%	0	49	49	45%
Sub-total	**294**	**2,048**	**2,342**	**5%**
Corporates – Specialized lending				
0.00% to <0.15%	7,219	1,967	9,186	45%
0.15% to <0.25%	3,855	1,777	5,632	36%
0.25% to <0.50%	2,364	1,655	4,019	35%
0.50% to <0.75%	3,487	2,269	5,756	33%
0.75% to <2.50%	6,473	1,881	8,354	40%
2.50% to <10.00%	867	120	987	46%
10.00% to <100.00%	0	0	0	0%
100.00% (Default)	73	1	74	61%
Sub-total	**24,338**	**9,670**	**34,008**	**38%**

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
	33,448	0.03%	< 0.1	4%	1.1	539	2%	1	–
	0	0.22%	< 0.1	58%	4.2	0	86%	0	–
	81	0.37%	< 0.1	72%	2.0	80	100%	0	–
	9	0.64%	< 0.1	42%	1.0	5	58%	0	–
	38	1.84%	< 0.1	40%	3.1	44	114%	0	–
	66	4.29%	< 0.1	50%	2.9	115	174%	2	–
	211	28.19%	< 0.1	54%	0.2	632	299%	32	–
	113	100.00%	< 0.1	58%	1.2	119	106%	182	–
	33,966	**0.54%**	**0.1**	**5%**	**1.1**	**1,534**	**5%**	**217**	**182**
	9,758	0.06%	1.5	52%	0.6	1,462	15%	3	–
	316	0.22%	0.1	51%	0.7	139	44%	0	–
	395	0.37%	0.1	51%	1.1	256	65%	1	–
	84	0.64%	< 0.1	48%	1.8	83	99%	0	–
	116	1.66%	0.1	52%	0.7	138	119%	1	–
	273	5.47%	0.2	50%	1.0	444	163%	7	–
	5	21.57%	< 0.1	53%	0.4	14	285%	1	–
	7	100.00%	< 0.1	50%	1.0	8	106%	0	–
	10,954	**0.31%**	**1.9**	**52%**	**0.7**	**2,544**	**23%**	**13**	**0**
	318	0.04%	< 0.1	39%	3.5	61	19%	0	–
	35	0.19%	< 0.1	40%	3.0	23	66%	0	–
	12	0.37%	< 0.1	58%	2.5	11	83%	0	–
	6	0.72%	< 0.1	44%	1.5	4	72%	0	–
	–	0.00%	< 0.1	0%	0.0	0	0%	0	–
	126	5.18%	< 0.1	6%	4.2	33	26%	1	–
	22	19.31%	< 0.1	8%	5.0	11	51%	0	–
	519	**2.13%**	**0.1**	**30%**	**3.6**	**143**	**27%**	**1**	**0**
	8,096	0.05%	0.8	28%	2.5	1,704	21%	1	–
	4,502	0.19%	0.7	25%	2.6	1,466	33%	2	–
	2,939	0.36%	0.5	27%	1.9	1,213	41%	3	–
	4,242	0.59%	0.3	21%	1.9	1,725	41%	5	–
	7,227	1.35%	0.6	18%	2.3	3,273	45%	17	–
	923	3.89%	0.1	18%	1.8	566	61%	7	–
	–	0.00%	< 0.1	0%	0.0	0	0%	0	–
	40	100.00%	< 0.1	47%	1.0	43	106%	34	–
	27,969	**0.79%**	**2.8**	**23%**	**2.3**	**9,990**	**36%**	**69**	**34**

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

end of 4Q22	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%	13,873	38,961	52,834	34%
0.15% to <0.25%	6,992	11,754	18,746	39%
0.25% to <0.50%	4,562	8,137	12,699	36%
0.50% to <0.75%	2,557	5,428	7,985	33%
0.75% to <2.50%	8,014	7,987	16,001	41%
2.50% to <10.00%	7,079	8,274	15,353	49%
10.00% to <100.00%	805	318	1,123	50%
100.00% (Default)	6,083	754	6,837	48%
Sub-total	**49,965**	**81,613**	**131,578**	**37%**
Residential mortgages				
0.00% to <0.15%	31,276	1,396	32,672	39%
0.15% to <0.25%	33,307	1,596	34,903	43%
0.25% to <0.50%	35,075	1,579	36,654	42%
0.50% to <0.75%	4,439	440	4,879	44%
0.75% to <2.50%	5,143	636	5,779	44%
2.50% to <10.00%	936	46	982	61%
10.00% to <100.00%	66	0	66	70%
100.00% (Default)	379	2	381	65%
Sub-total	**110,621**	**5,695**	**116,316**	**42%**
Qualifying revolving retail				
0.75% to <2.50%	461	0	461	0%
100.00% (Default)	0	0	0	0%
Sub-total	**461**	**0**	**461**	**0%**
Other retail				
0.00% to <0.15%	36,615	121,701	158,316	6%
0.15% to <0.25%	2,511	6,863	9,374	9%
0.25% to <0.50%	1,779	2,656	4,435	13%
0.50% to <0.75%	390	602	992	23%
0.75% to <2.50%	4,598	1,731	6,329	29%
2.50% to <10.00%	2,815	323	3,138	25%
10.00% to <100.00%	52	26	78	7%
100.00% (Default)	311	14	325	20%
Sub-total	**49,071**	**133,916**	**182,987**	**7%**
Sub-total (all portfolios)				
0.00% to <0.15%	135,832	167,835	303,667	14%
0.15% to <0.25%	46,975	22,262	69,237	30%
0.25% to <0.50%	44,330	14,221	58,551	32%
0.50% to <0.75%	10,941	8,845	19,786	33%
0.75% to <2.50%	24,820	12,284	37,104	39%
2.50% to <10.00%	12,427	9,077	21,504	48%
10.00% to <100.00%	1,248	401	1,649	46%
100.00% (Default)	7,147	770	7,917	47%
Sub-total (all portfolios)	**283,720**	**235,695**	**519,415**	**20%**
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)	**283,720**	**235,695**	**519,415**	**20%**

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
	27,581	0.07%	2.8	42%	2.1	6,161	22%	8	–
	11,063	0.21%	1.3	47%	2.0	5,198	47%	11	–
	7,166	0.37%	1.5	42%	2.1	3,818	53%	11	–
	4,086	0.63%	0.8	36%	2.2	2,450	60%	9	–
	10,794	1.55%	1.7	40%	2.4	10,359	96%	69	–
	9,888	5.97%	1.7	35%	3.1	13,018	132%	199	–
	875	17.59%	0.1	24%	3.1	1,189	136%	38	–
	1,782	100.00%	0.3	61%	1.9	1,843	103%	4,691	–
	73,235	**3.81%**	**10.1**	**41%**	**2.3**	**44,036**	**60%**	**5,036**	**4,691**
	31,821	0.09%	44.2	14%	2.9	2,264	7%	4	–
	34,000	0.18%	37.7	15%	3.0	4,396	13%	9	–
	35,745	0.31%	48.2	14%	3.0	6,913	19%	16	–
	4,630	0.59%	5.2	17%	2.7	1,467	32%	4	–
	5,421	1.35%	5.0	16%	2.7	2,475	46%	12	–
	964	4.42%	0.6	16%	2.2	679	70%	6	–
	66	18.19%	< 0.1	15%	1.6	70	106%	2	–
	348	100.00%	0.2	51%	1.6	369	106%	32	–
	112,995	**0.62%**	**141.0**	**15%**	**2.9**	**18,633**	**16%**	**85**	**32**
	461	1.30%	563.3	50%	1.0	155	34%	3	–
	–	100.00%	< 0.1	50%	1.0	0	106%	0	–
	461	**1.31%**	**563.3**	**50%**	**1.0**	**155**	**34%**	**3**	**0**
	44,007	0.04%	47.8	63%	1.4	3,429	8%	11	–
	3,130	0.19%	3.9	45%	1.4	580	19%	3	–
	2,129	0.36%	3.4	42%	1.5	564	27%	3	–
	530	0.64%	1.3	35%	1.9	166	31%	1	–
	5,095	1.64%	95.3	34%	2.5	2,200	43%	29	–
	2,895	5.12%	86.2	40%	3.6	1,794	62%	59	–
	53	17.24%	0.3	26%	1.4	30	55%	2	–
	238	100.00%	4.9	78%	1.9	252	106%	314	–
	58,077	**0.88%**	**243.2**	**57%**	**1.6**	**9,015**	**16%**	**422**	**314**
	155,030	0.05%	97.2	34%	1.8	15,620	10%	28	–
	53,046	0.19%	43.6	24%	2.6	11,802	22%	25	–
	48,466	0.32%	53.6	21%	2.7	12,855	27%	34	–
	13,587	0.60%	7.7	25%	2.3	5,900	43%	19	–
	29,152	1.47%	665.9	29%	2.4	18,644	64%	131	–
	15,134	5.56%	88.8	34%	3.0	16,649	110%	281	–
	1,233	19.47%	0.4	29%	2.5	1,946	158%	75	–
	2,528	100.00%	5.5	61%	1.8	2,634	104%	5,253	–
	318,176	**1.40%**	**962.6**	**30%**	**2.2**	**86,050**	**27%**	**5,846**	**5,254**
	3	–	–	–	–	3	–	–	–
	–	–	–	–	–	3,639	–	–	–
	318,179	**1.40%**	**962.6**	**30%**	**2.2**	**89,692**	**27%**	**5,846**	**5,254**

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

end of 2Q22	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%	37,926	315	38,241	53%
0.15% to <0.25%	27	0	27	0%
0.25% to <0.50%	116	0	116	0%
0.50% to <0.75%	49	0	49	0%
0.75% to <2.50%	47	3	50	45%
2.50% to <10.00%	245	59	304	20%
10.00% to <100.00%	499	0	499	0%
100.00% (Default)	357	0	357	0%
Sub-total	**39,266**	**377**	**39,643**	**48%**
Institutions – Banks and securities dealer				
0.00% to <0.15%	8,399	1,695	10,094	61%
0.15% to <0.25%	237	278	515	47%
0.25% to <0.50%	521	207	728	49%
0.50% to <0.75%	56	132	188	52%
0.75% to <2.50%	235	129	364	42%
2.50% to <10.00%	653	173	826	43%
10.00% to <100.00%	52	24	76	50%
100.00% (Default)	8	0	8	0%
Sub-total	**10,161**	**2,638**	**12,799**	**56%**
Institutions – Other institutions				
0.00% to <0.15%	1,059	1,845	2,904	2%
0.15% to <0.25%	68	9	77	33%
0.25% to <0.50%	13	0	13	45%
0.50% to <0.75%	5	2	7	45%
0.75% to <2.50%	1	0	1	0%
2.50% to <10.00%	165	276	441	45%
Sub-total	**1,311**	**2,132**	**3,443**	**7%**
Corporates – Specialized lending				
0.00% to <0.15%	8,039	2,540	10,579	44%
0.15% to <0.25%	4,463	2,407	6,870	38%
0.25% to <0.50%	2,785	1,457	4,242	33%
0.50% to <0.75%	3,341	2,591	5,932	31%
0.75% to <2.50%	7,116	2,173	9,289	39%
2.50% to <10.00%	1,321	28	1,349	15%
10.00% to <100.00%	45	0	45	45%
100.00% (Default)	89	2	91	56%
Sub-total	**27,199**	**11,198**	**38,397**	**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
	32,579	0.03%	< 0.1	6%	1.1	518	2%	1	–
	0	0.22%	< 0.1	58%	2.5	0	64%	0	–
	83	0.37%	< 0.1	56%	2.2	64	77%	0	–
	13	0.64%	< 0.1	58%	1.4	12	88%	0	–
	48	1.85%	< 0.1	24%	3.5	34	71%	0	–
	204	5.73%	< 0.1	49%	2.0	349	171%	6	–
	344	28.23%	< 0.1	54%	1.1	1,037	301%	53	–
	129	100.00%	< 0.1	56%	1.9	136	106%	178	–
	33,400	**0.74%**	**0.1**	**7%**	**1.1**	**2,150**	**6%**	**238**	**178**
	11,196	0.06%	1.6	51%	0.7	1,682	15%	3	–
	225	0.22%	0.1	49%	0.6	86	38%	0	–
	472	0.37%	0.1	51%	0.7	282	60%	1	–
	104	0.64%	< 0.1	45%	2.6	91	87%	0	–
	224	1.62%	0.1	51%	0.5	233	104%	2	–
	353	5.31%	0.2	50%	0.8	576	163%	10	–
	58	28.04%	< 0.1	53%	0.7	188	321%	9	–
	8	100.00%	< 0.1	50%	1.6	8	106%	0	–
	12,640	**0.44%**	**2.0**	**51%**	**0.7**	**3,146**	**25%**	**25**	**0**
	1,183	0.04%	< 0.1	41%	3.4	261	22%	0	–
	71	0.16%	< 0.1	49%	1.2	29	42%	0	–
	13	0.37%	< 0.1	58%	2.5	11	83%	0	–
	5	0.72%	< 0.1	44%	1.9	4	77%	0	–
	1	1.05%	< 0.1	17%	2.0	1	52%	0	–
	290	5.40%	< 0.1	7%	4.7	88	30%	1	–
	1,563	**1.05%**	**0.1**	**35%**	**3.5**	**394**	**25%**	**1**	**0**
	9,155	0.06%	0.8	28%	2.4	1,972	22%	1	–
	5,367	0.19%	0.7	28%	2.4	1,998	37%	3	–
	3,267	0.37%	0.4	29%	1.8	1,425	44%	4	–
	4,156	0.59%	0.3	22%	1.9	1,698	41%	5	–
	7,965	1.42%	0.6	19%	2.3	3,937	49%	21	–
	1,325	3.88%	0.1	16%	2.4	691	52%	9	–
	45	14.86%	< 0.1	19%	1.3	41	93%	1	–
	55	100.00%	< 0.1	43%	1.3	58	106%	34	–
	31,335	**0.89%**	**3.0**	**24%**	**2.2**	**11,820**	**38%**	**78**	**34**

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

end of 2Q22	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%	15,948	49,374	65,322	34%
0.15% to <0.25%	5,915	10,585	16,500	37%
0.25% to <0.50%	5,632	8,412	14,044	36%
0.50% to <0.75%	3,762	4,849	8,611	42%
0.75% to <2.50%	8,616	7,689	16,305	40%
2.50% to <10.00%	8,001	14,320	22,321	44%
10.00% to <100.00%	984	491	1,475	35%
100.00% (Default)	6,082	683	6,765	37%
Sub-total	**54,940**	**96,403**	**151,343**	**37%**
Residential mortgages				
0.00% to <0.15%	30,701	1,646	32,347	41%
0.15% to <0.25%	33,251	1,624	34,875	43%
0.25% to <0.50%	36,132	1,962	38,094	43%
0.50% to <0.75%	4,793	439	5,232	47%
0.75% to <2.50%	5,615	640	6,255	42%
2.50% to <10.00%	1,356	51	1,407	57%
10.00% to <100.00%	27	0	27	70%
100.00% (Default)	462	3	465	73%
Sub-total	**112,337**	**6,365**	**118,702**	**43%**
Qualifying revolving retail				
0.75% to <2.50%	490	0	490	0%
100.00% (Default)	0	0	0	0%
Sub-total	**490**	**0**	**490**	**0%**
Other retail				
0.00% to <0.15%	44,395	139,515	183,910	6%
0.15% to <0.25%	3,198	7,171	10,369	9%
0.25% to <0.50%	1,983	2,573	4,556	10%
0.50% to <0.75%	675	766	1,441	17%
0.75% to <2.50%	4,531	1,432	5,963	22%
2.50% to <10.00%	2,653	721	3,374	41%
10.00% to <100.00%	25	35	60	5%
100.00% (Default)	306	19	325	19%
Sub-total	**57,766**	**152,232**	**209,998**	**7%**
Sub-total (all portfolios)				
0.00% to <0.15%	146,467	196,931	343,398	14%
0.15% to <0.25%	47,158	22,074	69,232	29%
0.25% to <0.50%	47,183	14,612	61,795	32%
0.50% to <0.75%	12,679	8,778	21,457	37%
0.75% to <2.50%	26,650	12,066	38,716	38%
2.50% to <10.00%	14,396	15,628	30,024	44%
10.00% to <100.00%	1,632	550	2,182	33%
100.00% (Default)	7,304	706	8,010	37%
Sub-total (all portfolios)	**303,469**	**271,345**	**574,814**	**20%**
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)	**303,469**	**271,345**	**574,814**	**20%**

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
	33,330	0.07%	2.9	40%	2.3	7,050	21%	9	–
	9,515	0.21%	1.4	45%	1.9	4,342	46%	9	–
	8,374	0.37%	1.5	41%	2.0	4,431	53%	13	–
	5,343	0.62%	0.8	41%	2.2	3,667	69%	13	–
	10,945	1.44%	1.7	37%	2.3	9,440	86%	60	–
	12,923	6.06%	2.0	35%	2.6	16,970	131%	275	–
	1,070	19.08%	0.1	26%	2.8	1,542	144%	54	–
	1,732	100.00%	0.2	64%	1.6	1,784	103%	4,688	–
	83,232	**3.58%**	**10.6**	**40%**	**2.2**	**49,226**	**59%**	**5,121**	**4,688**
	31,369	0.09%	43.8	14%	3.0	2,236	7%	4	–
	33,949	0.18%	38.1	15%	3.0	4,391	13%	9	–
	36,986	0.30%	50.3	14%	3.1	7,042	19%	16	–
	4,998	0.58%	5.7	17%	2.8	1,596	32%	5	–
	5,885	1.30%	5.5	17%	2.8	2,702	46%	12	–
	1,385	4.40%	0.7	15%	2.2	962	69%	9	–
	27	15.23%	< 0.1	16%	2.4	44	166%	1	–
	430	100.00%	0.2	55%	1.6	456	106%	34	–
	115,029	**0.70%**	**144.2**	**15%**	**3.0**	**19,429**	**17%**	**90**	**34**
	490	1.30%	572.5	50%	1.0	164	33%	3	–
	0	100.00%	< 0.1	50%	1.0	0	106%	0	–
	490	**1.30%**	**572.6**	**50%**	**1.0**	**164**	**33%**	**3**	**0**
	52,772	0.04%	49.8	63%	1.4	4,138	8%	13	–
	3,845	0.19%	4.1	46%	1.4	738	19%	4	–
	2,249	0.36%	3.5	41%	1.6	589	26%	3	–
	806	0.62%	1.4	39%	1.7	292	36%	2	–
	4,852	1.59%	92.6	34%	2.3	2,090	43%	27	–
	2,950	5.19%	83.1	39%	3.6	1,789	61%	59	–
	27	15.47%	0.2	53%	2.0	30	109%	2	–
	238	100.00%	4.8	79%	1.8	252	106%	280	–
	67,739	**0.76%**	**239.4**	**58%**	**1.6**	**9,918**	**15%**	**390**	**280**
	171,585	0.05%	98.9	36%	1.8	17,857	10%	31	–
	52,971	0.19%	44.3	24%	2.6	11,586	22%	25	–
	51,444	0.32%	55.8	21%	2.8	13,842	27%	37	–
	15,426	0.60%	8.2	28%	2.3	7,360	48%	26	–
	30,410	1.43%	673.0	28%	2.4	18,599	61%	125	–
	19,430	5.63%	86.0	33%	2.7	21,427	110%	368	–
	1,571	21.17%	0.4	33%	2.3	2,882	183%	120	–
	2,591	100.00%	5.3	63%	1.6	2,695	104%	5,215	–
	345,428	**1.42%**	**971.9**	**31%**	**2.2**	**96,248**	**28%**	**5,947**	**5,215**
	21	–	–	–	–	22	–	–	–
	–	–	–	–	–	762	–	–	–
	345,449	**1.42%**	**971.9**	**31%**	**2.2**	**97,032**	**28%**	**5,947**	**5,215**

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

	4Q22		2Q22	
end of	Pre-credit derivatives RWA	Actual RWA	Pre-credit derivatives RWA	Actual RWA
CHF million				
Sovereigns – A-IRB	1,534	1,534	2,150	2,150
Institutions – Banks and securities dealers – A-IRB	2,606	2,544	3,210	3,146
Institutions – Other institutions – A-IRB	143	143	394	394
Corporates – Specialized lending – A-IRB	13,693	13,693	16,143	16,143
Corporates without specialized lending – A-IRB	44,052	44,039	49,262	49,248
Residential mortgages	18,633	18,633	19,429	19,429
Qualifying revolving retail	155	155	164	164
Other retail	9,015	9,015	9,918	9,918
Maturity and export finance buffer – IRB	3,639	3,639	762	762
Total	**93,470**	**93,395**	**101,432**	**101,354**

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

RWA flow statement of credit risk exposures under IRB

The following table presents the 4Q22 flow statement explaining the variations in the credit risk RWA determined under the IRB approach.

Credit Risk RWA under IRB approach decreased CHF 6.8 billion to CHF 93.4 billion compared to the end of 3Q22. The decrease was primarily driven by movement in asset size risk levels, negative foreign exchange impact and further due to improvement in book quality. These reductions are partially offset by an increase in model and parameter updates, mainly reflecting in the regulatory buffers per FINMA approval relating to commodity trade finance, retail to corporate treatment of certain exposures, IPRE portfolio buffer on corporate clients as well as global private client aviation buffer.

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

	4Q22
CHF million	
Risk-weighted assets at beginning of period	**100,153**
Asset size	(6,035)
Asset quality	(661)
Model and parameter updates	1,719
Foreign exchange impact	(1,781)
Risk-weighted assets at end of period	**93,395**

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 2020. 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 2021.

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	1.18%
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	28.23%
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	0.61%
0.75% to <2.50%	BB to BB-	BB to BB-	Ba2 to Ba3	1.31%
2.50% to <10.00%	B+ to B-	B+ to B-	B1 to B3	5.16%
10.00% to <100.00%	CCC+ to CC	CCC+ to CC	Caa1 to Ca	17.18%
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	0.20%
0.25% to <0.50%	BBB-	BBB-	Baa3	0.37%
0.50% to <0.75%	BB+	BB+	Ba1	0.00%
0.75% to <2.50%	BB to BB-	BB to BB-	Ba2 to Ba3	0.00%
2.50% to <10.00%	B+ to B-	B+ to B-	B1 to B3	4.77%
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	0.20%
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	1.50%
2.50% to <10.00%	B+ to B-	B+ to B-	B1 to B3	4.43%
10.00% to <100.00%	CCC+ to CC	CCC+ to CC	Caa1 to Ca	12.45%

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. 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) End of previous year	End of the year	Defaulted obligors in the year [2]	of which: new defaulted obligors in the year [2]	Average historical annual default rate [2]
	0.04%	<0.1	<0.1	0	0	0.03%
	0.23%	<0.1	<0.1	0	0	0.00%
	0.37%	<0.1	<0.1	0	0	0.00%
	0.64%	<0.1	<0.1	0	0	0.00%
	1.33%	<0.1	<0.1	0	0	0.00%
	6.15%	<0.1	<0.1	0	0	1.09%
	28.23%	<0.1	<0.1	1	0	13.89%
	0.07%	1.6	1.6	0	0	0.03%
	0.22%	0.1	0.1	0	0	0.14%
	0.37%	0.1	0.1	0	0	0.26%
	0.64%	<0.1	<0.1	0	0	0.17%
	1.41%	0.1	0.1	0	0	0.15%
	4.95%	0.2	0.2	0	0	0.56%
	19.39%	<0.1	<0.1	0	0	2.23%
	0.06%	<0.1	<0.1	0	0	0.00%
	0.18%	<0.1	<0.1	0	0	0.00%
	0.32%	<0.1	<0.1	0	0	0.00%
	0.00%	0	–	0	0	0.07%
	0.00%	0	<0.1	0	0	0.00%
	4.13%	<0.1	<0.1	–	–	–
	0.07%	0.8	0.8	0	0	0.01%
	0.20%	0.7	0.7	1	0	0.03%
	0.37%	0.5	0.4	0	0	0.03%
	0.60%	0.3	0.3	1	0	0.21%
	1.38%	0.7	0.6	4	0	0.42%
	4.19%	0.2	0.1	4	0	4.42%
	12.45%	<0.1	<0.1	0	0	19.10%

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	1.50%
2.50% to <10.00%	B+ to B-	B+ to B-	B1 to B3	5.70%
10.00% to <100.00%	CCC+ to CC	CCC+ to CC	Caa1 to Ca	19.34%
Residential mortgages				
0.00% to <0.15%	AAA to BBB+	AAA to BBB+	Aaa to Baa1	0.09%
0.15% to <0.25%	BBB	BBB	Baa2	0.18%
0.25% to <0.50%	BBB-	BBB-	Baa3	0.30%
0.50% to <0.75%	BB+	BB+	Ba1	0.59%
0.75% to <2.50%	BB to BB-	BB to BB-	Ba2 to Ba3	1.23%
2.50% to <10.00%	B+ to B-	B+ to B-	B1 to B3	4.17%
10.00% to <100.00%	CCC+ to CC	CCC+ to CC	Caa1 to Ca	17.12%
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	0.00%
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	0.62%
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	5.19%
10.00% to <100.00%	CCC+ to CC	CCC+ to CC	Caa1 to Ca	15.79%

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. 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) End of previous year	End of the year	Defaulted obligors in the year [2]	of which: new defaulted obligors in the year [2]	Average historical annual default rate [2]
	0.07%	2.6	2.7	0	0	0.03%
	0.20%	1.3	1.2	1	0	0.10%
	0.37%	1.6	1.5	2	0	0.11%
	0.65%	0.9	0.7	1	0	0.25%
	1.44%	2.1	1.8	9	0	0.79%
	5.43%	1.8	1.6	25	1	2.05%
	18.78%	0.1	0.1	9	0	13.71%
	0.09%	44.0	43.7	8	0	0.02%
	0.17%	38.4	38.1	12	0	0.04%
	0.30%	52.5	51.1	33	0	0.08%
	0.60%	6.4	6.0	6	0	0.15%
	1.27%	6.5	6.0	35	0	0.31%
	4.27%	0.7	0.7	14	0	3.89%
	16.30%	<0.1	<0.1	2	0	18.72%
	1.30%	767.2	745.9	4,075	0	0.98%
	0.00%	0.0	–	–	–	–
	0.04%	50.8	50.5	9	0	0.04%
	0.19%	3.9	3.9	0	0	0.02%
	0.35%	3.5	3.5	0	0	0.05%
	0.67%	1.4	1.3	7	0	0.12%
	1.79%	81.5	96.0	922	131	1.13%
	5.48%	80.7	81.8	2,636	202	3.73%
	16.97%	0.3	0.2	–	0	0.12%

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
4Q22 (CHF million, except where indicated)							
Other than high-volatility commercial real estate							
Regulatory categories and remaining maturity							
Strong	Less than 2.5 years	488	247	50%	646	342	0
	Equal to or more than 2.5 years	698	423	70%	904	671	4
Good	Less than 2.5 years	1,346	333	70%	1,529	1,134	6
	Equal to or more than 2.5 years	532	220	90%	641	612	5
Satisfactory		751	48	115% [2]	747	911	21
Weak		6	11	250%	12	33	1
Total		**3,821**	**1,282**	**–**	**4,479**	**3,703**	**37**
High-volatility commercial real estate							
Regulatory categories and remaining maturity							
Default		0	2	–	1	0	1
Total		**0**	**2**	**–**	**1**	**0**	**1**
2Q22 (CHF million, except where indicated)							
Other than high-volatility commercial real estate							
Regulatory categories and remaining maturity							
Strong	Less than 2.5 years	735	276	50%	921	488	0
	Equal to or more than 2.5 years	522	696	70%	865	642	4
Good	Less than 2.5 years	1,378	612	70%	1,715	1,273	7
	Equal to or more than 2.5 years	787	351	90%	968	923	8
Satisfactory		946	42	115% [2]	640	780	18
Weak		11	12	250%	18	47	1
Default		15	0	–	15	0	7
Total		**4,394**	**1,989**	**–**	**5,142**	**4,153**	**45**
High-volatility commercial real estate							
Regulatory categories and remaining maturity							
Satisfactory		32	0	140%	32	48	1
Weak		46	0	250%	46	121	3
Default		0	2	–	1	0	1
Total		**78**	**2**	**–**	**79**	**169**	**5**

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
4Q22 (CHF million)					
Exchange-traded equity exposures	23	0	300%	23	72
Other equity exposures	873	0	400%	873	3,703
Total	**896**	**0**	–	**896**	**3,775**
2Q22 (CHF million)					
Exchange-traded equity exposures	437	0	300%	437	1,390
Other equity exposures	962	0	400%	962	4,079
Total	**1,399**	**0**	–	**1,399**	**5,469**

Equity investments in funds exposures of CHF 682.3 million and CHF 713.5 million as of the end of 4Q22 and 2Q22, respectively, 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 as security 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 value-at-risk (VaR) model for SFTs.

→ Refer to "Credit risk" (pages 140 to 144) in III – Treasury, Risk, Balance sheet and Off-balance sheet – Risk management – Risk coverage and management in the Credit Suisse Annual Report 2022 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 140 to 144) in III – Treasury, Risk, Balance sheet and Off-balance sheet – Risk management – Risk coverage and management in the Credit Suisse Annual Report 2022 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 113 to 114) in III – Treasury, Risk, Balance sheet and Off-balance sheet – Liquidity and funding management – Funding management in the Credit Suisse Annual Report 2022 for further information on the effect of a one, two or three notch downgrade as of December 31, 2022.

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
4Q22 (CHF million, except where indicated)						
SA-CCR (for derivatives)	1,638	1,888	–	1.4	4,937	1,827
IMM (for derivatives)	–	–	10,151	1.6 [1]	16,228	4,493
VaR for SFTs	–	–	–	–	17,661	2,963
Total	**–**	**–**	**–**	**–**	**38,826**	**9,283**
2Q22 (CHF million, except where indicated)						
SA-CCR (for derivatives)	3,053	3,540	–	1.4	9,230	3,496
IMM (for derivatives)	–	–	13,879	1.6 [1]	22,189	5,982
Comprehensive Approach for CRM (for SFTs)	–	–	–	–	1	1
VaR for SFTs	–	–	–	–	20,882	3,799
Total	**–**	**–**	**–**	**–**	**52,302**	**13,278**

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 0.9 billion to CHF 3.3 billion compared to the end of 2Q22, mainly driven by enhanced data granularity, resulting in a more precise computation of maturity and exposure updates.

CCR2 – CVA capital charge

	4Q22		2Q22	
end of	EAD post-CRM	RWA	EAD post-CRM	RWA
CHF million				
Total portfolios subject to the advanced CVA capital charge	19,182	3,301	27,967	4,191
of which VaR component (including the 3 x multiplier)	–	641	–	780
of which stressed VaR component (including the 3 x multiplier)	–	2,660	–	3,411
Total subject to the CVA capital charge	**19,182**	**3,301**	**27,967**	**4,191**

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						
end of	0%	20%	50%	75%	100%	150%	Exposures post-CCF and CRM
4Q22 (CHF million)							
Sovereigns	305	0	0	0	0	0	305
Institutions – Banks and securities dealer	0	218	127	0	62	2	409
Institutions – Other institutions	628	0	81	0	0	0	709
Corporates	0	81	7	0	1,107	37	1,232
Retail	0	0	0	21	61	0	82
Other exposures	0	0	0	0	347	0	347
Total	**933**	**299**	**215**	**21**	**1,577**	**39**	**3,084**
2Q22 (CHF million)							
Sovereigns	4	0	0	0	0	0	4
Institutions – Banks and securities dealer	0	116	299	0	57	0	472
Institutions – Other institutions	542	0	119	0	0	0	661
Corporates	0	122	2	0	1,530	22	1,676
Retail	0	0	0	48	348	0	396
Other exposures	0	0	0	0	478	0	478
Total	**546**	**238**	**420**	**48**	**2,413**	**22**	**3,687**

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, an explanation of 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 4Q22	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%	4,978	0.03%	< 0.1	46%	0.5	289	6%
0.15% to <0.25%	0	0.22%	< 0.1	58%	1.0	0	44%
0.25% to <0.50%	69	0.37%	< 0.1	41%	1.0	29	42%
Sub-total	**5,047**	**0.03%**	**< 0.1**	**46%**	**0.5**	**318**	**6%**
Institutions – Banks and securities dealer							
0.00% to <0.15%	8,448	0.06%	0.4	58%	0.6	1,477	17%
0.15% to <0.25%	494	0.22%	0.1	59%	0.7	247	50%
0.25% to <0.50%	61	0.37%	< 0.1	56%	0.6	36	60%
0.50% to <0.75%	121	0.64%	< 0.1	60%	0.1	83	69%
0.75% to <2.50%	192	1.84%	0.1	54%	0.2	232	121%
2.50% to <10.00%	36	5.35%	< 0.1	53%	0.8	61	171%
10.00% to <100.00%	0	26.29%	< 0.1	53%	1.0	0	289%
100.00% (Default)	0	0.00%	< 0.1	0%	0.0	0	0%
Sub-total	**9,352**	**0.13%**	**0.7**	**58%**	**0.6**	**2,136**	**23%**
Institutions – Other institutions							
0.00% to <0.15%	62	0.04%	< 0.1	18%	1.0	3	4%
0.15% to <0.25%	0	0.24%	< 0.1	0%	1.0	0	0%
0.50% to <0.75%	0	0.72%	< 0.1	44%	1.0	0	65%
Sub-total	**62**	**0.04%**	**< 0.1**	**18%**	**1.0**	**3**	**4%**
Corporates – Specialized lending							
0.25% to <0.50%	0	0.37%	< 0.1	50%	1.0	0	52%
0.75% to <2.50%	–	0.90%	< 0.1	50%	1.0	0	81%
2.50% to <10.00%	0	3.34%	< 0.1	50%	1.0	0	131%
Sub-total	**0**	**0.81%**	**< 0.1**	**50%**	**1.0**	**0**	**76%**

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

end of 4Q22	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%	14,758	0.05%	3.9	48%	0.4	1,689	11%
0.15% to <0.25%	2,087	0.22%	0.4	45%	1.0	725	35%
0.25% to <0.50%	613	0.36%	0.3	48%	1.0	343	56%
0.50% to <0.75%	211	0.63%	0.2	48%	0.9	145	69%
0.75% to <2.50%	600	1.63%	0.5	69%	0.6	935	156%
2.50% to <10.00%	283	5.69%	0.3	63%	0.9	893	316%
10.00% to <100.00%	2	28.23%	< 0.1	90%	1.0	14	892%
100.00% (Default)	4	100.00%	< 0.1	46%	1.0	4	106%
Sub-total	**18,558**	**0.25%**	**5.5**	**48%**	**0.5**	**4,748**	**26%**
Other retail							
0.00% to <0.15%	2,437	0.04%	4.8	62%	1.0	186	8%
0.15% to <0.25%	162	0.19%	0.4	47%	1.0	32	20%
0.25% to <0.50%	49	0.36%	0.2	48%	1.0	15	30%
0.50% to <0.75%	4	0.63%	< 0.1	32%	1.0	1	28%
0.75% to <2.50%	68	1.36%	0.1	32%	1.0	24	35%
2.50% to <10.00%	4	4.04%	< 0.1	23%	1.0	1	35%
10.00% to <100.00%	1	16.66%	< 0.1	28%	1.0	0	56%
100.00% (Default)	0	100.00%	< 0.1	53%	1.0	0	100%
Sub-total	**2,725**	**0.10%**	**5.5**	**60%**	**1.0**	**259**	**10%**
Total (all portfolios)							
0.00% to <0.15%	30,683	0.05%	9.2	51%	0.5	3,644	12%
0.15% to <0.25%	2,743	0.22%	0.9	47%	0.9	1,003	37%
0.25% to <0.50%	793	0.37%	0.5	48%	1.0	424	53%
0.50% to <0.75%	336	0.63%	0.2	52%	0.6	229	68%
0.75% to <2.50%	859	1.66%	0.6	63%	0.5	1,191	139%
2.50% to <10.00%	322	5.63%	0.3	61%	0.9	955	297%
10.00% to <100.00%	2	24.87%	< 0.1	71%	1.0	15	624%
100.00% (Default)	4	100.00%	< 0.1	46%	1.0	4	106%
Total (all portfolios)	**35,742**	**0.18%**	**11.8**	**51%**	**0.6**	**7,465**	**21%**

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

end of 2Q22	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%	6,150	0.03%	< 0.1	49%	0.4	373	6%
0.15% to <0.25%	0	0.22%	< 0.1	58%	1.0	0	44%
0.25% to <0.50%	84	0.37%	< 0.1	41%	1.0	36	42%
0.75% to <2.50%	0	1.10%	< 0.1	53%	1.0	0	95%
Sub-total	**6,234**	**0.03%**	**< 0.1**	**49%**	**0.4**	**409**	**7%**
Institutions – Banks and securities dealer							
0.00% to <0.15%	10,666	0.06%	0.5	58%	0.7	1,989	19%
0.15% to <0.25%	444	0.22%	< 0.1	57%	0.7	202	46%
0.25% to <0.50%	176	0.37%	< 0.1	59%	0.8	129	73%
0.50% to <0.75%	61	0.64%	< 0.1	50%	0.4	38	63%
0.75% to <2.50%	172	1.83%	< 0.1	54%	0.2	213	124%
2.50% to <10.00%	40	5.73%	< 0.1	55%	0.9	74	183%
10.00% to <100.00%	1	27.63%	< 0.1	53%	1.0	4	295%
Sub-total	**11,560**	**0.12%**	**0.8**	**58%**	**0.7**	**2,649**	**23%**
Institutions – Other institutions							
0.00% to <0.15%	65	0.04%	< 0.1	16%	1.0	3	4%
0.15% to <0.25%	0	0.24%	< 0.1	0%	1.0	0	0%
0.50% to <0.75%	0	0.72%	< 0.1	44%	1.0	0	65%
Sub-total	**65**	**0.04%**	**< 0.1**	**16%**	**1.0**	**3**	**4%**
Corporates – Specialized lending							
0.25% to <0.50%	0	0.37%	< 0.1	50%	1.0	0	52%
0.50% to <0.75%	0	0.58%	< 0.1	50%	1.0	0	66%
0.75% to <2.50%	0	1.72%	< 0.1	50%	1.0	0	99%
2.50% to <10.00%	0	3.37%	< 0.1	50%	1.0	1	135%
Sub-total	**0**	**2.49%**	**< 0.1**	**50%**	**1.0**	**1**	**112%**

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

end of 2Q22	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%	21,452	0.05%	5.7	47%	0.5	2,533	12%
0.15% to <0.25%	2,360	0.22%	0.5	50%	0.7	888	38%
0.25% to <0.50%	926	0.37%	0.6	51%	1.0	552	60%
0.50% to <0.75%	243	0.63%	0.2	55%	0.8	195	80%
0.75% to <2.50%	944	1.57%	0.6	70%	0.6	1,501	159%
2.50% to <10.00%	459	5.72%	0.4	63%	0.8	1,369	298%
10.00% to <100.00%	1	16.44%	< 0.1	32%	1.0	1	159%
100.00% (Default)	6	100.00%	< 0.1	62%	1.0	7	106%
Sub-total	**26,391**	**0.26%**	**7.9**	**49%**	**0.6**	**7,046**	**27%**
Other retail							
0.00% to <0.15%	3,851	0.04%	5.8	63%	1.0	281	7%
0.15% to <0.25%	279	0.20%	0.5	53%	1.0	63	23%
0.25% to <0.50%	125	0.36%	0.2	42%	1.0	34	27%
0.50% to <0.75%	48	0.58%	< 0.1	62%	1.0	25	52%
0.75% to <2.50%	39	1.26%	< 0.1	30%	1.0	14	36%
2.50% to <10.00%	6	5.53%	< 0.1	48%	1.0	4	75%
10.00% to <100.00%	0	19.08%	< 0.1	63%	1.0	1	145%
100.00% (Default)	0	100.00%	< 0.1	53%	1.0	0	106%
Sub-total	**4,348**	**0.08%**	**6.6**	**62%**	**1.0**	**422**	**10%**
Total (all portfolios)							
0.00% to <0.15%	42,184	0.05%	12.0	51%	0.6	5,179	12%
0.15% to <0.25%	3,083	0.21%	1.0	51%	0.7	1,153	37%
0.25% to <0.50%	1,311	0.37%	0.9	51%	0.9	751	57%
0.50% to <0.75%	353	0.62%	0.3	55%	0.8	259	73%
0.75% to <2.50%	1,155	1.59%	0.8	67%	0.6	1,728	150%
2.50% to <10.00%	505	5.72%	0.5	62%	0.8	1,447	286%
10.00% to <100.00%	2	22.66%	< 0.1	48%	1.0	5	227%
100.00% (Default)	6	100.00%	< 0.1	62%	1.0	7	106%
Total (all portfolios)	**48,599**	**0.18%**	**15.4**	**52%**	**0.6**	**10,529**	**22%**

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 central counterparties (CCPs). 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

	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
end of	Segregated	Un-segregated	**Total**	Segregated	Un-segregated	**Total**		
4Q22 (CHF million)								
Cash – domestic currency	0	3,086	3,086	0	1,902	1,902	12	3,956
Cash – other currencies	0	17,485	17,485	141	22,226	22,367	33,821	68,443
Domestic sovereign debt	0	129	129	0	0	0	1,797	54
Other sovereign debt	3,034	6,424	9,458	9,812	3,120	12,932	78,636	40,541
Government agency debt	10	19	29	0	7	7	700	2,160
Corporate bonds	432	9,142	9,574	8	311	319	21,118	12,553
Equity securities	349	12,074	12,423	1,072	628	1,700	6,522 [1]	12,006 [1]
Other collateral	0	4,538	4,538	0	2	2	22,233	13,559
Total	**3,825**	**52,897**	**56,722**	**11,033**	**28,196**	**39,229**	**164,839**	**153,272**
2Q22 (CHF million) [2]								
Cash – domestic currency	0	6,364	6,364	0	1,764	1,764	62	6,729
Cash – other currencies	104	34,649	34,753	551	34,838	35,389	41,929	113,413
Domestic sovereign debt	0	93	93	0	0	0	1,444	85
Other sovereign debt	4,332	8,112	12,444	12,384	3,267	15,651	127,057	51,777
Government agency debt	8	24	32	0	15	15	1,366	2,723
Corporate bonds	114	9,815	9,929	0	418	418	32,303	19,328
Equity securities	128	14,796	14,924	2,255	689	2,944	15,999 [1]	21,384 [1]
Other collateral	3	4,635	4,638	0	18	18	32,297	11,103
Total	**4,689**	**78,488**	**83,177**	**15,190**	**41,009**	**56,199**	**252,457**	**226,542**

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 the derivative collateral balances for both segregated and unsegregated balances. Prior period has been revised.

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 4Q22, no credit derivatives were utilized that qualify for hedge accounting under US GAAP.

→ Refer to "Derivative instruments" (pages 160 to 162) in III – Treasury, Risk, Balance sheet and Off-balance sheet – Risk management – Risk portfolio analysis in the Credit Suisse Annual Report 2022 for further information on derivative instruments, including counterparties and their creditworthiness.
→ Refer to "Note 33 – Derivatives and hedging activities" (pages 338 to 344) in VI – Consolidated financial statements – Credit Suisse Group in the Credit Suisse Annual Report 2022 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 313 to 316) in VI – Consolidated financial statements – Credit Suisse Group in the Credit Suisse Annual Report 2022 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

	4Q22		2Q22	
end of	Protection bought	Protection sold	Protection bought	Protection sold
Notionals (CHF billion)				
Single-name CDS	84.9	76.0	89.6	80.6
Index CDS	90.2	83.2	113.2	100.2
Total return swaps	4.5	1.4	7.2	4.9
Other credit derivatives	9.0	2.9	22.4	17.4
of which credit default swaptions	7.3	1.2	20.0	11.5
of which other credit instruments	1.7	1.7	2.4	5.9
Total notionals	**188.6**	**163.5**	**232.4**	**203.1**
Fair values (CHF billion)				
Positive fair value (asset)	2.5	0.7	2.7	0.7
Negative fair value (liability)	2.0	1.4	1.9	2.4

Includes the client leg of cleared credit derivatives.

RWA flow statements of CCR exposures under IMM

The following table presents the 4Q22 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

	4Q22
CHF million	
Risk-weighted assets at beginning of period	**9,203**
Asset size	(1,415)
Credit quality of counterparties	66
Model and parameter updates	4
Foreign exchange impact	(340)
Risk-weighted assets at end of period	**7,518**

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

The CCR RWA under IMM decreased CHF 1.7 billion to CHF 7.5 billion compared to the end of 3Q22, primarily driven by decrease in asset size risk levels attributable to expiry of trades and exposures reductions across over-the-counter derivatives and securities financing business. Further reduction is created by negative foreign exchange impact mainly due to US dollar depreciating 6% over the quarter against the Swiss franc.

Exposures to central counterparties

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

CCR8 – Exposures to central counterparties

	4Q22		2Q22	
end of	EAD (post-CRM)	RWA	EAD (post-CRM)	RWA
CHF million				
QCCPs				
Exposures for trades at QCCPs	12,278	267	15,787	334
of which OTC derivatives	7,306	168	8,627	191
of which exchange-traded derivatives	3,917	78	5,956	119
of which SFTs	1,055	21	1,204	24
Segregated initial margin	4,549	–	5,532	–
Pre-funded default fund contributions	2,422	593	3,024	856
Total exposures to QCCPs	**–**	**860**	**–**	**1,190**
Non-QCCPs				
Pre-funded default fund contributions	0	4	0	0
Total exposures to non-QCCPs	**–**	**4**	**–**	**0**

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 348 to 357) in VI – Consolidated financial statements – Credit Suisse Group in the Credit Suisse Annual Report 2022 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 2022.

A traditional securitization is a structure where an underlying pool of assets is sold to an SPE which pays for the assets by issuing tranched securities collateralized by the underlying asset pool. A synthetic securitization is a tranched 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 three 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, collateralized loan obligations, 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 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.

SEC1 – Securitization exposures in the banking book

	Bank acts as originator			Bank acts as sponsor			Bank acts as investor		
end of	Traditional	Synthetic	**Total**	Traditional	Synthetic	**Total**	Traditional	Synthetic	**Total**
4Q22 (CHF million)									
Residential mortgages	10	440	450	564	0	564	2,000	0	2,000
Credit cards	0	0	0	696	0	696	407	0	407
Other retail exposures	396	66	462	3,294	0	3,294	3,027	0	3,027
Re-securitization	0	0	0	0	0	0	141	0	141
Total retail	**406**	**506**	**912**	**4,554**	**0**	**4,554**	**5,575**	**0**	**5,575**
Loans to corporates	0	29,889	29,889	956	0	956	3,436	0	3,436
Commercial mortgages	2	10,258	10,260	226	0	226	792	0	792
Lease and receivables	0	0	0	1,123	0	1,123	4,470	0	4,470
Other wholesale	699	110	809	1,114	0	1,114	926	0	926
Total wholesale	**701**	**40,257**	**40,958**	**3,419**	**0**	**3,419**	**9,624**	**0**	**9,624**
Total	**1,107**	**40,763**	**41,870**	**7,973**	**0**	**7,973**	**15,199**	**0**	**15,199**
2Q22 (CHF million)									
Residential mortgages	108	457	565	0	0	0	2,570	0	2,570
Credit cards	0	0	0	628	0	628	616	0	616
Other retail exposures	335	43	378	3,044	0	3,044	2,692	0	2,692
Re-securitization	0	0	0	0	0	0	48	0	48
Total retail	**443**	**500**	**943**	**3,672**	**0**	**3,672**	**5,926**	**0**	**5,926**
Loans to corporates	0	29,860	29,860	1,022	0	1,022	3,138	0	3,138
Commercial mortgages	11	10,484	10,495	0	0	0	888	0	888
Lease and receivables	0	0	0	2,102	0	2,102	2,209	0	2,209
Other wholesale	745	125	870	870	0	870	1,224	0	1,224
Total wholesale	**756**	**40,469**	**41,225**	**3,994**	**0**	**3,994**	**7,459**	**0**	**7,459**
Total	**1,199**	**40,969**	**42,168**	**7,666**	**0**	**7,666**	**13,385**	**0**	**13,385**

Securitization exposures in the trading book

SEC2 – Securitization exposures in the trading book

	Bank acts as originator			Bank acts as sponsor			Bank acts as investor		
end of	Traditional	Synthetic	**Total**	Traditional	Synthetic	**Total**	Traditional	Synthetic	**Total**
4Q22 (CHF million)									
Residential mortgages	9	0	9	0	0	0	842	0	842
Other retail exposures	0	0	0	0	0	0	312	0	312
Re-securitization	0	12	12	0	0	0	189	48	237
Total retail	**9**	**12**	**21**	**0**	**0**	**0**	**1,343**	**48**	**1,391**
Loans to corporates	0	0	0	0	0	0	317	0	317
Commercial mortgages	96	0	96	0	0	0	426	0	426
Re-securitization	0	0	0	0	0	0	0	18	18
Total wholesale	**96**	**0**	**96**	**0**	**0**	**0**	**743**	**18**	**761**
Total	**105**	**12**	**117**	**0**	**0**	**0**	**2,086**	**66**	**2,152**
2Q22 (CHF million)									
Residential mortgages	53	0	53	0	0	0	1,135	0	1,135
Other retail exposures	0	0	0	0	0	0	256	0	256
Re-securitization	0	10	10	0	0	0	200	57	257
Total retail	**53**	**10**	**63**	**0**	**0**	**0**	**1,591**	**57**	**1,648**
Loans to corporates	0	0	0	0	0	0	387	0	387
Commercial mortgages	100	0	100	0	0	0	693	0	693
Re-securitization	0	0	0	0	0	0	0	16	16
Total wholesale	**100**	**0**	**100**	**0**	**0**	**0**	**1,080**	**16**	**1,096**
Total	**153**	**10**	**163**	**0**	**0**	**0**	**2,671**	**73**	**2,744**

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

	Exposure value (by RW band)				
end of	<=20% RW	>20% to 50% RW	>50% to 100% RW	>100% to <1250% RW	1250% RW
4Q22 (CHF million)					
Total exposures	**45,617**	**3,593**	**345**	**274**	**14**
Traditional securitization	6,448	2,057	345	219	11
of which securitization	6,448	2,057	345	219	11
of which retail underlying	4,167	653	35	94	11
of which wholesale	2,281	1,404	310	125	0
of which re-securitization	0	0	0	0	0
of which senior	0	0	0	0	0
Synthetic securitization	39,169	1,536	0	55	3
of which securitization	39,169	1,536	0	55	3
of which retail underlying	505	0	0	0	1
of which wholesale	38,664	1,536	0	55	2
2Q22 (CHF million)					
Total exposures	**44,682**	**4,116**	**770**	**253**	**13**
Traditional securitization	5,800	2,089	770	198	8
of which securitization	5,800	2,089	770	198	8
of which retail underlying	3,525	362	158	62	8
of which wholesale	2,275	1,727	612	136	0
Synthetic securitization	38,882	2,027	0	55	5
of which securitization	38,882	2,027	0	55	5
of which retail underlying	499	0	0	0	1
of which wholesale	38,383	2,027	0	55	4

	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
	39,985	**513**	**9,331**	**14**	**7,157**	**847**	**3,040**	**174**	**575**	**43**	**176**	**14**
	742	513	7,814	11	310	847	2,560	138	25	43	138	11
	742	513	7,814	11	310	847	2,559	138	25	43	138	11
	0	251	4,698	11	0	421	1,522	138	0	9	78	11
	742	262	3,116	0	310	426	1,037	0	25	34	60	0
	0	0	0	0	0	0	1	0	0	0	0	0
	0	0	0	0	0	0	1	0	0	0	0	0
	39,243	0	1,517	3	6,847	0	480	36	550	0	38	3
	39,243	0	1,517	3	6,847	0	480	36	550	0	38	3
	505	0	0	1	86	0	0	10	7	0	0	1
	38,738	0	1,517	2	6,761	0	480	26	543	0	38	2
	40,717	**589**	**8,515**	**13**	**7,382**	**1,002**	**2,050**	**155**	**592**	**52**	**159**	**13**
	745	589	7,523	8	306	1,002	1,749	101	24	52	135	8
	745	589	7,523	8	306	1,002	1,749	101	24	52	135	8
	0	323	3,784	8	0	545	667	101	0	15	53	8
	745	266	3,739	0	306	457	1,082	0	24	37	82	0
	39,972	0	992	5	7,076	0	301	54	568	0	24	5
	39,972	0	992	5	7,076	0	301	54	568	0	24	5
	499	0	0	1	84	0	0	10	7	0	0	1
	39,473	0	992	4	6,992	0	301	44	561	0	24	4

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

	Exposure value (by RW band)				
end of	<=20% RW	>20% to 50% RW	>50% to 100% RW	>100% to <1250% RW	1250% RW
4Q22 (CHF million)					
Total exposures	**13,404**	**1,122**	**496**	**161**	**16**
Traditional securitization	13,404	1,122	496	161	16
of which securitization	13,404	1,122	496	22	14
of which retail underlying	4,668	742	5	16	3
of which wholesale	8,736	380	491	6	11
of which re-securitization	0	0	0	139	2
of which senior	0	0	0	139	2
2Q22 (CHF million)					
Total exposures	**10,230**	**2,707**	**205**	**229**	**14**
Traditional securitization	10,230	2,707	205	229	14
of which securitization	10,230	2,707	205	183	12
of which retail underlying	3,691	2,124	22	41	0
of which wholesale	6,539	583	183	142	12
of which re-securitization	0	0	0	46	2
of which senior	0	0	0	46	2

	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
	1,427	**566**	**13,190**	**16**	**214**	**215**	**3,175**	**194**	**17**	**17**	**205**	**16**
	1,427	566	13,190	16	214	215	3,175	194	17	17	205	16
	1,427	566	13,051	14	214	215	3,021	174	17	17	193	14
	0	199	5,232	3	0	73	1,223	37	0	6	75	3
	1,427	367	7,819	11	214	142	1,798	137	17	11	118	11
	0	0	139	2	0	0	154	20	0	0	12	2
	0	0	139	2	0	0	154	20	0	0	12	2
	2,374	**567**	**10,430**	**14**	**356**	**222**	**2,377**	**169**	**28**	**17**	**183**	**14**
	2,374	567	10,430	14	356	222	2,377	169	28	17	183	14
	2,374	567	10,384	12	356	222	2,325	146	28	17	179	12
	0	204	5,674	0	0	79	1,263	0	0	6	100	0
	2,374	363	4,710	12	356	143	1,062	146	28	11	79	12
	0	0	46	2	0	0	52	23	0	0	4	2
	0	0	46	2	0	0	52	23	0	0	4	2

Market risk

General

We use the advanced approach for calculating the market risk capital requirements for majority of our market risk exposures. As of December 31, 2022, 88% of our market risk RWA was 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 144 to 148) in III – Treasury, Risk, Balance sheet and Off-balance sheet – Risk management – Risk coverage and management in the Credit Suisse Annual Report 2022 for information on our risk management objectives and policies for market risk.
→ Refer to "Note 1 – Summary of significant accounting policies – Derivatives" (pages 267 to 268) and "Note 33 – Derivatives and hedging activities" (pages 338 to 344) in VI – Consolidated financial statements – Credit Suisse Group in the Credit Suisse Annual Report 2022 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 CRO, the Front Office and the Board of Directors.

Market risk under standardized approach

The following table shows the components of RWA under the standardized approach for market risk. In line with regulatory requirements, the SMM is used for the specific risk of securitized exposures.

MR1 – Market risk under standardized approach

end of	4Q22	2Q22
Risk-weighted assets (CHF million)		
Securitization	1,802	1,612
Total risk-weighted assets	**1,802**	**1,612**

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), its stressed equivalent (SRNIV) and Incremental Risk Charge (IRC). There is no Comprehensive Risk Measure as the Group does not hold 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 4Q22	CHF billion	in %
Risk-weighted assets		
Regulatory VaR	3.8	29
Stressed VaR	4.5	34
RNIV	3.3	25
IRC	1.6	12
Total risk-weighted assets	**13.2**	**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 its 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. An expected shortfall measure is used and calibrated to be equivalent to a 99% confidence level and 10-day holding period. The 10-day holding period is calculated using 10-day overlapping historical returns. The model uses a two-year lookback window and an exponential weighting scheme with a time decay factor of 0.994 to ensure responsiveness to shifts in market environments.

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 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 adverse market environments. 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 144 to 148) in III – Treasury, Risk, Balance sheet and Off-balance sheet – Risk management – Risk coverage and management in the Credit Suisse Annual Report 2022 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 4Q22 flow statement explaining variations in the market risk RWA determined under an IMA.

Market risk RWA under an IMA decreased CHF 1.5 billion to CHF 13.2 billion compared to the end of 3Q22, primarily due to a decrease in regulatory VaR, IRC and RNIV reflecting a decrease in average risk levels, mainly in Global Trading Solutions and the securitized products business within the Investment Bank.

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

4Q22	Regulatory VaR	Stressed VaR	IRC	Other [1]	Total
CHF million					
Risk-weighted assets at beginning of period	**4,344**	**4,379**	**2,223**	**3,815**	**14,761**
Regulatory adjustment	(587)	(496)	(185)	(483)	(1,751)
Risk-weighted assets at beginning of period (end of day)	**3,757**	**3,883**	**2,038**	**3,332**	**13,010**
Movement in risk levels	(353)	1,615	(840)	263	685
Model and parameter updates	(230)	(21)	0	0	(251)
Foreign exchange impact	(228)	(239)	(109)	(190)	(766)
Risk-weighted assets at end of period (end of day)	**2,946**	**5,238**	**1,089**	**3,405**	**12,678**
Regulatory adjustment	900	(780)	491	(66)	545
Risk-weighted assets at end of period	**3,846**	**4,458**	**1,580**	**3,339**	**13,223**

1 Risks not in VaR.

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 charges at the Group level, before any additional capital charge is applied.

MR3 – Regulatory VaR, stressed VaR and Incremental Risk Charge

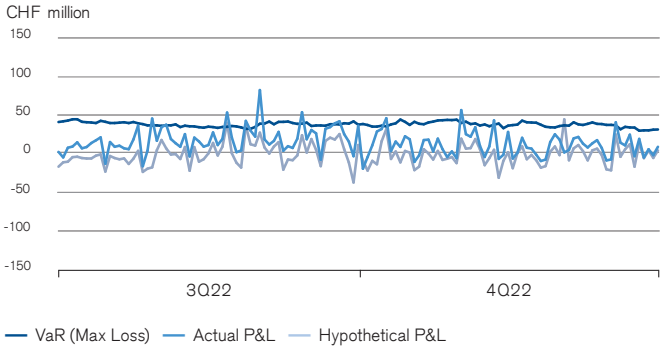
in / end of	2H22	1H22
CHF million		
Regulatory VaR (10 day 99%)		
Maximum value	143	139
Average value	109	107
Minimum value	73	82
Period-end value	79	98
Stressed VaR (10 day 99%)		
Maximum value	152	178
Average value	109	122
Minimum value	79	101
Period-end value	140	114
IRC (99.9%)		
Maximum value	279	188
Average value	155	154
Minimum value	82	116
Period-end value	87	145

During 2H22, the decrease in period-end IRC was primarily driven by the reduced traded exposures within the Investment Bank.

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 2H22, there was no backtesting exception in our regulatory VaR model and one backtesting exception in 1H22. Since there was one backtesting exception in the rolling 12-month period through the end of 4Q22, 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 CRO (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 Group Capital Allocation and Liability Management Committee (Group CALMC) is responsible for the interest rate risk in the banking book position taking within the IRRBB risk management framework approved by the Group's Board of Directors.

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 CRO 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 economic value-based risk appetite level – also referred to as "delta economic value of equity (ΔEVE)" – 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 (ΔNII)" 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 ΔNII uses the modelling and parameter assumptions summarized below.

From an economic value perspective, key risk measures are the ΔEVE, 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 ΔEVE measure, which covers all banking book positions. For the regulatory ΔEVE measure, we exclude bonds issued as additional tier 1 capital; this is in line with FINMA guidance. Additional ΔEVE modelling and parameter assumptions are summarized below. The regulatory ΔEVE 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 ΔEVE and ΔNII 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 ΔEVE:

- ΔEVE is measured by excluding commercial margins and other spread components and applying risk-free discounting.
- Following the internal approach for ΔEVE, 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 ΔEVE measure.
- ΔEVE is calculated using a sensitivity-based approach.

Regulatory ΔNII:

- 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 ΔNII disclosed does not include a material source of income.
- ΔNII 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 regulatory ΔEVE disclosure results are higher than the internal ΔEVE. This is due to the previously noted exclusion of additional tier 1 capital instruments in the regulatory ΔEVE.
- The Group manages risks to NII considering internal models that differ from the regulatory ΔNII 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.

IRRBBA1 – Quantitative information on the exposure's structure and repricing period

	Volume [1]				Average repricing period (years) [2]		Maximum repricing period for exposures with modelled (not determined) repricing date (years)	
end of 4Q22	**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 [3]								
Due from banks	84,468	4,444	59,356	5,951	0.0	0.0	–	–
Due from customers	139,335	24,198	75,398	23,854	0.8	0.9	–	–
Money market mortgages	43,602	40,279	256	188	0.0	0.0	–	–
Fixed-rate mortgages	98,596	95,128	866	230	4.6	4.7	–	–
Financial investments	4,739	325	1,054	985	2.4	0.4	–	–
Other receivables	10	0	10	0	0.1	–	–	–
Receivables from interest rate derivatives [4]	1,316,832	362,662	685,636	167,624	1.2	0.6	–	–
Due to banks	(50,657)	(4,774)	(37,108)	(3,126)	0.1	0.1	–	–
Customer deposits	(73,966)	(15,963)	(35,087)	(9,422)	0.1	0.2	–	–
Cash bonds	(79)	(79)	0	0	1.5	1.5	–	–
Bonds issues and central mortgage institution loans	(119,249)	(18,176)	(65,875)	(27,908)	4.3	7.4	–	–
Other payables	(43,973)	(1,967)	(27,397)	(10,099)	0.1	0.1	–	–
Payables to interest rate derivatives [4]	(1,313,202)	(422,540)	(655,303)	(137,843)	0.9	0.8	–	–
Indefinite repricing date								
Variable mortgages	1,107	1,107	0	0	0.0	0.0	–	–
Other receivables on demand	2,178	539	1,043	515	0.0	0.0	–	–
Payables on demand from personal accounts and current accounts	(111,583)	(65,183)	(25,578)	(15,957)	1.6	2.2	–	–
Payables arising from client deposits, terminable but not transferable (savings)	(27,374)	(27,374)	0	0	2.5	2.5	–	–
Total	–	–	–	–	–	–	10.0	10.0

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 The non-maturing deposits' average repricing period has been calculated based on the internal term-replication strategy.

3 Additional tier 1 capital is excluded.

4 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 ΔEVE and regulatory ΔNII.

IRRBB1 – Quantitative information on the regulatory ΔEVE and regulatory ΔNII

	ΔEVE [1]		ΔNII [2]	
end of	**4Q22**	4Q21	**4Q22**	4Q21
Interest rate shock scenarios (CHF million) [3]				
Parallel up	(1,782)	(1,599)	(1,752)	(3,214)
Parallel down	1,923	2,015	1,835	5,354
Steepener shock	76	(311)	–	–
Flattener shock	(462)	47	–	–
Rise in short-term interest rates	(1,161)	(672)	–	–
Fall in short-term interest rates	1,177	877	–	–
Maximum	**(1,782)**	**(1,599)**	**(1,752)**	**(3,214)**

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	**4Q22**	4Q21
Tier 1 capital (CHF million)		
Swiss CET1 capital and additional tier 1 capital [1]	50,026	54,372

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

The change in ΔEVE was due to DV01 exposure movements on our banking book positions in 2022. The main drivers are related to a duration increase in net interest income hedging activities as well as our regular management of banking book activities. 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 ΔEVE.

The ΔNII for a parallel-up scenario continues to be driven by the banking book liability excess that primarily arises from the trading book assets being funded out of banking books as well as from the exclusion of the cash at central banks and shareholders' equity from the regulatory definition of ΔNII. This banking book liability excess has been reduced year over year resulting in a decrease of the ΔNII. The embedded rate floors on loan contracts have less impact in the parallel-down scenario related to interest rate increases and therefore reducing the overall sensitivity in this scenario.

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 4Q22		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	38,775	1
2	Retained earnings	23,632	2
3	Accumulated other comprehensive income (and other reserves) [2]	(17,278)	3
6	**CET1 capital before regulatory adjustments**	**45,129**	
7	Prudent valuation adjustments	(271)	
8	Goodwill, net of tax	(2,871)	4
9	Other intangible assets (excluding mortgage servicing rights), net of tax	(53)	5
10	Deferred tax assets that rely on future profitability (excluding temporary differences), net of tax	(141)	6
11	Cash flow hedge reserve	1,189	
12	Shortfall of provisions to expected losses	(120)	
14	Gains/(losses) due to changes in own credit on fair-valued liabilities	(4,056)	
15	Defined benefit pension plan assets	(3,289)	7
16	Investments in own shares	(409)	
26b	National specific regulatory adjustments	182	
28	**Total regulatory adjustments to CET1 capital**	**(9,839)**	
29	**CET1 capital**	**35,290**	
30	Directly issued qualifying additional tier 1 instruments plus related stock surplus [3]	14,776	
32	of which classified as liabilities under applicable accounting standards	14,776	8
36	**Additional tier 1 capital before regulatory adjustments**	**14,776**	
37	Investments in own additional tier 1 instruments	(40)	
43	**Total regulatory adjustments to additional tier 1 capital**	**(40)**	
44	**Additional tier 1 capital**	**14,736**	
Swiss tier 1 capital (CHF million)			
45	**Tier 1 capital**	**50,026**	
Swiss eligible capital (CHF million)			
59	**Total eligible capital**	**50,026**	

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 10.5 billion consists of capital instruments with a capital ratio write-down trigger of 7% and CHF 4.2 billion consists of capital instruments with a capital ratio write-down trigger of 5.125%.

CC1 – Composition of regulatory capital (continued)

end of 4Q22		Amounts	Reference [1]
Swiss risk-weighted assets (CHF million)			
60	Risk-weighted assets	250,963	
Swiss risk-based capital ratios as a percentage of risk-weighted assets (%)			
61	CET1 capital ratio	14.1	
62	Tier 1 capital ratio	19.9	
63	Total capital ratio	19.9	
BIS CET1 buffer requirements (%) [2]			
64	Total BIS CET buffer requirement	3.580	
65	of which capital conservation buffer	2.5	
66	of which extended countercyclical buffer	0.080	
67	of which progressive buffer for G-SIB and/or D-SIB	1.0	
68	CET1 capital ratio available after meeting the bank's minimum capital requirements [3]	9.6	
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	1,612	
73	Significant investments in the common stock of financial entities	2,151	
74	Mortgage servicing rights, net of tax	368	
75	Deferred tax assets arising from temporary differences, net of tax	392	
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	606	

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 CET1 ratio that is available for meeting buffer requirements. Calculated as the CET1 ratio less the BIS CET1 ratio minimum requirement of 4.5% and after considering, where applicable, CET1 capital that was used to meet tier 1 and/or total capital ratio requirements under Pillar 1.

Prudent valuation adjustments (PVAs) are applied to the exposures in the banking and trading book measured at fair value under US GAAP and are incremental to the US GAAP fair value measurement. For capital adequacy reporting purposes, however, the Group's PVA methodology addresses fair value uncertainties arising from concentration risk. PVAs for concentration risk are deducted from CET1 capital. The Group has established systems, controls and governance to ensure that the valuation of positions measured at fair value comply with the prudent valuation requirements.

→ Refer to "Fair valuations" (page 72) in II – Operating and financial review – Credit Suisse – Other information, to "Fair value" (page 97) in II – Operating and financial review – Critical accounting estimates and to "Note 36 – Financial instruments" (pages 358 to 385) in VI – Consolidated financial statements – Credit Suisse Group in the Credit Suisse Annual Report 2022 for further information on fair value measurement.

The following table provides a breakdown of PVAs to CET1 capital.

PV1 – Prudent valuation adjustments

end of	Equity	Interest rates	FX	Credit	Commodities	**Total**	of which in the trading book	of which in the banking book
4Q22 (CHF million)								
Closeout uncertainty	53	116	7	85	0	261	202	59
of which concentration	53	116	7	85	0	261	202	59
Model risk	0	0	0	10	0	10	10	0
Total adjustments	**53**	**116**	**7**	**95**	**0**	**271**	**212**	**59**
4Q21 (CHF million)								
Closeout uncertainty	84	0	0	0	0	84	30	54
of which concentration	84	0	0	0	0	84	30	54
Total adjustments	**84**	**0**	**0**	**0**	**0**	**84**	**30**	**54**

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 4Q22	Financial statements	Regulatory scope of consolidation	Reference to composition of capital
Assets (CHF million)			
Cash and due from banks	68,478	68,293	
Interest-bearing deposits with banks	455	1,006	
Central bank funds sold, securities purchased under resale agreements and securities borrowing transactions	58,798	58,798	
Securities received as collateral, at fair value	2,978	2,978	
Trading assets, at fair value	65,461	64,681	
Investment securities	1,718	1,718	
Other investments	5,518	5,768	
Net loans	264,165	264,543	
Goodwill	2,903	2,903	4
Other intangible assets	458	458	
of which other intangible assets (excluding mortgage servicing rights)	55	55	5
Brokerage receivables	13,818	13,818	
Other assets	46,608	44,466	
of which deferred tax assets related to net operating losses	141	141	6
of which deferred tax assets from temporary differences	164	(519)	
of which defined benefit pension plan assets	4,117	4,117	7
Total assets	**531,358**	**529,430**	
Liabilities and equity (CHF million)			
Due to banks	11,905	12,032	
Customer deposits	233,235	233,320	
Central bank funds purchased, securities sold under repurchase agreements and securities lending transactions	20,280	20,282	
Obligation to return securities received as collateral, at fair value	2,978	2,978	
Trading liabilities, at fair value	18,338	18,372	
Short-term borrowings	12,414	12,444	
Long-term debt	157,235	155,113	
Brokerage payables	11,442	11,442	
Other liabilities	18,200	17,987	
Total liabilities	**486,027**	**483,970**	
of which additional tier 1 instruments, fully eligible	12,114	14,736	8
Common shares	160	160	1
Additional paid-in capital	38,615	38,615	1
Retained earnings	23,632	23,586	2
Treasury shares, at cost	(428)	(428)	3
Accumulated other comprehensive income/(loss)	(16,850)	(16,805)	3
Total shareholders' equity [1]	**45,129**	**45,128**	
Noncontrolling interests [2]	202	332	
Total equity	**45,331**	**45,460**	
Total liabilities and equity	**531,358**	**529,430**	

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	4Q22
TLAC (CHF million)	
CET1 capital	35,290
Additional tier 1 instruments eligible under TLAC framework	14,736
TLAC arising from regulatory capital	**50,026**
External TLAC instruments issued directly by Credit Suisse Group AG and subordinated to excluded liabilities	52,256
TLAC arising from non-regulatory capital instruments before adjustments	**52,256**
TLAC before deductions	**102,282**
Deduction of investment in own other TLAC liabilities	383
Other adjustments to TLAC	2,756
TLAC	**99,143**
Risk-weighted assets and leverage exposure (CHF million)	
Swiss risk-weighted assets	250,963
Leverage exposure	650,551
TLAC ratios and buffers (%)	
TLAC ratio	39.5
TLAC leverage ratio	15.2
CET1 capital ratio available after meeting the resolution group's minimum capital and TLAC requirements	9.6
Institution-specific buffer requirement (capital conservation buffer plus countercyclical buffer requirements plus higher loss absorbency requirement, expressed as a percentage of risk-weighted assets)	3.580
of which capital conservation buffer requirement	2.5
of which bank specific countercyclical buffer requirement	0.080
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			
end of 4Q22	Shareholders' equity [1]	Subordinated debt instruments Additional tier 1	Bail-in debt instruments and pari passu liabilities [2]	**Total**
CHF million				
Total capital and liabilities net of credit risk mitigation	22,661	16,243	58,262	97,166
Excluded liabilities	–	–	69	69
Total capital and liabilities less excluded liabilities	22,661	16,243	58,193	97,097
of which potentially eligible as TLAC [3]	22,661	16,016	54,679	93,356
of which residual maturity between 1 to 2 years	–	–	3,010	3,010
of which residual maturity between 2 to 5 years	–	–	21,394	21,394
of which residual maturity between 5 to 10 years	–	–	19,453	19,453
of which residual maturity greater than 10 years, excluding perpetual securities	–	–	10,822	10,822
of which perpetual securities	22,661	16,016	–	38,677

Presented for Credit Suisse Group AG at the legal entity level and therefore instruments issued by subsidiaries and special purpose entities are excluded. 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 160 million.

2 Amount does not include CHF 2,684 million of intercompany liabilities, which are pari passu to the external bail-in debt instruments and are not considered to be excluded liabilities.

3 Notes with a maturity of less than one year, notes called but not yet redeemed and accrued but not yet paid interest on TLAC instruments are 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	**4Q22**	3Q22	2Q22	1Q22	4Q21
Capital (CHF million)					
Swiss CET1 capital	35,290	34,423	37,049	37,713	38,529
Fully loaded CECL accounting model Swiss CET1 capital [1]	35,290	34,423	37,049	37,713	38,529
Swiss tier 1 capital	50,026	50,110	52,736	53,204	54,372
Fully loaded CECL accounting model Swiss tier 1 capital [1]	50,026	50,110	52,736	53,204	54,372
Swiss total eligible capital	50,026	50,110	53,217	53,676	55,073
Fully loaded CECL accounting model Swiss total eligible capital [1]	50,026	50,110	53,217	53,676	55,073
Minimum capital requirement (8% of Swiss risk-weighted assets) [2]	20,077	21,931	22,000	21,889	21,473
Risk-weighted assets (CHF million)					
Swiss risk-weighted assets	250,963	274,138	274,997	273,609	268,418
Risk-based capital ratios as a percentage of risk-weighted assets (%)					
Swiss CET1 capital ratio	14.1	12.6	13.5	13.8	14.4
Fully loaded CECL accounting model Swiss CET1 capital ratio [1]	14.1	12.6	13.5	13.8	14.4
Swiss tier 1 capital ratio	19.9	18.3	19.2	19.4	20.3
Fully loaded CECL accounting model Swiss tier 1 capital ratio [1]	19.9	18.3	19.2	19.4	20.3
Swiss total capital ratio	19.9	18.3	19.4	19.6	20.5
Fully loaded CECL accounting model Swiss total capital ratio [1]	19.9	18.3	19.4	19.6	20.5
BIS CET1 buffer requirements (%) [3]					
Capital conservation buffer	2.5	2.5	2.5	2.5	2.5
Extended countercyclical buffer	0.080	0.026	0.025	0.023	0.028
Progressive buffer for G-SIB and/or D-SIB	1.0	1.0	1.0	1.0	1.0
Total BIS CET1 buffer requirement	3.580	3.526	3.525	3.523	3.528
Additional Swiss sectoral countercyclical buffer	0.235	0.227	–	–	–
CET1 capital ratio available after meeting the bank's minimum capital requirements [4]	9.6	8.1	9.0	9.3	9.9
Basel III leverage ratio (CHF million)					
Leverage exposure	650,551	836,881	862,737	878,023	889,137
Basel III leverage ratio (%)	7.7	6.0	6.1	6.1	6.1
Fully loaded CECL accounting model Basel III leverage ratio (%) [1]	7.7	6.0	6.1	6.1	6.1
Liquidity coverage ratio (CHF million) [5]					
High-quality liquid assets	119,954	226,839	234,931	225,572	227,193
Net cash outflows	83,202	118,144	123,312	114,869	112,156
Liquidity coverage ratio (%)	144	192	191	196	203
Net stable funding ratio (CHF million)					
Available stable funding	343,158	425,622	428,764	430,894	436,856
Required stable funding	292,524	314,062	325,767	335,546	342,870
Net stable funding ratio (%)	117	136	132	128	127

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 and do not include the additional Swiss sectoral countercyclical capital buffer for mortgage loans that are directly or indirectly secured by residential real estate in Switzerland.

4 Reflects the CET1 ratio that is available for meeting buffer requirements. Calculated as the CET1 ratio less the BIS CET1 ratio minimum requirement of 4.5% and after considering, where applicable, CET1 capital that was used to meet tier 1 and/or total capital ratio requirements under Pillar 1.

5 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 125 to 126) and "Risk-weighted assets" (pages 122 to 124) in III – Treasury, Risk, Balance sheet and Off-balance sheet – Capital management in the Credit Suisse Annual Report 2022 for further information on movements in capital, capital ratios, risk-weighted assets and leverage ratios.

→ Refer to "Liquidity coverage ratio" (pages 109 to 110) and "Net stable funding ratio" (page 110) in III – Treasury, Risk, Balance sheet and Off-balance sheet – Liquidity and funding management – Liquidity risk management in the Credit Suisse Annual Report 2022 as well as "Liquidity metrics" (page 37) in Additional financial metrics in the Credit Suisse Earnings Release 4Q22 for further information on movements in the liquidity coverage ratio and the net stable funding ratio.

→ Refer to "Swiss requirements" (pages 116 to 118) in III – Treasury, Risk, Balance sheet and Off-balance sheet – Capital management – Regulatory framework in the Credit Suisse Annual Report 2022 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	**4Q22**	3Q22	2Q22	1Q22	4Q21
CHF million					
TLAC	99,143	97,398	96,896	101,177	101,269
Fully loaded CECL accounting model TLAC [1]	99,143	97,398	96,896	101,177	101,269
Swiss risk-weighted assets	250,963	274,138	274,997	273,609	268,418
TLAC ratio (%)	39.5	35.5	35.2	37.0	37.7
Fully loaded CECL accounting model TLAC ratio (%) [1]	39.5	35.5	35.2	37.0	37.7
Leverage exposure	650,551	836,881	862,737	878,023	889,137
TLAC leverage ratio (%)	15.2	11.6	11.2	11.5	11.4
Fully loaded CECL accounting model TLAC leverage ratio (%) [1]	15.2	11.6	11.2	11.5	11.4
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

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".

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
4Q22 (CHF million)				
Hong Kong	1.00	1,381	–	–
Sweden	1.00	452	–	–
UK	1.00	7,065	–	–
Luxembourg	0.50	3,935	–	–
Subtotal	–	**12,833**	–	–
Other countries	0.00	123,227	–	–
Total [1]	**–**	**136,060**	**0.080**	**200**

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 Basel Committee on Banking Supervision (BCBS) and implemented in Switzerland by FINMA.

→ Refer to "Leverage metrics" (page 125) and "Swiss metrics" (pages 125 to 126) in III – Treasury, Risk, Balance sheet and Off-balance sheet – Capital management in the Credit Suisse Annual Report 2022 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	4Q22
Reconciliation of consolidated assets to leverage exposure (CHF million)	
Total consolidated assets as per published financial statements	531,358
Adjustment for investments in banking, financial, insurance or commercial entities that are consolidated for accounting purposes but outside the scope of regulatory consolidation [1]	(8,518)
Adjustments for derivatives financial instruments	43,642
Adjustments for SFTs (i.e. repos and similar secured lending)	2,402
Adjustments for off-balance sheet items (i.e. conversion to credit equivalent amounts of off-balance sheet exposures)	78,811
Other adjustments	2,856
Leverage exposure	**650,551**

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.

LR2 – Leverage ratio common disclosure template

end of	4Q22	3Q22
Reconciliation of consolidated assets to leverage exposure (CHF million)		
On-balance sheet items (excluding derivatives and SFTs, but including collateral)	458,961	567,982
Asset amounts deducted from Basel III tier 1 capital	(6,163)	(5,952)
Total on-balance sheet exposures	**452,798**	**562,030**
Reconciliation of consolidated assets to leverage exposure (CHF million)		
Replacement cost associated with all derivatives transactions (i.e. net of eligible cash variation margin)	12,967	21,102
Add-on amounts for PFE associated with all derivatives transactions	37,181	44,118
Gross-up for derivatives collateral provided where deducted from the balance sheet assets pursuant to the operative accounting framework	13,560	17,392
Deductions of receivables assets for cash variation margin provided in derivatives transactions	(12,562)	(16,090)
Exempted CCP leg of client-cleared trade exposures	(382)	(581)
Adjusted effective notional amount of all written credit derivatives	161,382	189,372
Adjusted effective notional offsets and add-on deductions for written credit derivatives	(157,403)	(184,128)
Derivative Exposures	**54,743**	**71,185**
Securities financing transaction exposures (CHF million)		
Gross SFT assets (with no recognition of netting), after adjusting for sale accounting transactions	69,568	118,058
Netted amounts of cash payables and cash receivables of gross SFT assets	(10,749)	(10,136)
Counterparty credit risk exposure for SFT assets	5,380	4,742
Securities financing transaction exposures	**64,199**	**112,664**
Other off-balance sheet exposures (CHF million)		
Off-balance sheet exposure at gross notional amount	260,448	287,310
Adjustments for conversion to credit equivalent amounts	(181,637)	(196,308)
Other off-balance sheet exposures	**78,811**	**91,002**
Swiss tier 1 capital (CHF million)		
Swiss tier 1 capital	**50,026**	**50,110**
Leverage exposure (CHF million)		
Leverage exposure	**650,551**	**836,881**
Leverage ratio (%)		
Basel III leverage ratio	**7.7**	**6.0**

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 106 to 114) in III – Treasury, Risk, Balance sheet and Off-balance sheet in the Credit Suisse Annual Report 2022 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 the Liquidity Ordinance and the FINMA circular 2015/2 "Liquidity risk – banks", as amended (Liquidity circular), and uses a three-month average that is measured using daily calculations during the quarter.

→ Refer to "Liquidity metrics" (pages 109 to 110) and "Funding sources" (page 111) in III – Treasury, Risk, Balance sheet and Off-balance sheet – Liquidity and funding management in the Credit Suisse Annual Report 2022 for further information on the Group's liquidity coverage ratio, including high-quality liquid assets, liquidity pool and funding sources.

→ Refer to "Liquidity metrics" (page 37) in Additional financial metrics in the Credit Suisse Earnings Release 4Q22 for further information on movements in the liquidity coverage ratio.

LIQ1 – Liquidity coverage ratio

end of 4Q22	Unweighted value [1]	Weighted value [2]
High-quality liquid assets (CHF million)		
High-quality liquid assets [3]	**–**	**119,954**
Cash outflows (CHF million)		
Retail deposits and deposits from small business customers	118,506	13,444
of which less stable deposits	118,506	13,444
Unsecured wholesale funding	153,546	58,000
of which operational deposits (all counterparties) and deposits in networks of cooperative banks	31,348	7,837
of which non-operational deposits (all counterparties)	77,042	39,405
of which unsecured debt	10,156	10,156
Secured wholesale funding	50,915	9,692
Additional requirements	153,272	33,328
of which outflows related to derivative exposures and other collateral requirements	53,394	12,550
of which outflows related to loss of funding on debt products	1,069	1,069
of which credit and liquidity facilities	98,809	19,709
Other contractual funding obligations	43,945	43,945
Other contingent funding obligations	194,227	2,303
Total cash outflows	**–**	**160,712**
Cash inflows (CHF million)		
Secured lending	32,744	12,104
Inflows from fully performing exposures	48,350	22,101
Other cash inflows	43,305	43,305
Total cash inflows	**124,399**	**77,510**
Liquidity cover ratio (CHF million)		
High-quality liquid assets	–	119,954
Net cash outflows	–	83,202
Liquidity coverage ratio (%)	**–**	**144**

Calculated based on an average of 65 data points in 4Q22.

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.

Net stable funding ratio

Our calculation methodology for the net stable funding ratio (NSFR) is prescribed by the Liquidity Ordinance and the Liquidity circular.

→ Refer to "Net stable funding ratio" (page 110) in III – Treasury, Risk, Balance sheet and Off-balance sheet – Liquidity and funding management – Liquidity management in the Credit Suisse Annual Report 2022 and "Liquidity metrics" (page 37) in Additional financial metrics in the Credit Suisse Earnings Release 4Q22 for further information on the Group's net stable funding ratio.

LIQ2 – Liquidity: information on the NSFR

	Values not weighted, according to residual maturities				
end of 4Q22	No maturity	< 6 months	≥ 6 months up to 1 year	≥ 1 year	Weighted values
Information on the available stable funding (CHF million)					
Equity instruments	52,433	0	0	12,010	64,443
of which regulatory capital [1]	52,433	0	0	12,010	64,443
of which other equity instruments	0	0	0	0	0
Demand deposits and/or term deposits of private customers and small business customers	84,136	17,873	8,911	7	100,136
of which "stable" deposits	6,000	0	0	0	5,700
of which "less stable" deposits	78,136	17,873	8,911	7	94,436
Funding deposited by non-financial institutions (without small business customers) (wholesale customers)	57,889	38,749	2,598	1,317	48,446
of which operational deposits	23,190	0	0	0	11,595
of which non-operational deposits	34,699	38,749	2,598	1,317	36,851
Liabilities with matching interdependent assets	0	0	0	0	0
Other exposures	61,094	64,904	23,170	113,380	130,133
of which exposures arising from derivative transactions	–	11,277	0	0	–
of which other exposures and equity instruments	61,094	53,627	23,170	113,380	130,133
Total available stable funding	–	–	–	–	**343,158**
Information on the required stable funding (CHF million)					
Total of HQLA NSFR	–	–	–	–	3,279
Operational deposits held at other financial institutions	6,700	–	–	–	3,350
Performing loans and securities	31,020	112,025	43,454	179,249	221,436
of which performing loans to companies in the financial sector, secured with category 1 and 2a HQLA	11,891	20,647	0	0	3,390
of which performing loans to companies in the financial sector, secured with non-category 1 or 2a HQLA or unsecured	3,578	23,895	13,591	23,285	34,252
of which performing loans to companies outside the financial sector, to retail and small business customers, to countries, central banks and sub-national public sector entities	5,956	53,676	15,724	69,835	94,493
of which risk-weighted up to 35% under the SA-BIS	7	0	0	7,560	5,396
of which performing loans for residential properties	0	13,460	13,629	77,579	73,388
of which risk-weighted up to 35% under the SA-BIS	0	4,526	4,677	70,204	58,176
of which non-defaulted securities that do not qualify as HQLA, including exchange-traded shares	9,595	347	510	8,550	15,913
Assets with matching interdependent liabilities	0	0	0	0	0
Other assets	73,923	539	45	86,266	58,243
of which physically traded commodities, including gold	1,298	–	–	–	1,103
of which assets posted as initial margin for derivative contracts and contributions to default funds of central counterparties	–	0	0	13,870	11,789
of which NSFR assets in the form of derivatives	–	0	0	10,518	0
of which NSFR derivative liabilities before deduction of variation margin posted	–	0	0	22,912	5,800
of which all remaining assets	72,625	539	45	38,966	39,551
Off-balance sheet items	–	0	0	307,122	6,216
Total required stable funding	–	–	–	–	**292,524**
Net stable funding ratio (%)	**–**	**–**	**–**	**–**	**117**

1 Prior to regulatory deductions.

LIQ2 – Liquidity: information on the NSFR (continued)

	Values not weighted, according to residual maturities				
end of 3Q22	No maturity	< 6 months	≥ 6 months up to 1 year	≥ 1 year	Weighted values
Information on the available stable funding (CHF million)					
Equity instruments	49,156	0	0	14,853	64,009
of which regulatory capital [1]	49,156	0	0	14,853	64,009
of which other equity instruments	0	0	0	0	0
Demand deposits and/or term deposits of private customers and small business customers	117,280	28,914	9,457	7	140,393
of which "stable" deposits	6,000	0	0	0	5,700
of which "less stable" deposits	111,280	28,914	9,457	7	134,693
Funding deposited by non-financial institutions (without small business customers) (wholesale customers)	83,322	86,877	6,068	1,384	85,446
of which operational deposits	28,498	0	0	0	14,249
of which non-operational deposits	54,824	86,877	6,068	1,384	71,197
Liabilities with matching interdependent assets	0	0	0	0	0
Other exposures	76,432	83,790	31,716	113,356	135,774
of which exposures arising from derivative transactions	–	18,497	0	0	–
of which other exposures and equity instruments	76,432	65,293	31,716	113,356	135,774
Total available stable funding	–	–	–	–	**425,622**
Information on the required stable funding (CHF million)					
Total of HQLA NSFR	–	–	–	–	4,276
Operational deposits held at other financial institutions	9,009	–	–	–	4,504
Performing loans and securities	43,401	167,089	40,435	179,779	234,800
of which performing loans to companies in the financial sector, secured with category 1 and 2a HQLA	13,962	51,321	0	0	6,651
of which performing loans to companies in the financial sector, secured with non-category 1 or 2a HQLA or unsecured	7,581	35,565	11,469	18,838	31,211
of which performing loans to companies outside the financial sector, to retail and small business customers, to countries, central banks and sub-national public sector entities	6,500	65,151	16,035	70,445	100,003
of which risk-weighted up to 35% under the SA-BIS	11	0	0	7,837	5,610
of which performing loans for residential properties	0	13,917	12,342	79,405	73,540
of which risk-weighted up to 35% under the SA-BIS	0	5,248	4,429	72,122	59,059
of which non-defaulted securities that do not qualify as HQLA, including exchange-traded shares	15,358	1,135	589	11,091	23,395
Assets with matching interdependent liabilities	0	0	0	0	0
Other assets	151,037	876	35	106,569	63,779
of which physically traded commodities, including gold	1,459	–	–	–	1,240
of which assets posted as initial margin for derivative contracts and contributions to default funds of central counterparties	–	0	0	15,823	13,449
of which NSFR assets in the form of derivatives	–	0	0	17,762	0
of which NSFR derivative liabilities before deduction of variation margin posted	–	0	0	32,468	7,663
of which all remaining assets	149,578	876	35	40,516	41,427
Off-balance sheet items	–	0	0	329,788	6,703
Total required stable funding	–	–	–	–	**314,062**
Net stable funding ratio (%)	**–**	**–**	**–**	**–**	**136**

1 Prior to regulatory deductions.

List of abbreviations

A	
ABS	Asset-backed securities
ACVA	Advanced credit valuation adjustment approach
A-IRB	Advanced-internal ratings-based
AMA	Advanced measurement approach
Art.	Article
B	
BCBS	Basel Committee on Banking Supervision
BIS	Bank for International Settlements
C	
CALMC	Capital Allocation and Liability Management Committee
CAO	Capital Adequacy Ordinance
CCF	Credit conversion factor
CCP	Central counterparties
CCR	Counterparty credit risk
CCyB	Countercyclical buffer
CDS	Credit default swap
CECL	Current expected credit loss
CET1	Common equity tier 1
CFO	Chief Financial Officer
CMBS	Commercial mortgage-backed securities
CRO	Chief Risk and Compliance Officer
CRM	Credit risk mitigation
CVA	Credit valuation adjustment
D	
D-SIB	Domestic systemically important bank
E	
EAD	Exposure at default
ECAI	External credit assessment institutions
EEPE	Effective expected positive exposure
EMIR	European Market Infrastructure Regulation
EVE	Economic value of equity
F	
FINMA	Swiss Financial Market Supervisory Authority FINMA
F-IRB	Foundation-internal ratings-based
FSB	Financial Stability Board
G	
GDP	Gross Domestic Product
G-SIB	Global systemically important bank
H	
HQLA	High-quality liquid assets
I	
IAA	Internal assessment approach
IMA	Internal model approach
IMM	Internal model method
IPRE	Income producing real estate
IRB	Internal ratings-based
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
M	
MACC	Model Approval and Controls Committee
N	
NII	Net interest income
N/A	Not applicable
NSFR	Net stable funding ratio
O	
OTC	Over-the-counter
P	
P&L	Profits and losses
PD	Probability of default
PFE	Potential future exposure
Q	
QCCP	Qualifying central counterparty
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
U	
US GAAP	US generally accepted accounting principles
V	
VaR	Value-at-risk
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 "may," "could," "achieves," "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. Additionally, many of these factors are beyond our control. These factors include, but are not limited to:

- the ability to maintain sufficient liquidity and access capital markets;
- market volatility, increases in inflation and interest rate fluctuations or developments affecting interest rate levels;
- the ongoing significant negative consequences, including reputational harm, of the Archegos and supply chain finance funds matters, as well as other recent events, and our ability to successfully resolve these matters;
- the impact of media reports and social media speculation about our business and its performance;
- the extent of outflows of deposits and assets or future net new asset generation across our divisions;
- our ability to improve our risk management procedures and policies and hedging strategies;
- 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, but not limited to, the risk of negative impacts of COVID-19 on the global economy and financial markets, Russia's invasion of Ukraine, the resulting sanctions from the US, EU, UK, Switzerland and other countries and the risk of continued slow economic recovery or downturn in the EU, the US or other developed countries or in emerging markets in 2022 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 the COVID-19 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 initiatives, including those related to our targets, ambitions and goals, such as our financial ambitions as well as various goals and commitments to incorporate certain environmental, social and governance considerations into our business strategy, products, services and risk management processes;
- our ability to achieve our announced comprehensive new strategic direction for the Group and significant changes to its structure and organization;
- our ability to successfully implement the divestment of any non-core business;
- the future level of any impairments and write-downs resulting from strategy changes and their implementation;
- 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;
- geopolitical and diplomatic tensions, instabilities and conflicts, including war, civil unrest, terrorist activity, sanctions or other geopolitical events or escalations of hostilities, such as Russia's invasion of Ukraine;
- political, social and environmental developments, including climate change and evolving ESG-related disclosure standards;
- 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 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 protect 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 2022.

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