Basel III Pillar 3 Report

Market discipline

Basel III Pillar 3 Report at 30 June 2020

20 August 2020/Banque Cantonale Vaudoise/Version 1.0

Table of contents

1. Objective and scope of this report ... 3
1.1 Disclosure policy ... 3
1.2 Scope ... 3
2. Capital adequacy and liquidity ... 5
2.1 Key ratios ... 5
2.2 Capital structure ... 7
2.3 Risk-weighted assets ... 9
3. Comprehensive risk management approach ... 10
3.1 Risk management objectives and governance ... 10
3.2 Risk-taking strategy ... 11
3.3 Classification of risks and risk-assessment principles ... 12
4. Credit risk ... 14
4.1 Credit-risk framework ... 14
4.2 Loans and debt securities ... 21
4.3 Counterparty credit risk ... 38
5. Market risk ... 43
5.1 Market risk in the trading book ... 43
5.2 Risk on equity securities in the banking book ... 45
5.3 Interest-rate risk in the banking book ... 46
5.4 Liquidity risk ... 54
6. Operational risk ... 57
7. Appendix ... 60
7.1 Reconciliation of financial statements and regulatory exposure ... 61
7.2 Leverage ratio ... 67
7.3 Disclosure map, analytical classifications, and abbreviations ... 69
7.4 Parent-company disclosures ... 76

1. OBJECTIVE AND SCOPE OF THIS REPORT

The objective of this report is to provide in-depth information on risk management at BCV Group to investors, analysts, ratings agencies and supervisory bodies. In particular, it describes the Bank's capital adequacy, its risk-assessment methods and the level of risk taken at BCV. This document was prepared in accordance with the Pillar 3 disclosure requirements set forth under the Basel III Accord, together with Circular 2016/1 "Disclosure – banks" published by the Swiss Financial Market Supervisory Authority (FINMA).[1]

1.1 Disclosure policy

For ease of access, this report is available in the investor relations section of BCV's website. It has been updated on a half-yearly basis ever since BCV became subject to Basel II on 1 January 2009. It is published within two months following the end of the first half of the financial year and within four months following the end of the financial year, in accordance with Swiss regulations (FINMA Circular 2016/1, margin number 40).

This version of the report corresponds to the closing of accounts on 30 June 2020.[2] The description of the Bank's governance, methods, and processes reflects the situation at 30 June 2020; subsequent changes are not included.

The Bank's external auditor verifies, as a general rule every three years, compliance with financial disclosure requirements based on FINMA Circular 2013/3 "Auditing," and states its opinion in its detailed audit report. The data contained in the Bank's Pillar 3 reports are calculated in accordance with the Basel III Accord regulatory capital requirements. This calculation process was audited during FINMA's IRB approval process and is subject to oversight as part of the regulatory supervision process. Furthermore, BCV's Internal Audit Department periodically reviews the process for calculating capital requirements (Basel III Accord, §443).

The appendix to this report contains information that is useful for understanding this document, including a description of business segments and a list of abbreviations.

The figures contained in the tables have each been properly rounded depending on the number of significant digits used for the table; this may result in discrepancies between listed column and row totals and the sum of individual column or row items.

1.2 Scope

The parent company within BCV Group is Banque Cantonale Vaudoise, a corporation organized under public law with its headquarters in Lausanne. The parent company has a branch in Guernsey.

The companies that the Group is required to include in its regulatory reporting include companies over which BCV has control and companies in which it has significant influence over operations. These companies are fully consolidated. Significant influence is generally recognized by the Bank when it makes a profit from or bears the risks of a company's operations.

Companies in which BCV has significant influence but no outright control (holdings of 20%–50%) are accounted for using the equity method.

---

[1]The correspondence between the tables in this Pillar 3 report and those in the Basel Accord is given in the Appendix (Section 7.3.1).

[2]End-June figures are taken from BCV's interim financial statements, which are not audited by an independent auditor.

The following companies are not included in the scope of consolidation:

- Holdings of no material significance in terms of financial reporting and risk;
- Significant holdings not held for strategic purposes and intended to be sold or liquidated within 12 months.

Table 1. Group companies included in the regulatory scope of consolidation
At 30 June 2020, BCV Group

Group companies included in the supervisory review		Capital in millions	Shareholding (%)
Private banks			
Piguet Galland & Cie SA, Yverdon-les-Bains (Switzerland)	CHF	24.4	99.7
Fund-management companies			
Gérifonds SA, Lausanne (Switzerland)	CHF	2.9	100.0
Gérifonds (Luxembourg) SA, Luxembourg	EUR	0.1	100.0
Société pour la gestion de placements collectifs GEP SA, Lausanne (Switzerland)	CHF	1.5	100.0

The regulatory scope of consolidation did not change in H1 2020.

Companies taken into account for calculating capital requirements are the same as those included in the Group's consolidated accounts. All these companies are fully consolidated in the financial statements. No company is currently accounted for using the equity method. The Group has no subsidiaries in the field of insurance.

2. CAPITAL ADEQUACY AND LIQUIDITY

Monitoring capital adequacy and liquidity is a key component of BCV's financial strategy. Management carefully considers the potential impact on the Bank's capital and liquidity ratios before making any major decisions about the Bank's operations and the orientation of its business.

The Executive Board monitors the capital and liquidity ratios monthly for the parent company. Both the Executive Board and the Board of Directors monitor these ratios every quarter for the parent company and every six months for the Group as a whole. FINMA monitors the parent company's capital adequacy and liquidity each quarter and the Group's capital adequacy and liquidity every six months using regulatory-required reports.

2.1 Key ratios

FINMA's capital ratio requirement[3] is based on the Basel III Accord and is set forth in Article 41 of the Capital Adequacy Ordinance (CAO). The minimum required total capital ratio for BCV was 13.0% at 30 June 2020. It comprises the permanent requirement for a category 3 bank (12%) and an additional capital requirement (1%). The permanent requirement consists of the absolute minimum requirement for a banking license (8%) and the capital buffer for a category 3 bank (4.0%). The additional capital requirement is a temporary requirement set by FINMA in light of the extremely low interest rates. Given those low rates, and BCV's interest-rate-risk exposure as determined by FINMA, FINMA has set an additional capital requirement of 1% for BCV. The minimum required total capital ratio declined from 13.8% at 31 December 2019 to 13.0% at 30 June 2020 following the Federal Council's decision to remove the countercyclical buffer on 27 March 2020.

BCV Group's total capital ratio was 17.9% at 30 June 2020, higher than the regulatory requirement of 13.0%. The Bank's Common Equity Tier 1 (CET1) ratio was 17.7%, also above FINMA's requirement of 8.8%. The difference between the Bank's total capital ratio and CET1 ratio is due to the fact that its Tier 2 capital comprises reserves on debt and equity securities carried under financial investments and stated at lower of cost or market, subject to a limit of 45% of unrealized gains.

The leverage ratio[4] was 6.1% at 30 June 2020 (see tables in Section 7.2). This ratio is above the regulatory requirement of 3% effective as of 1 January 2018.

BCV Group's liquidity coverage ratio (LCR) was an average of 130% in the first half of 2020, above the minimum regulatory requirement of 100% (see Section 5.4).

[3]The capital ratio is equal to regulatory capital divided by risk-weighted assets.

[4]The leverage ratio is equal to Tier 1 capital divided by the total exposure measure.

Table 2. Key metrics
In CHF millions, BCV Group, KM1[5]

		a	c	e
		30/6/2020	**31/12/2019**	**30/6/2019**
Available capital				
1	Common Equity Tier 1 (CET1)	3,216	3,220	3,162
2	Tier 1 (T1)	3,216	3,220	3,162
3	Total capital	3,236	3,244	3,186
Risk-weighted assets (RWA)				
4	Total RWA	18,124	18,786	18,942
4a	Minimum capital requirement	1,450	1,503	1,515
Risk-based capital ratios as % of RWA				
5	CET1 ratio	17.7%	17.1%	16.7%
6	Tier 1 ratio	17.7%	17.1%	16.7%
7	Total capital ratio	17.9%	17.3%	16.8%
FINMA capital ratio requirements				
	Minimum total capital ratio (CAO, Art. 42)	8.0%	8.0%	8.0%
12a	Total capital buffer (CAO, Annex 8)	4.0%	4.0%	4.0%
12b	Countercyclical buffer (CAO, Art. 44 and 44a)	-	0.8%	0.8%
12e	Total regulatory capital requirement in accordance with Annex 8 of the CAO plus the countercyclical buffer (CAO, Art. 44 and 44a)	12.0%	12.8%	12.8%
	Additional capital requirement (CAO, Art. 45)	1.0%	1.0%	1.0%
	Total FINMA capital requirement	13.0%	13.8%	13.8%
Basel III leverage ratio				
13	Total Basel III leverage ratio exposure measure	52,803	51,101	50,199
14	Basel III leverage ratio (Tier 1 capital as % of total Basel III leverage ratio exposure measure)	6.1%	6.3%	6.3%
Liquidity coverage ratio (LCR)				
15	Total high-quality liquid assets (HQLA)	9,719	9,060	8,788
16	Total net cash outflow	7,503	6,996	7,582
17	LCR	130%	129%	116%

*FINMA has set a temporary additional capital requirement of 1% for BCV, given the extremely low interest-rate environment and BCV's interest-rate-risk exposure as determined by FINMA.

[5]This table is a summary version of the Table KM1 required by FINMA. Only the FINMA capital ratio requirements are shown in this table; the Basel Committee requirements are less stringent and have not been included to avoid confusion. The full Table KM1 is provided in the Appendix (Table 28). The LCR figures represent the average for the six months preceding the indicated date.

2.2 Capital structure

BCV Group's regulatory capital is composed almost entirely of CET1 capital, with a marginal amount of T2 capital. Regulatory capital is based on the Group's financial statements, which are drawn up in accordance with the Swiss accounting rules for banks of 27 March 2014 (FINMA Circular 2015/1).

CET1 capital comprises paid-in capital, disclosed reserves, and minority interests. At 30 June 2020, BCV's share capital amounted to CHF 86,061,900 and consisted of 86,061,900 fully paid-in registered shares with a par value of CHF 1. CET1 capital is adjusted for regulatory deductions such as goodwill and any shortfall of provisions to regulatory expected losses. BCV has not issued any capital instruments that meet the criteria for inclusion in Additional Tier 1 (AT1) capital. In particular, BCV has no authorized or conditional capital and has not issued any dividend-right certificates. There are no outstanding convertible bonds or options issued by the Bank involving the BCV share.

T2 capital comprises reserves on debt and equity securities carried under financial investments and stated at lower of cost or market, subject to a limit of 45% of unrealized gains, and general provisions allocated under the International Standardized Approach. BCV has not issued any capital instruments that meet the criteria for inclusion in T2.

Table 3. Composition of regulatory capital
In CHF millions, BCV Group, CC1[6]

		a	a-1	b
		Net figures		**References**
		30/6/2020	**31/12/2019**	
Common Equity Tier 1 (CET1)				
1	Issued and paid-in capital, fully eligible	86	86	c
2	Retained earnings, including reserves for general banking risks and net profit (loss) for the period	3,173	3,173	
3	Capital reserve and currency translation reserve (+/-)	34	34	
5	Minority interests	0	0	
6	**CET1 before regulatory adjustments**	**3,294**	**3,294**	
CET1 regulatory adjustments				
8	Goodwill (net of related tax liability)	4	5	a
12	IRB shortfall of provisions to expected losses	58	50	
16	Net long position in own CET1 instruments	16	18	
28	**Total regulatory adjustments to CET1**	**78**	**73**	
29	**Net CET1**	**3,216**	**3,220**	
Additional Tier 1 capital (AT1)				
36	AT1 before regulatory adjustments	-	-	
43	Total regulatory adjustments to AT1	-	-	
44	Net AT1	-	-	
45	**Net Tier 1 capital**	**3,216**	**3,220**	
Tier 2 capital (T2)				
46	Issued and paid-in instruments, fully eligible	-	-	
48	Minority interests eligible as T2	-	-	
50	Valuation adjustments; provisions and impairments for prudential reasons; compulsory reserves on financial investments	20	23	
51	**T2 before regulatory adjustments**	**20**	**23**	
T2 regulatory adjustments				
52	Net long position in own T2 instruments	-	-	
57	Total regulatory adjustments to T2	-	-	
58	**Net T2**	**20**	**23**	
59	**Total regulatory capital (Net T1 & Net T2)**	**3,236**	**3,244**	

There was no significant change in regulatory capital in H1 2020. Note that H1 net profit is not included in regulatory capital at 30 June.

[6]Net profit for the current fiscal year is not included in regulatory capital at 30 June (Row 2). This table is a summary version of Table CC1, which is provided in full in the Appendix (Table 30).

2.3 Risk-weighted assets

Credit risk accounts for over 80% of the Bank's total risk exposure, in keeping with its business model and risk-taking strategy.

Table 4. Overview of RWA
In CHF millions, BCV Group, OV1[7]

		a	b	c
		RWA		Minimum capital requirements
		30/6/2020	31/12/2019	30/6/2020
1	**Credit risk (excl. counterparty credit risk)**	**15,066**	**15,679**	**1,205**
2	Of which: standardized approach (SA)	1,974	1,796	158
3	Of which: internal ratings-based approach (IRB)	7,195	7,662	576
4	Of which: supervisory slotting approach	5,369	5,654	429
	Of which: assets without a counterparty	528	567	42
6	**Counterparty credit risk (CCR)**	**300**	**358**	**24**
7	Of which: standardized approach for counterparty credit risk (SA-CCR)	190	235	15
9	Of which: other CCR approach	28	30	2
10	Of which: credit valuation adjustment (CVA)	83	93	7
11	**Equity positions in banking book under market-based approach**	**124**	**123**	**10**
13	**Equity investments in funds – mandate-based approach**	**0**	**0**	**0**
14	**Equity investments in funds – fall-back approach**	**7**	**8**	**1**
14a	**Equity investments in funds – simplified approach**	**44**	**49**	**4**
15	**Settlement risk**	**-**	**-**	**-**
20	**Market risk**	**252**	**232**	**20**
21	Of which: standardized approach	252	232	20
24	**Operational risk**	**1,753**	**1,761**	**140**
	Of which: standardized approach	1,753	1,761	140
25	**Amounts below the thresholds for deduction (250% risk weighting)**	**576**	**576**	**46**
26	**Floor adjustment**	**-**	**-**	**-**
27	**Total**	**18,124**	**18,786**	**1,450**

The decrease in risk-weighted assets in H1 2020 was mainly due to a decline in trade-finance credit exposures during the period and FINMA's decision to reduce BCV's IRB multiplier for residential mortgage loans to personal banking clients.

Since end-2017, BCV has been using the new regulatory approaches for its holdings in investment funds (as set forth in Article 63.3(f^{bis}) of the CAO and in margin number 333 of FINMA Circular 2017/7). The mandate-based approach is used for holdings in real-estate funds; the simplified approach is used for holdings in non-real-estate funds with a synthetic risk indicator of between 1 and 7; the fall-back approach is used for holdings in all other funds.

[7] An additional row has been added under "Credit risk" to indicate non-counterparty-related assets, which consist primarily of real estate and other tangible assets.

3. COMPREHENSIVE RISK MANAGEMENT APPROACH

The framework for risk governance, risk exposure (risk appetite), risk-assessment principles, and risk reporting, as well as other operational guidelines relating to risk management, are defined in the Bank's Risk Management Policy and Strategy (RMPS). The RMPS is the institution-wide risk management framework. It is an internal framework document that is reviewed and approved each year by the Board of Directors.

This section of the report sets out the Bank's risk-management principles, as required by FINMA for Pillar 3 disclosure.

3.1 Risk management objectives and governance

Risk-management objectives

BCV manages all its risks in an integrated and consistent way, using a process that encompasses all of the Bank's activities. The overall goals are to ensure that:

- BCV's risk exposure is evaluated, monitored, and reported in a manner that is appropriate to the economic and regulatory environment;
- BCV's risk-taking capacity is in line with its risk profile;
- BCV earns optimal returns on the risks that it takes and hence on the equity capital committed.

Risk-management governance

All risks are managed according to the same basic principles of governance and organization. The main responsibilities can be summarized as follows:

- The Board of Directors establishes the Bank's policy for managing risk and determines the strategy the Bank will pursue in taking on risk;
- The Board of Directors' Audit & Risk Committee ensures that the risk-management policy set by the Board of Directors is implemented and operational;
- The Executive Board is responsible for ensuring that the risk-management procedures are implemented and operational, and for monitoring the Bank's risk profile. The Executive Board monitors strategic and business risk and supervises the Executive Board Risk Management Committee (EBRMC) in monitoring and reporting these risks. The EBRMC is chaired by the Chief Financial Officer (CFO), and includes the CEO, other division heads, and the head of the Risk Management Department;
- Division heads are responsible for conducting and monitoring the activities of their divisions, regardless of whether the division has a front-line, steering, or business-support role. They have initial responsibility for overseeing, identifying, and managing the strategic, business, credit, market, and operational risks arising from the activities of their divisions;
- The CFO also assumes the role of Chief Risk Officer. The CFO puts forward the risk-management policy and strategy, monitors the Bank's aggregate risk profile, is responsible for capital adequacy, and helps foster a culture of risk management among staff, with the support of the Risk Management Department. Together with the Compliance Department, the CFO ensures that due diligence is taken to combat money laundering and the financing of terrorism, monitor market abuse, and comply with economic sanctions.
- The Chief Credit Officer (CCO) is responsible for analyzing risk for all types of credit-risk exposure assumed by the Bank and, up to the limit of his approval authority (see below), for credit decisions and for monitoring risk exposure on a counterparty basis.
- The Risk Management Department is responsible for developing and continually improving the

Bank's methods and principles for managing credit, market, and operational risk; monitoring the Bank's risk profile; and overseeing and executing risk reporting. The Department ensures that the Bank's internal control system is properly implemented and in keeping with the Bank's needs; it is also in charge of submitting all risk reports to the Bank's governing bodies. Finally, it is responsible for the overnight monitoring of market risk for BCV's trading floor.

- The Compliance Department is responsible for establishing the internal regulations and control system needed to combat money laundering and the financing of terrorism, monitor market abuse, and comply with economic sanctions. The Department is actively involved in raising employees' awareness of the respective obligations and carries out independent checks to ensure that internal regulations are in line with the Bank's activities.
- The Security Department is responsible for setting up, implementing, and monitoring a control system that keeps the Bank's operations, IT systems, and data secure, and the people, infrastructure, and assets within the Bank safe and secure. It also makes sure that measures put in place to manage crisis situations and ensure business continuity remain effective and adequate over time.

Audit function

The remits of the Internal Audit Department and external auditors are set out in their respective audit programs and involve assessing the Bank's functioning and processes, and the methods of levels 1 and 2 of the internal control system.

3.2 Risk-taking strategy

BCV's risk appetite (or acceptable risk profile) is determined in accordance with the Bank's business strategy and capital-management strategy. The risk appetite is set so as to be consistent with the Bank's business model as a full-service bank with strong local roots and focused on moderate-growth activities. Granting loans in Vaud Canton is a core element of the Bank's mission and strategy and one that gives rise to credit risk. Market risk arising from the trading book is intended to remain only a marginal source of risk for the Bank.

The Bank has adopted a risk-taking strategy that spells out its risk-taking principles, overall limits, and target values, in order to keep its risk profile at appropriate levels. For credit and market risk, the Bank's Risk Management Policy and Strategy (RMPS) establishes overall risk-exposure limits for a given portfolio or business line. It also includes risk-concentration limits for exposures to a given counterparty, underlying asset, or other risk-concentration factor.

The Executive Board Risk Management Committee, through the CFO, oversees compliance with the RMPS. Any crossed limits or instances of non-compliance with the principles set out in the RMPS are escalated to the Executive Board, which then reports to the Board of Directors.

3.3 Classification of risks and risk-assessment principles

Classification of risks

The Bank looks at three aspects for all types of risk:

- First, the existence of a risk factor, i.e., a source of uncertainty relative to the Bank's interests (e.g., the uncertain financial situation of one of the Bank’s counterparties, or an equity position in the trading book with a fluctuating price);
- Second, the occurrence of a risk event, which is a situation that has an adverse effect on the Bank’s interests and that is caused by the deterioration of a risk factor (e.g., if one of the Bank's counterparties does not meet its financial obligations, or if a share price falls);
- Third, the assessment of the negative impact that the risk event would have on the Bank’s interests (e.g., the need to record a loan impairment charge or a loss on a security).

Throughout the Bank, four categories of risk are used to classify risk events:

- Strategic and business risk. Strategic risk arises from economic or regulatory changes that have an adverse effect on the Bank’s strategic choices; business risk is the result of competitive changes that have an adverse effect on business decisions for a given strategy;
- Credit risk. This arises from the possibility that a counterparty may default. Credit risk exists before and during unwinding of a transaction;
- Market risk. This arises from potential adverse changes in market parameters – particularly prices and implied volatility – and other market effects (e.g., correlation between asset prices and market liquidity). Liquidity risk, both in terms of the structural funding of activities and short-term liquidity management, is also deemed to be a component of market risk;
- Operational risk. This arises from a possible inadequacy or failure relating to processes, people and/or information systems within and outside the Bank. Operational risk includes the risk of non-compliance; i.e., the risk of the Bank breaching legal requirements, standards, and regulations.

For all risk types, the Bank seeks to protect itself against three types of potential impact:

- The financial impact, that is, a decrease in the Bank’s net profit and/or a drop in the book or economic value of the Bank’s capital;
- The regulatory impact, that is, inquiries, sanctions, increased monitoring or a restriction on banking activities;
- The reputational impact, that is, the image the Bank projects to the outside world.

Risk assessment

Throughout the Bank’s businesses and portfolios and for every position and transaction, the Bank assesses and monitors its risk profile, i.e., its exposure to strategic, business, credit, market, and operational risks. The Bank assesses the potential financial, regulatory, and reputational impact of these risks.

Risk assessment generally involves analyzing the following:

- *Risk exposure*
  This involves determining whether the Bank is exposed to certain risks as a result of its activities or operational processes.
- *Risk factors and events*
  This involves identifying relevant risk factors and determining potential risk events. For strategic and business risk, this includes all economic and regulatory factors that may affect the Bank’s business activities and its operational processes. For credit, market, and operational risk, the relevant risk factors and risk events are defined according to the nature of the Bank’s activities.

- *The impact of risks*
  This involves determining the potential financial, regulatory, and reputational impact. For risks with a potential financial impact, this means defining *loss metrics* and *risk metrics* and determining *capital requirements*.

  Loss metrics, which are used to determine the potential financial impact, are calculated in accordance with the guidelines set out in the RMPS; they are developed for each risk category set out above. Generally speaking, the Bank uses effective loss, expected loss, and accounting loss to measure loss. Which risk metrics are applied depends on the relevant risk factors and the risk categories in question. These metrics reflect the methods and tools currently available to the Bank. The Bank continually improves and implements the risk metrics to make them more integrated and consistent across the Bank's various activities and risk categories. In terms of capital requirements, the Bank monitors its capital situation in accordance with the FINMA framework.

Risk reports

Risk-related reports are intended to provide an overview of the Bank's risk profile at a given point in time, in order to identify any increases in risk exposure or changes in risk profile. The head of the Risk Management Department has overall responsibility for compiling these reports. If the reports show a material deterioration in the Bank's risk profile, the Department head informs the CFO who then informs the Executive Board, the Chair of the Audit and Risk Committee, the Chairman of the Board of Directors and the Internal Audit Department.

The Bank's Risk Report gives insight into the overall economic climate and trends in the Bank's business and strategic risk, credit risk, market risk, and operational risk. This report also helps assess the financial impact of those risks and determine whether risk exposure is within the limits set by the RMPS.

For credit risk, the Risk Report provides information on the following items in particular: breakdown between banks and non-banks and by industry, segment, and region; impaired vs. non-impaired loans; provisions; expected losses; capital requirements; major risks; counterparties with the largest provisions; a watchlist for each business line; and compliance with limits in the RMPS for specific portfolios and counterparties.

For market risk, the Risk Report provides information on the following items in particular:

- Trading book – Value of the trading book; use of funding limits; use of VaR limits; and compliance with limits in the RMPS;
- Interest-rate risk in the banking book – Equity duration; the sensitivity of the net interest margin to major stress scenarios; and compliance with limits in the RMPS;
- Liquidity risk – Short-term funding structure; total liquidity; concentration risk on short-term deposits; and compliance with limits in the RMPS.

For operational risk, the Risk Report provides information on the following items in particular: provisions and losses resulting from operational risk, the most significant new provisions and losses, and changes in operational-risk events.

Most data in the Risk Report are updated monthly. Every six months a report on the Risk Management Department's operations is included. The Executive Board Risk Management Committee reviews the Risk Report every month; the Executive Board, Audit and Risk Committee, and Board of Directors review it every quarter. Once approved, the quarterly Risk Report is also sent to the head of the Internal Audit Department, the Chief Compliance Officer, and the entity responsible for the Bank's independent audits.

4. CREDIT RISK

4.1 Credit-risk framework

Strategy and processes

Guidelines for taking on credit risk

The Bank's lending activities are focused on Vaud Canton; lending does however take place to a lesser extent in other parts of Switzerland and other countries for specific client segments and products. Through its lending activities, the Bank aims to contribute to the development of all areas of the private-sector economy, to mortgage lending, and to the financing of public-sector entities within the Canton.

Lending at the Bank is based on the principle that a borrower must be able to fully repay any loan within a given period, or that the Bank may be released from any commitments it may have in regard to counterparties, while receiving fair compensation for the risks incurred and the work undertaken.

The Bank applies a differentiated pricing policy according to the estimated degree of risk. Where preferential terms are requested due to the extent of the Bank’s business relationship with the counterparty or business group, the overall return on the business relationship is taken into consideration.

The Bank does not engage in pledge financing or name lending. The lending decision takes into account the solvency of the counterparty, the project's earnings capacity, and the management's capabilities; these factors take precedence over collateral value or reputation.

The Bank avoids financing or supporting illegal or immoral activities through its lending facilities. The Bank also avoids facilitating, through its lending facilities, activities that could entail a risk of money laundering, insider trading, corruption, or activities that would breach in any other way the Swiss banks’ code of conduct with regard to the exercise of due diligence. The Bank avoids operations that may damage its reputation or image.

Standards and procedures for lending and loan renewals

Before taking on credit risk, the Bank conducts an analysis of the nature and complexity of lending commitments, using the appropriate internal methods for that type of transaction. BCV will not grant, increase, or renew loans to debtors until it has assessed solvency, i.e., until it has determined the appropriate internal counterparty rating of the probability of default using established methods. Risks relating to transactions and the return on commitments are also analyzed. It is in this context that the collateral for the commitment is identified and evaluated.

For both new and existing banking relationships, the Bank studies the economic background, the nature of and the reasons for the transaction, as well as the relationship between the parties involved. The Bank seeks to obtain a detailed view of the economic and personal situation of counterparties, and, as necessary, of the beneficial owners, the guarantors, or the beneficiaries of guarantees. The information obtained is carefully verified.

The Bank develops, reviews, and uses standard criteria for lending decisions. For financing single-family homes and income-producing real estate, these criteria were chosen, in particular, for their reliability and clarity.

Contractual documentation for standard lending operations is drawn up using models and/or guidelines that have been validated by the Bank’s Legal Department. For some lending operations, the Bank's legal department or, if necessary, external experts may be called upon. Contractual provisions aim to ensure that the funds are used in accordance with the stated purpose of the lending facility and that the Bank obtains any requested financial information within the stated deadlines. For medium- and long-term lending commitments, the contract is written in such a way as to ensure that the Bank's position as lender is not subordinated to that of other creditors without its agreement, in terms of both collateral and the counterparty’s position within a business group. For long-term commitments that cannot be terminated at any time based on the Bank's General Conditions, or for which the Bank cannot call in additional collateral at any time, the Bank adds a termination clause to hedge against the increased risk.

An application is prepared for all lending decisions. The application clearly states the reasons, conditions and contractual terms associated with the risk taken, and in particular the credit limit granted to the counterparty or business group. These applications are submitted for approval to the competent body according to a defined delegation chain.

Reexamination of lending commitments and collateral

Lending commitments are reviewed to assess any change in the counterparty's solvency or the value of the collateral, and to determine whether the commitments should be maintained at the existing level or reduced. The Bank uses an internal timetable to ensure that a periodic review is conducted of all lending commitments associated with a business group together with the contractual terms. A similar timetable is also used to review the level of collateral.

In addition to these regular reviews, the Bank uses a system of alerts under which specific commitments are reviewed outside of the normal timetable if any deterioration is detected. These alerts could be triggered and a review required, for example, if payment deadlines are missed or if there is a delay in the submission of information required to properly monitor lending commitments.

Decisions made on the basis of these reviews are subject to a delegation chain similar to the one used to assess whether to grant a new line of credit.

Limits, portfolio monitoring, and special measures

Within the credit portfolio, global risk limits are defined, mainly for the purpose of tallying up exposures that taken together could have a major impact on the Bank's net profit and economic capital. These limits are defined and monitored:

- For the exposure, the expected loss and the capital requirement for various client segments and for activities outside Vaud Canton and outside Switzerland.
- For the amount and term of the lending commitments in each foreign country in which the Bank takes on credit risk. The limits are determined through an internal analysis of the financial and settlement risks associated with the financing in place in the various countries.
- For the amount of aggregate positions for a given business group in order to monitor concentration risk.

If necessary, in addition to setting and monitoring these limits, the Bank analyzes specific portfolios that are deemed to be exposed to potential or actual adverse conditions. These analyses may lead to proactive measures for a sub-grouping of the counterparties in question in order to enhance credit-risk monitoring.

Furthermore, in case of extraordinary events, such as a significant decline in the local or broader property market, the dates on which collateral is reviewed may be moved forward for groups of collateral identified in accordance with various criteria (by region, property type, age of existing valuation, etc.) to avoid a situation in which the Bank's information systems contain obsolete and overestimated amounts for the market value of properties.

Monitoring and treating counterparties reputed to be in financial difficulty and counterparties in default

Counterparties that present a particularly high risk of default but are nevertheless considered to be performing are said to be "reputed to be in financial difficulty" (RD). These counterparties, along with counterparties that are "in default" (ID), are subject to closer monitoring.

Lending commitments to RD or ID counterparties are treated by the Bank individually, quickly and with the necessary rigor, in accordance with ethical and compliance-related rules. These positions must generally be made sound over the course of three to four years. Where this strategy cannot be applied, the Bank takes the appropriate measures to minimize its losses.

Structure and organization

Responsibilities in the credit process

In processing credit operations, the Bank as a general rule separates its client-facing divisions (Corporate Banking, Retail Banking, Private Banking, and Asset Management & Trading), which are responsible for advising, selling, selecting, pre-analyzing, and pricing the transactions, from the Credit Management Division, whose departments are in charge of the other phases of the lending process, such as analysis, granting loans, arranging the financing, and monitoring credit limits. In addition to the principle of separation, rules exist to avoid potential conflicts of interest between counterparties, on the one hand, and analysts and specialists, on the other.

Delegation chain for credit-related decisions

The decision-making process involves approving or reviewing a position and validating the internal counterparty rating of the probability of default as well as any overrides. To determine the competent body, the Bank applies a differentiated delegation chain that ensures that large and high-risk commitments are dealt with at the highest level, guaranteeing that Management is appropriately involved in taking on credit risk.

The competent body depends on the nature of the commitments and the level of credit risk of the business group to which the counterparty belongs. Decision-making authority is attributed individually or to credit committees, in accordance with a set of approval limits for each type of commitment (e.g., loans and advances to customers, interbank lending, and loans to employees and members of the governing bodies). These limits, which are different for credit decisions and reviews of existing commitments, depend on the internal counterparty rating of the probability of default, the nature, amount and term of the lending commitment, and the level and quality of the collateral for the financing. In addition, should certain lending criteria not be met, any decision to grant or increase financing for single-family homes and income-producing real estate would have to be made higher up the credit-decision-making chain. For each type of lending commitment, there is a distinct set of approval limits for decisions relating to short-term overruns or overdrafts.

The Board of Directors is at the top of the decision-making hierarchy and systematically reviews the most important credit-related decisions. Immediately below the Board of Directors are the Executive Board’s Credit Committee (EBCC) and the Chief Credit Officer (CCO), who heads the Credit Management Division. The EBCC and the CCO have widespread lending authority, which encompasses all of the Bank's activities. For lower amounts, lending authority is allocated according to the activity, beginning with the sector-specific credit committees. Lower down still, the analysts in the Credit Management Division, with different levels of authority, have certain powers that are specific to their field. Finally, some low-risk forms of lending, such as standard mortgage loans, are approved on the basis of standardized criteria through an automated credit analysis, using scores obtained from rating models defined by the Risk Management Department.

Lending commitments to counterparties “reputed to be in financial difficulty” (RD) or “in default” (ID) are subject to a separate delegation chain. There is an additional set of approval limits for decisions relating to taking on credit risk abroad.

Decisions taken at a given approval level are checked *a posteriori* by the level above, through a full or selective review of lending decisions deemed to be significant.

Responsibility for identifying and monitoring provisioned loans

Any entity within the Bank that is involved in the lending process may suggest that a counterparty be included in the RD and ID categories on the basis of criteria that are defined in the same way for all of the Bank’s activities. Entities with lending authority are authorized to decide whether to include a client in these categories.

A specialized department within the Credit Management Division monitors these commitments. It is separate from the front-line units that generate lending commitments. Once lending commitments are sound again, they are monitored by the front line.

Internal documentation and regulations

The guidelines for lending activities are set out in the Bank's Credit Policy. In particular, it sets out the basic principle for how authority for granting and reviewing loans is allocated. The delegation chain is then explained in detail in the Bank's Lending Policy Rule Book. Together with the Technical Standards (technical criteria and limits for lending), these documents form the framework for the Bank's lending activities, which is established in accordance with the Bank's Risk Management Policy and Strategy.

The Executive Board defines and develops the Credit Policy, upon the recommendation of the CCO, and submits it to the Board of Directors (BoD) for approval. The BoD reviews the Credit Policy periodically. All those involved in the lending process are responsible for monitoring the Credit Policy and ensuring that it is adhered to. The CCO oversees its application.

The Lending Policy Rule Book sets out the rules and guidelines for decisions concerning the Bank's credit risk at the parent company level (delegation chain). It is established in accordance with the Bank's by-laws and Credit Policy.

The EBCC develops and submits the Lending Policy Rule Book and its updates to the BoD.

The Technical Standards define the type of collateral recognized by the Bank and, for each type of collateral, the loan-to-value ratio required for a loan to be consider secured. The Technical Standards are subject to validation by the BoD.

At the operational level, lending activities are structured around a series of internal directives that provide details of the guidelines set forth in the framework documents.

Risk assessment

Risk event

A credit-risk event is a default by a counterparty: the Bank considers a counterparty to be in default when the counterparty is past due more than 90 days on any material credit obligation to the Bank or when the Bank considers that the counterparty is unlikely to pay its credit obligations to the Bank in full. Impaired loans are the same as defaulted loans.

Past-due loans are loans where the counterparty is more than 90 days late on a payment obligation to the Bank. Past-due loans are considered defaulted loans apart from some exceptions related to operating procedures (total volume less than CHF 1 million). The Bank does not use the concept of a restructured exposure.

Risk exposure

The Bank considers all credit-risk exposure that arises from its activities, including its activities as a custodian bank, with the following counterparties or groups of counterparties:

- Retail and private banking clients;
- Corporates, excluding trade finance;
- Trade finance;
- Fund-management companies;
- Public-sector entities (municipalities and regional, local, and national governments);
- Bank counterparties.

For any counterparty, exposure to credit risk in the trading book and banking book (both on and off the balance sheet) occurs in the following forms:

- Exposure in the form of a financial claim (mortgage loans, fixed-term advances, current accounts with credit limits, overdrafts, investments, and current accounts held by the Bank with other banks);
- Off-balance-sheet exposure resulting from undrawn portions of notified limits, contingent liabilities (guarantees) issued by the Bank on behalf of the counterparty, guarantees or other forms of

commitment (letters of credit, avalized drafts) received from the counterparty as collateral or for which the Bank takes over the risk;

- Exposure resulting from forward contracts and OTC derivatives, taking into account netting agreements and collateral management agreements;
- Exposure in terms of shares and other equity securities (including equity derivatives) for which the counterparty is the issuer (in the banking book and net positions in the trading book);
- Exposure resulting from repos/reverse repos and securities lending/borrowing transactions;
- Settlement exposure, especially on currency transactions. It should be noted that when positions are unwound through a simultaneous settlement system, such as CLS (Continuous Linked Settlement), settlement risk is not considered.

The methods defined determine the amount of exposure by category.

Loss metrics

The Bank uses two different loss metrics:

- *Expected loss:* The expected loss is determined on the basis of the probability of default and the loss given default for positions not relating to trade finance, and on the basis of slotting criteria for trade-finance positions. A general description of these methods is provided below.
- *Book loss or a loan impairment charge:* Most loan impairment charges are the result of a bottom-up calculation, position by position, following the discovery of RD and ID counterparties and an analysis of the corresponding exposure. These charges reflect the best *a priori* estimate of the loss on specific exposures. The amount of such charges is generally determined using a parameter-based method in which the provisioning ratio is determined and applied to credit-risk exposure. This method is different from that used to calculate the expected loss on performing loans. In some cases, for large commitments or for special or complex situations, the amount of the loan impairment charge is based on a scenario analysis. The Bank also allocates provisions for country risks, which are created whenever there is a major credit risk on commitments that are neither RD nor ID, for reasons relating to adverse situations in a country associated with the commitment.

For performing loans not relating to trade finance or real-estate development, the expected loss is determined on the basis of the probability of default and the loss given default.

- *Counterparties' probability of default, and rating of default risk*

  Each counterparty is assigned an internal counterparty default rating depending on its probability of default. Throughout the Bank (parent company), there are seven main internal ratings (B1 to B7) and 16 sub-ratings (B1.1 to B7).

  The ratings B1 to B5.2 are used for counterparties that are neither RD nor ID; B6 is used for counterparties that are RD, which are also considered performing. Counterparties rated B7 are ID or non-performing. Loan impairment charges may be recognized for ID and RD counterparties.

  A rating method is used to assign an internal rating to each performing counterparty. Counterparties (individuals, companies, banks, etc.) are distinguished by factors that may affect their solvency, the nature of available explanatory data and the level of loss-risk they represent. Rating methods are segmented into groups of counterparties so that counterparties that are deemed similar according to these analytical factors are handled in the same way.

  For each rating segment the rating method for performing clients comprises a "score" and an "analyst's assessment." Considered together, the score and the analyst's assessment are used to assign an internal rating to each performing counterparty.

  - For the score component of the rating method, an internal rating is identified using one of the following three procedures: applying a calculation function for the probability of default calibrated statistically or based on an expert's assessment, assigning the counterparty to a default probability slot, or transferring a counterparty from one rating to another in accordance with a system of rules. The Bank also employs standards and methods to recognize the impact on the probability of default of factors such as the business group or government support at a local, regional, or national level.

- The "analyst's assessment" component of the rating method defines the guidelines to be followed by an expert when analyzing the counterparty's debt quality, alongside the score. The competent body sets and approves the internal rating that is eventually determined as well as the override, if necessary.

Specific criteria are defined for the purpose of identifying RD counterparties. A counterparty is deemed RD when one of the following two conditions is met:

- The Bank believes there to be a high risk that part of its exposure to credit risk on the counterparty will not be recovered.
- A significant breach of the contract on any of the forms of credit extended to the counterparty by the Bank has occurred and has not been remedied without a temporary or definitive exemption being granted.

- *Loss given default*

  To calculate the loss given default, the Bank takes into account the expected exposure at the time of default, the expected coverage ratio at the time of default, the nature of the collateral, and the rate of loss on secured and unsecured parts. The internal models used are calibrated so that the loss given default produced by the calibrated model corresponds to an effective loss that takes into account discounted values of all cash flows paid and collected by the Bank after the default, including fees associated with managing the loans of counterparties in default and with recovering loans.

A supervisory slot is allocated to loans relating to real-estate development and trade finance in order to estimate the expected loss. The slot assignment is based on a structured analysis of the corresponding transactions. It meets the supervisory slotting criteria for specialized lending in Annex 4 of the International Convergence of Capital Measurement and Capital Standards: a Revised Framework (Basel II Accord).

Risk metrics

The Bank's main credit-risk metrics are:

- The expected loss (see above);
- Loss under stress scenarios. The Bank applies cyclicality stress tests and global stress tests:
  - Cyclicality stress tests for credit risk indicate the extent of the change in capital requirements in the event of an economic slowdown. They are based on changes in two key credit-risk variables, which are probability of default and loss given default;
  - Global stress tests are part of the broad approach for estimating (by risk category) the impact of a number of stress scenarios on the Bank's net profit in order to assess capital adequacy. For credit risk, this allows the need for new provisions to be estimated for each stress scenario, should it occur. The stress scenarios are defined for the entire lending portfolio on the basis of historical observations (for example, the property market correction in the early 1990s) and macroeconomic analyses.

Unless otherwise indicated, credit-risk metrics address a risk horizon of 12 months.

Capital requirements for credit risk

For most of its credit-risk exposure (around 90% of risk-weighted assets), the Bank determines its regulatory capital requirements (Pillar 1) using the Foundation Internal Ratings-Based approach (F-IRB). For exposure outside the scope of the F-IRB approach, capital requirements are determined using the International Standardized Approach (SA-BIS).

Table 5. Credit-risk exposure by approach applied
In CHF millions, at 30 June 2020, BCV Group, CRE[8]

	Credit risk		Counterparty credit risk		
Category	**F-IRB**	**SA-BIS**	**F-IRB**	**SA-BIS**	**Total**
Central governments and central banks	-	99%	-	1%	11,371
Banks and securities firms	42%	36%	21%	1%	2,518
Non-central govt. public-sector entities; multilateral development banks	43%	57%	0%	-	1,672
Corporates	82%	18%	0%	0%	15,843
Retail	96%	4%	0%	0%	19,710
Total	**66%**	**33%**	**1%**	**0%**	**51,114**

Exposures outside the scope of the F-IRB approach include those for which the Bank does not intend to put in place a rating model. These exposures include the Swiss National Bank, the Swiss Federal Government, Swiss cantonal governments, the Mortgage-Bond Bank of the Swiss Mortgage Institutions, the Central Mortgage-Bond Institution, some foreign bank and sovereign bond issuers, SMEs that do not yet have financial statements, insurance companies, investment funds, counterparties with no loan agreement (i.e., for overdrafts), and exposures at the Bank's subsidiaries.

Table 6. Risk-weighted assets by approach applied
In CHF millions, at 30 June 2020, BCV Group, CRE

	Credit risk		Counterparty credit risk		
Category	**F-IRB**	**SA-BIS**	**F-IRB**	**SA-BIS**	**Total**
Central governments and central banks	-	100%	-	-	12
Banks and securities firms	58%	34%	8%	1%	1,087
Non-central govt. public-sector entities; multilateral development banks	51%	49%	0%	-	436
Corporates	87%	12%	0%	0%	8,893
Retail	93%	7%	0%	0%	4,274
Total	**85%**	**13%**	**1%**	**0%**	**14,702**

[8]Exposure at default (EAD) after applying credit conversion factors. Credit risk and counterparty credit risk excluding non-counterparty-related assets, credit valuation adjustments, and central counterparties. Categories defined by FINMA (Tables CR4 and CR7), also described in Section 7.3.2.

4.2 Loans and debt securities

This section covers loans to customers and banks (excluding securities financing transactions and derivatives) and debt securities in the financial investments portfolio. These loans and debt securities correspond to the credit-risk exposure set out in FINMA Circular 2016/1 “Disclosure – banks.” Securities financing transactions (repo and reverse repo agreements) and derivatives are discussed in Section 4.3, “Counterparty credit risk.”

4.2.1 Portfolio quality

Most loans to customers are located in Vaud Canton (81%). They are composed primarily of on-balance-sheet exposure in the form of mortgage loans and various financing in the form of current accounts (e.g., loans for construction, operational, investment, or cash-management purposes).

Most of the exposure to banks and debt securities is in Switzerland (83%) but outside of Vaud Canton. These exposures mainly comprise cash held with the SNB, investments with the Central Mortgage-Bond Institution and the Mortgage-Bond Bank of the Swiss Mortgage Institutions, and exposures to other Swiss banks. Exposure in the European Union arises mainly from cash-management and trading transactions, whereas exposure in the rest of the world is a result of trade-finance activities.

Table 7. Credit-risk exposure by type of exposure and region
In CHF millions, at 30 June 2020, BCV Group, CRB[9]

Region	Non-impaired exposure	Impaired exposure	Provisions and impairments	Total exposure
Customer loans	**38,973**	**319**	**115**	**39,293**
Vaud Canton	31,788	184	52	31,972
Rest of Switzerland	5,703	37	10	5,741
European Union and North America	356	3	3	359
Rest of world	1,125	95	50	1,221
Bank loans and debt securities	**15,200**	**-**	**-**	**15,200**
Vaud Canton	10	-	-	10
Rest of Switzerland	12,664	-	-	12,664
European Union and North America	1,595	-	-	1,595
Rest of world	932	-	-	932
Total	**54,173**	**319**	**115**	**54,493**

[9]Tables 7 through 9 show exposure at default (EAD) before applying credit conversion factors. Non-counterparty-related assets are not included.

Table 8. Credit-risk exposure by risk segment
In CHF millions, at 30 June 2020, BCV Group, CRB

Risk segment	Non-impaired exposure	Impaired exposure	Provisions and impairments	Total exposure
On- and off-balance-sheet exposure	**50,094**	**319**	**115**	**50,413**
Retail	10,916	46	8	10,962
Private banking	7,163	57	15	7,220
SMEs	5,570	79	29	5,649
Real-estate professionals	8,419	29	5	8,448
Large corporates	3,318	11	6	3,330
Public-sector entities	2,361	-	-	2,361
Trade finance	1,207	98	52	1,305
Banks	11,139	-	0	11,139
Debt securities	**4,080**	**-**	**-**	**4,080**
Total	**54,173**	**319**	**115**	**54,493**

The Bank classifies counterparties into eight risk segments according to their type, main business, and extent of the banking relationship with BCV.[10]

A large percentage of the Bank's exposure (33%) represents lending to retail and private banking customers in the form of mortgages and Lombard loans.

Companies account for 34% of total exposure, which is divided among SMEs, real-estate professionals, large corporates, and trade-finance counterparties.

Public-sector exposure mainly consists of limits granted to the Swiss Federal Government, municipalities, and the Vaud Cantonal Government.

Bank counterparties account for 20% of total exposure, comprised mostly of cash deposited with the SNB.

Debt securities account for 7% of total exposure and include investments with the Mortgage-Bond Bank of the Swiss Mortgage Institutions and the Central Mortgage-Bond Institution in the amount of CHF 2.0bn.

[10]Risk segments are described in Section 7.3.2.

Table 9. Breakdown of exposure by residual contractual maturity
In CHF millions, at 30 June 2020, BCV Group, CRB

Category	< 1 yr	1-5 yrs	> 5 yrs	No maturity	Subsidiaries	Total Group
Central governments and central banks	950	360	294	9,375	320	11,299
Banks and securities firms	1,415	341	287	434	29	2,505
Non-central govt. public-sector entities; multilateral development banks	591	700	799	594	2	2,687
Corporates	4,215	2,468	1,432	10,167	1	18,283
Retail	493	86	142	18,290	708	19,719
Total	**7,665**	**3,956**	**2,954**	**38,859**	**1,060**	**54,493**

There is no contractual maturity date for repayment on 71% of the Bank's exposure. This is the case for cash held with the SNB, all mortgage loans, and some credit limits. Most mortgage loans are currently fixed-rate loans, which means there are maturity dates on which the loans can be renewed. At the maturity dates, most fixed-rate loans are renewed with new interest rates. For tax reasons, it is rare for clients residing in Switzerland to fully pay down their mortgage loan.

Table 10. Credit quality of assets
In CHF millions, BCV Group, at 30 June 2020, CR1

		a	b	c	d
		Gross carrying value of			
		Defaulted exposure	**Non-defaulted exposure**	**Provisions and impairments**	**Net value**
1	Loans (excl. debt securities)	293	43,623	108	43,808
2	Debt securities	-	4,080	-	4,080
3	Off-balance-sheet exposure	26	6,471	7	6,491
4	**Total**	**319**	**54,173**	**115**	**54,378**

Defaulted loans amounted to CHF 319m at 30 June 2020 and accounted for 0.6% of total exposure. A provision of CHF 109m was recognized for these loans; this represents an average provisioning rate of 34%, reflecting the high quality of the collateral provided on these loans. Provisions are determined individually for each defaulted loan, taking into account the liquidation value of collateral and the characteristics of the counterparty.

Provisions for latent risks cover high-risk loans to counterparties "reputed to be in financial difficulty" (CHF 6.0m at 30 June 2020), together with country risk (zero at 30 June 2020). Provisions for country risk cover non-defaulted exposure in countries where the financial or settlement risk rating is below a given threshold.

Table 11. Changes in the stock of defaulted loans and debt securities
In CHF millions, BCV Group, CR2

		a
		Defaulted loans
1	**Defaulted loans and debt securities at end of previous reporting period**	**274**
2	Loans and debt securities that have defaulted since the last reporting period	93
3	Amounts returned to non-defaulted status	33
4	Amounts written down or written off	1
5	Other changes	-13
6	**Defaulted loans and debt securities at end of reporting period**	**319**

Defaulted exposure increased CHF 45m over the period, mainly due to defaults by two trade-finance counterparties. 88% of defaulted loans relate to counterparties that went into default in or after 2014.

4.2.2 Risk mitigation

The Bank seeks to appropriately secure its exposure through the use of collateral. Various types of collateral are recognized. They include:[11]

- Pledges on real estate (primarily mortgage deeds on various types of real estate);
- Pledges on financial assets (mainly cash and securities accounts);
- Guarantees (mainly loan guarantees and bank guarantees).

The valuation of collateral recognized by the Bank is based on the principle of market value, and is carried out as often as appropriate for the type of collateral. Pledges on real estate and financial assets are valued as follows:

- The valuation of pledged real estate is carried out using methods appropriate to the type of real estate: models are used for standard real estate like houses and apartments, while other types of properties, like hotels, are appraised. The frequency at which real estate is valued depends on the type of property, as do the standard loan-to-value ratios for the loans secured by this collateral.
- Securities portfolios and other financial assets pledged as collateral for Lombard loans are valued daily. Loan-to-value ratios are defined by type (shares, debt securities, fund units, fiduciary accounts, precious metals, or structured products), country of domicile, currency risk, the liquidity of the security, the counterparty's default risk, and the residual term for debt securities, together with portfolio diversification.

[11]BCV does not net out on- or off-balance-sheet items (except for securities financing transactions and derivatives, which are discussed in the "Counterparty credit risk" section).

Table 12. Credit-risk mitigation techniques – overview
In CHF millions, at 30 June 2020, BCV Group, CR3

		a	b1	b	d
		Exposures unsecured: carrying amount	**Exposures secured**	**Exposures secured by collateral**	**Exposures secured by financial guarantees**
1	Loans (excl. debt securities)	15,420	28,387	27,101	1'286
2	Debt securities	3,987	92	-	92
3	**Total**	**19,408**	**28,480**	**27,101**	**1'378**
4	Of which: defaulted	85	106	92	14

4.2.3 IRB approach

4.2.3.1 IRB approach (excluding specialized lending)

BCV obtained approval from FINMA to use the Basel Foundation IRB approach (F-IRB) to determine regulatory capital requirements for credit risk beginning on 1 January 2009.

Structure of IRB rating systems

The rating system for default risk is composed of a series of rating models. In all cases, the aim is to assess the one-year probability of default, in the form of an internal counterparty default rating. The following models are used for the categories for which the Bank obtained F-IRB approval (they are named after the population to which they apply):

- BCV staff (default probability pool);
- Private banking (default probability pool);
- Retail (default probability statistical scores);
- SMEs (several default probability statistical scores, depending on the nature of the client and the data available);
- Large corporates (expert default-probability scores);
- Banks (expert default-probability scores);
- Municipalities in Vaud Canton (expert default-probability scores).

The Bank has also defined and implemented a system of rules governing the transmission of internal ratings for counterparties that are related in terms of credit risk. The scores are accompanied by the analyst assessment rules.

All these models, with the exception of the rating model for bank counterparties, generate an estimate of the probability of default without using external ratings. When assessing default risk, the rating model used for bank counterparties takes into account, among other factors, the ratings issued by the main ratings agencies (Moody’s, Fitch, and Standard & Poor's).

The Bank determined the scope of application of its models by grouping together similar counterparties; i.e., counterparties that could all default for related reasons and for which the Bank has a set of common data that can be used for modeling. The scope of its models matches these groups where they present a material, coherent risk.

Internal loss given default (LGD) and exposure at default (EAD) models are used to calculate regulatory capital requirements for retail portfolios.

LGD is the economic loss to the Bank if a counterparty defaults. The economic loss is calculated as the difference between the Bank's exposure to the counterparty at the time of default and the present value of all cash flows that the Bank stands to receive from the counterparty after its default. The Bank's internal LGD model factors in both the loss on the exposure and the workout costs. LGD is calculated by loan tranche, as each tranche is secured by different collateral (e.g., real estate, other securities, and guarantees); there may also be a portion not secured by collateral. Each tranche is given a loss rate. The LGD for the total loan is generally the weighted average of the loss rates for each tranche, including any unsecured tranches. The loss rates for each type of collateral are determined using data from a recessionary period in Vaud Canton (the early 1990s) to include the downturn characteristics required by regulators. A counterparty's LGD is separate from its probability of default (PD).

The credit conversion factors (CCFs) used for the Bank's internal EAD model are either calculated using a conservative approach (100% for undrawn credit limits) or based on prudential CCFs (contingent liabilities).

Use of ratings

In addition to being used to calculate regulatory capital requirements under the F-IRB approach, internal ratings are used for numerous purposes (in the front, middle, and back offices). Here are the main uses:

- Decision-making support when credit facilities and other commitments are granted or renewed;
- Defining lending authority and the intensity of monitoring;
- Setting risk-adjusted prices;
- Creating provisions;
- Monitoring the performance of business units;
- Analyzing risk on the lending book;
- Strategic planning.

The scope of application of certain models for internal needs goes significantly beyond the scope of the corresponding F-IRB approval. Internal LGD/EAD models are used to estimate the expected loss on most of the Bank's credit portfolios and not only on the retail portfolios. Furthermore, internal rating models for default risk are used for a number of portfolios for which the Bank does not intend to seek IRB approval.

Managing and integrating the reduction in credit risk

The principles used to recognize and value collateral are the same for the portfolios for which BCV has obtained F-IRB approval for calculating regulatory capital requirements as for the rest of its lending portfolio.

Rating system's control mechanism

The rating system's control mechanism obeys the principles of the Bank's internal control system. It is composed of three levels of internal oversight. The first two levels are under the responsibility of the Executive Board, while the third level falls under the Board of Directors:

- Level 1: operational and managerial oversight of business activities, in accordance with the chain of command.
- Level 2: monitoring the appropriateness and effectiveness of level 1 by independent entities.
- Level 3: periodic independent review of levels 1 and 2 by the Internal Audit Department.

For the rating models (PD, LGD, and EAD), or other models affecting the assessment of credit risk, three steps are defined. The objectives and responsibilities for each step are as follows:

Step 1: initial validation

Key components of the initial validation include monitoring the following: the logic of the design; the quality of the data; the selection of variables; the modeling process; the development of results; documentation; programming; and implementation.

Preparatory work for the initial validation is conducted within the Risk Management Department by the units responsible for developing the models as part of their development and improvement work. Operational and managerial oversight of this work (level 1) is also done by these units, under the supervision and responsibility of the head of the Risk Management Department.

The Validation of Rating Models unit, under the CFO's responsibility, challenges and monitors in both qualitative and quantitative terms the development and improvement work and the initial validation (level 2 oversight) and issues an opinion for the purposes of the initial validation by the Executive Board’s Risk Management Committee (EBRMC).

The unit does this using documents drawn up by the Risk Management Department explaining the main choices made in designing the models and describing the quantitative methods used and the results obtained. The documents also indicate the results expected from the models using a set of standardized indicators for explanatory power (for PD models) and indicators of the degree of prudence. The design document for each model is tailored to the type and complexity of the model in question (i.e., whether it is based on a statistical calculation or an expert assessment).

As part of its monitoring work, the Validation of Rating Models unit issues a report of this assessment and its conclusions.

The EBRMC is responsible for the initial validation of a new or improved model, and, by extension, for authorizing its implementation. It bases its validation decisions on reports from the Risk Management Department that summarize the design documents, and on reports from the Validation of Rating Models unit that summarize the findings of the unit’s independent assessment and include a recommendation for the initial validation.

Step 2: monitoring the use of models

This refers to the application of models in the Bank's credit and piloting processes.

For the credit process, analysts from the Credit Management Division and the front office are responsible for using the models and thus for calculating the estimators produced by the models. Analysts and the front office are also responsible for ensuring that the estimators are appropriately used in the context of credit decisions (decisions to grant credit as well as pricing decisions). These activities are subject to operational and managerial oversight which is defined by the analysts and the front office (level 1).

For piloting needs, various departments use the estimators produced by these models in the lending process. The Risk Management Department in particular uses rating models to analyze and monitor risk on the loan book and to calculate capital requirements.

Step 3: ongoing validation

Key components of ongoing validation include ensuring appropriate use of the models and compliance with structural and design-related hypotheses, and backtesting performance (precision and discriminating capacity).

Preparatory work for ongoing validation is conducted by the units responsible for developing the models. These units also propose any necessary measures to be taken in response to the results obtained. Operational and managerial oversight of this work (level 1) is carried out by these units, under the supervision and responsibility of the head of the Risk Management Department.

As during the initial validation, the Validation of Rating Models unit, under the supervision and responsibility of the CFO, challenges and monitors in both qualitative and quantitative terms the ongoing validation (level 2) and issues an opinion on the results of the ongoing validation and the measures proposed, for ongoing validation by the EBRMC.

The unit does this using documents drawn up by the Risk Management Department that describe all the models and characterize their results using a set of standardized indicators for explanatory power (for PD models) and indicators of the degree of prudence.

As part of its monitoring work, the Validation of Rating Models unit issues a report of this assessment and its conclusions.

The EBRMC is responsible for the ongoing validation of a model and for possible measures to be taken in this regard. It is therefore responsible for authorizing a model’s continued use, including constraints and measures to be taken. It bases its validation decisions on reports from the Risk Management Department that summarize the ongoing-validation documents, and on reports from the Validation of Rating Models unit that summarize the findings of the unit’s independent assessment and include a recommendation for the ongoing validation.

Operational principle behind model validation

The core principle underlying the activities of the Validation of Rating Models unit is "close, but independent." Proximity is achieved by involving the unit in the entire process, starting with the initial steps taken by the design teams, both through regular support and regular discussions. Independence is achieved through the use of operational principles overseen by the EBRMC itself.

Table 13. IRB – Credit-risk exposure by portfolio and PD range

In CHF millions, at 30 June 2020, BCV Group, CR6

	a	b	c	d	e	f	g	h	i	j	k	l
PD range	**On-balance-sheet exposure**	**Off-balance-sheet exposure**	**Average CCF**	**EAD post-CRM and post-CCF**	**Average PD**	**Number of obligors**	**Average LGD**	**Average maturity**	**RWA**	**RWA density**	**EL**	**Provisions**
3 Banks and securities firms (F-IRB)												
0.00 to <0.15	529	428	33%	671	0.04%	136	45%	1.89	131	20%	0	
0.15 to <0.25	106	23	22%	111	0.21%	15	45%	2.26	67	61%	0	
0.25 to <0.50	17	26	28%	24	0.37%	10	45%	1.00	15	62%	0	
0.50 to <0.75	2	4	31%	3	0.57%	5	45%	1.00	2	77%	0	
0.75 to <2.50	15	8	22%	17	1.00%	14	45%	1.00	17	99%	0	
2.50 to <10.00	192	171	21%	228	5.66%	71	45%	1.00	397	174%	6	
10.00 to <100.00	-	-	-	-	-	-	-	-	-	-	-	
100.00 (default)	-	-	-	-	-	-	-	-	-	-	-	
Sub-total	**,861**	**660**	**29%**	**1,054**	**1.30%**	**252**	**45%**	**1.70**	**629**	**60%**	**6**	**-**
5 Non-central govt. public-sector entities; multilateral development banks (F-IRB)												
0.00 to <0.15	702	486	0%	679	0.06%	238	45%	3.52	196	29%	0	
0.15 to <0.25	22	5	-	20	0.21%	7	45%	2.53	10	48%	0	
0.25 to <0.50	18	2	-	18	0.37%	4	45%	4.45	15	87%	0	
0.50 to <0.75	-	-	-	-	-	-	-	-	-	-	-	
0.75 to <2.50	1	0	-	0	0.86%	1	45%	3.43	0	105%	0	
2.50 to <10.00	-	-	-	-	-	-	-	-	-	-	-	
10.00 to <100.00	-	-	-	-	-	-	-	-	-	-	-	
100.00 (default)	-	-	-	-	-	-	-	-	-	-	-	
Sub-total	**742**	**494**	**0%**	**717**	**0.07%**	**250**	**45%**	**3.51**	**221**	**31%**	**0**	**-**
9 Corporates - other lending (F-IRB)												
0.00 to <0.15	1,438	1,151	19%	1,650	0.09%	232	44%	2.28	403	24%	1	
0.15 to <0.25	312	214	33%	381	0.21%	77	44%	1.95	150	39%	0	
0.25 to <0.50	517	294	36%	613	0.37%	159	43%	2.31	335	55%	1	
0.50 to <0.75	383	89	22%	397	0.57%	84	44%	2.72	301	76%	1	
0.75 to <2.50	1'000	302	30%	1,079	1.33%	314	44%	2.00	947	88%	6	
2.50 to <10.00	105	29	20%	111	4.33%	44	44%	1.90	136	123%	2	
10.00 to <100.00	22	2	21%	22	21.00%	6	43%	2.10	48	216%	2	
100.00 (default)	68	1	14%	68	100.00%	13	-	2.36	54	79%	17	
Sub-total	**3,844**	**2,082**	**24%**	**4,320**	**0.72%**	**929**	**44%**	**2.21**	**2,373**	**55%**	**31**	**20**

	a	b	c	d	e	f	g	h	i	j	k	l
PD range	**On-balance-sheet exposure**	**Off-balance-sheet exposure**	**Average CCF**	**EAD post-CRM and post-CCF**	**Average PD**	**Number of obligors**	**Average LGD**	**Average maturity**	**RWA**	**RWA density**	**EL**	**Provisions**
11 Mortgage-backed retail exposure												
0.00 to <0.15	7,448	56	100%	7,505	0.10%	17,543	13%	2.50	439	6%	1	
0.15 to <0.25	3,842	28	100%	3,871	0.21%	6,662	16%	2.51	496	13%	1	
0.25 to <0.50	2,947	45	100%	2,992	0.37%	4,171	19%	2.51	702	23%	2	
0.50 to <0.75	1,024	26	99%	1,049	0.57%	1,517	20%	2.51	326	31%	1	
0.75 to <2.50	1,882	49	99%	1,930	1.29%	2,667	20%	2.51	1,011	52%	5	
2.50 to <10.00	390	11	98%	401	4.98%	485	20%	2.49	456	114%	4	
10.00 to <100.00	51	1	89%	51	21.00%	50	24%	2.45	118	229%	3	
100.00 (default)	93	0	50%	93	100.00%	92	-	2.50	90	97%	7	
Sub-total	**17,677**	**216**	**99%**	**17,891**	**0.49%**	**33,186**	**16%**	**2.51**	**3,638**	**20%**	**25**	**9**
13 Other retail exposure												
0.00 to <0.15	327	247	100%	573	0.11%	1,480	16%	1.39	25	4%	0	
0.15 to <0.25	25	42	98%	67	0.21%	945	47%	1.40	14	21%	0	
0.25 to <0.50	28	63	98%	90	0.37%	5'396	80%	1.52	46	51%	0	
0.50 to <0.75	14	38	97%	51	0.57%	344	80%	1.48	33	65%	0	
0.75 to <2.50	75	132	94%	199	1.37%	2,308	72%	1.51	167	84%	2	
2.50 to <10.00	20	14	96%	33	4.64%	328	66%	1.83	34	102%	1	
10.00 to <100.00	3	3	88%	6	21.00%	36	74%	1.93	10	179%	1	
100.00 (default)	22	2	93%	23	100.00%	335	-	2.41	4	16%	20	
Sub-total	**513**	**542**	**98%**	**1,043**	**0.68%**	**11,171**	**40%**	**1.47**	**334**	**32%**	**24**	**22**
Total	**23,637**	**3,993**	**36%**	**25,026**	**0.56%**	**45,788**	**24%**	**2.41**	**7,195**	**29%**	**86**	**50**

In Tables 13 and 15, the average PD and average LGD subtotals do not include defaulted exposure. In the “Mortgage-backed retail exposure” category in Table 13, risk-weighted assets relating to residential mortgage loans to personal banking clients were calculated using an IRB multiplier of 1.9, pursuant to FINMA’s decision.

The segmentation of the Bank's default rating system into groups of counterparties is adapted to the Bank's risk management needs and to its business activities. Within the Bank, both the initial and ongoing model validations are conducted according to these groups. The validation process is distinct from the exposure categorization set forth under Basel III.

The "Banks and securities firms (F-IRB)" portfolio is covered by the bank rating model. The "Non-central government public-sector entities; multilateral development banks (F-IRB)" portfolio is covered by the rating model for Vaud municipalities. The "Corporates – other lending (F-IRB)" portfolio is covered by three rating models (for large corporates, SMEs, and joint and several co-debtors). The "Mortgage-backed retail exposure" portfolio is covered by three rating models (one for retail customers, one for BCV employees, and one for private banking clients). The "Other retail exposure" portfolio is covered by four rating models (one for retail customers, one for BCV employees, one for private banking clients, and one for SMEs).

Table 14. RWA flow statements of credit-risk exposure
In CHF millions, BCV Group, CR8

		a
		RWA amount
1	**RWA at end of previous reporting period**	**7,662**
2	Asset size	-62
3	Asset quality	-149
4	Model updates	+0
5	Methodology and policy	-248
6	Acquisitions and disposals	+0
7	Foreign exchange movements	-7
8	Other	+0
9	**RWA at end of reporting period**	**7,195**

The amount of risk-weighted assets determined using the IRB approach (excluding specialized lending) fell by CHF 467m in the first half of 2020, mainly due to FINMA's decision to reduce BCV's IRB multiplier for residential mortgage loans to personal banking clients from 2.0 to 1.9.

Table 15. IRB – Backtesting of PD per portfolio
In CHF millions, at 31 December 2019, BCV Group, CR9

a	b	d	e	f	g	h	i	j
				Number of obligors				
	PD range	Weighted average PD	Arithmetic average PD by obligors	End of previous year	End of year	Defaulted obligors in the year	Of which: new defaulted obligors in the year	Average historical annual default rate, 2010-2019
3	**Banks and securities firms (F-IRB)**							
	0.00 to <0.07	0.04%	0.04%	124	112			-
	0.07 to <0.28	0.19%	0.17%	32	30			-
	0.28 to <1.44	0.83%	0.73%	38	28			-
	1.44 to <4.30	3.41%	3.41%	17	21			-
	4.30 to <8.99	7.08%	7.08%	40	54			-
	8.99 to <100.00	-	-	-	-			-
	100.00 (default)	-	-	-	-			-
	Sub-total	**1.32%**	**1.98%**	**250**	**245**	**-**	**-**	**-**
5	**Non-central govt. public-sector entities; multilateral development banks (F-IRB)**							
	0.00 to <0.07	0.05%	0.05%	196	199			-
	0.07 to <0.28	0.12%	0.14%	47	44			-
	0.28 to <1.44	0.54%	0.53%	9	8			-
	1.44 to <4.30	-	-	-	-			-
	4.30 to <8.99	-	-	-	-			-
	8.99 to <100.00	-	-	-	-			-
	100.00 (default)	-	-	-	-			-
	Sub-total	**0.07%**	**0.08%**	**252**	**251**	**-**	**-**	**-**
9	**Corporates – other lending (F-IRB)**							
	0.00 to <0.07	0.05%	0.05%	83	85			-
	0.07 to <0.28	0.14%	0.14%	218	233			-
	0.28 to <1.44	0.68%	0.70%	420	443			0.13%
	1.44 to <4.30	2.36%	2.30%	120	126			2.07%
	4.30 to <8.99	5.69%	5.74%	9	16			15.79%
	8.99 to <100.00	21.00%	21.00%	3	7			23.73%
	100.00 (default)	100.00%	100.00%	17	13			-
	Sub-total	**0.66%**	**0.96%**	**871**	**923**	**4**	**-**	**0.63%**

a	b	d	e	f	g	h	i	j
				Number of obligors				
	PD range	Weighted average PD	Arithmetic average PD by obligors	End of previous year	End of year	Defaulted obligors in the year	Of which: new defaulted obligors in the year	Average historical annual default rate, 2010-2019
11	**Mortgage-backed retail exposure**							
	0.00 to <0.07	0.05%	0.05%	7,111	6,983			0.05%
	0.07 to <0.28	0.15%	0.15%	16,006	16,328			0.07%
	0.28 to <1.44	0.57%	0.57%	8,136	8,164			0.24%
	1.44 to <4.30	2.40%	2.38%	1,165	1,125			1.21%
	4.30 to <8.99	6.35%	6.25%	258	269			4.69%
	8.99 to <100.00	21.00%	21.00%	18	46			15.02%
	100.00 (default)	100.00%	100.00%	140	103			-
	Sub-total	**0.49%**	**0.39%**	**32,834**	**33,017**	**43**	**-**	**0.20%**
13	**Other retail exposure**							
	0.00 to <0.07	0.04%	0.05%	108	95			0.28%
	0.07 to <0.28	0.12%	0.15%	2,275	2,244			0.17%
	0.28 to <1.44	0.72%	0.69%	1,713	1,680			0.69%
	1.44 to <4.30	2.28%	2.37%	1,341	1,289			2.37%
	4.30 to <8.99	6.22%	6.05%	172	166			6.59%
	8.99 to <100.00	21.00%	21.00%	6	36			19.80%
	100.00 (default)	100.00%	100.00%	275	276			-
	Sub-total	**0.72%**	**1.15%**	**5,890**	**5,787**	**104**	**5**	**1.00%**
	Total	**0.56%**	**0.51%**	**40,098**	**40,224**	**151**	**5**	**0.34%**

	b	c
Internal rating	**PD range**	**External rating equivalent**
B1	0.00 to <0.07	AAA/Aaa to A-/A3
B2	0.07 to <0.28	BBB+/Baa1 to BBB/Baa2
B3	0.28 to <1.44	BBB-/Baa3 to BB-/Ba3
B4	1.44 to <4.30	B+/B1
B5	4.30 to <8.99	B/B2 to B-/B3
B6	8.99 to <100.00	CCC+/Caa1 to C/C
B7	100.00 (default)	D

Within the IRB scope, the average number of defaults in the period analyzed (2010 to 2019) was lower than the expected number based on the PD rating models. The difference is mainly due to the conservative nature of the models and to general economic growth during the period.

4.2.3.2 Slotting approach for specialized lending

The Bank uses slotting criteria for the financing of income-producing real estate (real-estate professionals) and for commodities financing (trade finance). For these two categories, FINMA has authorized BCV to assign preferential risk weights to “strong” and “good” exposures (Basel III Accord, §277).

For real-estate professionals (except real-estate development), the slots are determined on the basis of the probability of default (PD), loss given default (LGD), and exposure at default (EAD) models that are internally applied to each credit exposure in the real-estate professionals category. A specific mechanism used to calculate capital requirements has been set up to determine the PD of real-estate professionals in order to reduce the sensitivity of regulatory capital to the business cycle.

For real-estate development projects intended for sale, a slot is allocated directly to each credit exposure without applying the PD, LGD, and EAD models used for other exposures in the real-estate professionals category. A similar direct slotting system is in place for trade finance transactions.

These slotting systems meet the supervisory slotting criteria for specialized lending in Annex 4 of the International Convergence of Capital Measurement and Capital Standards: a Revised Framework (Basel II Accord).

Table 16. IRB – Specialized lending under the simple risk-weight method
In CHF millions, at 30 June 2020, BCV Group, CR10[12]

				Exposure amount				
Regulatory category	**On-balance-sheet amount**	**Off-balance-sheet amount**	**RW**	**CF**	**IPRE**	**Total**	**RWA**	**Expected loss**
Strong	4,818	696	50%	537	4,653	5,190	2,751	1
Good	2,695	406	70%	520	2,461	2,981	2,212	12
Satisfactory	297	59	115%	147	177	324	395	9
Weak	3	0	250%	0	3	3	8	0
Default	79	22	–	97	3	101	4	50
Total	**7,893**	**1,183**		**1,302**	**7,296**	**8,598**	**5,369**	**72**

Lending to real-estate professionals increased by CHF 218m in the first half of 2020. The vast majority (97%) of the Bank’s real-estate exposure is in the “strong” and “good” slots. This is because this exposure is mainly associated with financing for real-estate investors that is adequately secured by property.

The Bank’s trade-finance exposure declined by CHF 516m in the first half of 2020. 81% of trade-finance transactions are in the “strong” and “good” slots, as they are secured by recognized collateral (especially cash and merchandise).

[12]Table CR10 of the Basel Accord covers specialized lending and equities under the simple risk-weight method. In this report, specialized lending is covered in this table while equities are covered in Table 24 (in Section 5.2, “Risk on equity securities in the banking book”). This table does not include remaining maturities since preferential weights have been applied.

4.2.4 Standardized Approach

FINMA defines the risk weightings to be applied for exposure treated using the SA-BIS by type of counterparty (CAO, Annex 2). In this case, FINMA authorizes the use of external ratings (CAO, Article 64) provided that:

1. The ratings are supplied by ratings agencies recognized by FINMA.
2. External ratings are applied systematically by the Bank using a precise and specific approach.
3. Where the Bank uses external ratings to determine the risk weightings for a category of positions, the entire category must in principle be weighted through the use of external ratings.

The Bank uses, where available, Standard & Poor’s ratings to determine the risk weightings of almost all counterparties for which the SA-BIS is applied. These counterparties are essentially counterparties for debt securities in the financial investments portfolio. For corporate clients with no external rating, a weighting of 100% (“no rating”) is used.

Corporate clients make up 18% of the portfolio that is assessed using the SA-BIS. This category includes bonds from the Central Mortgage-Bond Institution and the Mortgage-Bond Bank of the Swiss Mortgage Institutions (weighting of 20%), commercial loans that are outside the scope of the parent company’s F-IRB approach (i.e., SMEs that do not yet have financial statements, insurance companies, and investment funds), and corporate exposures at the Bank’s subsidiaries.

The category “Central governments and central banks” consists primarily of exposure to the SNB (weighting of 0%) and the Swiss Federal Government (weighting of 0%).

Table 17. Standardized Approach – Credit-risk exposure and credit-risk mitigation (CRM) effects
In CHF millions, at 30 June 2020, BCV Group, CR4[13]

		a	b	c	d	e	f
		Exposure before CCF and CRM		Exposure post-CCF and post-CRM			
	Category	On-balance-sheet amount	Off-balance-sheet amount	On-balance-sheet amount	Off-balance-sheet amount	RWA	RWA density
1	Central governments and central banks	11,175	123	11,175	53	12	0%
2	Banks and securities firms	850	135	850	66	368	40%
3	Non-central govt. public-sector entities; multilateral development banks	948	502	948	1	214	23%
4	Corporates	2,745	530	2,713	93	1080	38%
5	Retail	735	30	735	29	299	39%
8	**Total**	**16,453**	**1,320**	**16,421**	**242**	**1,974**	**12%**

The impact of risk mitigation measures is low in the scope of the SA-BIS. This is due to the predominance of exposure to the SNB, the Central Mortgage-Bond Institution, the Mortgage-Bond Bank of the Swiss Mortgage Institutions, and the Swiss federal and cantonal governments, which are generally not secured by financial guarantees. The Bank recognizes the Export Risk Guarantees provided by the Swiss Export Risk Insurance (SERV) program. The amount covered by these guarantees is less than CHF 10m.

[13]Equities (row 6 in the FINMA table) are not included in this table because they are covered in Table 16 (IRB).

Table 18. Standardized Approach – Exposure by asset class and risk weight
In CHF millions, at 30 June 2020, BCV Group, CR5

		a	c	d	e	f	g	h	j
	Category/Risk weight	**0%**	**20%**	**35%**	**50%**	**75%**	**100%**	**150%**	**Total credit exposure post-CCF and post-CRM**
1	Central governments and central banks	11,216	-	-	-	-	12	-	11,228
2	Banks and securities firms	96	505	-	98	-	217	-	916
3	Non-central govt. public-sector entities; multilateral development banks	-	868	-	82	-	-	-	949
4	Corporates	-	2,120	43	-	5	639	-	2,806
5	Retail	0	-	449	-	126	189	0	764
7	Other assets	-	-	-	-	-	-	-	-
8	**Total**	**11,312**	**3,493**	**492**	**180**	**131**	**1,056**	**0**	**16,664**
9	Of which: secured by residential property	-	-	496	-	22	16	-	535
10	Of which: past-due loans	8	-	-3	-	0	0	-	5

4.3 Counterparty credit risk

The Bank’s counterparty credit risk (CCR) exposure includes securities financing transactions and derivative transactions. The framework for such exposure is set forth in the RMPS as well as in a BCV directive on collateralized contracts, which addresses governance, risk-taking limits, collateral eligibility, monitoring, and reporting.

Securities financing transactions (SFTs)

The majority of the Bank’s SFTs are repo and reverse repo agreements. The Bank also began conducting securities borrowing transactions in 2017, but this is a marginal activity.

The Bank uses repo and reverse repo agreements to manage liquidity. These agreements are processed using a triparty system in which the triparty agent (SIX or Euroclear) is responsible for clearing. Throughout the lifetime of a repurchase agreement, the triparty agent carries out margin calls at least once per day to account for any change in the market value of the securities and any thresholds, and directly carries out any necessary transfers using securities or cash held with the triparty agent.

The Bank’s repo and reverse repo agreements are based on standard contracts such as the GMRA or the Swiss Master Agreement for Repo Trades. Collateral eligibility is determined by SIX when it is the triparty agent (SNB basket) or agreed upon by the counterparties when Euroclear is the triparty agent. Collateral must meet the eligibility criteria set forth in the BCV directive (e.g., be a readily marketable stock, a bond with a rating of at least BBB- or equivalent, or a security independent of the counterparty’s solvency).

SFT counterparties are banks, insurance companies, and large corporates. Limits are granted according to the lending process and lending authority described in Section 4.1. They are monitored daily on an individual basis. The Bank monitors the quality of securities received daily as collateral using a portfolio approach, with particular attention paid to risk concentration.

When calculating capital requirements, the Bank’s exposure is determined using the comprehensive approach (CAO, Article 62.1(b)). Capital requirements are determined using the IRB or SA-BIS approach depending on the type of counterparty.

Non-centrally cleared OTC derivatives

Limits for OTC derivatives (including forward contracts) that are not centrally cleared (cleared bilaterally) are mainly granted to bank counterparties in order to carry out trading operations and interest-rate-risk hedging transactions. They are also granted to companies or public-sector entities so that they can hedge typically against exchange-rate and interest-rate risk.

These limits are granted according to the lending process and lending authority described in Section 4.1. They are monitored daily on an individual basis.

In principle, the Bank handles OTC derivative transactions only on the basis of ISDA netting agreements or an equivalent agreement. For its main bank counterparties in terms of pre-settlement exposure, the Bank takes the necessary measures to ensure that OTC derivative transactions can be carried out in accordance with a credit support annex (CSA) for collateral management. Alternatively, blocked cash deposits can be set up as a risk mitigant for OTC derivative exposure.

Credit-risk exposure is measured according to the principle of “positive mark-to-market value plus add-on." The add-on is determined by type of underlying and by maturity, on the basis of internal models. These models are based on the SA-CCR but are slightly more conservative. Where the Bank has entered into an ISDA netting agreement with the counterparty, contracts with negative mark-to-market values can be taken into account to reduce credit-risk exposure. Where the Bank has entered into a CSA collateral management agreement with the counterparty, credit-risk exposure is determined according to the same principle, taking into account the amount of the cash collateral and based on a reduced add-on, in order to take into consideration the frequency of revaluation and the option to make margin calls.

When calculating capital requirements, the Bank's derivatives exposure is determined according to the SA-CCR (as specified in FINMA Circular 2017/7, "Credit risk – banks," margin number 32 *et seq*.), taking account of netting and collateral management agreements. Capital requirements are determined according to the appropriate approach (IRB or SA-BIS), which since 1 January 2013 includes the credit valuation adjustment (CVA).

Table 19. IRB – CCR exposure by portfolio and PD range
In CHF millions, at 30 June 2020, BCV Group, CCR4[14]

		a	b	c	d	e	f	g
	PD range	**EAD post-CRM**	**Average PD**	**Number of obligors**	**Average LGD**	**Average maturity**	**RWA**	**RWA density**
3	**Banks and securities firms (F-IRB)**							
	0.00 to <0.15	505	0.22%	58	45%	0.72	66	13%
	0.15 to <0.25	17	0.37%	8	45%	0.63	7	39%
	0.25 to <0.50	11	0.37%	2	45%	2.31	9	82%
	0.50 to <0.75	-	-	-	-	-	-	-
	0.75 to <2.50	-	-	-	-	-	-	-
	2.50 to <10.00	-	-	-	-	-	-	-
	10.00 to <100.00	-	-	-	-	-	-	-
	100.00 (default)	-	-	-	-	-	-	-
	Sub-total	**534**	**0.22%**	**68**	**45%**	**0.75**	**83**	**15%**
9	**Corporates - other lending (F-IRB)**							
	0.00 to <0.15	38	0.11%	15	45%	0.91	6	17%
	0.15 to <0.25	3	0.21%	4	45%	1.07	1	33%
	0.25 to <0.50	4	0.37%	7	45%	1.00	2	46%
	0.50 to <0.75	4	0.57%	5	45%	0.09	2	48%
	0.75 to <2.50	5	1.34%	13	45%	0.62	4	80%
	2.50 to <10.00	0	5.99%	1	45%	0.22	0	113%
	10.00 to <100.00	-	-	-	-	-	-	-
	100.00 (default)	-	-	-	-	-	-	-
	Sub-total	**55**	**0.29%**	**46**	**45%**	**0.83**	**15**	**28%**
	Total	**596**	**0.23%**	**281**	**45%**	**0.76**	**100**	**17%**

[14]The following portfolios are not shown in the table because they do not have a material amount of RWA: "Non-central government public-sector entities; multilateral development banks" and "Other retail exposure" (RWA < CHF 1m).

Table 20. Standardized Approach – CCR exposure by regulatory portfolio and risk weight
In CHF millions, at 30 June 2020, BCV Group, CCR3

		a	b	c	d	e	f	g	h	i
		Risk weight								
	Category	**0%**	**10%**	**20%**	**50%**	**75%**	**100%**	**150%**	**Other**	**Total credit exposure**
1	Central governments and central banks	143	-	-	-	-	-	-	-	143
2	Banks and securities firms	-	-	-	14	-	-	-	-	14
3	Non-central govt. public-sector entities; multilateral development banks	-	-	-	-	-	-	-	-	-
4	Corporates	-	-	-	-	-	40	-	-	40
5	Retail	-	-	-	-	0	1	0	-	1
6	Equity	-	-	-	-	-	-	-	-	-
7	Other assets	-	-	-	-	-	-	-	-	-
9	**Total**	**143**	**-**	**-**	**14**	**0**	**41**	**0**	**-**	**199**

Counterparty-credit-risk exposure determined using the Standardized Approach consists of derivative positions and repo agreements with supranational institutions, insurance companies and investment funds.

Table 21. Composition of collateral for CCR exposure
In CHF millions, at 30 June 2020, BCV Group, CCR5[15]

		a	b	c	d	e	f
		Collateral used in derivative transactions				**Collateral used in SFTs**	
		Fair value of collateral received		**Fair value of posted collateral**			
	Type of collateral	**Segregated**	**Non-segregated**	**Segregated**	**Non-segregated**	**Fair value of collateral received**	**Fair value of posted collateral**
1	Cash in CHF	37	-	11	-	105	270
2	Cash in other currencies	66	-	109	-	2,090	193
3	Swiss sovereign debt	-	-	20	-	106	414
4	Other sovereign debt	-	-	-	21	30	82
5	Government agency debt	-	-	102	9	135	1,384
6	Corporate bonds	-	-	45	-	168	625
7	Equity securities	-	-	-	-	-	-
8	Other collateral	-	-	-	-	-	-
9	**Total**	**102**	**-**	**288**	**30**	**2,634**	**2,969**

[15]This table includes collateral received and posted for securities financing transactions (SFTs) and derivative transactions. It does not include collateral posted to central banks and other institutions that form part of the financial market infrastructure for the purposes of securing credit lines and payment and settlement transactions.

Centrally cleared derivatives

Centrally cleared derivatives include exchange-traded derivatives (ETDs) and OTC derivatives cleared by a central counterparty.

Exchange-traded derivatives whose settlement is guaranteed by a central counterparty (see Table 22, row 4) mainly relate to transactions on behalf of clients (investment funds, banks, companies, and individuals). Nostro positions make up a small portion of the total exposure to central counterparties. The contracts traded are mainly options and futures on equities and major indexes. The major organized markets are Eurex, the Chicago Mercantile Exchange, and LIFFE.

OTC derivatives cleared by a central counterparty are interest-rate swaps used to manage the Bank's interest-rate risk and cleared by Eurex (see Table 22, row 3).

The Bank's exposure to central counterparties results from derivative positions, initial margins, variation margins, and default fund contributions. For derivatives, the exposure is determined according to the SA-CCR (as specified in FINMA Circular 2017/7, "Credit risk – banks," margin number 32 *et seq*.); other exposures are determined using the comprehensive approach (as specified in FINMA Circular 2017/7, "Credit risk – banks," margin number 191 *et seq*.). This type of exposure is subject to a credit limit if it gives rise to credit risk for the Bank.

Capital requirements for these positions have been calculated since Basel III came into force on 1 January 2013.

Table 22. Exposure to central counterparties (CCPs)
In CHF millions, at 30 June 2020, BCV Group, CCR8

		a	b
		EAD post-CRM	**RWA**
1	Total exposure to qualified central counterparties (QCCPs)		54
2	Exposure for trades at QCCPs (excl. initial margin and default fund contributions)	105	47
3	Of which: OTC derivatives	35	1
4	Of which: exchange-traded derivatives	70	46
7	Segregated initial margin	185	
8	Non-segregated initial margin	41	6
9	Pre-funded default fund contributions	12	2

5. MARKET RISK

5.1 Market risk in the trading book

Strategy and process

All trading activities are managed within the Asset Management & Trading Division. A distinction is made between the trading portfolio, which includes all the trading teams' positions, and the financial management nostro portfolio, which is composed of the nostro positions managed by the Asset Management Department.

The Trading Department carries out market transactions in equities, fixed-income instruments, forex, and precious metals on behalf of internal and external counterparties. It has also acquired expertise in structured products. The Trading Department is active along the entire structured product value chain, from issuing to market-making. Since BCV completely withdrew from proprietary equity-derivative trading at the end of 2009, the Trading Department has focused primarily on customer-driven transactions.

The Asset Management Department is responsible for the financial management nostro portfolio. While this portfolio used to focus on providing a return, it was given a new role under the Bank's strategy and significantly reduced in 2009 and early 2010. It is now used to assist in the creation of new Asset Management funds, while keeping risk-taking to a minimum. This portfolio may be invested in stocks, bonds, simple derivatives, structured products, funds, and funds of funds. All of these positions (apart from those in funds and funds of funds) are on recognized exchanges or representative markets.

Structure and organization

All new Asset Management & Trading products and instruments must be approved by the Division's Product and Instrument Committee (PIC). This committee is chaired by the Executive Board member in charge of the Asset Management & Trading Division and includes the Division's department heads, the head of the Risk Management Department (right of veto), and the head of the Back Office Department (right of veto). The process ensures that before a product is launched, all requirements have been met in the areas of risk management, ALM, treasury management, back offices, legal, compliance, tax, and IT.

For all trading positions, the overnight monitoring of market risk is under the responsibility of the Market Risk Unit within the Risk Management Department. The Market Risk Unit also defines the risk control measures and monitors the appropriateness of risk control for new trading products.

Risk assessment

Various techniques are used to measure risk exposure on the Asset Management & Trading Division's trading portfolio:

- Historical overnight Value-at-Risk (VaR) with a one-day time horizon and a confidence level of 99%;
- Analysis of potential losses using static stress tests;
- Sensitivity metrics such as delta, gamma, vega, theta, and rho.

Limit utilization is controlled and reported daily by the Market Risk Unit.

Various techniques are used to measure risk in the Asset Management & Trading Division's financial management nostro portfolio:

• Historical VaR with a six-month time horizon and a confidence level of 99%;

• Analysis of potential losses using static stress tests and dynamic six-month stress tests.

Market-risk-weighted assets correspond to the minimum capital requirements multiplied by 12.5. Minimum capital requirements for market risk on BCV's trading book are determined based on market values (mark-to-market) and in accordance with the Standardized Approach (CAO, Article 84) without the use of in-house models. For options trading, the calculation is based on the delta-plus method: the market value of the underlying is multiplied by the delta for the options positions. This method also takes gamma and vega into account. Hedge-fund positions in the financial management nostro portfolio are not included in the capital-requirement calculations for the trading book. Instead, these positions are included in the Bank's financial investment portfolio and treated as equity securities.

Assets weighted for interest-rate risk accounted for the largest portion of risk-weighted assets at 30 June 2020. Of these assets, a significant portion was made up of currency swaps for customer-driven forex trading and bond positions. Assets weighted for equity risk result from remaining positions held as part of the Bank's structured products business and, to a lesser extent, from nostro positions managed by the Asset Management Department.

Table 23. Market risk under the Standardized Approach (SA)
In CHF millions, BCV Group, MR1

		a	a-1
		RWA	
		30/6/2020	**31/12/2019**
Outright products		**249**	**225**
1	Interest-rate risk (general and specific)	202	168
2	Equity risk (general and specific)	40	50
3	Foreign-exchange risk	8	7
4	Commodity risk	-	-
Options		**3**	**7**
5	Simplified approach	-	-
6	Delta-plus method	3	7
7	Scenario approach	-	-
8	**Securitization**	**-**	**-**
9	**Total**	**252**	**232**

5.2 Risk on equity securities in the banking book

Equity securities in the banking book are recorded on the balance sheet in the line items Financial investments and Non-consolidated holdings.

Strategy and processes

Financial investments are composed of strategic holdings with a long time horizon that are acquired in accordance with the Bank's strategy. The Bank defined an upper limit of CHF 200m for these equity securities and, in principle, does not invest directly in private-equity positions.

The authority to acquire and change long-term holdings is held by the Executive Board for holdings of up to CHF 20m and the Board of Directors for larger amounts. The Board of Directors has responsibility for setting up and selling subsidiaries.

Risk assessment

Equity securities included in Financial investments are mainly listed or unlisted shares and fund units that are not held for trading purposes or for long-term investment. They are valued at lower of cost or market.

The “Non-consolidated holdings” line item comprises corporate equity securities, which are held as long-term investments irrespective of voting rights. It also includes the Group's infrastructure-related holdings, particularly joint ventures. They are stated at cost, less any required impairment. The Group’s main non-consolidated holdings at 30 June 2020 were investments in financial companies (a 13.6% stake in the Swiss Central Mortgage-Bond Institution, a 4.8% stake in Viseca Holding (formerly Aduno), a 3.2% stake in TWINT, and a 2.5% stake in SIX).

Capital requirements are determined for both equity securities recorded under Financial investments and those entered under Non-consolidated holdings. A 250% risk weighting is applied to shareholdings of more than 10% in financial companies (below threshold 3 under Article 40 of the CAO), while the simple risk-weight method is applied to all other equity securities included in Financial investments and Non-consolidated holdings.

Table 24. IRB – Equities under the simple risk-weight method
In CHF millions, at 30 June 2020, BCV Group, CR10[16]

Regulatory category	RW	Exposure amount	RWA
Exchange-traded equity exposure	300%	10	31
Other equity exposure	400%	22	94
Total		**32**	**124**

[16]Table CR10 in the Basel Accord covers specialized lending and equities under the simple risk-weight method. In this report, equities are covered in this table while specialized lending is covered in Table 16 (in Section 4.2.3.2, “Slotting approach for specialized lending”).

5.3 Interest-rate risk in the banking book

5.3.1 Management of interest-rate risk in the banking book

Interest-rate risk in the banking book (IRRBB) is defined here as the potential loss in the Bank's net interest income (NII) or economic value of equity (EVE) arising from the effects that an adverse change in interest rates could have on the Bank's banking-book positions (on- and off-balance sheet).

The main IRRBB risk factors for the Bank are:

- Instantaneous and progressive changes in the yield curve;
- Changes in customer behavior, including customer allocation among different financial instruments.

The Bank's IRRBB exposure is of three types:

- Gap risk – Mismatches within the term structure of banking-book positions (i.e., among volumes and repricing maturities) for the assets, liabilities, and off-balance-sheet positions in the Bank's banking book;
- Behavioral option risk – Positions, especially non-maturity deposits, that could be affected by competitive pricing practices or changes in customer behavior;
- Basis risk – The risk arising from an imperfect correlation in the adjustment of rates earned and paid on different instruments with otherwise similar rate-change characteristics.

Strategy and processes

The Board of Directors establishes the Bank's principles for managing risk and decides on the risk-taking strategy it will pursue, which includes the target profile for IRRBB. This target profile is defined in the Bank's Financial Strategy and reviewed annually as part of its Financial Management Policy (FMP). The target profile is defined within limits that are expressed in the form of equity duration. Those limits are approved by the Board of Directors.

Structure and organization

The Executive Board is responsible for organizing and implementing IRRBB management. The Executive Board delegates management of this type of risk to its Asset and Liability Management Committee (ALCO). This committee meets monthly. It is chaired by the CEO and comprises four other Executive Board members, including the CFO.

In the Finance & Risks Division, IRRBB management is centralized within the ALM & Financial Management (ALM-FM) Department, which reports directly to the CFO. This department is responsible for:

- Defining and maintaining the models and principles used to manage IRRBB as part of the Bank's Financial Strategy. These models and principles are approved by the Model Validation team, the Executive Board's Risk Management Committee, and the Board of Directors.
- Producing monthly reports on IRRBB management and presenting them to the ALCO. This report is also presented to the Executive Board and the Board of Directors each quarter.

Risk assessment

The ALM-FM Department continuously manages interest-rate risk for the parent company’s entire banking book, and, at each month-end, calculates the sensitivity indicators for its equity capital. Interest-rate risk in the trading book represents a market risk and is outside the scope of IRRBB.

Interest-rate risk relating to the activities of Piguet Galland & Cie SA is managed independently by its Executive Board under the supervision of BCV Group. Each quarter, the interest-rate position for the entire Group is determined by the ALM-FM Department, in accordance with the approach used by the parent company. It is then presented to the ALCO, the Executive Board, and the Board of Directors. At 30 June 2020, in terms of sensitivity, the parent company’s IRRBB accounted for 98% of the Group’s IRRBB exposure.

Risk measurement

The Bank measures and monitors IRRBB using two types of indicators:

- Static indicators, which measure the sensitivity of the net present value of the banking book:
  - The present value of equity;
  - The sensitivity of the economic value of equity to a 100bp change in interest rates;
  - The duration of equity;
  - The VaR of the net present value of equity;
  - Key rate durations;
  - Future changes in the value and duration of equity.
- Dynamic indicators, which are based on interest-rate and balance-sheet scenarios for the current year and subsequent two years. The results of these simulations are used to calculate NII forecasts and the NII at risk over rolling 12-, 24-, and 36-month periods. The NII at risk is a measure of the sensitivity of NII to fluctuations in interest rates.

Scenarios

IRRBB is measured using standard scenarios that combine an interest-rate scenario with a balance-sheet simulation that considers the impact of new business production in order to incorporate assumptions about customer behavior. The projected interest rates are calculated at various confidence intervals so as to cover a wide range of possible interest-rate movements; these confidence intervals are based on historical interest-rate data dating back to 1988. The interest-rate scenarios that the Bank uses are:

- Spike scenario: A spike in interest rates, with a 99% confidence interval;
- Probable scenario: The most likely movements in interest rates over the next three years, according to expert estimates. The Bank also generates Probable+ and Probable- scenarios at 66% confidence intervals around the Probable scenario;
- Crash scenario: A sharp decrease in interest rates, with a 99% confidence interval;
- Inversion scenario: An inversion of the yield curve based on expert estimates.

To measure its ability to withstand extreme changes in interest rates, the Bank also conducts ad-hoc stress tests in response to market conditions. In addition, the ALM-FM Department conducts stress tests every year using the stress scenarios specified in the Swiss National Bank's Financial Stability Report.

Risk mitigation

IRRBB hedging decisions are made by the ALCO and executed on the market by the ALM-FM Department's Treasury team. Interest-rate swaps are currently the main type of hedging instrument used. Any options positions in the banking book are systematically hedged through market transactions.

All hedging instruments must be matched to a fixed-rate position in the banking book; these hedges are recognized under accrual accounting.

Every quarter, the ALM-FM Department tests the effectiveness of the hedges by making sure that the hedge ratio is high enough for the associated derivatives to be classified as hedging instruments.

Table 25. Interest-rate risk – Quantitative information on the structure of positions, and maturity repricing
At 30 June 2020, parent company, IRRBBA1[17]

		a	b	c	d	e	f	g
		Volume in CHF millions			Average repricing maturity (in years)		Longest repricing maturity (in years) assigned to non-maturity positions	
		Total	Of which CHF	Of which other currencies	Total	Of which CHF	Total	Of which CHF
Positions with a set repricing maturity	Due from banks	714	165	-	0.2	0.1		
	Loans and advances to customers	4,835	4,158	-	3.3	3.7		
	Money-market mortgage loans	-	-	-				
	Fixed-rate mortgage loans	26,615	26,597	-	3.7	3.7		
	Financial investments	4,065	3,288	-	4.3	4.2		
	Other assets	-	-	-				
	Receivables on interest-rate derivatives	12,365	6,607	-	1.0	1.8		
	Due to banks	-3,711	-786	-	0.1	0.1		
	Customer deposits	-2,580	-1913	-	0.3	0.4		
	Medium-term notes	-2	-2	-	1.4	1.4		
	Bonds and mortgage-backed bonds	-7,077	-6,878	-	6.3	6.4		
	Other liabilities	-	-	-				
	Liabilities on interest-rate derivatives	-12,398	-11,633	-	2.4	2.3		
		a	b	c	d	e	f	g

[17]As the Bank's swap positions (interest-rate and FX swaps) have two legs – a receivables leg and a payables leg – they are recorded under both "Receivables on interest-rate derivatives" and "Liabilities on interest-rate derivatives." Column c ("Of which other currencies") gives positions in other currencies that account for over 10% of balance-sheet assets or liabilities.

		Volume in CHF millions			Average repricing maturity (in years)		Longest repricing maturity (in years) assigned to non-maturity positions	
		Total	**Of which CHF**	**Of which other currencies**	**Total**	**Of which CHF**	**Total**	**Of which CHF**
Positions with no set repricing maturity	Due from banks	503	122	-	0.0	0.0	-	-
	Loans and advances to customers	850	212	-	0.4	1.2	7.0	7.0
	Variable-rate mortgage loans	201	201	-	2.7	2.7	10.0	10.0
	Other sight receivables	11,272	11,117	-	-	-	-	-
	Customer sight deposits	-19,999	-17,254	-	1.6	1.7	7.0	7.0
	Other sight liabilities	-2,287	-731	-	-	-	-	-
	Callable but non-transferrable customer savings deposits	-10,102	-10,006	-	1.8	1.8	5.0	5.0
	Total	**3,264**	**3,264**	**-**	**6.1**	**6.8**	**-**	**-**

5.3.2 Prescribed modeling and parametric assumptions used to calculate the values in Table IRRBB1

The values given in Table IRRBB1 (Table 26) have been calculated in accordance with FINMA Circular 2016/1, “Disclosure – banks.” The six interest-rate scenarios used are those given in FINMA Circular 2019/2, “Interest-rate risk – banks.” The following sections describe the key modeling and parametric assumptions used to calculate changes in the economic value of equity (ΔEVE) and changes in net interest income (ΔNII) as per regulatory requirements.

Calculation of ΔEVE

Cash flows from fixed-rate positions are calculated using the interest rates on these positions. These calculations are aggregated by month using a median date.

The Bank includes non-maturity exposures in its calculation of static indicators using replication models. The main features of these models are:

- A parameter designed to smooth out the monthly volatility inherent in these types of exposures. This parameter is calculated using the monthly volume above the 3-month or 12-month rolling average (depending on the type of exposure). It is updated at one-month intervals.
- A simulation of the core stable volume of exposures, which is done using an interest-rate replication model for the rates applied to customers.
- This interest-rate replication model is based on market interest rates with repricing maturities spanning from one month to ten years (the average and the longest repricing maturities are given in Table IRRBBA1).
- The models are calibrated every year using a 10-year calculation window. Periods when a zero interest rate is applied to customers are omitted.

The interest rates used to discount the cash flows for the calculation of EVE are the Libor up to 12 months and the mid-swap rate beyond 12 months. This holds true for all currencies.

Intermediate interest rates are calculated using linear interpolation.

Calculation of ΔNII

For each interest-rate scenario, ΔNII is calculated based on a different assumption about the SNB’s exemption threshold. In the core scenario, the assumption is that the exemption threshold will remain the same; in the “parallel up” scenario, that it will be removed; and in the “parallel down” scenario, that it will be reduced substantially. It is also assumed that amounts due to banks will decline to offset these reductions in the exemption threshold.

The repricing of fixed-rate exposures is based on the initial maturities of exposures that will reach their term in the next 12 months.

Cash flows from new fixed-rate positions are calculated using the interest rates on the new positions as follows:

Market interest rate for the term of the position + Additional funding rate + Expected margin

Where:

- Market interest rate = Taken from the simulated rate curve (Libor and mid-swap rate)
- Additional funding rate = The spread at each maturity that the Bank must pay above the Libor or mid-swap rate

- Expected margin = Based on recent and projected trends, taking into account business objectives and competitive pressure

For exposures with variable rates set by the Bank (mainly sight deposits and savings accounts), the interest rates are modeled using historical data that compare market rates to customer rates. These historical data are used in stress tests to determine the interest rate that would be applied to customers after an interest-rate shock.

Behavioral and automatic option risks

Customers who pay a loan off early are charged an early redemption fee, which is calculated by multiplying the outstanding amount on the loan by an interest rate equal to the difference between the rate on the loan and the Bank's replacement rate for the remaining term of the loan. This policy ensures that that Bank does not incur any losses when customers pay off their loans early. As a result, the Bank does not use any specific models for early repayments.

The Bank applies the same policy to early withdrawals on term deposits, meaning the Bank does not use any specific models for these deposits either.

The Bank currently has no on- or off-balance-sheet positions that include embedded automatic options such as loans with a cap or floor, interest-rate options, and swaptions.

Any instruments on the balance sheet that include embedded automatic options would be accounted for as delta-weighted positions.

Foreign currencies

The vast majority of positions on the Bank's balance sheet are in CHF. The main foreign currencies are EUR and USD, which accounted for 4.2% and 8.5% of balance-sheet positions, respectively, at 30 June 2020. All foreign-currency exposures are fully included in the calculation of static indicators (as are CHF exposures). For dynamic indicators, a simplified calculation is used, although in keeping with FINMA Circular 2016/1, "Disclosure – banks." In H1 2020, the NII from foreign currencies amounted to 3% of total NII.

Differences in the assumptions used to calculate indicators

The main differences in the assumptions used to calculate the Bank's internal indicators vs. those used to calculate the indicators given in Table IRRBB1 are as follows:

- The NII values in Table IRRBB1 are calculated using a constant balance sheet (except for the assumptions related to the SNB exemption threshold), but internal indicators are calculated using a range of different balance-sheet scenarios based on different interest rates. This enables the Bank to account for how customer behavior may change in response to higher or lower interest rates;
- The NII values in Table IRRBB1 are calculated to reflect the effects of an instantaneous interest-rate shock, while internal indicators are calculated assuming the upwards or downwards pressure on interest rates occurs linearly over the first six months of the simulation;
- The NII values in Table IRRBB1 are calculated for a rolling 12-month period, while internal NII indicators are calculated for the current year and the subsequent two years.

Table 26. Interest-rate risk – Quantitative information on the economic value of equity and net interest income
In CHF millions, at 30 June 2020, parent company, IRRBB1

	a	b	c	d
	ΔEVE		**ΔNII**	
Period	**30/6/2020**	**31/12/2019**	**30/6/2020**	**31/12/2019**
Parallel up	-571	-549	14	-16
Parallel down	649	620	-18	4
Steepener	-271	-263		
Flattener	156	151		
Short rate up	-71	-66		
Short rate down	74	69		
Maximum	-571	-549	-18	-16

Period	**30/6/2020**	**31/12/2019**
Tier 1 capital	3,206	3,212

The economic value of equity is sensitive to a rise in interest rates. This sensitivity rose slightly in H1 2020, reflecting an increase in interest-rate risk on loans to customers.

The maximum possible loss as measured by a change in NII remained stable across interest-rate scenarios. Following changes in the balance-sheet structure in H1 2020, the worse scenario is now that of a decline in interest rates rather than a rise. This switch in sensitivity is mainly due to an increase in savings deposits and hedging volumes.

5.4 Liquidity risk

Strategy and processes

The Board of Directors sets out the principles for managing liquidity risk and the target liquidity-risk profile. The liquidity-risk profile is expressed through metrics such as the liquidity coverage ratio (LCR) and other indicators used to analyze the balance sheet's structure. The target liquidity-risk profile is reviewed annually by the ALCO.

Structure and organization

The Executive Board delegates responsibility for managing liquidity risk to the ALCO, which does so in accordance with the principles set out by the Board of Directors. Every month, the ALCO monitors liquidity risk via the monthly ALCO report. The reports are also submitted to the Executive Board and the Board of Directors every quarter.

Within the Finance & Risks Division, the ALM-FM Department, which includes ALM and Treasury, is responsible for the centralized and operational management of liquidity risk.

- Treasury manages the parent company's liquidity position on a daily basis and ensures that the internal LCR limit is complied with. Treasury is also the counterparty for Group subsidiaries when managing their liquidity positions.
- ALM submits proposals to the ALCO concerning strategic balance-sheet management (e.g., long-term borrowings and financial investments) and draws up the ALCO reports.
- ALM is also in charge of determining and maintaining liquidity-risk management principles and models. The principles are approved by the ALCO and the Board of Directors, while models are approved by the EBRMC.

Risk assessment

There are two types of liquidity-risk metrics:

- Static metrics, which calculate the risk on a given date in order to assess the risk level instantaneously and monitor changes over time;
- Dynamic metrics, which calculate the risk on future dates in order to anticipate changes in the risk level. Dynamic metrics are determined by simulating changes in balance-sheet items over the following three years using three different scenarios of how the Bank's business could develop.

The following metrics are calculated both statically and dynamically and analyzed by the ALCO in order to assess the Bank's liquidity position and the robustness of its balance sheet:

- Basel III liquidity ratios (LCR and NSFR);
- The net funding requirements of the Bank's business lines;
- The long-term funding plan.

Other static indicators are also monitored by the ALCO:

- Maturities distribution/concentration for long-term borrowings;
- Funding costs on the interbank and bond markets.

In addition to these risk metrics, stress tests are conducted to quantify the impact that different adverse scenarios would have on the Bank's liquidity position over a given time. These stress tests are the starting point for determining the target liquidity-risk profile.

Funding structure

BCV is funded primarily by client deposits. These account for 67% of total liabilities and shareholders' equity and come in the form of savings, sight deposits, term deposits, and medium-term notes.

Long-term borrowings account for 14% of total liabilities and shareholders' equity. Most long-term borrowings are mortgage-backed bonds issued through the Central Mortgage-Bond Institution, which represents a stable source of long-term funding. Other long-term borrowings (e.g., structured products and bonds) are made for diversification purposes.

Unsecured amounts due to banks make up 5% of total liabilities and shareholders' equity. Secured amounts due to banks (i.e., repurchase agreements) account for 5%.

The remaining items are shareholders' equity (7%) and other liabilities (3%).

Contingency funding plan

Pursuant to Article 10 of the Swiss Federal Liquidity Ordinance, the Bank has a contingency funding plan in place to cover a potential liquidity shortage. The plan has three components:

- An early warning system that determines the risk level using specific and systemic risk indicators;
- Escalation rules stipulating the management level that must be informed depending on how the situation develops;
- Checklists setting out the procedure to be followed, the measures to be taken by each business line, and the responsibilities of those tasked with managing the liquidity shortage.

The contingency funding plan is reviewed annually by the ALCO.

Liquidity coverage ratio (LCR)

The LCR is an international regulatory standard set out in the Basel III Accord. It became mandatory on 1 January 2015. The LCR ensures that a bank has enough liquidity to withstand a 30-calendar-day liquidity stress scenario. It is the ratio between the amount of high-quality liquid assets (HQLA) available and potential net cash outflows over a 30-day period. The term net cash outflows is defined as the total potential cash outflows (such as withdrawals from sight deposits and non-renewals of borrowings with a maturity of less than 30 days) less the total potential cash inflows (such as the repayment of receivables with a maturity of less than 30 days) in a stress situation. The minimum requirement for the LCR is 100%.

The average LCR for all BCV Group currencies was 129% in Q1 2020 and 130% in Q2 2020.

The Bank's SIC account makes up 71% of its HQLA. The remaining HQLA are primarily Swiss-issued securities that have a credit rating of between AAA and AA- (Central Mortgage-Bond Institution, the Mortgage-Bond Bank, the Swiss Federal Government and cantonal governments) and that are eligible as collateral for SNB open-market transactions.

Withdrawals from retail and corporate client deposits account for around 87% of total potential cash outflows. This reflects the fact that client deposits are the Bank's primary source of funding and also therefore the primary source of potential fund outflows in the event of a liquidity run.

Other cash outflows relate mainly to:

- Derivatives maturing within 30 days and margin calls relating to credit support annexes;
- The undrawn part of credit facilities granted to clients;
- Contingent liabilities (e.g., guarantees and letters of credit).

Loans to clients and banks maturing within 30 days account for around 94% of potential cash inflows. The remaining cash inflows primarily come from derivatives maturing within 30 days.

The LCR in CHF is higher than the LCR for all currencies combined, as almost all HQLA are denominated in CHF (cash deposited at the SNB). Conversely, the LCR in EUR and USD is lower than the LCR for all currencies combined.

Table 27. Liquidity coverage ratio (LCR)
In CHF millions, BCV Group, LIQ1

		Q2 2020		Q1 2020	
		Total unweighted value	**Total weighted value**	**Total unweighted value**	**Total weighted value**
High-Quality Liquid Assets (HQLA)					
1	**Total HQLA**		**10,409**		**9,030**
Cash outflows					
2	Retail deposits	22,080	1,950	20,989	1,826
3	Of which: stable deposits	5,961	298	5,961	298
4	Of which: less-stable deposits	16,119	1,652	15,028	1,528
5	Unsecured wholesale funding	13,439	6,605	13,494	6,406
6	Of which: operational deposits (all counterparties) and deposits in networks of cooperative banks	1,967	492	1,863	466
7	Of which: non-operational deposits (all counterparties)	11,442	6,083	11,548	5,858
8	Of which: unsecured debt	30	30	82	82
9	Secured wholesale funding		335		299
10	Additional requirements	2,103	723	1,951	597
11	Of which: cash outflows related to derivative exposure and other collateral requirements	819	371	687	255
13	Of which: cash outflows related to credit and liquidity facilities	1,284	352	1,264	343
14	Other contractual funding obligations	164	160	130	109
15	Other contingent funding obligations	2,388	119	2,642	132
16	**Total cash outflows**		**9,892**		**9,369**
Cash inflows					
17	Secured lending (e.g., reverse repos)	27	27	114	114
18	Inflows from fully performing exposure	2,417	1,771	3,111	2,226
19	Other cash inflows	60	60	56	56
20	**Total cash inflows**	**2,504**	**1,858**	**3,281**	**2,396**
Adjusted values					
21	**Total HQLA**		**10,409**		**9,030**
22	**Total net cash outflows**		**8,033**		**6,973**
23	**Liquidity coverage ratio**		**130%**		**129%**

6. OPERATIONAL RISK

Strategy and processes

The Bank takes a comprehensive approach to managing operational risk in general, and compliance risk and physical and IT security risk in particular.

The aim of operational-risk management is to mitigate operational-risk factors by identifying areas of improvement, and strengthening the Bank's operational and management control system. In particular, the Bank aims to reduce its exposure to:

- The erroneous or malicious behavior of employees, suppliers, bank counterparties, customers, or other parties external to the Bank;
- Inadequate IT systems (applications, interfaces, and hardware) or communication systems (telephone, fax, email, social media, etc.);
- Inadequate infrastructure;
- Inadequate organization in terms of the conceptual framework (methods, processes, corporate structure, etc.) or the organizational framework (rules, policies, directives, and manuals);
- External factors, such as the risks of natural disasters, pandemic, and social unrest.

Structure and organization

The Operational Risk Unit within the Finance & Risks Division's Risk Management Department is in charge of conducting periodic analyses to monitor the Bank's operational-risk profile and gathering and analyzing information on operational incidents that have occurred. This unit develops the methods used for managing operational risk and submits them for approval to the Executive Board's Risk Management Committee. The unit is also responsible for implementing these methods. In addition, the Operational Risk Unit contributes to creating and implementing assessment methods and tools for the Bank's operational internal control system.

The Compliance Department is responsible for establishing the internal regulations and control system needed to combat money laundering and the financing of terrorism, monitor market abuse, and comply with economic sanctions. The Department is actively involved in raising employees' awareness of the respective obligations and carries out independent checks to ensure that internal regulations are in line with the Bank's activities.

The Security Department is responsible for setting up, implementing, and monitoring a control system that keeps the Bank's operations, IT systems, and data secure, and the people, infrastructure, and assets within the Bank safe and secure. It also makes sure that measures put in place to manage crisis situations and ensure business continuity remain effective and adequate over time.

Operational risk reviews and analysis of operational incidents

Periodic reviews are carried out in order to anticipate the main operational risks. These reviews are supplemented by ad-hoc analyses if new threats arise, if FINMA submits a specific request or if a major risk event occurs in another bank. These reviews and analyses are conducted by Management and by functional skills centers (e.g., the Compliance and Security departments) with support from the Operational Risk Unit within the Risk Management Department. The aim of the reviews is to reveal possible improvements to the Bank's risk-management system, and particularly to operational and managerial controls.

In addition to anticipating risks, the Bank exhaustively and systematically gathers information on and analyzes the main operational incidents arising from the Bank's activities. These incidents are recorded in a dedicated operational-risk-management application and analyzed on a monthly basis in order to improve internal controls. Whenever possible, the Bank manages major operational incidents according to pre-defined action plans.

Since the Basel II Accord came into force, the Bank has determined its regulatory capital requirements for operational risk in accordance with the Standardized Approach (CAO, Article 93). Under this approach, the Bank allocates income to the eight risk segments set forth by the regulator.

Internal control system (ICS)

The Bank's internal control system (ICS) was developed in accordance with the recommendations of the Committee of Sponsoring Organizations of the Treadway Commission (COSO) and the Basel Committee, and pursuant to FINMA Circulars 2017/1 on corporate governance and 2008/21 on operational risk. The purpose of the ICS is to ensure that the Bank's activities are in line with its overall objectives. More specifically, the ICS enables the Bank to:

- Achieve its performance objectives in terms of both profit and controlling profit fluctuations
- Provide reliable information both internally and externally
- Comply with legal, regulatory, and self-regulatory requirements

The Bank has an overall ICS along with an operational ICS.

The overall ICS is designed to ensure that the Bank's risk appetite is in keeping with its risk-taking capacity and that the overall risk-management framework appropriately addresses the risks identified. It comprises a set of measures and procedures that structure the Bank's operations and the orientation of its business. They include: robust governance mechanisms; a clearly defined organizational structure; coherent business goals that will ensure the Bank's longevity; established operating procedures for the Executive Board, the Board of Directors, and their committees; regular reviews of the Bank's overall and business-specific strategies, financial strategy, and risk policy (including key risk limits); and reports that are in line with the Bank's business activities and risk-management framework.

The Bank's governing bodies assess the overall ICS using, in particular, two analyses that are conducted each year by the Risk Management Department. The first analysis is an overall stress test to check the Bank's capital adequacy, while the second evaluates the risk-management system to ensure that it is capable of addressing the Bank's main risks, taking into consideration the financial, reputational, and regulatory impacts.

Implementing an overall risk-management framework involves assigning tasks, responsibilities, and decision-making authority to employees, and setting out the limits, deadlines, procedures, and rules to be followed and the forms and other documents to be used. The overall risk-management framework therefore touches upon all aspects of the Bank's operations.

The operational ICS ensures that managers and other employees comply with the operational-risk aspects of the overall risk-management framework. The operational ICS comprises three levels. The Executive Board is responsible for the first two levels, while the Board of Directors oversees the third level:

- Level one: operational oversight by employees and managerial oversight by their supervisors
- Level two: controlling the appropriateness and effectiveness of level-one oversight by entities independent of the chain of command
- Level three: periodic reviews of levels one and two by the Internal Audit Department.

The operational ICS is assessed annually by the Bank's governing bodies based on a review overseen by the Risk Management Department, with help from other departments such as Compliance. The aim of the review is to verify that the operational ICS fulfills its purpose and is properly implemented. It comprises:

- Checks to ensure that operational and managerial controls are in line with the Bank's operations. These checks are conducted through workshops run by department heads (level-one oversight) with support from the Risk Management Department's Operational Risk Unit (level-two oversight).
- Monitoring of operational controls through an application that all managers use to check the managerial controls conducted by their subordinates and to carry out their own controls. These controls are conducted by managers at all levels and recorded in full in the application.

- Independent reviews of controls (level-two oversight) by functional skills centers, including the Risk Management, Compliance, Security, Financial Accounting, and Human Resources departments. These reviews, which complement the managerial controls, ensure that requirements have been properly understood and implemented.

7. APPENDIX

Table 28. Key metrics
In CHF millions, BCV Group, full table, KM1

		a	c	e
		30/6/2020	**31/12/2019**	**30/6/2019**
Available capital				
1	Common Equity Tier 1 (CET1)	3,216	3,220	3,162
2	Tier 1 (T1)	3,216	3,220	3,162
3	Total capital	3,236	3,244	3,186
Risk-weighted assets (RWA)				
4	Total RWA	18,124	18,786	18,942
4a	Minimum capital requirement	1,450	1,503	1,515
Risk-based capital ratios as % of RWA				
5	CET1 ratio	17.7%	17.1%	16.7%
6	Tier 1 ratio	17.7%	17.1%	16.7%
7	Total capital ratio	17.9%	17.3%	16.8%
Additional CET1 buffer requirements (Basel Committee) as % of RWA				
8	Capital conservation buffer requirement (2.5% from 2019)	2.5%	2.5%	2.5%
9	Countercyclical buffer requirement	-	-	-
11	Total of bank CET1 specific buffer requirements	2.5%	2.5%	2.5%
12	CET1 available after meeting the bank's minimum capital requirements (i.e., after the CET1 allocated to cover minimum capital requirements and any TLAC requirements)	9.9%	9.3%	8.8%
FINMA capital ratio requirements				
12a	CET1 buffer (CAO, Annex 8)	4.0%	4.0%	4.0%
12b	Countercyclical buffer (CAO, Art. 44 and 44a)	-	0.8%	0.8%
12c	CET1 total requirement in accordance with Annex 8 of the CAO plus the countercyclical buffer (CAO, Art. 44 and 44a)	7.8%	8.6%	8.6%
12d	Tier 1 total requirement in accordance with Annex 8 of the CAO plus the countercyclical buffer (CAO, Art. 44 and 44a)	9.6%	10.4%	10.4%
12e	Total regulatory capital requirement in accordance with Annex 8 of the CAO plus the countercyclical buffer (CAO, Art. 44 and 44a)	12.0%	12.8%	12.8%
Basel III leverage ratio				
13	Total Basel III leverage ratio exposure measure	52,803	51,101	50,199
14	Basel III leverage ratio (Tier 1 capital as % of total Basel III leverage ratio exposure measure)	6.1%	6.3%	6.3%

	a	b	c	d	e
	Q2 2020	**Q1 2020**	**Q4 2019**	**Q3 2019**	**Q2 2018**
Liquidity coverage ratio (LCR)					
15 Total high-quality liquid assets (HQLA)	10,409	9,030	9,371	8,748	8,946
16 Total net cash outflow	8,033	6,973	7,244	6,748	7,575
17 LCR	130%	129%	129%	130%	118%

7.1 Reconciliation of financial statements and regulatory exposure

Table 29. Reconciliation of regulatory capital to balance sheet
In CHF millions, BCV Group, CC2[18]

	a	a-1	c
	Balance sheet as in published financial statements		**Reference**
	30/6/2020	**31/12/2019**	
Assets			
Cash and cash equivalents	9,621	8,384	
Due from banks	1,045	1'186	
Reverse repurchase agreements	272	239	
Loans and advances to customers	5,855	5,752	
Mortgage loans	27,419	27,016	
Trading portfolio assets	280	277	
Positive mark-to-market values of derivative financial instruments	308	273	
Other financial assets at fair value	712	784	
Financial investments	4,171	3,811	
Accrued income and prepaid expenses	66	85	
Non-consolidated holdings	69	69	
Tangible fixed assets	410	433	
Intangible assets	4	5	
Of which: goodwill	4	5	a
Other assets	36	36	
Total assets	**50,268**	**48,352**	
Liabilities			
Due to banks	2,648	1,703	
Repurchase agreements	2,255	1,502	
Customer deposits	33,719	33,048	
Trading portfolio liabilities	1	2	
Negative mark-to-market values of derivative financial instruments	276	213	
Other financial liabilities at fair value	788	918	
Medium-term notes	2	3	
Bonds and mortgage-backed bonds	6,884	7,094	

[18]Column b, “Under regulatory scope of consolidation,” is not included because the numbers are identical to those in column a, “Balance sheet as in published financial statements.”

Accrued expenses and deferred income	127	154	
Other liabilities	111	114	
Provisions	19	16	
Of which: deferred tax liabilities on other intangible assets	1	1	
Total liabilities	**46,832**	**44,766**	
Shareholders' equity			
Reserves for general banking risks	701	701	
Share capital	86	86	c
Statutory reserves, voluntary reserves, retained earnings, and net profit (loss) for the period	2,664	2,816	
Treasury shares	-16	-18	
Minority interests	0	0	
Total shareholders' equity	**3,435**	**3,586**	

Table 30. Composition of regulatory capital

In CHF millions, BCV Group, full table, CC1[19]

		a	a-1	b
		Net figures (after transitional arrangements)		**References**
		30/06/2020	**31/12/2019**	
Common Equity Tier 1 (CET1)				
1	Issued and paid-in capital, fully eligible	86	86	c
2	Retained earnings, including reserves for general banking and net profit (loss) for the period	3,173	3,173	
3	Capital reserve and currency translation reserve (+/-)	34	34	
5	Minority interests	0	0	
6	**CET1 before regulatory adjustments**	**3,294**	**3,294**	
CET1 regulatory adjustments				
8	Goodwill (net of related tax liability)	4	5	a
12	IRB shortfall of provisions to expected losses	58	50	
16	Net long position in own CET1 instruments	16	18	
28	**Total regulatory adjustments to CET1**	**78**	**73**	
29	**Net CET1**	**3,216**	**3,220**	
Additional Tier 1 capital (AT1)				
36	**AT1 before regulatory adjustments**	**-**	**-**	
43	**Total regulatory adjustments to AT1**	**-**	**-**	
44	**Net AT1**	**-**	**-**	
45	**Net Tier 1 capital**	**3,216**	**3,220**	
Tier 2 capital (T2)				
46	Issued and paid-in instruments, fully eligible	-	-	

[19]Net profit for the current fiscal year is not included in regulatory capital at 30 June (Row 2). Rows not applicable to BCV are not included. The “Impact of transitional arrangements” column is not included because BCV does not apply any transitional arrangements.

48	Minority interests eligible as T2	-	-
50	Valuation adjustments; provisions and impairment for prudential reasons; compulsory reserves on financial investments	20	23
51	**T2 before regulatory adjustments**	**20**	**23**
T2 regulatory adjustments			
52	Net long position in own T2 instruments	-	-
57	**Total regulatory adjustments to T2**	**-**	**-**
58	**Net T2**	**20**	**23**
59	**Total regulatory capital (Net T1 & Net T2)**	**3,236**	**3,244**
60	**Total risk-weighted assets (RWA)**	**18,124**	**18,786**
Capital ratios			
61	CET1 ratio (item 29 as % of RWA)	17.7%	17.1%
62	T1 ratio (item 45 as % of RWA)	17.7%	17.1%
63	Total capital ratio (item 59 as % of RWA)	17.9%	17.3%
64	Specific CET1 buffer (capital conservation buffer + countercyclical buffer + capital buffer for systemically important banks) (as % of RWA)	2.5%	2.5%
65	Of which: in accordance with Basel minimum standards (as % of RWA)	2.5%	2.5%
68	CET1 available to meet buffer requirements in accordance with Basel minimum standards, after deducting the CET1 covering minimum requirements (as % of RWA)	9.9%	9.3%
68a	CET1 total requirement in accordance with Annex 8 of the CAO plus the countercyclical buffer (as % of RWA)	7.8%	8.6%
68b	Of which: countercyclical buffer in accordance with CAO, Art. 44 and 44a (as % of RWA)	0.0%	0.8%
68c	CET1 available (as % of RWA)	13.7%	13.1%
68d	T1 total requirement in accordance with Annex 8 of the CAO plus the countercyclical buffer (as % of RWA)	9.6%	10.4%
68e	T1 available (as % of RWA)	15.5%	14.9%
68f	Total regulatory capital requirement in accordance with Annex 8 of the CAO plus the countercyclical buffer (as % of RWA)	12.0%	12.8%
68g	Regulatory capital available (as % of RWA)	17.9%	17.3%
Amounts below the thresholds for deduction (before risk weighting)		-	-
72	Non-significant investments in the common stock of other financial entities	27	23
73	Significant investments in the common stock of financial entities	230	230

Table 31. Main features of regulatory capital instruments
In CHF millions, BCV Group, CCA[20]

		Quantitative or qualitative information
1	Issuer	Banque Cantonale Vaudoise (BCV), corporation organized under public law, founded by the Vaud Cantonal Parliament on 19 December 1845
2	Unique identifier	ISIN CH0531751755
3	Governing laws of the instrument	Cantonal Act Governing the Organization of Banque Cantonale Vaudoise; BCV's articles of association; Swiss Code of Obligations
	Regulatory treatment	
4	Transitional Basel III rules	CET1
5	Post-transitional Basel III rules	CET1
6	Eligible at solo/group/group and solo	Group and solo
7	Instrument type (to be specified by each jurisdiction)	Equity
8	Amount recognized in regulatory capital (currency in millions, as of most recent reporting date)	CHF 86
9	Par value of instrument	CHF 1
10	Accounting classification	Share capital
11	Original date of issuance	31 December 1995
12	Perpetual or dated	Perpetual
14	Issuer call subject to prior supervisory approval	No
	Coupons and dividends	
17	Fixed or variable coupon or dividend	Variable
19	Existence of a dividend stopper	No
20	Fully discretionary, partially discretionary, or mandatory	Fully discretionary
36	Non-compliant transitioned features	No

[20] Rows not used are not included.

Table 32. Differences between accounting and regulatory scopes of consolidation and mapping of financial statement categories with regulatory risk categories
In CHF millions, at 31 December 2019, BCV Group, LI1[21]

	a	c	d	f	g
	Carrying values				
	As reported in published financial statements	**Subject to credit risk framework**	**Subject to counterparty credit risk framework**	**Subject to market risk framework**	**Not subject to capital requirements or subject to deduction from capital**
Assets					
Cash and cash equivalents	8,384	8,384			
Due from banks	1,186	1,102	84		
Reverse repurchase agreements	239		239		
Loans and advances to customers	5,752	5,717	36		
Mortgage loans	27,016	27,016			
Trading portfolio assets	277			277	
Positive mark-to-market values of derivative financial instruments	273		273	273	
Other financial assets at fair value	784	0		784	
Financial investments	3,811	3,811	1,430		
Accrued income and prepaid expenses	85	85			
Non-consolidated holdings	69	69			
Tangible fixed assets	433	433			
Intangible assets	5				5
Other assets	36	36			
Total assets	**48,352**	**46,653**	**2,062**	**1,334**	**5**
Liabilities					
Due to banks	1,703		165		1,538
Repurchase agreements	1,502		1,502		
Customer deposits	33,048		1		33,047
Trading portfolio liabilities	2			2	
Negative mark-to-market values of derivative financial instruments	213		213	213	
Other financial liabilities at fair value	918			918	
Medium-term notes	3				3
Bonds and mortgage-backed bonds	7,094				7,094
Accrued expenses and deferred income	154				154
Other liabilities	114				114
Provisions	16	-			16
Total liabilities	**44,766**	**-**	**1,881**	**1,133**	**41,965**

[21]Column b is not included since the accounting scope of consolidation is identical to the regulatory scope of consolidation.

Exposures relating to the following line items are assessed across several risk categories:

- Mark-to-market values of derivative financial instruments: derivative transactions generate both counterparty credit risk and market risk;
- Financial investments: bonds used in repo transactions or held as collateral with other financial institutions generate both credit risk and counterparty credit risk.

Table 33. Main sources of differences between regulatory exposure amounts and carrying values in financial statements
In CHF millions, at 31 December 2019, BCV Group, LI2

		a	b	d	e
			Items subject to:		
		Total	**Credit risk framework**	**Counterparty credit risk framework**	**Market risk framework**
1	**Asset carrying value under regulatory scope of consolidation (as per Table LI1)**	**50,049**	**46,653**	**2,062**	**1,334**
2	Liabilities carrying value under regulatory scope of consolidation (as per Table LI1)	3,014	-	1,881	1,133
3	Total net amount under regulatory scope of consolidation	47,035	46,653	180	202
4	Off-balance sheet amounts	6,473	2,620	-	-
5	Valuation differences on securities financing transactions (regulatory haircut)	176	-	176	-
6	Valuation differences on derivatives transactions (with the regulatory add-on)	239	-	239	-
7	Differences due to consideration of provisions	88	88	-	-
8	Other valuation differences	-15	-15	-	-
10	**Exposure amounts considered for regulatory purposes**	**53,997**	**49,346**	**596**	**202**

Differences between the values reported in the financial statements and the regulatory amounts can be attributed to the following factors:

- Off-balance-sheet positions (contingent liabilities and undrawn revocable and irrevocable credit limits)
- Valuation differences for repo transactions (exposure after regulatory haircut)
- Provisions that are deducted from total exposure amounts according to the accounting standard applied at BCV
- Add-ons to derivative positions and forward contracts

Assets in the trading book are measured at fair value based on their prices in liquid markets. Fair values are checked daily by the Market Risk Unit within the Risk Management Department (see Section 5.1). Given the valuation method that the Bank uses, no prudential valuation adjustments are made (and, as such, Table PV1 is not applicable).

7.2 Leverage ratio

Table 34. Summary comparison of accounting assets vs. leverage ratio exposure measure
In CHF millions, BCV Group, LR1

		30/06/2020	31/12/2019
1	Total consolidated assets as per published financial statements	50,268	48,352
2	Adjustment for investments in banking, financial, insurance or commercial entities that are consolidated for accounting purposes but outside the scope of regulatory consolidation, as well as adjustment for assets deducted from Tier 1 capital	-78	-73
3	Adjustment for fiduciary assets recognized on the balance sheet pursuant to the operative accounting framework but excluded from the leverage ratio exposure measure	-	-
4	Adjustment for derivative financial instruments	220	332
5	Adjustment for securities financing transactions (SFTs)	40	34
6	Adjustment for off-balance-sheet items	2,354	2,457
7	Other adjustments	-	-
8	**Leverage ratio exposure measure**	**52,803**	**51,101**

The growth in total assets reflects increases in loans and advances to customers, mortgage lending, and financial investments (see Table 29). The difference between the financial assets reported on the balance sheet and the leverage ratio exposure measure stems primarily from off-balance-sheet transactions (CHF 2.354bn at 30 June 2020). Starting with the Q1 2019 financial statements, the leverage ratio for derivatives exposures is calculated using the SA-CCR.

In response to the coronavirus-related crisis, FINMA has authorized banks to exclude deposits held at central banks from the calculation of their leverage ratio exposure measure (FINMA Guidance 02/2020). However, banks paying a dividend in 2020 are required to reduce this relief by the amount of the dividend divided by 3% (FINMA Guidance 03/2020). Since the amount of BCV's dividend divided by 3% exceeds the amount of the deposits it held at the SNB, BCV did not apply this relief to its leverage ratio exposure measure.

Table 35. Leverage ratio common disclosures
In CHF millions, BCV Group, LR2

		30/06/2020	31/12/2019
On-balance-sheet exposure			
1	On-balance-sheet exposure (excluding derivatives and SFTs, but including collateral)	47,395	46,338
2	Assets deducted in determining Tier 1 capital	-78	-73
3	**Total on-balance-sheet exposures within the leverage ratio framework, excluding derivatives and SFTs**	**47,317**	**46,264**
Derivative exposure			
4	Replacement cost associated with all derivatives transactions, including those with central counterparties (net of eligible cash variation margin and/or with bilateral netting)	130	165
5	Add-on amounts for PFE associated with all derivatives transactions	555	538
6	Gross-up for derivatives collateral provided where deducted from the balance sheet assets pursuant to the operative accounting framework	-	-
7	Deduction of receivables assets for cash variation margin provided in derivatives transactions	-157	-98
8	Deduction relating to exposure to QCCPs if there is no obligation to reimburse the client in the event of the QCCP defaulting	-	-
9	Adjusted effective notional amount of written credit derivatives, after deduction of negative replacement values	-	-
10	Adjusted effective notional offsets of bought/written credit derivatives and add-on deductions for written credit derivatives	-	-
11	**Total derivative exposure**	**528**	**605**
Securities financing transaction (SFT) exposure			
12	Gross SFT assets with no recognition of netting, including sale accounting transactions, less the items specified in margin no. 58 FINMA Circular 2015/3	2,564	1,741
13	Netted amounts of cash payables and cash receivables relating to SFT counterparties	-	-
14	CCR exposure for SFT assets	40	34
15	Agent transaction exposure	-	-
16	**Total SFT exposure**	**2,604**	**1,775**
Other off-balance-sheet exposure			
17	Off-balance-sheet exposure at gross national amounts before application of credit conversion factors	7,110	6,941
18	Adjustments for conversion to credit equivalent amounts	-4,756	-4,484
19	**Total off-balance-sheet exposure**	2,354	2,457
Capital and total exposure			
20	**Tier 1 capital**	**3,216**	**3,220**
21	**Total exposure**	**52,803**	**51,101**
Leverage ratio			
22	**Leverage ratio**	**6.1%**	**6.3%**

The difference between the amount of total accounting assets on the balance sheet and the balance-sheet exposure used to calculate the leverage ratio (row 1 of Table 35) is due to the Bank's repo agreements (CHF 2.564bn at 30 June 2020) and derivatives (mark-to-market value of CHF 130m at 30 June 2020).

7.3 Disclosure map, analytical classifications, and abbreviations

7.3.1 Disclosure map

The Basel III Accord sets out the minimum disclosure requirements. The relationships between the tables in the Accord, those in FINMA Circular 2016/1, "Disclosure – banks," and those in this report are described below.

Table 36. Disclosure map

Basel reference code	Description	BCV table no.	Frequency under FINMA	Comment
Overview				
KM1	Key metrics	2	Semiannual	
OVA	Bank risk mgmt approach	Ch. 3	Annual	
OV1	Overview of RWA	4	Semiannual	
Linkages between financial statements and regulatory exposure				
LI1	Differences between accounting and regulatory scopes of consolidation and mapping of financial statement categories with regulatory risk categories	32	Annual	
LI2	Main sources of differences between regulatory exposure amounts and carrying values in financial statements	33	Annual	
LIA	Explanations of differences between accounting and regulatory exposure amounts	Ch. 7	Annual	
PV1	Prudential valuation adjustments		Annual	No prudential valuation adjustments
CC1	Composition of regulatory capital	30	Annual	Updated half-yearly
CC2	Reconciliation of regulatory capital to balance sheet	29	Annual	
CCA	Main features of regulatory capital instruments	31	Annual	
Leverage ratio				
LR1	Summary comparison of accounting assets vs leverage ratio exposure measure	34	Annual	Updated half-yearly
LR2	Leverage ratio common disclosures	35	Annual	
Credit risk				
CRA	General qualitative information about credit risk	Ch. 4	Annual	
CR1	Credit quality of assets	10	Annual	Updated half-yearly
CR2	Changes in stock of defaulted loans and debt securities	11	Annual	
CRB	Additional disclosure related to the credit quality of assets	Ch. 4	Annual	Updated half-yearly

CRC	Qualitative disclosure requirements related to credit risk mitigation techniques	Ch. 4	Annual	
CR3	Credit risk mitigation techniques – overview	12	Annual	Updated half-yearly
CRD	Qualitative disclosure on the Bank's use of external credit ratings under the Standardized Approach for credit risk	Ch. 4	Annual	
CR4	Standardized Approach – credit risk exposure and credit risk mitigation (CRM) effects	17	Annual	Updated half-yearly
CR5	Standardized Approach – exposure by asset class and risk weight	18	Annual	
CRE	Qualitative disclosures related to IRB models	Ch. 4	Annual	Updated half-yearly
CR6	IRB – Credit risk exposure by portfolio and probability of default (PD) range	13	Semiannual	
CR7	IRB – Effect on RWA of credit derivatives used as CRM techniques		Semiannual	No credit derivatives
CR8	RWA flow statements of credit risk exposure under IRB	14	Semiannual	
CR9	IRB – Backtesting of PD per portfolio	15	Annual	
CR10	IRB – Specialized lending and equities under the simple risk weight method	16 + 24	Semiannual	
CCRA	Qualitative disclosure related to counterparty credit risk	Ch. 4	Annual	
CCR1	Analysis of counterparty credit risk (CCR) exposure by approach		Not required for Category 3 banks	
CCR2	Credit Valuation Adjustment (CVA) capital charge			
CCR3	Standardized Approach – CCR exposure by regulatory portfolio and risk weight	20	Annual	Updated half-yearly
CCR4	IRB – CCR exposure by portfolio and PD range	19	Semiannual	
CCR5	Composition of collateral for CCR exposure	21	Annual	Updated half-yearly
CCR6	Credit derivatives exposure		Annual	No credit derivatives
CCR7	RWA flow statements of CCR exposure under the Internal Model Method (IMM)		Semiannual	IMM approach not used at BCV
CCR8	Exposure to central counterparties (CCPs)	22	Annual	Updated half-yearly
Market risk and liquidity				
SECA	Qualitative disclosure requirements related to securitization exposure		Annual	No securitization exposure
SEC1	Securitization exposure in the banking book		Annual	

SEC2	Securitization exposure in the trading book		Annual	
SEC3	Securitization exposure in the banking book and associated regulatory capital requirements – bank acting as originator or sponsor		Annual	
SEC4	Securitization exposure in the banking book and associated regulatory capital requirements – bank acting as investor		Annual	
MRA	General qualitative disclosure requirements related to market risk	Ch. 5	Annual	
MR1	Market risk under the Standardized Approach (SA)	23	Annual	Updated half-yearly
MRB	Qualitative disclosures for banks using the Internal Models Approach (IMA)		Annual	IMA approach not used at BCV
MR2	RWA flow statements of market risk exposure under the IMA		Semiannual	BCV does not use an internal model
MR3	IMA values for trading portfolios		Semiannual	
MR4	Comparison of VaR estimates with gains and losses		Semiannual	
IRRBBA	IRRBB risk management objectives and policies		Annual	Updated half-yearly
IRRBBA1	Quantitative information on the structure of positions, and maturity repricing	25 + Ch. 5.3	Annual	
IRRBB1	Quantitative information on the economic value of equity and net interest income	26 + Ch. 5.3	Annual	
LIQ1	Liquidity coverage ratio	28 + Ch. 5	Semiannual	
Operational risk				
ORA	General qualitative information on the operational risk framework	Ch. 6	Annual	
Remuneration				
REMA	Remuneration policy		Annual	Not required for BCV
REM1	Remuneration awarded during the financial year		Annual	
REM2	Special payments		Annual	
REM3	Deferred remuneration		Annual	

7.3.2 Analytical classifications

This section describes the different analytical classifications used in this document that are not already defined within the framework of the Basel III Accord.

Table 37. Basel III Accord asset categories (IRB)

No.	Asset category	Description
1	Central governments and central banks (F-IRB)	The Swiss national government, BIS, central banks, multilateral development banks eligible for a 0% risk weighting, and foreign governments
3	Banks and securities firms (F-IRB)	Bank counterparties
5	Non-central govt. public-sector entities; multilateral development banks (F-IRB)	Cantonal governments and municipal authorities
7	Corporates - specialized lending (F-IRB)	Real-estate financing for counterparties rated with the “real-estate professionals” rating model, together with trade-finance transactions
9	Corporates - other lending (F-IRB)	Companies that do not meet the retail criteria, the Mortgage-Bond Bank of the Swiss Mortgage Institutions, and the Central Mortgage-Bond Institution
11	Mortgage-backed retail exposure	Mortgage-backed exposure to individuals and companies that meet the retail criteria
13	Other retail exposure	Other exposure to individuals and companies that meet the retail criteria

Table 38. Risk segments

Type of counterparty	Description
Retail	Individuals with less than CHF 250,000 in assets or income, or who have a mortgage loan of up to CHF 1.2 million
Private banking	Individuals who meet at least one of the following criteria: assets or income of more than CHF 250,000, or a mortgage loan of over CHF 1.2 million
SMEs	Small and medium-sized businesses, excluding real-estate professionals and trade-finance counterparties, that employ up to 150 people, are not listed on the stock exchange, and have full-year revenue of below CHF 50 million
Real-estate professionals	Individuals or entities whose main professional activity involves real-estate development and/or investment
Large corporates	Listed companies that meet at least one of the following criteria (excluding trade-finance counterparties): more than 150 employees; or full-year revenue of at least CHF 50 million
Public-sector entities	Swiss national, cantonal, and municipal governments
Trade finance	Non-bank counterparties involved in trade-finance activities
Banks	Bank counterparties, including central counterparties since 1 January 2013

Table 39. Supervisory slotting and PD rating model (scope of F-IRB approach)

Rating model	Description
BCV staff	Individuals who are BCV employees
Private banking	Individuals or groups of individuals with no commercial loans and with CHF 300,000 in assets with BCV or who are financed exclusively with Lombard loans
Retail	Individuals or groups of individuals with no commercial loans and who do not meet the criteria for “Private banking” or “BCV employees”
SME	Small and mid-sized businesses
Large corporates	Large businesses
Banks	Banking institutions
Vaud municipalities	Municipalities in Vaud Canton
Real-estate professionals	Counterparties whose main professional activity is investing in real estate for their own account
Trade finance (supervisory slotting criteria for specialized lending)	Transactions to finance international commodities trading
Real-estate development (supervisory slotting criteria for specialized lending)	Transactions to finance real-estate development

7.3.3 List of abbreviations

ALCO Asset and Liabilities Management Committee

ALM Asset and Liability Management

ALM-FM The Bank's ALM and Financial Management Department

BCV Banque Cantonale Vaudoise

BIS Bank for International Settlements

BoD Board of Directors

CAO Ordinance of 1 June 2012 concerning capital adequacy and risk

	diversification for banks and securities traders (known as the “Capital Adequacy Ordinance”)
CCF	Credit conversion factor
CCO	Chief Credit Officer
CCP	Central counterparty, an institution that acts as an intermediary between two parties to secure a transaction by becoming the counterparty to the buyer and the seller
CCR	Counterparty credit risk
CEO	Chief Executive Officer
CF	Commodities finance
CFO	Chief Financial Officer
CRM	Credit risk mitigation
CSA	Credit Support Annex, an optional annex for ISDA netting agreements
CVA	Credit valuation adjustment: capital requirement aimed at covering the risk of loss in market value as a result of deterioration in the counterparty’s credit quality
ΔEVE	Change in the economic value of equity
ΔNII	Change in net interest income
EAD	Exposure at default
EBCC	Executive Board Credit Committee
EBRMC	Executive Board Risk Management Committee
EL	Expected loss
F-IRB	Foundation Internal Ratings-Based approach
FINMA	Swiss Financial Market Supervisory Authority
GMRA	Global Master Repurchase Agreement of the Public Securities Association/International Securities Market Association (PSA/ISMA)
HQLA	High-quality liquid assets
ICS	Internal control system
ID	BCV’s “in default” provisioning category

IMA	Internal Models Approach
IMM	Internal Model Method
IPRE	Income-producing real estate
IRB	Internal ratings-based
IRRBB	Interest-rate risk in the banking book
ISDA	International Swaps and Derivatives Association
LCR	Liquidity coverage ratio
LGD	Loss given default
LIBOR	London Interbank Offered Rate
NII	Net interest income
NSFR	Net stable funding ratio
OTC	Over the counter
PD	Probability of default
PFE	Potential future exposure
QCCP	Qualified central counterparty
RD	BCV's "reputed to be in financial difficulty" provisioning category
RMPS	BCV's Risk Management Policy and Strategy
RWA	Risk-weighted assets
SFT	Securities financing transaction
SIC	Swiss Interbank Clearing
SNB	Swiss National Bank
SA-BIS	International Standardized Approach in accordance with the CAO
SA-CCR	Standardized Approach for measuring Counterparty Credit Risk
VaR	Value at risk

7.4 Parent-company disclosures

When capital and liquidity requirements are calculated at group level, the group is generally only required to provide consolidated disclosures (known as the disclosure exemption).

Under FINMA Circular 2016/1, the Bank is nevertheless required to disclose the following parent-company figures.

Table 40. Main parent-company figures
In CHF millions, at 30 June 2020, KM1

		a	c	e
		30/6/2020	**31/12/2019**	**30/6/2019**
Available capital				
1	Common Equity Tier 1 (CET1)	3,206	3,212	3,146
2	Tier 1 (T1)	3,206	3,212	3,146
3	Total capital	3,226	3,235	3,169
Risk-weighted assets (RWA)				
4	Total RWA	17,987	18,647	18,810
4a	Minimum capital requirement	1,439	1,492	1,505
Risk-based capital ratios as % of RWA				
5	CET1 ratio	17.8%	17.2%	16.7%
6	Tier 1 ratio	17.8%	17.2%	16.7%
7	Total capital ratio	17.9%	17.3%	16.8%
Additional CET1 buffer requirements (Basel Committee) as % of RWA				
8	Capital conservation buffer requirement (2.5% from 2019)	2.5%	2.5%	2.5%
9	Countercyclical buffer requirement	-	-	-
11	Total of bank CET1 specific buffer requirements	2.5%	2.5%	2.5%
12	CET1 available after meeting the bank's minimum capital requirements (i.e., after the CET1 allocated to cover minimum capital requirements and any TLAC requirements)	9.9%	9.3%	8.8%
FINMA capital ratio requirements				
12a	CET1 buffer (CAO, Annex 8)	4.0%	4.0%	4.0%
12b	Countercyclical buffer (CAO, Art. 44 and 44a)	-	0.8%	0.8%
12c	CET1 total requirement in accordance with Annex 8 of the CAO plus the countercyclical buffer (CAO, Art. 44 and 44a)	7.8%	8.6%	8.6%
12d	Tier 1 total requirement in accordance with Annex 8 of the CAO plus the countercyclical buffer (CAO, Art. 44 and 44a)	9.6%	10.4%	10.4%
12e	Total regulatory capital requirement in accordance with Annex 8 of the CAO plus the countercyclical buffer (CAO, Art. 44 and 44a)	12.0%	12.8%	12.8%
Basel III leverage ratio				
13	Total Basel III leverage ratio exposure measure	51,889	50,255	49,390
14	Basel III leverage ratio (Tier 1 capital as % of total Basel III leverage ratio exposure measure)	6.2%	6.4%	6.4%

		a	b	c	d	e
		Q2 2020	**Q1 2020**	**Q4 2019**	**Q3 2019**	**Q2 2019**
Liquidity coverage ratio (LCR)						
15	Total high-quality liquid assets (HQLA)	10,099	8,780	9,139	8,563	8,766
16	Total net cash outflow	7,903	6,876	7,116	6,658	7,470
17	LCR	128%	128%	128%	129%	117%