Counterparty credit risk

Methodology used to assign internal capital and credit limits for counterparty credit exposures

For all counterparty credit exposure, credit risk is measured to allow risk management and control. Models and methodologies are developed and applied for measuring credit risk. All models are approved and reviewed in accordance with the Group policy on Governance of Models. The models and methodologies for measuring credit risk are owned by Risk Methodology. A key measure for credit risk is the Expected Loss (EL) at counterparty level. EL is a statistically based measure estimating the credit loss that is expected to arise from a credit exposure within a one year time horizon.

Credit risk to individual counterparties is measured based on three generally accepted parameters: (i) probability of default (PD) - reflected by assigning a rating to a transaction or a counterparty; (ii) exposure at default (EaD) - depends on the underlying product type and exposure segment; (iii) loss given default (LGD) - reflect debtor and exposure specific factor.

Credit risk is measured at counterparty/transaction level and where appropriate at portfolio level.

As a general rule, where a credit engagement is contemplated, credit analysis is performed, where applicable a counterparty rating set and limits established in line with the risk being undertaken (i.e. a derivative limit, lending limit etc.).

Investment Bank (IB) limits include: (i) Securities Financing Transactions - risk and volume limits; (ii) loans are subject to limits to constrain take and hold and temporary exposure; (iii) settlement risk limits in notional size measured daily (iv) traded products – OTC are given closeout limits for collateralised trading and potential future exposure limit for uncollateralized trades; (v) tenor restrictions may also be set in certain circumstances.

Global Wealth Management (GWM) limits include: (i) Lombard credit facilities, normally uncommitted and valid until further notice. Loan facilities can be used for overdrafts or fixed term advances within the parameters defined for Lombard exposures (ii) UBS Europe SE's maximum risk appetite for a client is defined by the lower of the total (client specific) lending value of a client's collateral portfolio or the approved credit limits; (iii) mortgages is a legacy product in UBS Europe SE.

Limits are subject to periodic review.

Policies for securing collateral

All credit engagements and collateral arrangements must be covered by appropriate documentation. Documentation may be in the form of general terms and conditions and / or product or transaction specific documentation. Standard documentation is used where available and appropriate. In all cases, all documentation must be approved, either generally or individually, by Legal and must be in accordance with applicable divisional risk policies.

Within GWM credit transactions are secured by Lombard eligible collateral duly pledged to UBS Europe SE to allow liquidation in a close out.

For all Lombard credit facilities, appropriate and duly executed legal documentation is mandatory to provide the intended risk mitigation and ensure enforceability of the security interest in the collateral. The credit documentation grants the bank the right to call for additional collateral or margin in line with the defined margin call process, and allow for timely liquidation of collateral and close-out of transactions, when necessary. The documentation includes the right to apply the enforcement proceeds towards discharging all exposures in a close-out situation.

Documentation is in line with local laws, rules and regulations and signed-off by Legal. Standard Lombard documentation must be defined by Legal for each booking centre in UBS Europe SE. Required standards are a function of: (i) jurisdiction of UBS booking center and UBS Europe SE Legal Entity acting as lender; (ii) domicile of borrower / credit counterparty; (iii) legal form of borrower / credit counterparty and/or pledger; (iv) type of exposure (loans, guarantees, OTC derivatives, ETD, etc.) and collateral; (v) custody structure and trading place of the collateral (where applicable).

Within IB approved ISDA Master Agreement plus ISDA Credit Support Annex should be used where trading is to be collateralized. As a general rule, UBS pursues reciprocity in collateral documentation (whilst recognizing the potential difference in ratings or intrinsic strength or regulation between the counterparties).

The agreement allows for daily MTM (as of the previous business day) and collateral calls, as well as the immediate liquidation of collateral (subject to any grace period) and close-out of all relevant transactions in the event of default by the counterparty, including failure by the counterparty to meet collateral calls.

Policies with respect to Wrong-Way risk exposures

UBS Europe SE quantifies Wrong-Way risk exposures when there is a 'structural' relationship between exposure and default or where otherwise a qualitative assessment (by a Credit Officer) determines that the relationship between exposure and counterparty is tantamount or equivalent to a 'structural' relationship (not withstanding the presence or absence of a legal connection).

UBS Europe SE considers two types of Wrong-Way risk:

- Specific Wrong-Way risk: Situations where a counterparty engages in transactions referencing securities issued by itself or an affiliate, or other transactions that are determined to be equivalent in terms of the relationship between the exposure and the counterparty
- General Wrong-Way risk: All other cases of adverse correlation between default and exposure, e.g. CDS on sovereign debt from a counterparty domiciled in that country

Processes are established to identify existing specific wrong / right way transactions in the UBS Europe SE portfolio across the OTC, SFT and ETD portfolios and these are reported monthly.

Ordinarily in the measurement of credit risk for the trading book, the creditworthiness of the counterparty and the exposure of a transaction are measured and modeled independently.

In a transaction where Wrong-Way risk may occur, UBS Europe SE needs to adjust to capture these Wrong-Way scenarios. For specific Wrong-Way risk UBS Europe SE has a good view as to what exposure is at default, e.g. a company's stock will trade at zero upon default and the value of all derivatives contracts should be valued as such.

For general Wrong-Way risk not all scenarios where the country/counterparty defaults are coupled with a Wrong-Way exposure. The country/counterparty exposure calculations cover a wide range of potential states of the world including severe moves in the underlying risk factors. UBS Europe SE is specifically interested in the exposure in the states of the world where the country/counterparty defaults and the current framework misses specific events which drive both exposure and default.

Wrong-Way risk quantification

The 'extra Wrong-Way' exposure is quantified as an event risk not captured in our statistical exposure measures. UBS Europe SE continues to calculate the exposure estimate based on the established risk measures, which covers a wide range of scenarios including some severe moves in underlying risk factors, and add to that the event based exposure.

- Specific Wrong Way Risk – applies the relevant CRR articles for regulatory capital requirement calculation.
- Specific Wrong Way Risk – relevant for counterparties that are non-central banks.

Capital allocation / Allocation of loan limits to counterparties

UBS Europe SE does not provide for any separate capital allocation as well as limitation of default risks towards counterparties with derivative items. Both are effected within the framework of the uniformly applicable limitation process for counterparty risks. The methods of the regulatory as well as internal control of large credits apply.

The following tables provides a view of the methods utilized to calculate CCR regulatory requirements together with the main parameters utilized for each methodology including market values (MV), potential future credit exposures (PFCE), effective expected positive exposure (EEPE), exposure at default (EAD) and credit risk mitigation (CRM) effects.

EU CCR1 - Analysis of CCR exposure by approach

31.12.19 EUR million	Notional	Replacement cost/current MV	PFCE	EEPE	Multiplier	EAD post CRM	RWA
Mark to market		743	3,673			4,034	1,583
Original Exposure	–					–	–
Standardised approach		–				–	–
IMM for derivatives and SFTs				3,689	1.6	3,660	2,066
of which SFTs				–	–	–	–
of which derivatives and long settlement transactions				3,689	1.6	3,660	2,066
of which from contractual cross product netting				–	–	–	–
Financial collateral simple method (for SFTs)						–	–
Financial collateral comprehensive method (for SFTs)						1,785	784
IMA for SFTs						1,644	578
Total							5,011

30.06.19 EUR million	Notional	Replacement cost/current MV	PFCE	EEPE	Multiplier	EAD post CRM	RWA
Mark to market		773	5,599			3,817	1,283
Original Exposure	–					–	–
Standardised approach		–			–	–	–
IMM for derivatives and SFTs				3,580	1.6	3,390	1,808
of which SFTs				–	–	–	–
of which derivatives and long settlement transactions				3,580	1.6	3,390	1,808
of which from contractual cross product netting				–	–	–	–
Financial collateral simple method (for SFTs)						–	–
Financial collateral comprehensive method (for SFTs)						1,656	598
IMA for SFTs						1,955	316
Total							4,005

The following table provides the breakdown of the CVA capital charge by approach, UBS Europe SE currently only utilizes the standardized approach for CVA charge calculation.

EU CCR2 - CVA Capital charge

	31.12.19		30.06.19	
EUR million	Exposure value	RWA	Exposure value	RWA
Total portfolios subject to the advanced method	–	–	–	–
(i) VaR component (including the 3× multiplier)		–		–
(ii) SVaR component (including the 3× multiplier)		–		–
All portfolios subject to the standardised method	2,489	1,315	2,224	792
Based on the original exposure method			–	–
Total subject to the CVA charge	2,489	1,315	2,224	792

The main driver of the RWA increase of €0.5bn is with UBS AG resulting from reduced collateral received from the parent entity.

The following tables provide a breakdown of CCR exposures by type of portfolio and risk weight.

EU CCR3 - Standardised approach - CCR exposures by regulatory portfolio and risk[1]

31.12.19	Risk Weight											Total	Of which unrated
EUR million	0%	2%	4%	10%	20%	50%	70%	75%	100%	150%	Other		
Exposure classes													
Central governments and central banks	229	–	–	–	2	4	–	–	–	–	–	235	108
Regional governments and local authorities	–	–	–	–	11	–	–	–	43	–	–	54	36
Public sector entities	–	–	–	–	7	16	–	–	34	–	–	56	37
Multilateral development banks	–	–	–	–	–	–	–	–	–	–	–	–	–
International Organisations	–	–	–	–	–	–	–	–	–	–	–	–	–
Institutions	–	2,593	–	–	1,642	2,840	–	–	299	2	–	7,376	960
Corporates	–	–	–	–	609	136	–	–	2,628	–	–	3,373	2,592
Retail	–	–	–	–	–	–	–	–	–	–	–	–	–
Institutions and corporates with a short-term credit assessment	–	–	–	–	–	–	–	–	–	–	–	–	–
Other items	–	–	–	–	–	–	–	–	–	–	–	–	–
Total	229	2,593	–	–	2,271	2,996	–	–	3,004	2	–	11,094	3,733

30.06.19	Risk Weight											Total	Of which unrated
EUR million	0%	2%	4%	10%	20%	50%	70%	75%	100%	150%	Other		
Exposure classes													
Central governments and central banks	470	–	–	–	1	–	–	–	–	–	–	471	267
Regional governments and local authorities	–	–	–	–	1	2	–	–	52	–	–	55	33
Public sector entities	–	–	–	–	16	–	–	–	52	–	–	67	59
Multilateral development banks	1	–	–	–	–	–	–	–	–	–	–	1	–
International Organisations	–	–	–	–	–	–	–	–	–	–	–	–	–
Institutions	–	3,169	–	–	1,624	2,277	–	–	141	5	–	7,215	798
Corporates	–	–	–	–	734	109	–	–	2,020	–	–	2,864	1,953
Retail	–	–	–	–	–	–	–	–	–	–	–	–	–
Institutions and corporates with a short-term credit assessment	–	–	–	–	–	–	–	–	–	–	–	–	–
Other items	–	–	–	–	–	–	–	–	–	–	–	–	–
Total	471	3,169	–	–	2,375	2,388	–	–	2,265	5	–	10,673	3,310

Over the period there was no particular driver for the movements within the type of exposure and risk weight. The nature of CRR can be volatile due to daily settlement and revaluation effects and these movements are deemed within normal levels.

The following tables outline the impact of netting and collateral held on CCR exposures, including exposures arising from transactions cleared through a CCP.

EU CCR5-A - Impact of netting and collateral held on exposures

31.12.19

EUR million	Gross positive fair value[1]	Netting benefits	Netted current credit exposure	Collateral held	Net credit exposure
Derivatives	11,423	3,159	8,263	1,563	6,701
SFTs	15,242	–	15,242	11,812	3,429
Total	26,664	3,159	23,505	13,375	10,130

30.06.19

EUR million	Gross positive fair value[1]	Netting benefits	Netted current credit exposure	Collateral held	Net credit exposure
Derivatives	17,460	6,390	11,070	3,863	7,207
SFTs	24,520	–	24,520	20,909	3,611
Total	41,980	6,390	35,590	24,772	10,818

[1] Derivatives gross positive fair value is materially the sum of gross positive replacement value together with the gross PFCE of the trades treated under the mark to market methodology and the EEPE exposure calculated using the company's approved credit model. SFT gross positive fair value is materially the asset value, from both the on- and off- balance sheet, of cash and securities lent out and the company's approved model for calculating SFT exposure.

The following tables provide a breakdown of all types of collateral posted or received to support CCR exposures on derivatives and SFTs.

EU CCR5-B - Composition of collateral for exposures to CCR

31.12.19	Collateral used in derivative transactions				Collateral used in SFTs	
	Fair value of collateral received		Fair value of collateral posted		Fair value of collateral received	Fair value of collateral posted
EUR million	Segregated	Unsegregated	Segregated	Unsegregated		
Cash	–	10,308	–	9,297	15,210	19,795
Non-cash	886	874	454	339	23,479	19,044
Total	886	11,182	454	9,636	38,688	38,839

30.06.19	Collateral used in derivative transactions				Collateral used in SFTs	
	Fair value of collateral received		Fair value of collateral posted		Fair value of collateral received[1]	Fair value of collateral posted[1]
EUR million	Segregated	Unsegregated	Segregated	Unsegregated		
Cash	–	10,335	–	7,099	9,945	16,228
Non-cash	2,448	3,553	472	3,296	40,370	30,964
Total	2,448	13,887	472	10,395	50,315	47,192

[1]The 30.06.19 cash and non-cash for the collateral used in SFTs have been reclassified. The total of SFT collateral received and posted has not changed.

The following table provide an overview of the credit derivative portfolio of UBS Europe SE by product group using notional amounts. UBS Europe SE does not utilize credit derivatives within its banking book.

EU CCR6 - Credit derivative exposures

	31.12.19			30.06.19		
EUR million	Protection bought	Protection sold	Other	Protection bought	Protection sold	Other
Notionals						
Single name credit default swaps	1,138	810	–	1,277	814	–
Multi name credit default swaps	843	842	–	917	916	–
Total Notionals	1,981	1,652	–	2,194	1,730	–
Fair values						
Positive fair value (asset)	5	37	–	22	25	–
Negative fair value (liability)	47	3	–	35	19	–

The following table provides a view of the drivers behind the change in the RWA relating to OTC derivatives under the IMM over the period.

EU CCR7 - RWA flow statements of CCR exposures under the IMM

31.12.19 *EUR Million*	RWA Amounts	Capital Requirements
RWAs as at the end of the previous reporting period (30.06.19)	1,808	145
Asset size	261	21
Credit quality of counterparties	(8)	(1)
Model updates (IMM only)	–	–
Methodology and policy (IMM only)	–	–
Acquisitions and disposals	–	–
Foreign exchange movements	4	–
Other	–	–
RWAs as at the end of the current reporting period (31.12.19)	2,066	165

30.06.2019 *EUR Million*	RWA Amounts	Capital Requirements
RWAs as at the end of the previous reporting period (31.03.19)	2,289	183
Asset size	(477)	(38)
Credit quality of counterparties	–	–
Model updates (IMM only)	–	–
Methodology and policy (IMM only)	–	–
Acquisitions and disposals	–	–
Foreign exchange movements	(4)	–
Other	–	–
RWAs as at the end of the current reporting period (30.06.19)	1,808	145

EU CCR8 – Exposures to CCPs

The following table provides an overview of the CCR charge resulting from exposures to Central Clearing Counterparties (CCP). It sets out the types of exposures as well as their related capital charges.

EU - CCR8 - Exposure to CCPs

	31.12.19		30.06.19	
EUR million	Exposure value	RWA	Exposure value	RWA
Exposures to QCCPs (total)[1]		229		271
Exposures for trades at QCCPs; of which	3,254	187	3,918	225
(i) OTC derivatives	1,236	70	1,294	62
(ii) Exchange-traded derivatives	827	79	938	100
(iii) SFTs	1,188	34	1,684	50
(iv) Netting sets where cross-product netting has been approved	–	–	–	–
Segregated initial margin	–		–	
Non-segregated initial margin	–	–	–	–
Prefunded default fund contributions	74	41	69	46
Alternative calculation of own funds requirements for exposures		–		–
Exposures to non-QCCPs (total)		–		–
Exposures for trades at non-QCCPs (excluding initial margin and default fund contributions); of which	–	–	–	–
(i) OTC derivatives	–	–	–	–
(ii) Exchange-traded derivatives	–	–	–	–
(iii) SFTs	–	–	–	–
(iv) Netting sets where cross-product netting has been approved	–	–	–	–
Segregated initial margin	–		–	
Non-segregated initial margin	–	–	–	–
Prefunded default fund contributions	–	–	–	–
Unfunded default fund contributions	–	–	–	–

[1] Exposures associated with initial margin that have not been excluded under CRR Article 306(1)(c), have been subsumed within the exposure values disclosed under (i), (ii) and (iii) where appropriate

Countercyclical capital buffer

The following table sets out credit exposures as at 31 December 2019, split by geographical distribution, utilized in the calculation of the countercyclical capital buffer.

Geographical distribution of credit exposures relevant for the calculation of the countercyclical capital buffer

31.12.19 *EUR million*	General credit exposures taken under the standardised approach	Trading book position exposures taken under the standardised approach	Securitisation exposures taken under the standardised approach	Own funds requirements: general credit exposures	Own funds requirements: trading book positions	Own funds requirements: securitisations	Total own funds requirements	Own funds requirements weights	Countercyclical capital buffer rate
Breakdown by country									
Andorra	*2*			*0*			*0*	*0.00*	*0.000%*
Argentina	*4*			*1*			*1*	*0.00*	*0.000%*
Australia	*2*			*0*			*0*	*0.00*	*0.000%*
Austria	*320*			*11*			*11*	*0.02*	*0.000%*
Barbados	*1*			*0*			*0*	*0.00*	*0.000%*
Bahamas	*136*			*11*			*11*	*0.02*	*0.000%*
Belgium	*19*			*1*			*1*	*0.00*	*0.000%*
Bolivia	*1*			*0*			*0*	*0.00*	*0.000%*
Brazil	*9*			*1*			*1*	*0.00*	*0.000%*
British Virgin Islands	*116*			*9*			*9*	*0.01*	*0.000%*
Canada	*20*			*2*			*2*	*0.00*	*0.000%*
Cayman Islands	*17*			*1*			*1*	*0.00*	*0.000%*
Chile	*13*			*1*			*1*	*0.00*	*0.000%*
China	*18*			*1*			*1*	*0.00*	*0.000%*
Costa Rica	*2*			*0*			*0*	*0.00*	*0.000%*
Cyprus	*4*			*0*			*0*	*0.00*	*0.000%*
Denmark	*117*			*9*			*9*	*0.01*	*0.013%*
Ecuador	*1*			*0*			*0*	*0.00*	*0.000%*
Finland	*149*			*11*			*11*	*0.02*	*0.000%*
France	*1,092*			*43*			*43*	*0.06*	*0.015%*
Guatemala	*2*			*0*			*0*	*0.00*	*0.000%*
Germany (Federal Republic of)	*1,453*			*112*			*112*	*0.16*	*0.000%*
Greece	*1*			*0*			*0*	*0.00*	*0.000%*
Guernsey	*1*			*0*			*0*	*0.00*	*0.000%*
Gibraltar	*13*			*1*			*1*	*0.00*	*0.000%*
Hong Kong	*50*			*4*			*4*	*0.01*	*0.014%*
Hungary	*1*			*0*			*0*	*0.00*	*0.000%*
Ireland (Republic of)	*56*			*4*			*4*	*0.01*	*0.006%*
Isle of Man	*24*			*3*			*3*	*0.00*	*0.000%*
Indonesia	*4*			*0*			*0*	*0.00*	*0.000%*
Italy	*1,928*			*156*			*156*	*0.22*	*0.000%*
Japan	*1*			*0*			*0*	*0.00*	*0.000%*
Jersey	*6*			*1*			*1*	*0.00*	*0.000%*
Kuwait	*2*			*0*			*0*	*0.00*	*0.000%*

Geographical distribution of credit exposures relevant for the calculation of the countercyclical capital buffer (continued)

31.12.19 *EUR million*	General credit exposures taken under the standardised approach	Trading book position exposures taken under the standardised approach	Securitisation exposures taken under the standardised approach	Own funds requirements: general credit exposures	Own funds requirements: trading book positions	Own funds requirements: securitisations	Total own funds requirements	Own funds requirements weights	Countercyclical capital buffer rate
Breakdown by country (continued)									
Lebanese	*5*			*0*			*0*	*0.00*	*0.000%*
Liechtenstein	*9*			*1*			*1*	*0.01*	*0.000%*
Luxembourg	*857*			*69*			*69*	*0.10*	*0.000%*
Malta	*30*			*2*			*2*	*0.00*	*0.000%*
Mexico	*20*			*2*			*2*	*0.00*	*0.000%*
Netherlands Antilles	*1*			*0*			*0*	*0.00*	*0.000%*
Netherlands	*592*			*40*			*40*	*0.06*	*0.000%*
New Zealand	*2*			*0*			*0*	*0.00*	*0.000%*
Norway	*549*			*9*			*9*	*0.01*	*0.033%*
Panama	*42*			*3*			*3*	*0.01*	*0.000%*
Paraguay	*11*			*1*			*1*	*0.00*	*0.000%*
Peru	*1*			*0*			*0*	*0.00*	*0.000%*
Poland	*27*			*2*			*2*	*0.00*	*0.000%*
Portugal	*18*			*1*			*1*	*0.00*	*0.000%*
Qatar	*1*			*0*			*0*	*0.00*	*0.000%*
Russia	*1*			*0*			*0*	*0.00*	*0.000%*
Saudi Arabia	*8*			*1*			*1*	*0.00*	*0.000%*
Singapore	*15*			*1*			*1*	*0.00*	*0.000%*
South Africa	*2*			*0*			*0*	*0.00*	*0.000%*
Spain	*1,036*			*87*			*87*	*0.12*	*0.000%*
Sweden	*553*			*31*			*31*	*0.04*	*0.108%*
Switzerland	*63*			*5*			*5*	*0.01*	*0.000%*
Saint Kitts and Nevis	*4*			*0*			*0*	*0.00*	*0.000%*
Taiwan	*62*			*5*			*5*	*0.01*	*0.000%*
Thailand	*1*			*0*			*0*	*0.00*	*0.000%*
Turkey	*4*			*0*			*0*	*0.00*	*0.000%*
Ukraine	*2*			*0*			*0*	*0.00*	*0.000%*
United Arab Emirates	*156*			*12*			*12*	*0.02*	*0.000%*
United Kingdom	*1,133*	*1*		*44*			*44*	*0.06*	*0.061%*
United States	*61*	*2*		*5*			*5*	*0.01*	*0.000%*
Venzuela	*5*			*1*			*1*	*0.00*	*0.000%*
Other	*58*			*5*			*5*	*0.01*	*0.000%*
Total	10,907	4		713			713	1.00	0.251%

Countercyclical capital buffer

The table below sets out the calculation of the countercyclical capital buffer as at 31 December 2019.

Amount of institution-specific countercyclical capital buffer

EUR million	*31.12.19*
Total risk exposure amount	15,146
Institution-specific countercyclical buffer rate	0.251%
Institution-specific countercyclical capital buffer requirement	38

Interest rate risk in the banking book

The disclosures below take into account the EBA guideline EBA/GL/2018/02, which sets out minimum standards for the measurement, management, monitoring and control of interest rate risks in the banking book.

Sources of interest rate risk in the banking book

Interest rate risk in the banking book (IRRBB) arises primarily from client deposits and lending products in Global Wealth Management. The inherent interest rate risks are generally transferred from Global Wealth Management to Regional Treasury, to manage them centrally within Group Functions.

This allows for the netting of interest rate risks across different sources, while leaving the originating businesses with commercial margin and volume management. The residual interest rate risk is mainly hedged with interest rate swaps, some of which are in designated hedge accounting relationships. Short-term exposures and HQLA assets are hedged with derivatives accounted for on a mark-to-market basis.

Risk management and governance

IRRBB is measured using a number of metrics, the most relevant of which are the following:

– Interest rate sensitivities to parallel shifts in yield curves, calculated as changes in the present value of future cash flows irrespective of accounting treatment. These are also the key risk factors for statistical and stress-based measures, such as value-at-risk and stress scenarios (including Economic Value of Equity (EVE) sensitivity), and are measured and reported with a daily frequency.
– Net interest income (NII) sensitivity assesses the change in NII on a monthly basis over a set time horizon compared with the baseline NII, which is calculated assuming that interest rates in all currencies develop according to their market-implied forward rates and under the assumption of constant business volumes and no specific management actions.

UBS Europe SE actively manages IRRBB, with the objective of reducing the volatility of NII, while keeping the EVE sensitivity within set internal risk limits. The UBS Europe SE ALCO oversees the management of IRRBB within the given risk appetite.

Key modeling assumptions

The cash flows from client deposits and lending products used in the calculation of EVE sensitivity exclude commercial margins and other spread components, and are discounted using risk-free rates. Whereas UBS Europe SE's issuances (MREL, AT1) are discounted using UBS's fund transfer curve. Capital instruments are modelled to the first call date.

NII sensitivity is calculated over a three-year time horizon assuming constant balance sheet structure and volumes.

The average repricing maturity of non-maturing deposits and loans is determined via a replication portfolio strategy that protects product margin. The optimal replicating portfolio is determined at a granular currency- and product-specific level by simulating and applying a real-world market rate model to historically calibrated client rate and volume models.

Prepayment rights of fixed term loans granted by law and flooring of variable loans at zero were identified as a potential source of option risk in UBS Europe SE, but based on an annual assessment this option risk is classified as non-material and therefore not considered in EVE[1].

Economic value sensitivity

The interest rate risk sensitivity figures in the table below represent the banking book interest rate delta as well as the effect of a sudden and unexpected change in interest rates according to the EBA guideline on the theoretical present value of the banking book.

As of 31 December 2019, the most adverse interest rate scenario is the "Steepener" scenario, resulting in a change of the economic value of equity of negative EUR 5 million. In contrast to the regulatory reported EVE, this impact includes all currencies, no weighting of positive changes and the deposit duration resulting from the described replication portfolio strategy. The latter has been excluded for regulatory reporting to meet the requirement that non-maturing deposits from financial institutions should not be subject to behavioral modelling. UBS Europe SE's replication portfolios include non-maturing deposits from financial institutions mainly arising from asset servicing business with Luxembourg regulated funds.

The worst change in regulatory reported EVE in relation to Tier 1 capital was 4.5%, which is far below the regulatory threshold for an outlier bank.

1 Based on IRRBB optionality risk assessment 2019, potential costs from prepayments on fixed rate loans are estimated at EUR 0m currently and EUR 1m in a stressed scenario (-200bp / zero floor). Analysis of variable loans products showed that margin could decrease by EUR 6m in case negative interest rates rose to zero

Quantitative information on IRRBB[1]

EUR million

31.12.2019		+1 bp	Parallel Up (200 bps)	Parallel Down (200 bps)	Parallel Up	Parallel Down	Steepener	Flattener	Short Rates Shock up	Short Rates Shock down
Major	CHF	0.003	1	0	0	0	0		0	0
	EUR	0.043	9	(3)	9	(3)	(4)	8	11	(3)
	GBP	(0.002)	0	0	0	0	0	-	0	0
	USD	0.011	2	(2)	2	(2)	(2)	2	3	(3)
Minor		(0.003)	(1)	1	(1)	1	1	(1)	(1)	1
Total impact on interest rate-sensitive banking book positions:		0.052	11	(4)	11	(4)	(5)	10	13	(4)

[1] Economic value measures do not include UBS Europe SE's minor subsidiaries UBS Gestión S.G.I.IC, SA and UBS Fiduciaria SpA . The impact of both subsidiaries is deemed immaterial.

Contacts

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Numbers presented throughout this report may not add up precisely to the totals provided in the tables and text due to rounding.

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