



Circular 2008/19

Credit risk - Banks

Overview of capital requirements for
credit risks in the banking sector

Circular 2008/19

Credit risk - Banks

Overview of capital requirements for
credit risks in the banking sector

dated 27 March 2014

1 Table of Contents

I.	Title page	pg. 1
II.	Circular 2008/19	pg. 2
III.	Annex 1: Multilateral Development Banks	pg. 69
IV.	Annex 2: Abbreviations and Terms for IRB	pg. 70
V.	Annex 3: Amendments to the Basel Basic Text in regard to Securitizations	pg. 71
VI.	Annex 4: Examples of the Standardized Approach for CVA Risks (margin nos. 397 – 402)	pg. 73

2 Other Languages

DE: FINMA-RS 2008/19 Kreditrisiken Banken 18.9.2013

FR: Circ. FINMA 2008/19 Risques de crédit – banques 18.9.2013

IT: Circ. FINMA 2008/19 Rischi di credito – banche 18.9.2013

Unofficial translation issued in March 2016

Circular 2008/19 Credit risks - Banks

Capital requirements for credit risks at banks

Reference:	FINMA circ. 08/19 Credit risks - banks
Issued:	20 November 2008
Entry into force:	1 January 2009
Last amendment:	18 September 2013 [amendments are denoted with an * and are listed at the end of document]
Concordance:	Previously SFBC-circ. 06/1 "Credit Risks" dated 29 September 2006
Legal bases:	FINMASA Article 7(1)(b) BA Articles 3(2)(b), 3g, 4(2) and (4), 4, 4 ^{bis} (2) SESTO Article 29 CAO Articles 2, 18-77 FINMA-FO Article 5 et seqq.
Annex 1:	Multilateral Development Banks
Annex 2:	Abbreviations and Terms for IRB
Annex 3:	Amendments to the Basel Basic Text in regard to Securitizations
Annex 4:	Examples of the Standardized Approach for CVA Risks (margin nos. 397 – 402)

Addressees

BA	ISA	SESTA	CISA	AMLA	OTHERS
<input checked="" type="checkbox"/> Banks					
<input checked="" type="checkbox"/> Financial groups and congl.					
Other intermediaries					
Insurers					
Insurance groups and congl.					
Insurance intermediaries					
Stock exchanges and participants					
<input checked="" type="checkbox"/> Securities dealers					
Fund management companies					
SICAVs					
Limited partnerships for CISs					
SICAFs					
Custodian banks					
Asset managers CIS					
Distributors					
Representatives of foreign CIS					
Other intermediaries					
SROs					
DSFIs					
SRO-supervised institutions					
Audit firms					
Rating agencies					

Table of Content

I.	Object	margin no.	1
II.	Basel Minimum Standards	margin no.	2-2.3
III.	Multilateral Development Banks (Article 66 CAO)	margin no.	3
IV.	External Ratings (Articles 64 - 65 CAO)	margin nos.	4-15
A.	Recognized Rating Agencies (Article 6 CAO) and Export Credit Agencies	margin nos.	4-4.2
B.	Risk Weighting Using Ratings (Article 64 CAO)	margin nos.	5-7
C.	issuancer-specific and Issuance-specific Ratings	margin nos.	8-12
D.	Short-term Ratings	margin no.	13
E.	Unrated Short-term Claims	margin no.	14
F.	Use of External Ratings	margin no.	15
V.	Derivatives (Articles 56-59 CAO)	margin nos.	16-102
A.	Current Exposure Method: Add-on Rates (Article 57 CAO)	margin nos.	16-26
B.	Repealed	margin nos.	27-48
C.	Current Exposure Method: Credit Equivalent (Article 57 CAO)	margin nos.	49-63
a)	Credit Equivalents without Netting as per Article 61 CAO	margin nos.	50-52
b)	Credit Equivalents with Netting as per Article 61 CAO	margin nos.	53-63
D.	Standardized Approach (Article 58 CAO)	margin nos.	64-101
E.	EPE Modeling Method (Article 59 CAO)	margin no.	102
VI.	Risk-mitigating Measures (Article 61 CAO)	margin nos.	103-113
A.	General Aspects	margin nos.	103-110
B.	Maturity Mismatches	margin nos.	111-113

Table of Content

VII.	Legal Netting (Substitution) (Article 61(1)(a) CAO)	margin no.	114
VIII.	Contractual Netting (Article 61(1)(a) CAO)	margin nos.	115-115.0.2
IX.	Eligibility of Collateral	margin nos.	115.1-117
A.	Qualitative Requirements	margin no.	115.1
B.	Possible Approaches	margin nos.	116-117
X.	Recognition of Collateral under the Simplified Approach (Article 61(2)(d) CAO)	margin nos.	118-132
A.	Qualitative Requirements	margin no.	115.1
B.	Possible Approaches	margin nos.	116-117
XI.	Eligibility of Collateral under the Comprehensive Approach (Article 61(1)(d) CAO)	margin nos.	133-199
A.	Eligible Forms of Collateral	margin nos.	133-135.1
B.	Calculation	margin nos.	136-147
C.	Use of Standard Regulatory Haircuts	margin nos.	148-150
D.	Use of Own-estimate Haircuts	margin nos.	151-162
E.	Necessary Adjustments to the Minimum Holding Period and Haircuts	margin nos.	163-165
a)	Adjustments to Minimum Holding Period	margin nos.	163-163.7
b)	Adjustment of Haircuts	margin nos.	164-165
F.	Use of VaR Models to Determine Haircuts	margin nos.	166-171
G.	Requirements for a Haircut of Zero	margin nos.	172-198
H.	Repos and Repo-like Transactions	margin no.	199

Table of Content

XII.	Collateralized Derivatives	margin nos.	200-201
XIII.	Guarantees and Credit Derivatives (Article 61(1)(b) and (c) CAO)	margin nos.	202-252
A.	Minimum Requirements	margin nos.	202-203
B.	Recognition of Hedge Effectiveness	margin nos.	204-216.1
C.	Additional Minimum Requirements for Guarantees	margin nos.	217-218
D.	Sureties	margin no.	219
E.	Additional Minimum Requirements for Credit Derivatives	margin nos.	220-231
F.	Calculation	margin nos.	232-246
G.	Capital Requirement for the Bank as Protection Provider	margin nos.	247-252
XIV.	Securitization Transactions (Article 49(2)(b) CAO)	margin nos.	253-264
A.	Basel Minimum Standards	margin nos.	253-254
B.	Fallback Option for the Calculation of KIRB	margin no.	255
C.	Credit Conversion Factor for Cash Advances	margin nos.	256-260
D.	Look-through Treatment in the Standardized Approach	margin nos.	261-263
E.	Supervisory Formula	margin no.	264
F.	Call Provisions	margin no.	265
XV.	The Internal Ratings Based Approach (IRB; Articles 50 and 77 CAO)	margin nos.	266-390
A.	Basel Minimum Standards and Subsidiary Provisions (Article 77 CAO)	margin nos.	266-268
B.	Approval	margin nos.	269-278

Table of Content

C.	IRB Stress Tests	margin nos.	279-284
D.	Notification of the FINMA	margin nos.	285-287
E.	Bank-specific Implementation (“roll-out”)	margin no.	288
F.	Transition Period	margin nos.	289-290
G.	Position Categories	margin nos.	291-297
H.	Definition of Highly Volatile Commercial Real Estate Financing (HVCRE) Positions	margin nos.	298-299
I.	Definition of Retail Positions	margin nos.	300-318
J.	Definition of Equity Shares	margin nos.	319-323
K.	Risk Weighting of Companies, Central Governments and Banks	margin nos.	324-326
L.	Risk Weighting for Specialized Lending (SL) and Highly Volatile Commercial Real Estate Financing (HVCRE)	margin nos.	327-330
M.	Subordinated Positions and Collateral	margin nos.	331-332
N.	Non-application of Haircuts to Repo-like Transactions	margin no.	333
O.	Collateral under F-IRB	margin nos.	334-336
P.	Guarantees and Credit Derivatives under the F-IRB Approach	margin nos.	337-338
Q.	Value of Positions at Exposure at Default (EAD)	margin nos.	339-340
R.	Maturity Adjustment of Risk Weightings under F-IRB and A-IRB	margin nos.	341-350
S.	Risk Weighting of Retail Positions	margin nos.	351-352
T.	Risk Weighting of Equity Shares	margin nos.	353-370
U.	Risk Weighting of Purchased Receivables	margin nos.	371-374

Table of Content

V.	Expected Loss and Value Adjustments	margin nos.	375-380.1
W.	Minimum Capital Requirements and Lower Limits (Floor)	margin nos.	381-381.1
X.	Minimum Risk Quantification Requirements	margin nos.	382-390
XVI.	Guidelines for a Prudent Valuation of Fair Value Positions	margin no.	391
XVII.	Capital Adequacy Requirements under CVA (Article 55 CAO)	margin nos.	392-407
A.	Advanced Approach	margin no.	396
B.	Standardized Approach	margin nos.	397-402
C.	Simplified Approach	margin nos.	403-407
XVIII.	Credit and Replacement Risks of Derivatives and SFTs with Central Counterparties (Articles 69, 70 and 139 CAO)	margin nos.	408-408.48
A.	General Terms	margin nos.	408.1-408.9
B.	Scope	margin nos.	408.10-408.11
C.	Central Counterparties	margin nos.	408.12-408.15
D.	Exposures to Qualifying Central Counterparties	margin nos.	408.16-408.46
E.	Exposures to Non-qualifying Central Counterparties	margin nos.	408.47-408.48
XIX.	Transitional provisions	margin nos.	409-413
A.	Swiss Standardized Approach (SA-CH)	margin no.	409
B.	Treatment of Exchange-listed Derivatives	margin no.	410
C.	Transitional Provisions of 18 September 2013	margin nos.	411-413

I. Object

This circular clarifies Articles 18-77 of the Capital Adequacy Ordinance (CAO; SR. 952.03). 1

II. Basel Minimum Standards

These regulations are based on the revised capital accord published by the Basel Committee on Banking Supervision (the Basel Minimum Standards). The Basel Minimum Standards are defined in the following documents: 2*

- "International Convergence of Capital Measurement and Capital Standards – A Revised Framework / Comprehensive Version" dated June 2006 (Basel Basic Text) 2.1*
- "Enhancements to the Basel II Framework" dated July 2009 (Basel Enhancements) 2.2*
- "Basel III: a global regulatory framework for more resilient banks and banking systems" dated December 2010 and revised in June 2011 (Basel III text). 2.2.1*
- "Capital requirements for bank exposures to central counterparties" dated July 2012 (Basel III text for bank positions to central counterparties) 2.2.2*

References to the Basel Basic Text (cf. margin no. 2.1) are denoted in square brackets (i.e. in the form "[...]"). References to the Basel Enhancements (see margin no. 2.2) are denoted with braces (i.e. in the form "{...}"), references to the Basel III Text are denoted with parentheses (i.e. in the form "(...)"), and references to the Basel III Text for bank positions to central counterparties are denoted with angular parentheses (i.e. in the form "<...>"). 2.3*

III. Multilateral Development Banks (Article 66 CAO)

[§59] A preferential risk weighting is accorded to the multilateral development banks listed in Annex 1. 3

IV. External Ratings (Articles 64 - 65 CAO)

A. Recognized Rating Agencies (Article 6 CAO) and Export Credit Agencies

[§90] The FINMA has published a list of recognized rating agencies the ratings of which are permitted for use in determining risk weightings. 4

Provided they respect the relevant OECD¹ rules, export credit agencies are recognized for the market segment of public-law entities. 4.1*

When used to determine the capital requirement for credit and market risk in the position category, "Central Governments and Central Banks" (Article 63(2)(1) CAO), export credit agency ratings may be used as if they were ratings provided by recognized rating agencies. 4.2*

¹ Sect. 25-27 of the "OECD Arrangement on Guidelines for Officially Supported Export Credits" of 5 December 2005.

B. Risk Weighting Using Ratings (Article 64 CAO)

[§68] The FINMA may refuse a bank the right to alternate between using and not using external ratings in accordance with Article 64(4) CAO if it takes the view that the bank's principal aim in doing so is to seek to reduce its capital requirement. 5

[§§96-98] If two or more ratings provide differing risk weightings, those ratings that correspond to the two lowest risk weightings must be taken into account and the higher of these two must be applied. 6

[§107] External ratings given for a single or several entities within a corporate group must not be used to determine the risk weighting for other entities within the same group. This is also true from an external view (third-party banks) as well as from an internal view (single-entity view) for companies that are part of a financial group or a financial conglomerate in respect to other group companies. 7*

C. Issuer-specific and Issuance-specific Ratings

[§§99, 102](§118) Securities with an issuance-specific rating assigned by a recognized rating agency must be risk-weighted using that rating. If a bank's exposure does not have an issuance-specific rating, the following applies: 8*

- If a specific borrower issuance has a high-grade rating (which results in a lower risk weighting than for an unrated exposure), but the bank's exposure does not exactly match that issuance, this rating may only be applied to the bank's unrated exposure if the latter is not subordinated to the rated issuance in any way. Otherwise, the unrated exposure must be assigned at least the risk weighting of an unrated exposure. 9*
- Where unrated exposures (as described in margin no. 9) are risk-weighted based on comparably rated exposures, the general rule is that foreign currency ratings must be used for exposures in that same foreign currency. If a separate domestic currency rating is available, this must only be used to risk-weight positions denominated in the domestic currency. 10
- If a borrower has an issuer rating, this must be applied to senior unsecured claims on exposures to that issuer. Other exposures to an issuer with a high-grade rating must be treated as if they were unrated exposures. 11*
- If either an issuer or its issuance receives an "inferior" rating, which is at least equal to that of an unrated claim, a non-rated exposure to that same borrower, which is of equal priority as or is subordinated to a non-collateralized senior debt held towards the issuer (as regarded for issuer ratings) or a claim related to that particular issuance, the risk weight allocated to this claim is that of the "inferior" rating. 11.1*

[§100] Irrespective of whether a bank bases itself on the issuer-specific or issuance-specific rating, it must ensure that a client's entire liability towards the bank is factored into the risk-weighting assessment. 12

D. Short-term Ratings

[§103] For risk-weighting purposes, short-term ratings are considered to be issuance-specific. They can only be used to determine the risk weightings of exposures in scope of that rating. 13

[§105] Short-term inter-banking lines are treated as follows: 13.1*

- The basic treatment of short-term receivables (cf. Annex 2, Section 4.1 CAO) is used for all claims towards banks with an original maturity of up to three months, provided there is no issuance-specific short-term rating. 13.2*
- If an issuance-specific short-term rating exists that leads to a more favorable (i.e. lower) or the same risk weighting compared to the basic treatment as per Annex 2 Section 4.1 CAO, this short-term rating may only be applied to this specific exposure. Other short-term exposures are treated according to the basic treatment in Annex 2 Section 4.1 CAO. 13.3*
- If there is a specific short-term rating for a short-term exposure towards a bank that leads to a less favorable (i.e. higher) risk weighting, the basic treatment as per Annex 2 Section 4.1 CAO for short-term inter-banking lines may not be applied. All unrated short-term exposures will then receive the same risk weight that corresponds to this specific short-term rating. 13.4*

E. Unrated Short-term Claims

[§104] If a rated short-term exposure is allocated a risk weighting of 50%, unrated short-term claims must not be allocated a risk weighting lower than 100%. If an issuer has a short-term rating warranting a 150% risk weighting, all unrated claims, whether long-term or short-term, must also receive a 150% risk weighting, unless the bank holds recognized forms of collateral for such exposures. 14

F. Use of External Ratings

[§94](§121) Where a bank uses ratings provided by external rating agencies to determine risk weightings, it must apply these consistently in its internal risk management procedures. It is prohibited to select ratings from several recognized rating agency to thus obtain a more favorable rating for capital adequacy purposes. A rating of a single or several rating agencies which was selected for a particular market segment cannot be changed arbitrarily. 15*

V. Derivatives (Articles 56-59 CAO)

A. Current Exposure Method: Add-on Rates (Article 57 CAO)

If applying the mark-to-market method, add-ons (as described in more detail in margin nos. 49-63) are to be calculated using the following add-on rates: 16*

Base value of the contract		Add-on rate in percent, in principle according to the residual maturity		
		≤ 1 year	> 1 year ≤ 5 years	> 5 years
1.	Interest	0.0	0.5	1.5
2.	Foreign currencies and gold	1.0	5.0	7.5
3.	Equity interests	6.0	8.0	10.0
4.	Precious metals other than gold	7.0	7.0	8.0
5.	Other raw materials	10.0	12.0	15.0
6.	Credit derivatives (with reference obligation of the category "central governments and central banks" or "qualified interest rate instruments" as per Article 4(e) CAO)	5.0	5.0	5.0
7.	Credit derivatives (with reference obligation of the category "other" as per Annex 5 CAO)	10.0	10.0	10.0

If it is unclear to which of the seven categories above a contract should be assigned to due to the underlying, the contract must be treated as a contract in "Other commodities" (Category 5). 18

[§708] Add-on rates for first, second and nth-to-default swaps: the add-on rate depends on the reference obligation with the highest risk in the basket. By analogy, for second-to-default swaps the second riskiest reference obligation and for nth-to-default swaps the nth riskiest one in the basket will determine the add-on rate. 19

An add-on rate of zero may be used for contracts for which the replacement value can never be positive. 20*

Repealed 21*

- Repealed 22*

Repealed 23*

- For contracts where the nominal amounts are exchanged several times, the add-on rates must be multiplied by the number of payments that remain to be made under the contract. 24

- Contracts that are structured in a way that open exposures are closed out on defined payment dates, and the conditions of which are always amended so that the market value of the contract equals zero on these dates, the time to the next fixing date is considered to be the residual term to maturity. For interest rate contracts with a residual term to maturity of more than one year that fulfill the above criteria, the add-on rate must be at least 0.5%. 25

The add-on rate is 0% (i.e. no add-ons are calculated) for floating/floating-interest rate swaps in a single currency. Therefore, the credit equivalent of these contracts is calculated solely on the basis of the respective replacement value. 26

B. Repealed

Repealed	27*
• Repealed	28*
• Repealed	29*
• Repealed	30*
• Repealed	31*
• Repealed	32*
Repealed	33*
• Repealed	34*
• Repealed	35*
• Repealed	36*
• Repealed	37*
• Repealed	38*
• Repealed	39*
Repealed	40*
• Repealed	41*
• Repealed	42*
• Repealed	43*
Repealed	44*
• Repealed	45*
• Repealed	46*
• Repealed	47*
Repealed	48*

C. Current Exposure Method: Credit Equivalent (Article 57 CAO)

Calculating the credit equivalent: the calculation of the credit equivalent generally shall depend on whether netting with a counterparty takes place in accordance with Article 61 CAO or not. Margin nos. 50-52 contain provisions for cases where no netting takes place, and margin nos. 53-63 contain provisions for cases with netting. 49

a) Credit Equivalents without Netting as per Article 61 CAO 50

Calculating the add-ons: generally, the add-on is determined by multiplying the applicable add-on rate as per margin nos. 16-20 and margin nos. 23-26, using the contract's nominal value as calculation basis. If the nominal value is leveraged or increased due to the transaction's structure, the original nominal value shall be used as the calculation basis. 51

Netting add-ons and replacement values: Netting of add-ons and replacement values: it is not permissible to net the add-on with the negative replacement value of a contract. This is why negative replacement values must be set to zero. 52

b) Credit Equivalents with Netting as per Article 61 CAO 53

As described below, subject to the conditions stipulated in margin no. 55, positive and negative replacement values of derivative contracts with the same counterparty may be netted to produce a net replacement value, and the corresponding add-ons may be netted to produce a net add-on. Credit equivalents described in Article 57 CAO netted as per Article 61 CAO correspond to the sum of these two net values. An aggregate of such contracts netted among each other is called a netting set. 54*

If a bilateral agreement exists with the counterparty concerned, which is legally recognized and enforceable as described in margin nos. 55.4 – 55.6, netting shall be permitted in the following cases: 55*

- for all transactions included in a netting agreement, which states that the bank has the right to receive or the obligation to pay only the difference of the non-realized profits/losses from the transaction on hand in case the counterparty defaults due to insolvency, bankruptcy, liquidation or similar events (close-out netting); 55.1*
- for all counterparty receivables and payables in the same currency which were summarized in the debt workout (novation) set up between the bank and the counterparty, so that this novation agreement produces a single net amount, and due to this, creates a new legally binding agreement which fully replaces all past agreements (netting by novation); 55.2*

A bilateral agreement shall be recognized and enforceable by means of the following legal frameworks: 55.3*

- the law of the country where the counterparty is domiciled, and, if a foreign subsidiary is involved, also the law of the country where the subsidiary is domiciled; 55.4*
- the law which is applicable to the individual transactions at hand; 55.5*
- the law which governs the agreements required to allow the netting. 55.6*

Netting is not permitted in the following cases:	56*
<ul style="list-style-type: none"> for closed out transactions if there is a payment netting requiring that the amount to be paid by each party be determined on the due date, taking into account the balance of each currency, and that only this balance be remitted; 	56.1*
<ul style="list-style-type: none"> if the agreement contains a walk-away clause, which allows the non-defaulting party to only partially pay or not pay the defaulting party at all, even if the latter's balance were actually in its favor. 	56.2*
Positive and negative replacement values of derivative contracts with the same counterparty are to be netted to produce a net replacement value. A negative net replacement value shall be set at zero.	57
The net add-on is the sum of:	58
<ul style="list-style-type: none"> 40% of the sum of the individual add-ons as per margin nos. 50-52; and 	59
<ul style="list-style-type: none"> 60% of the product of the following two values: 	60
<ul style="list-style-type: none"> <ul style="list-style-type: none"> the sum of the individual add-ons as per margin nos. 50-52; 	61
<ul style="list-style-type: none"> <ul style="list-style-type: none"> the ratio of the net replacement value as per margin no. 57 to the sum of the positive replacement values. 	62
The individual add-ons are the ones stipulated in margin nos. 50-52 for the derivative contracts related to the bilateral netting with a counterparty as per Article 61 CAO.	63

D. Standardized Approach (Article 58 CAO)

[Annex 4, §69] Banks that use the standardized approach to calculate credit equivalents or exposures at default (EAD) associated with derivative transactions must determine this exposure as follows: 64

Credit equivalent or EAD=

$$1.4 \cdot \max(CMV - CMC; \sum_j | \sum_i RPT_{ij} - \sum_l RPC_{lj} | \cdot CCF_j)$$

where

CMV = current market value of a portfolio of transactions in the netting set with a counterparty, without consideration of collateral, i.e. $CMV = \sum_i CMV_i$ where CMV_i corresponds to the market value of the i-th transaction.

CMC = current market value of the collateral assigned to the netting set, i.e.

CMC =, $\sum_i CMV_i$ where CMV_i corresponds to the market value of the collateral.

i = the transaction index

j = the index of the regulatory hedging set. A hedging set is created for each risk factor, thus allowing the settlement of risk positions with opposite signs

l = the collateral index

RPT_{ij} = risk position from transaction i with respect to hedging set j

RPC_{ij} = risk position from collateral l with respect to hedging set j . Collateral received from the counterparty shall have a positive sign, collateral pledged to the counterparty a negative sign.

CCF_j = regulatory credit conversion factor with respect to the hedging set j .

[Annex 4, §70] For derivatives with a linear risk profile (e.g. a forward, future or swap) that stipulate the exchange of a financial instrument (e.g. a bond, equity or commodity) for payment, the payment part of the transaction shall be referred to as the payment leg. Transactions that stipulate an exchange of payments (e.g. interest rate swap or currency swap) shall consist of two payment legs. The payment legs shall consist of the contractually agreed gross payments. 65

[Annex 4, §70] Interest rate risks for payment legs with a residual term to maturity of less than one year may be disregarded in the following calculations. 66

[Annex 4, §70] Transactions consisting of two payment legs denominated in the same currency may be treated as a single aggregate transaction. 67

[Annex 4, §71] Transactions with linear risk profiles that have equity, gold, other precious metals or other commodities as the underlying financial instruments are to be mapped to a corresponding equity instrument or commodity (including gold and other precious metals) of a hedging set. 68

[Annex 4, §71] The payment legs of transactions referred to in margin no. 68 are to be mapped to the interest rate risk position within the appropriate hedging set. 69

[Annex 4, §71] Where the payment leg of a transaction referred to in margin no. 68 is denominated in a foreign currency, the transaction must also be mapped to a foreign exchange risk position in the respective currency. 70

[Annex 4, §72] Transactions with linear risk profiles that have a debt instrument as the underlying must be mapped to two corresponding interest rate risk positions, one to the risk position for the debt instrument and the other to the risk position for the payment leg. 71

[Annex 4, §72] Transactions with linear risk profiles which stipulate an exchange of payments (including foreign exchange forwards) must be mapped to an interest rate risk position for each of the payment legs. 72

[Annex 4, §72] Where the debt instrument is denominated in a foreign currency, it must also be mapped to the appropriate foreign exchange risk position. 73

[Annex 4, §72] Where a payment leg is denominated in a foreign currency, it must also be mapped to the appropriate foreign exchange risk position. 74

[Annex 4, §72] The position assigned to a foreign currency basis swap transaction shall be set at zero. 75

[Annex 4, §§73-77] Size of the risk exposure:

- for transactions with a linear risk profile, with the exception of interest rate instruments: effective nominal value (market price multiplied by quantity) of the underlying, converted into Swiss francs. 76
- for interest rate instruments with a linear risk profile and for the payment legs in all transactions: effective nominal value of the outstanding gross payments (including the nominal amount) converted into Swiss francs and multiplied by the modified duration of the interest rate instrument or payment leg, respectively. 77
- for credit default swaps: nominal value of the reference debt instrument multiplied by the remaining time to maturity of the credit default swap. 78
- for derivatives with non-linear risk profiles (including options and swaptions): delta equivalent of the effective nominal value of the underlying, except if the underlying is an interest rate instrument. 79
- for derivatives with non-linear risk profiles (including options and swaptions) with an interest rate instrument as the underlying: delta equivalent of the actual nominal value of the underlying or of the payment leg, multiplied by the modified duration of the interest rate instrument or payment leg, respectively. 80

[Annex 4, §78] The size and sign of a risk position may be determined as follows: 81

- For interest rate instruments and payment legs:
- effective nominal amount, or amount of the delta equivalent, multiplied by the modified duration =

$$\frac{\delta V}{\delta r}$$

where

V = value of the financial instrument (in the case of options: the option price, in the case of transactions with a linear risk profile: the value of the underlying itself or its payment leg)

r = interest rate

Where V is denominated in a currency other than the domestic currency, the derivative shall be converted into the domestic currency.

- For all other instruments: Effective nominal amount, or delta equivalent = 82

$$P_{ref} \cdot \frac{\delta V}{\delta p}$$

where

P_{ref} = price of the underlying, expressed in the reference currency,

V = value of the financial instrument (in the case of options: the option price, in the case of transactions with a linear risk profile: value of the underlying)

P = price of the underlying, expressed in the same currency as the value of the financial instrument

- [Annex 4, §79] Risk positions may be grouped into hedging sets. For each hedging set, the absolute sum of the resulting risk positions, being the net risk position, shall be calculated as follows: 83

$$\left| \sum_i RPT_{ij} - \sum_l RPC_{lj} \right|$$

where

RPT_{ij} = risk position from transaction i with respect to hedging set j

RPC_{lj} = risk position from collateral l with respect to hedging set j

- [Annex 4, §80] Interest rate risk positions from debt instruments of low specific risk are to be mapped to one of six hedging sets for each currency as described in margin no. 87. Interest rate instruments are considered to be of low specific risk if they qualify for a capital requirement of 1.6% or lower under the standardized approach to market risks. 84

- [Annex 4, §80] Interest rate risk positions that correspond to a payment leg are to be assigned to the same hedging set as interest rate risk positions with a low specific risk. 85

- [Annex 4, §80] Interest rate risk positions arising from money deposits used as collateral are to be assigned to the same hedging set as interest rate risk positions with a low specific risk. 86

- [Annex 4, §80] The six hedging sets for each currency must be sorted into the following table: 87

Residual term to maturity or time to next interest rate fixing date	Reference interest rate	
	Government bonds	Other
1 year or less		
more than 1 year, a maximum of 5 years		
more than 5 years		

[Annex 4, §81] For underlying interest rate instruments (e.g. floating rate notes) or payment legs (e.g. floating rate legs from interest rate swaps), for which the interest rate is linked to a reference interest rate that represents a general market interest rate (e.g. government bond yield, money market rate, swap rate), the length of time until the next fixing date of the reference interest rate is considered to be the interest rate fixing date frequency. 88

[Annex 4, §81] Otherwise, the residual term to maturity is the remaining life of the underlying debt instrument, or, in the case of a payment leg, the remaining life of the transaction. 89

[Annex 4, §82] A separate hedging set shall be used for each issuer of a reference obligation that constitutes the underlying of a credit default swap. 90

[Annex 4, §83] A separate hedging set shall be used for each issuer of an interest rate instrument of high specific risk i.e. an interest rate instrument to which a capital requirement of more than 1.6% applies under the standardized approach to market risk. 91

[Annex 4, §84] Underlying financial instruments other than interest rate instruments (i.e. equities, precious metals, commodities and other instruments) must only be assigned to the same respective hedging sets if they are identical or similar instruments. Such similar instruments include: 92

- for equity instruments: equity instruments of the same issuer (equity indices to be treated as separate issuers); 93
- for precious metals: instruments of the same metal (precious metal indices to be treated as separate precious metals); 94
- for commodities: instruments of the commodity (commodity indices to be treated as separate commodities); 95
- for electric power: delivery obligations and rights that refer to the same peak or base load period within a 24-hour interval. 96

[Annex 4, §85] The credit conversion factor to be applied to a net risk position of a hedging set depends on the regulatory classification set out in margin nos. 98-100. 97

[Annex 4, §86] Except for interest rate instruments used as underlying, the following credit conversion factors apply: 98

- Foreign currency: 2.5%
- Gold: 5.0%
- Shares: 7.0%
- Precious metals with the exception of gold: 8.5%
- Electricity: 4.0%

- Commodities other than precious metals: 10.0%

[Annex 4, §87] The following credit conversion factors apply to risk positions from interest rate instruments: 99

- 0.6% for risk positions from an interest rate instrument or a reference obligation with a rating of 5-7;
- 0.3% for risk positions from a reference obligation that serves as underlying to a credit default swap with a rating of 1-4;
- 0.2% for all others.

[Annex 4, §88] Derivatives which cannot be classified in any of the above classes must be assigned to separate individual hedging sets for each category of underlying. A credit-conversion factor of 10% is to be applied to the nominal amount. 100

[Annex 4, §89] There may be transactions with non-linear risk profiles where a bank is unable to determine the delta using a model approved by the FINMA for determining the capital adequacy required for market risk. There may also be payment legs and transactions with interest rate instruments as the underlying where a bank is unable to determine the modified duration. In such cases, the mark-to-market method pursuant to Article 57 CAO must be used. 101

E. EPE Modeling Method (Article 59 CAO)

With respect to the EPE modeling method, the provisions contained in the Basel minimum standards (margin no. 2.1) and some aspects modified due to the revised Basel III text (margin no. 2.2.1) apply. On the one hand, this concerns the rules used to calculate the capital requirements. On the other hand, it also includes the Pillar 2 requirements of the Basel Minimum Standards, i.e. [§§777(i)-777(xiii)]. 102*

VI. Risk-mitigating Measures (Article 61 CAO)

A. General Aspects

[§114] Where an issuance-specific assessment already takes into account the effects of risk-mitigating measures, these may not be taken into account again when calculating capital adequacy requirements. 103

[§113] For positions that already take into account risk-mitigating measures and which are assigned a capital adequacy requirement higher than an otherwise identical position that does not use these measures, the effects need not be taken into account. 104

[§206] Where a bank uses multiple credit risk mitigation (CRM) measures for a single exposure, the bank shall sub-divide the exposure into single portions each protected by a single CRM measure, and separately calculate the risk weighting of each portion. Where credit collateralization provided by a single collateral provider consists of portions with different maturities, each of these portions must also be split into separate credit risk mitigation instruments. 105

[§§122, 124, 125] Capital adequacy requirements may be reduced by using collateral, provided that:	106
<ul style="list-style-type: none"> • a counterparty's decreasing credit quality does not have a significantly negative effect on the value of the collateral; and 	107
<ul style="list-style-type: none"> • the bank has procedures in place for a timely liquidation of collateral. 	108
[§127] A capital adequacy requirement shall be applied to both banks on either side of a collateralized transaction. For example, both repos and reverse repos are subject to capital adequacy requirements. Explicit capital adequacy requirements shall also be applied to both sides of securities lending transactions, as is the case with the depositing of securities in connection with a derivative exposure or other transaction where the bank is exposed to credit risk.	109
[§128] Where a bank, acting as agent, arranges a repo or repo-like transaction between a client and a third party, and provides a guarantee to the client that the third party will meet its obligations, then the capital requirements must be met as if the bank were the principal itself.	110

B. Maturity Mismatches

[§203] The effective maturity of a claim shall be viewed as the longest possible remaining time before the counterparty is scheduled to have fulfilled its obligation. The effective maturity of the collateral shall be viewed as the shortest possible residual maturity, taking into account any implicit options and termination rights.	111
[§204] Hedges with maturity mismatches shall only be recognized if the original maturity of the underlying protection agreement is greater than or equal to one year. Notwithstanding the above, collateral with maturity mismatches shall not be recognized where the residual maturity of the collateral is less than or equal to 3 months.	112
[§205] Credits secured by collateral, legally enforceable netting, guarantees and credit derivatives), are adjusted as follows:	113

$$P_a = P \cdot (t - 0.25) / (T - 0.25)$$

where:

P_a = value of the credit collateral adjusted for the maturity mismatch

P = value of the credit collateral adjusted for other haircuts

T = min (5; residual maturity of the claim), expressed in years

t = min (T; residual maturity of the credit hedge), expressed in years

VII. Legal Netting (Substitution) (Article 61(1)(a) CAO)

[§188] In cases where a bank is able at any time to determine receivables from and payables to counterparties that may legally be netted, and if the bank monitors and controls the roll-off risks and the relevant positions on a net basis, it may use the net position of receivables and payables as the basis for its calculation of capital adequacy in accordance with the formula shown in margin no. 144. Assets shall be treated as receivables and payables as collateral. Haircut H shall be set to zero unless there is a currency mismatch. If the bank marks to market on daily basis, a holding period of ten business days and all requirements set out in margin nos. 111-113, 148-149 and 164 shall apply. 114

VIII. Contractual Netting (Article 61(1)(a) CAO)

[§174] Netting across positions in the banking and trading book shall only be recognized if the netted transactions fulfill both of the following requirements: 115

- all transactions are marked to market on a daily basis; and
- the collateral instruments used in the transactions are recognized as financial collateral in the banking book.

Recognition of netting agreements for repo and repo-like transactions 115.0.1*

[§173] The implications of bilateral netting agreements for repo and repo-like transaction are recognized on a counterparty level, provided the agreements in the event of default, even insolvency or bankruptcy, are legally enforceable in each jurisdiction involved. In addition, the netting agreements shall:

- a) award the right to the non-defaulting party, in the event of the counterparty's default, including their insolvency or bankruptcy, to either terminate or close out on-going transactions covered in the agreement in a timely manner;
- b) allow the offsetting of profits and losses from the transactions (including the value of collaterals) that have been terminated or closed out under this agreement, so that in the end, one party owes the other one single amount;
- c) allow the immediate sale or offsetting against the collateral provided in the event of a default;
- d) in the event of a default, be enforceable in every jurisdiction involved together with the rights resulting from a) to c), even if the default is due to insolvency or bankruptcy.

Recognition of netting agreements for derivatives [Annex 4, §96(i)-(iii)] 115.0.2*

- i) [Annex 4, §96 (i)] This section deals with the question of bilateral netting, i.e. the net instead of the gross value of the derivatives exposure held to one and the same counterparty.² Netting agreements

² The pure offsetting of payments ("payment netting"), with which operating costs are to be reduced in the daily settlement process, is not included when calculating the capital adequacy requirements, since the counterparty's gross liabilities are not affected.

would not decrease the counterparty credit risk if the liquidator of a defaulting counterparty had (could have) the right to separate the previously netted contracts again and to demand fulfillment of those favorable to the defaulting counterparty while failing to fulfill the unfavorable ones.

- ii) [Annex 4, §96(ii)] For capital adequacy purposes, the following shall apply:
- a) Banks may offset contracts with a novation clause if all obligations between the bank and its counterparty to deliver a certain currency on a certain date are automatically offset with all other obligations in the same currency and the same value date, so that legally, a single amount replaces the previous gross obligations.
 - b) Banks may also net transactions subject to any legally valid form of bilateral netting not covered in (a), including other forms of novation.
 - c) in both a) and b), a bank shall satisfy its national supervisory authority that it has:
 - i) A netting contract or agreement with the counterparty which creates a single legal obligation, covering all included transactions, such that the bank would have either a claim to receive or obligation to pay only the net sum of the positive and negative mark-to-market values of included individual transactions in the event a counterparty fails to perform due to any of the following: default, bankruptcy, liquidation or similar circumstances;
 - ii. written and reasoned legal opinions that, in the event of a legal challenge, the relevant courts and administrative authorities would find the bank's exposure to be a net amount under:
 - the legal provision of the jurisdiction in which the counterparty is domiciled; if a subsidiary of the counterparty is involved, then also according to the laws of that domicile,
 - the legal provisions applicable to the individual transactions,
 - the legal provisions applicable to the contracts or agreements required for implementing the netting;
 - iii. procedures in place to ensure that the legal characteristics of netting arrangements are reviewed on a regular basis in the light of possible changes in relevant law.
 - iv. [Annex 4, §96(iii)] For the purpose of capital adequacy requirements, contracts with walk-away clauses are not permitted for netting. A walkaway clause is a provision that allows the non-defaulting counterparty to make limited or no payments to the defaulting counterparty's estate, even if the insolvent counterparty is a net creditor.

IX. Eligibility of Collateral

A. Qualitative Requirements

(§110) Banks must ensure that they have sufficient resources to properly fulfill margin agreements with counterparties for OTC derivatives and securities financing transactions, i.e. the timely and correct treat-

115.1*

ment of outgoing margin calls or the reaction time to handle incoming margin calls. Banks must manage deposited collateral in such a manner that they are able to control and monitor the following factors:

- the risk they are exposed to due to margin agreements (e.g. the volatility and liquidity of securities used as collateral)
- risk concentrations arising due to certain types of collateral
- the subsequent use of cash and other collateral, including any potential liquidity deficits due to the subsequent use of collateral received from counterparties
- ceded rights to collateral, which had been deposited with counterparties.

B. Possible Approaches

[§121] Banks may elect to apply either the simplified or the comprehensive approach. Banks must use either approach in the banking book, but cannot use both approaches simultaneously. This restriction does not apply to lombard (collateral) loans, to securities lending or repos and repo-like transactions. Only the comprehensive approach shall be permissible for the trading book. 116*

[§121] Partial collateralization is permitted in both approaches. Maturity mismatches between the underlying debt instrument and the collateral are only permitted under the comprehensive approach. 117

X. Recognition of Collateral under the Simplified Approach (Article 61(1)(d) CAO)

A. Eligible Forms of Collateral

[§145] The following forms of collateral shall be recognized under the simplified approach: 118*

- Cash deposits by the lending bank, including medium-term notes or similar instruments issued by the lending bank, as well as fiduciary deposits at the lending or at a different bank. 119
- Gold 119
- Debt securities rated by a recognized external rating agency with a minimum rating of: 120
 - 5, if issued by central governments or other public-law entities which national regulatory authorities treat as if they were the central governments;
 - 4, if issued by other entities (including banks and securities firms); or
 - 5, for short-term debt securities.
- Debt securities not rated by a recognized rating agency, provided: 121

- they were issued by a bank;
 - they are traded on a recognized exchange;
 - they are classified as senior debt; and
 - all other rated senior debt instruments issued by that same bank have been rated at least 4 (or 3 for short-term debt) by a recognized rating agency.
- Equity instruments (including convertible bonds) that are included in a main index. 122
 - Mutual funds and UCITS³, on condition that: 123
 - the unit price is published on a daily basis, and
 - the mutual funds and UCITS are restricted to investments in instruments mentioned in this paragraph. The use of derivative instruments by mutual funds and UCITS solely for the purpose of hedging instruments mentioned in this paragraph and margin no. 134 must not prevent units in that mutual fund and UCITS from being recognized as financial collateral.
- (§111) Re-securitization positions as described in margin no. 94.1 of FINMA circ. 2008/20 “Market Risks – Banks” may not be used as financial collateral, regardless of their rating. This prohibition shall apply regardless of the approach selected to define the haircuts. 123.1*

B. Calculation

- [§§194, 145] Credit-linked notes backed by cash that have been issued by the bank against the claims in the banking book and which meet the requirements for credit derivatives (Section XIII), are treated as claims backed by cash collateral. 124*
- If cash deposits, medium-term notes or similar instruments issued by a lending bank are held as collateral with a third-party bank and are openly pledged/ceded to the lending bank, and if this occurs unconditionally and irrevocably, the exposure amount protected by the collateral (after any necessary haircuts for currency risks) will receive the risk weighting of the third bank involved. 125*
- Any portion of a debt collateralized by fiduciary deposits at another bank will receive the risk weighting of the bank with which the fiduciary deposit was placed. 126
- [§182] For collateral to be recognized under the simplified approach, the collateral must be pledged or otherwise secured for at least the exposure’s life, and its market value must be recalculated with a minimum frequency of six months. Cash deposits, fiduciary deposits and medium-term notes may be exempted from the requirement for market valuations. Those portions of claims collateralized by the market value of recognized collateral shall receive the risk weight applicable to the collateral provider. The risk weighting of the collateralized portion shall be subject to a floor of 20%, except for the cases described in margin nos. 128-132. The remainder of the claim shall receive the risk weight of the corresponding counterparty. 127*

³ Undertakings for the collective investment of transferable securities

[§183] Repo and repo-like transactions fulfilling the criteria described in margin nos. 182-190 and 192-197 shall receive a risk weighting of 0%. If the counterparty is not a core market participant (margin no. 149), the transaction must be risk-weighted at 10%.	128*
[§184] OTC derivatives marked to market on a daily basis which are secured against cash in the same currency shall be risk-weighted at 0%. Where they are collateralized against sovereign bonds or bonds issued by other government entities qualifying for a 0% risk-weighting under the standardized approach, they shall be risk weighted with 10%.	129*
[§185] Instead of the minimum risk weighting specified in margin no. 127, a 0% risk weighting can be assigned if the transaction and the collateral are denominated in the same currency and	130
<ul style="list-style-type: none"> • the collateral is a cash deposit; or 	131
<ul style="list-style-type: none"> • the collateral is in the form of securities issued by central governments or public-law entities eligible for a 0% risk weighting under the standardized approach, and its market value has been discounted by 20%. 	132

XI. Eligibility of Collateral under the Comprehensive Approach (Article 61(1)(d) CAO)

A. Eligible Forms of Collateral

[§146](§111) The following collateral instruments shall be eligible for recognition in the comprehensive approach:

- | | |
|---|--------|
| <ul style="list-style-type: none"> • all instruments listed in margin nos. 118-123, except for the instruments listed in margin no. 123.1. | 133* |
| <ul style="list-style-type: none"> • equities not included in a main index, but listed on a recognized exchange. | 134 |
| <ul style="list-style-type: none"> • mutual funds and UCITS which include such equities. | 135 |
| <ul style="list-style-type: none"> • [§703] All instruments allocatable to the trading book may be used as collateral for repos and repo-like instruments included in the trading book, except for those mentioned in margin no. 123.1. The same haircut must be applied to instruments not recognized as collateral in the banking book (i.e. they do not fulfill the requirements stipulated in margin no. 118 et seqq.) as is used for equities not included in a main index, but listed on a recognized exchange (margin no. 148). However, banks using their own estimates or the EPE model approach to determine the haircuts shall also use these for the trading book. | 135.1* |

B. Calculation

[§130] Where collateral is accepted under the comprehensive approach, banks must adjust their exposures to a counterparty in order to allow for any changes in value of that collateral. If using haircuts (additions to or subtractions from collateral), banks must adjust both their exposure to the counterparty	136
--	-----

and the value of any collateral received from that counterparty, in order to allow for any possible future fluctuations in the value of either.

[§131] Where there is a currency mismatch between the exposure and the collateral, an additional downward adjustment shall be made to the volatility-adjusted collateral amount to take account of possible future fluctuations in exchange rates. 137

[§132] Where the volatility-adjusted exposure amount is greater than the volatility-adjusted collateral amount (including any further adjustment for exchange rate risk), banks shall calculate their risk-weighted assets as the difference between these two volatility-adjusted amounts multiplied by the risk weighting of the counterparty. The exact framework for performing these calculations is set out in margin nos. 144-147. 138

[§133] Banks may use either regulatory haircuts (margin no. 148) or own-estimate haircuts (margin no. 151 et seqq.). The use of own-estimate haircuts is only permitted once the FINMA has verified its compliance with certain qualitative and quantitative criteria (margin nos. 154-162), and has determined that these have been met. 139

[§134] A bank may choose to use regulatory or own-estimate haircuts irrespective of whether it is using the standardized approach or the IRB approach for its credit risk. If a bank uses own-estimate haircuts, it shall do so for the full range of instrument types for which own-estimate haircuts are appropriate, with the exception of immaterial portfolios. 140

[§135] The size of the individual haircuts shall depend on the type of instrument, type of transaction and frequency of marking to market and remargining. For example, repo and repo-like transactions subject to daily marking to market and remargining will receive a haircut based on a 5-day holding period. By contrast, in the case of collateralized credit transactions where the collateral is subject to daily marking to market but not to daily remargining, the haircuts shall be based on a 20-day holding period. Also see margin no. 165. 141

[§136] For certain types of repo or repo-like transactions (mainly repo transactions with sovereign bonds as defined in margin nos. 182-197), a haircut of zero may be applied when calculating the claim amount after credit risk mitigation. 142

[§138] As a further alternative to regulatory haircuts and own-estimate haircuts, banks may use value-at-risk models. For this, see margin no. 166 et seqq. 143

[§147] If collateral is used, the position after credit risk mitigation must be calculated as follows: 144

$$E^* = \{0, [E(1 + H_E) - C(1 - H_C - H_{FX})]\}$$

where:

E^* = claim amount after credit risk mitigation
 E = current claim amount

H_E = haircut appropriate for the claim

C = current value of the collateral received

H_C = haircut appropriate for the collateral

H_{FX} = haircut appropriate for the currency mismatch between collateral and claim

[§148] The exposure after credit risk mitigation must be multiplied by the risk weighting of the counterparty in order to obtain the risk weighting of the collateralized transaction. 145

[§149] The treatment of transactions with maturity mismatches between claim and collateral is described in margin nos. 111-113. 146

[§150] If the collateral consists of a basket of assets, the haircut applicable to the basket is determined in accordance with the formula $H = \Sigma$, where a_i is the weighting of a specific asset in the basket and H_i is the haircut applicable to that asset. Weighting a_i is equal to the percentage of asset i in terms of value compared to the whole basket. 147

C. Use of Standard Regulatory Haircuts

[§§151, 153](§111) Standard regulatory haircuts (expressed as a percentage) where collateral is marked to market daily, subject to daily margin calls and a 10-day holding period: 148*

Issuance Rating	Remaining term to maturity	Central governments and public-law entities treated like central governments, as well as multilateral development banks as per Annex 1	Other issuers	Securitized exposures
Rating categories 1 or 2, or 1 for short-term debt instruments	≤ 1 year	0.5	1	2
	>1 year	2	4	8
	≤ 5 years			
	> 5 years	4	8	16
Rating category 3 or 4, 2 or 3 for short-term debt securities and unrated	≤1 year	1	2	4
	> 1 year	3	6	12
	≤5 years			
Bank bonds according to margin number 121 (incl. fiduciary investments)	> 5 years	6	12	24
Rating category 5	All	15	not recognized	not recognized
Shares included in a main index (including convertible bonds) and gold		15		
Other equities traded on a recognized stock exchange (including convertible bonds) and other forms of collateral		25		
Mutual funds/UCITS		maximum haircut applicable to any equities in which the fund may invest.		
Cash collateral in the same currency ⁴		0		

[§152] Where there is a currency mismatch between the exposure and collateral in the form of debt securities and cash collateral, the standard regulatory haircut for the exchange rate risk is 8%. 149

D. Use of Own-estimate Haircuts

[§154] On request, the FINMA can grant a bank permission to calculate haircuts using the bank's own estimates of market price and exchange rate volatility. Permission to do so shall be conditional on meeting the minimum qualitative and quantitative standards set out in margin nos. 154-162. 151

⁴ Including medium-term notes or similar instruments issued by the lending bank, as well as fiduciary deposits at the lending or at a different bank.

[§154] For debt securities rated at least in Category 4, or 3 for short-term debt instruments, banks may calculate a volatility estimate for each category of securities. The type of issuer, its rating, the residual maturity and modified duration must be taken into account to determine the categories of securities. Volatility estimates must be representative of the securities actually included in the category. For other debt instruments or equities recognized as collateral, haircuts must be calculated for each individual security. 152

[§155] The volatilities of collateral and currency mismatches must be estimated separately. Estimated volatilities for each transaction must not take into account the correlations between unsecured claim, collateral and exchange rates. 153

[§§156-160] Where haircuts are calculated on the basis of own estimates, the following quantitative requirements must be met:

- for the calculation of the haircut, a 99th percentile, one-tailed confidence interval is to be used; 154
- The minimum holding period depends on the type of transaction and the frequency of remarking or marking to market. The minimum holding periods for different types of transactions are specified in margin no. 163. Banks may use haircuts calculated for shorter holding periods, scaled up to the appropriate holding period using the formula set out in margin no. 164; 155
- the illiquidity of lower quality assets shall be taken into account. The holding period shall be increased in cases where a specified holding period is too short given the liquidity of the collateral. Banks must also be in a position to identify where historical data may understate the potential volatility, such as would be the case with a pegged currency. In such cases, the data shall be subjected to stress testing; 156
- historical observation periods (sampling periods) for calculating haircuts shall be at least one year. If the daily observations are taken into account with differing weights, the weighted average observation period shall be at least six months (that is, the weighted average time lag between the individual observations is at least six months); and 157
- the data sets should be updated at least every three months and, should market conditions demand it, be adjusted immediately. 158

[§§162-165] In addition, the following qualitative requirements must be met:

- the estimated volatility data (and holding periods) must be integrated in the bank's day-to-day risk management process; 159
- banks must have robust processes in place to ensure compliance with a documented set of internal policies, controls and procedures concerning the operation of the risk measurement system; 160
- the risk measurement system must be used in conjunction with internal exposure limits; and 161
- the risk measurement system shall be reviewed independently and regularly in the course of the bank's internal audit process. The complete risk management process shall be reviewed at regular intervals and must at least address the following aspects: 162

- whether risk measurement has been integrated into daily risk management;
- whether significant changes in the risk measurement process have been validated;
- whether position data is accurate and complete;
- whether the consistency, timeliness and reliability of data sources used for the internal models, including the independence of such data sources, has been verified; and
- whether the volatility assumptions are accurate and adequate.

E. Necessary Adjustments to the Minimum Holding Period and Haircuts

a) Adjustments of Minimum Holding Period

[§§166-167](§103) Different holding periods shall be applicable for different transactions, depending on the nature and frequency of their revaluation and remargining provisions: 163*

Transaction type	Minimum holding period ⁵	Condition
Repo and repo-like transactions	5 business days	Daily remargining
Other capital market transactions, OTC derivatives and collateralized loans (lombard loans)	10 business days	Daily remargining
Collateralized loans	20 business days	Daily revaluation

A longer holding period must be defined for transactions or netting sets (see margin no. 54) that fulfill one of the criteria specified in margin nos. 163.1 – 163.7.

(§103) For netting sets consisting of more than 5,000 transactions at any given time within a quarter, the minimum holding time in the following quarter shall be 20 business days. 163.1*

(§103) For netting sets which include one or more transactions consisting of illiquid securities or OTC derivatives that cannot easily be replaced, the minimum holding time shall be 20 business days. 163.2*

(§103) In this regard, the terms “illiquid securities” and “not easily replaceable OTC derivatives” imply a difficult market environment. This type of situation is characterized by the absence of a continuous and active market where market participants receive several price quotes within a maximum of two days, which do not move the market and where there is no discount (in the case of the securities) or increase (in the case of OTC derivatives). 163.3*

(§103) Situations where transactions are considered to be illiquid as per this definition include instruments for which there is no daily price determination as well as instruments which are valued using a specific 163.4*

⁵ Supervisory Floor for Margin Period of Risk.

accounting treatment (e.g. OTC derivatives, repos or similar, where the net present value is determined using models which do not contain input parameters observed on the market).

(§103) Moreover, the bank shall consider whether it is building up a counterparty risk concentration by engaging in certain transactions or accepting certain securities and whether the bank could replace these transactions if the counterparty were to suddenly leave the market. 163.5*

(§103) If a bank has been affected by contentious margin calls for a specific netting set in the last two quarters which have lasted longer than the holding period (before these provisions became valid), the bank shall take these cases into account by defining a holding period for the next two quarters that are at least double the minimum holding period as per margin nos. 163.1-163.5 for the netting set in question. 163.6*

(§103) For re-margining obligations which do not take place daily but every N days, the holding period is at least the minimum holding period F as defined in margin nos. 163 and 163.1–163.6, plus N days minus 1, as follows: 163.7*

Holding period = F + N - 1

b) Adjustment of Haircuts

[§168] Where the frequency of the remargining or revaluation is greater than one day, the minimum haircut shall have to be scaled up, depending on the actual number of business days between remargining and revaluation using the following formula: 164

$$H = H_M \sqrt{[(NR + (T_M - 1))/T_M]}$$

where:

H = haircut

H_M = haircut for minimum holding period

T_M = minimum holding period for the specific type of transaction

NR = exact number of business days between margin calls for capital market transactions or the revaluations for collateralized loans

[§168] Where the volatility is calculated based on a minimum holding period of T_N days, and this shall be different from the specified minimum holding period T_M , H_M is calculated with the following formula: 165

$$H_M = H_N \sqrt{[T_M/T_N]}$$

where:

T_N = holding period used by the bank to determine H_N

H_N = haircut based on the holding period T_N

F. Use of VaR Models to Determine Haircuts

[§178] As an alternative to using the standard regulatory haircuts or own-estimate haircuts, banks may use a VaR model to calculate the exposure after credit risk mitigation. This must take into account the correlation effects between securities positions. This approach shall only apply to repos and repo-like transactions covered by bilateral netting agreements on a counterparty-by-counterparty basis. 166

[§178] The VaR model approach shall be available to banks with a market risk model in place that is recognized as per FINMA Circular 08/20 "Market Risks – Banks". 167

Banks which use a market risk model not recognized under regulatory law may apply for separate regulatory recognition of their internal VaR models used for the calculation of potential price volatilities for repos and repo-like transactions. 168

Internal models are only accepted if a bank can prove the quality of its model to the FINMA through back-testing its results using one year of historical data. 169

[§179] The quantitative and qualitative criteria for recognizing internal market risk models for repos and repo-like transactions shall be the same as those set out in the FINMA circular 08/20 "Market Risks - Banks". However, the minimum holding period applicable shall be 5 business days (and not 10). Should a holding period turn out to be inappropriate for a particular instrument due to its liquidity, the holding period must be increased accordingly. If a transaction or a netting set (see margin no. 54) fulfills the criteria stipulated in margin nos. 163.1-163.7, the holding duration must be adjusted to reflect those stipulations. 170*

[§181] For banks using their internal market risk model, the calculation of the exposure E^* after credit risk mitigation shall be the following: 171

$$E^* = \max \left\{ 0, \left[\left(\sum E - \sum C \right) + (VaR \text{ result from internal market risk model}) \right] \right\}$$

When calculating capital requirements, banks must use the previous business day's VaR.

G. Requirements for a Haircut of Zero

Irrespective of which approach (simplified approach, comprehensive approach or VaR model approach) is applied for repos and repo-like transactions where the repurchase agreement is denominated in Swiss francs, only the unprotected portion (i.e. the positive net exposure amount without application of haircuts) 172

must be taken into account to determine the capital requirement for the credit risk, provided that the following requirements are met:

- the counterparty is a key market participant; 173
- the repo transaction is automatically settled across a proven electronic system which eliminates any operational and counterparty risks; 174
- transactions are settled with a "delivery against payment" system; 175
- the system marks to market the exposures and collateral (to reflect both currency and price movements) at least twice daily, the net position is constantly recalculated, and daily remargining takes place automatically; 176
- the documentation covering the agreement is standard market documentation for this type of repo transaction in the relevant securities; it specifies that if the counterparty fails to satisfy an obligation to deliver cash or securities or fails to satisfy margin requirements or otherwise defaults, then the transaction can be terminated with immediate effect; 177
- In case of default, the bank shall have the unrestricted, legally enforceable right to immediately seize and liquidate the collateral to its benefit, regardless of whether the counterparty is insolvent or bankrupt; 178
- the system used to process the repo transaction is recognized by the FINMA; 179
- the securities underlying the repo transaction are securities permitted for repo transactions by the Swiss National Bank. 180

Systems recognized by the FINMA shall be the Swiss franc repo systems based on the integrated systems SIX Repo AG or Eurex Zurich AG and which are settled via SIX SIS AG and the payment system SIC. 181*

[§170] In addition to the stipulations set out in margin no. 172, a haircut (H) of zero may be applied for repos and repo-like transactions where the counterparty is a key market participant and the following requirements are met: 182

- both the exposure and the collateral are either cash or a security issued by a central government or a public-law entity qualifying for a risk weighting of 0% under the standardized approach; 183
- both the exposure and the collateral are denominated in the same currency; 184
- either the transaction has a residual maturity of one day at most (overnight), or both the exposure and the collateral are marked to market daily and are subject to daily remargining; 185
- following a counterparty's failure to remargin, the time between the last time it was marked to market prior to the failure to remargin and the liquidation of the collateral may not exceed four trading days; 186

- the transaction is settled in a payment and settlement system generally recognized for this type of transaction; 187
- the documentation covering the agreement is standard market documentation for repo and repo-like transactions in the securities concerned; 188
- the transaction is governed by documentation specifying that if the counterparty fails to satisfy an obligation to deliver cash or securities or to deliver margin or otherwise defaults, then the transaction may be terminated with immediate effect; and 189
- in case of default, regardless of whether the counterparty is insolvent or bankrupt, the bank shall have the unrestricted, legally enforceable right to immediately seize and liquidate the collateral to its benefit. 190

[§170] The exceptions specified in margin no. 182 are not permitted for banks using a model approach as described in margin no. 166 et seqq. 191

[§171] Key market participants as per margin no. 185 shall be:

- central governments, central banks and public-law entities 192
- Banks and securities dealers 193
- other finance companies (including insurance companies) which are eligible for a 20% risk weighting 194*
- regulated mutual funds subject to capital requirements or leverage limits 195
- regulated pension funds 196
- recognized operators of payment and securities settlement systems 197

[§172] Where a regulatory authority in a third country applies exceptions to repos and repo-like transactions in securities issued by its domestic government, this exception may also apply in Switzerland. 198

H. Repos and Repo-like Transactions

[§176] For banks using the standard regulatory haircuts or their own haircuts, the following framework applies to take into account the impact of netting agreements. 199

$$E^* = \max \left\{ 0, \left[\left(\sum E - \sum C \right) + \sum (E_S \cdot H_S) + \sum (E_{FX}) \cdot (H_{FX}) \right] \right\}$$

where:

E^* = claim amount after credit risk mitigation

E = current claim amount

C = current value of the collateral received

E_S = absolute value of the net position in a given security

H_S = haircut appropriate to that security

E_{FX} = absolute value of the net position in any currency other than the agreed currency

H_{FX} = haircut appropriate for this currency mismatch

XII. Collateralized Derivatives

[§186] The capital required for the credit risks related to an individual contract are calculated using the current exposure method, as follows: 200*

$$\text{Capital requirements} = \max[EAD - C_A, 0] \cdot r \cdot 8\%$$

whereas:

EAD = credit equivalent as per margin nos. 49-63

C_A = adjusted collateral value as per the comprehensive approach

r = risk weight of the counterparty

[§187] Where effective and legally enforceable master netting agreements are in place, replacement values must be equal to the net replacement values. The haircut for currency risk shall apply if there is a mismatch between the collateral currency and the settlement currency. A single haircut assuming a 10-business day holding period scaled up as necessary depending on the frequency of marking to market must be applied even if more than two currencies are involved in the position, collateral and settlement. 201

XIII. Guarantees and Credit Derivatives (Article 61(1)(b) and (c) CAO)

A. Minimum Requirements

Banks shall recognize and understand the risks associated with guarantees and credit derivatives. Any system used to measure, manage and control risks shall capture guarantees and credit derivatives appropriately. 202

The provisions set out in margin nos. 204-252 shall apply to banks which use the international standardized approach (SA-BIS) to determine their capital adequacy requirements for credit risks. For banks using the IRB approach, the Basel minimum standards shall apply immediately, subject to the restrictions specified in margin no. 266. 203*

B. Recognition of Hedge Effectiveness

Banks that buy protection in the form of guarantees and credit derivatives can mitigate their credit risk for one or more counterparties. However, in order for the protection in the form of a guarantee or credit derivative to be recognized under the substitution approach (margin no. 232), the credit risk must actually be transferred to the protection provider, and the minimum criteria outlined below must be met. In any case, the hedge effectiveness is limited to the maximum pay-out amount.	204
[§189] A guarantee or credit derivative contract:	205
<ul style="list-style-type: none"> • must constitute a direct claim towards the protection provider; 	206
<ul style="list-style-type: none"> • shall explicitly reference to specific claims or a pool of claims, so that the extent of the protection is clearly defined and indisputable; 	207
<ul style="list-style-type: none"> • shall be irrevocable: the contract shall not allow the protection seller to unilaterally revoke the credit protection, increase the protection cost or reduce the agreed maturity of the protection unless the protection buyer fails to meet its contractually agreed payment obligations, or fails to meet any other fundamental contractual obligations; 	208
<ul style="list-style-type: none"> • shall be unconditional: the contract must not contain any provision which would allow the protection provider to avoid immediately fulfilling its obligations ; 	209
<ul style="list-style-type: none"> • shall be binding for all parties involved and in all relevant jurisdictions and must be legally enforceable; 	210
<ul style="list-style-type: none"> • shall be in writing. 	211
[§195](Text between §120 and §121) The hedge effectiveness can only be recognized if the protection provider ⁶ belongs to one of the following issuer categories:	212*
<ul style="list-style-type: none"> • central governments and central banks in accordance with Annex 2 Section 1 CAO (SA-BIS), with a risk weighting that is equal to or smaller than that of the reference obligor; 	213*
<ul style="list-style-type: none"> • the BIS, the IMF and multilateral development banks in accordance with Annex 1, with a risk weighting that is equal to or lower than that of the reference obligor; 	214*
<ul style="list-style-type: none"> • public-law entities as well as banks and securities dealers in accordance with Annex 2 CAO (SA-BIS) with a risk weighting that is equal to or lower than that of the reference obligor; 	215*
<ul style="list-style-type: none"> • other legal entities with external ratings, except if the hedge is used for a securitization. Legal entities include parent companies, subsidiaries and group companies with a risk weighting equal to or smaller than that of the reference obligor; 	216*

⁶ As the protection provider has already fulfilled its maximum obligations in the case of credit-linked notes (CLNs), the restrictions mentioned in this margin no. in regard to hedging effectiveness do not apply to CLNs.

- if hedging a securitization: other legal entities with a rating of the rating class “4 or better” and which, up to the point of providing the credit protection had a rating of the rating class “3 or better”. The protection provider fulfilling these conditions may also be a parent company, a subsidiary or sister company of the reference obligor, provided their risk weighting is equal to or smaller than that of the reference obligor. 216.1*

C. Additional Minimum Requirements for Guarantees

[§190] A guarantor shall be liable for all types of payments that the reference obligor is to make for the underlying reference obligation. If a guarantor is only liable for the repayment of the principal of the reference obligation, interest and all other payments not protected by the guarantee shall be treated as unsecured amounts in accordance with margin no. 241. 217

[§190] In the case of insolvency or late payment by the reference obligor, the protection buyer is entitled, directly and in a timely manner, to request payment from the protection provider for any monies outstanding under the credit agreement. 218

D. Sureties

For the purpose of calculating capital adequacy requirements, sureties that fulfill the requirements set out in margin nos. 206-218 shall be recognized as hedge instruments in the same way as guarantees. As a rule, only sureties given on a joint and several basis can fulfill these requirements. 219

E. Additional Minimum Requirements for Credit Derivatives

[§191] The exposure to be hedged shall be included as one of the claims contractually specified for the purposes of determining whether a credit event has occurred and for the purposes of settlement. If the claim to be hedged does not fulfill this condition, either margin nos. 228-231 or margin no. 246 shall apply. For a total return swap, the reference obligation and the exposure to be hedged must be the same. 220

The contractually specified credit events which render the credit derivative due must include at least the following: 221

- late payment of the amounts due under the terms of the obligation used for the purposes of determining whether a credit event has occurred (with a grace period that is closely related to the grace period in the contractually defined obligations); 222
- insolvency (e.g. bankruptcy, overindebtedness, inability to pay debts) of the reference obligor, or admission in writing of its general inability to pay its debts as they become due, and similar events; 223
- restructuring (by way of debt relief for the repayment of principal, interest or fees) of the contractually specified obligations used to determine whether a credit event has occurred, if the restructuring leads to a reduction or loss of the claim. If restructuring is not specified as a credit event, margin no. 240 or margin no. 246 shall apply. 224

[§191] The ability to determine whether a credit event has occurred shall be clearly assigned to one or several parties. This obligation shall not be the sole responsibility of the protection provider. The protection buyer shall have the right to notify the protection provider of the occurrence of a credit event. 225

[§191] Credit derivatives allowing for a cash settlement may be eligible towards capital adequacy requirements only if a robust valuation process is in place for the reference debt. The valuation process shall enable a reliable calculation of the loss. There shall be a clearly defined period for obtaining post-credit event valuations. 226

[§191] If no cash settlement is foreseen, the protection buyer shall have the right to transfer all claims specified for settlement to the protection provider in case of a credit event. However, the terms of the claims must provide that consent to such a transfer cannot be withheld without good reason. 227

[§191] If the underlying claim is not contractually specified for determining settlement or for determining credit events (asset mismatch), the following minimum requirements shall be met: 228

- The exposure to be hedged and the associated credit derivative must be issued by the same legal entity. 229
- the claims specified for determining settlement or for determining credit events must rank pari passu with or be subordinated to the exposure to be hedged. 230
- legally enforceable cross-default or cross-acceleration clauses shall ensure the effective transfer of the credit risk to the protection provider. 231

F. Calculation

[§196] If a guarantee meets the requirements set out in margin nos. 206 et seqq., the protected portion of the underlying obligation may be assigned the risk weighting of the guarantor. 232

(§ 197) Materiality thresholds on payments below which no payment is made in the event of a loss constitute retained first-loss positions and must be weighted at 1250% by the bank that purchases the credit protection. 232.1*

[§199] If the bank transfers part of the risk of an exposure in one or more tranches to one or more protection providers and retains some level of risk of the loan and the risk transferred and the risk retained are of different seniority, then the bank may obtain credit protection for either the senior tranches (e.g. second-loss portion) or the junior tranche (e.g. first-loss portion). In this case, the provisions of Section XIV (Securitization Transactions) apply. 232.2*

[§§193-194] If a bank obtains a protection in the form of a credit derivative which meets all of the requirements set out in margin nos. 205-231 for full recognition of the effectiveness of the protection, the claim to be hedged may be assigned the same risk weighting as that of the protection provider for the following types of credit derivatives, if the following conditions are met: 233

- credit default swaps (CDS): no further conditions; 234
- Total return swap (TRS): on condition that the bank must not book payments by the protection provider in respect of the contract in question as income without adjusting the valuation of the exposure to be hedged accordingly (either by reducing the fair value or by increasing provisions). 235

- [§207] first-to-default swap (FDS): for the smallest claim in the basket on a risk-weighted basis, but a maximum of the notional hedged amount. If several claims are the smallest in the basket on a risk-weighted basis, the bank may freely choose to which of these claims it will apply the substitution approach. 236

- [§209] second-to-default swap: using the protection provider's risk weighting as the basis for the second smallest exposure (after risk weighting) in the basket is only permitted if the basket in question has already been hedged with a first-to-default swap (with at least an equal hedge amount) or one of the exposures in the basket has already defaulted and the second-to-default swap has therefore become a first-to-default swap. 237

- nth-to-default swaps are treated in the same way as second-to-default swaps. 238

- credit-linked note (CLN): as the protection provider has already fulfilled its maximum obligations, a risk weighting of 0% is applied. 239

[§192] If a restructuring as stipulated in margin no. 224 does not represent a contractually specified credit event, a limited hedge protection may be included in the calculation of the capital adequacy, provided that all other relevant requirements of margin nos. 205-231 are met: 60% of the amount of a credit derivative's hedge without restructuring may be recognized if that credit derivative is in all other respects identical to a credit derivative that includes restructuring (i.e. the substitution approach may be applied to a maximum of 60% of the entire exposure to be hedged, while the remainder of the exposure to be hedged shall be treated as if unsecured). 240

[§198] Where the amount guaranteed or hedged with a credit derivative is less than the exposure to be hedged and the hedged and unsecured portions are ranked equally, i.e. the bank and the protection provider share losses on a pro-rata basis, the capital adequacy shall be lowered proportionally. The protected portion of the exposure shall be treated with the substitution approach, while the remainder is treated as unsecured. 241

[§200] If the guarantee or credit derivative is denominated in a currency different from that of the exposure to be hedged (currency mismatch), the hedge recognized for capital adequacy purposes is to be reduced by a safety margin which is calculated using a haircut, i.e. 242

$$G_a = G \cdot (1 - H_{FX})$$

where

G_a = protected amount recognized under regulatory law

G = protected amount recognized under regulatory law, where currencies are the same

H_{FX} = haircut appropriate for the currency pair at hand.

The haircut to be applied must be based on a 10-business day holding period, assuming the collateral is marked to market every day. For banks using regulatory law haircuts, the haircut H_{FX} is 8%. For banks which do not mark hedges to market on a daily basis, the haircut shall be scaled up according to margin no. 164 by increasing N_R accordingly. 243

[§205] If the residual maturities of a guarantee or a credit derivative and the claim to be hedged are mismatched, the provisions set out in margin nos. 112 and 113 apply. 244

If a position not allocated to the trading book is hedged using a credit derivative through the bank's own trading department, the hedge may be recognized only on condition that the trading department passes on this internal risk transfer, by means of an exactly opposing transaction, to a third party (cf. margin no. 25 of FINMA Circular 08/20 "Market Risks – Banks"). This way, the hedged claim receives the risk weighting of the external third party. 245

Guarantees and credit derivatives where the hedging effect cannot be recognized must not be taken into account in relation to the reference obligation. 246

G. Capital Requirement for the Bank as Protection Provider

Pursuant to Article 54(1) CAO, a guarantee's credit equivalent must be equal to the guaranteed claim amount. Article 53 CAO stipulates that the reference obligor's risk weight must be applied to the credit equivalent. 247

Where the bank enters into a commitment as protection provider with a CDS or TRS, the resultant hedge commitments shall be treated as direct exposures to the reference obligor for capital adequacy purposes. 248

[§208] Where the bank enters into a commitment as protection provider with a first-to-default swap (FDS) with a basket rating issued by a rating agency recognized by the FINMA, the risk weighting assigned depends on the standardized approach used and the applicable rating category: 249*

	<u>SA-BIS</u>
• Rating categories 1 and 2:	20%
• Rating category 3:	50%
• Rating category 4 (long-term) or 5 (short-term):	100%
• Rating category 5 (long-term):	350%
• Rating categories 6 and 7:	1250%

If the bank is the protection provider in an FDS where the basket has not been rated by any rating agency recognized by the FINMA, the risk weightings assigned to the individual claims in the basket must be multiplied by the corresponding maximum pay-out amounts arising from a credit event. The required capital for the FDS must be 8% of the total of the risk-weighted maximum pay-out amounts, whereas the required capital is limited to the maximum limit of the FDS's pay-out amount. 250

[§210] Margin nos. 249 and 250 apply if the bank is the protection seller in a second-to-default swap. Unlike with first-to-default swaps, however, in the absence of a basket rating the smallest pay-out amount (after risk weighting) may be disregarded from the total until the default of the first position contained in the basket. For nth-to-default swaps, the procedure shall be the same. Thus, for example, when deriving the total for a fifth-to-default swap, the four smallest pay-out amounts (after risk weighting) are disregarded. Whenever one of the positions in the basket defaults, n shall decrease by one. 251

The repayment of a CLN depends on the credit rating of both the reference obligor and the CLN issuer. Use the higher of these two allocated risk weightings to calculate the required capital. 252

XIV. Securitization Transactions (Article 49(2)(b) CAO)

A. Basel Minimum Standards

The Basel Minimum Standards apply for the calculation of the minimum capital required for transactions relating to the securitization of credit risk ("securitizations"); this includes Annex 3 as well as the Pillar 2 requirements of the Basel Minimum Standards, i.e. (§§784-807). Where the Basel Minimum Standards allow a choice, clarification is provided with reference to the relevant passages. 253*

Where the Basel minimum standards stipulate that the regulatory authority is to be consulted (see [§§538, 607, 620]), banks must obtain the external auditor's approval. 254

B. Fallback Option for the Calculation of K_{IRB}

[§639] If a bank is not in a position to use either the bottom-up approach or the top-down approach for calculating K_{IRB} , the bank may, subject to approval from the FINMA, apply the fallback option provided for such cases. 255

C. Credit Conversion Factor for Cash Advances

[§§582, 641] For eligible servicer cash advance facilities, the undrawn amount may be allocated a credit-conversion factor of 0% if the following requirements are met: 256

- the facility can be canceled without prior notice and without further conditions; 257
- the servicer is entitled to full repayment; 258
- this right is senior to all other claims on cash flows from the underlying pool of claims; and 259
- the servicer has the above conditions verified by an independent party for their enforceability. Internal audit and credit control departments are considered to be independent in this context. 260

D. Look-through Treatment in the Standardized Approach

[§573] Where a bank uses the look-through treatment to calculate the risk weighting of a claim without an external rating, and where this claim is the most senior in the entire transaction, it will receive the average risk weighting of the underlying claims in the underlying pool. 261

The bank must inform the FINMA that it is employing this approach. 262

Where the bank is unable to determine the average risk weighting, the entire unrated position shall be deducted from capital. 263

E. Supervisory Formula

[§635] For the securitization of claims involving exclusively retail loans, the parameters h and v may be set to zero if the supervisory formula is used. The FINMA must be informed if this approach is adopted. 264

F. Call Provisions

[§798], Banks are not expected to disclose to the FINMA the rationale for their decision to exercise a call nor the impact of having exercised the call on the bank's regulatory capital ratio prior to exercising a call. 265

XV. The Internal Ratings Based Approach (IRB; Articles 50 and 77 CAO)

A. Basel Minimum Standards and Subsidiary Provisions (Article 77 CAO)

The provisions contained in the Basel Minimum Standards regarding the IRB approach shall be applicable, including the Pillar 2 requirements of the Basel Minimum Standards [§§765-766], subject to the following clarifications. Where these minimum standards refer to the standardized approach, the provisions relating to the standardized approach set out in the Basel Minimum Standards generally apply. Where the Basel Minimum Standards allow a choice, clarification is provided with reference to the relevant passages. 266*

EUR amounts mentioned in the Basel minimum standards must be converted into CHF amounts using a factor of 1.5, i.e. EUR 1 equals CHF 1.50. 267

The subsidiary provisions shall specifically address the following areas: treatment of qualifying holdings, including holdings in collective investment schemes (cf. Annex 4 CAO) and the weighting of payment liabilities in relation to the deposit protection scheme (cf. Annex 2 Section 5.2 CAO). 268*

B. Approval

The FINMA shall only approve a bank's use of the IRB approach if the following requirements are complied with at all times: 269

- The minimum requirements for the IRB approach, as set out in [§§387 - 537] and clarified in this circular, are observed. 270
- The bank has a sufficient number of employees capable of working with rating systems [§394]. 271
- The IT infrastructure is configured satisfactorily to run the rating system; 272

- The rating systems in respect to the bank's specific activities rest on a robust design and are correctly implemented. 273

[§404] The FINMA may require that the bank use more than the minimum number of internal ratings specified in [§404]. 274

[§259] Subject to the FINMA's approval, insignificant business units, positions and position categories (cf. margin nos. 292-296) may be exempted from the application of the IRB approach. 275

[§443] When deciding on whether to allow a specific bank to use the IRB approach, the regulatory authority must consider the results of its own audits and those of the bank's external auditors. In addition, the FINMA may take into account the audit findings of foreign regulatory bodies, of external auditors other than the bank's own external auditor, or of other specialized and independent experts. 276

Expenses incurred by the FINMA in connection with the approval process and any necessary audit work subsequent to the approval, shall be borne by the bank. 277

The FINMA shall take into account the expenses implied for the bank when deciding whether audits are necessary, and if so, which ones should be carried out. 278

C. IRB Stress Tests

[§437] There are no terms of reference for the design of an IRB stress tests other than the requirements contained in Pillars 1 and 2 [§§434-437 and 765]. 279

Banks must provide the FINMA and, if systemically important, also the Swiss National Bank, with a stress test design. 280*

The FINMA shall decide whether the stress test design is in line with Pillars 1 and 2. For systemically relevant banks, the FINMA shall decide this together with the Swiss National Bank. The FINMA may ask for amendments to the design. 281*

The results of the stress tests must be sent to the FINMA at regular intervals. For systemically important banks, the Swiss National Bank must be copied in. 282*

The bank and the FINMA shall discuss the stress test results periodically. For systemically important banks, the Swiss National Bank shall also be included in the discussion. 283*

The stress test results must be incorporated in the calculation of any additional capital charges applicable under Pillar 2 [§765]. 284

D. Notification of the FINMA

Following approval for the use of the IRB approach, the FINMA shall be notified if 285

- any material changes are made to rating systems [§394], or 286
- any changes are made to risk management practices. 287

E. Bank-specific Implementation (“roll-out”)

Manner and scope of the roll-out: A bank may introduce the IRB approach in any of the ways specified in [§257]. The initial implementation of the IRB approach must result in IRB calculations covering at least approximately 90% of the capital required for credit risks for all of the bank’s counterparty-related positions where using the IRB is appropriate. In this context, positions to central counterparties as outlined in heading XVIII in the form of OTC derivatives, exchange-traded derivatives, securities financing transactions (SFT⁷) as well as contributions to the default funds of central counterparties do not have to be taken into account. The threshold of 90% shall also be maintained after the implementation of the IRB. In case of significant changes in structure, e.g. takeovers or mergers, a bank may temporarily fall below the threshold, subject to approval from the FINMA. 288*

F. Transition Period

[§264] IRB minimum requirements: the IRB minimum requirements as per margin no. 270 are already applicable during the transitional period (1 January 2007 to 31 December 2009) without any alleviations. 289

[§§267, 269] Grandfathering for certain positions in equity securities: in principle, the IRB is applicable to all relevant equity shares without any transitional period. Following approval by the FINMA, the capital required for positions in equity shares held on 31 December 2007 may be calculated according to the Swiss Banking Act Implementing Ordinance of 17 May 1972⁸, in the version amended on 24 March 2004, up to 31 December 2010 at the latest (this supersedes the provisions of [§269]). 290

G. Position Categories

For risk weighting purposes, every position must generally be allocated to one of the following position categories. The provisions set out in the Basel minimum standards relating to the allocation of positions to position categories are binding. The subsidiary allocation rules concerning individual positions set out in margin nos. 292-294 are not mandatory, provided the capital required does not depend on the allocation of such positions and the positions in question are insignificant. 291

- Corporate positions (incl. PF, OF, CF, IPRE and HVCRE positions) as defined in [§§218-228] and clarified in margin nos. 298-299. This position category also includes positions to: stock exchanges, mortgage bond clearing houses (Pfandbriefzentrale) of Swiss cantonal banks and Swiss mortgage 292

⁷ Securities Financing Transactions (SFT) are transactions such as repurchase agreements (repos and reverse repos), securities lending and borrowing and securities lending (margin lending), in which the transaction value depends on market valuations that are often coupled with margin and remargin agreements.

⁸ AS 1972 821

institutions, and public-law entities not entitled to levy taxes and for which liabilities are not guaranteed by the state.

- Positions to central governments as defined in [§229]. This position category also includes positions to: central governments, central banks, the European Union (EU) and the European Central Bank (ECB), the Bank for International Settlements (BIS), the International Monetary Fund (IMF) and the multilateral development banks listed in Annex 1. Positions to public-law entities are not included. 293
- Positions to banks as defined in [§230]. This position category also includes positions to: securities dealers, joint institutions set up by banks and recognized by the FINMA, multilateral development banks not named in Annex 1, and public-law entities that have the right to levy taxes or for which liabilities are guaranteed in full by the state. Payment liabilities to the deposit protection scheme are also included. 294
- Retail positions as defined in [§§231-234] and clarified in margin nos. 300-318; 295
- Positions in equity shares as defined in [§§235-238] and clarified in margin nos. 319-323 and 354; 296
- Purchased retail and corporate positions as defined in [§§239-243]. 297

H. Definition of HVCRE Positions (Highly Volatile Commercial Real Estate Financing)

[§227, first item] No positions in the Swiss market are defined as HVCRE positions ex ante. However, the FINMA may classify certain commercial real estate (CRE) positions as HVCRE positions at certain banks. 298

[§228] For foreign markets, banks shall follow the HVCRE definitions prescribed by the relevant regulatory authority. Further, depending on the bank, the FINMA may classify certain CRE positions as HVCRE positions. 299

I. Definition of Retail Positions

[§231, first item] Maximum position value for natural persons: the total position of a natural person shall be treated as a retail position, regardless of the amount involved. 300

[§231, second item] Definition of eligible residential real estate: residential real estate which is occupied or let by the borrower (this supersedes the regulation on "owner-occupied" in [§231]). No maximum number of residential units per building or building complex has been defined. 301

[§231, third item] Definition of small business entities: small business entities are defined as businesses with (consolidated – cf. [§273]) annual sales of up to CHF 15 million. If a bank does not regard sales as a suitable indicator, another one may be chosen (e.g. total assets), with the FINMA's approval. 302

[§231, third item] Maximum position to small business entities: a position to a self-employed person shall be treated as a retail position, regardless of the amount involved. The key defining element for self-employed persons is that their personal liability is unlimited. 303

[§231-232] Lombard (collateral) loans and retail positions: lombard loans may be included in retail positions if the necessary conditions [§231-§232] have been met. Provided the flexibility referred to in [§231, fourth item] has been met, the bank may also opt to allocate its entire lombard loan portfolio to the retail position category. In each case, however, the FINMA must first be consulted. The following conditions shall be met specifically:

- At least 95% of the bank's collateral loans (by number) qualify as retail positions on account of the amount and counterparty involved. 305
- The bank has been managing its collateral loan business for many years with proven track record and historically low credit losses. 306
- All lombard (collateralized) loans are managed by the retail units of a bank using a standardized credit process and relevant standards. 307
- The bank must manage the collateral loans using a refined risk management system that has been proven to be reliable. 308

In particular, a risk management system pursuant to margin no. 308 shall meet the following requirements:

- Lombard loans generally show significant excess protection; 309
- Lombard loans and the value and quality of the related collateral are closely monitored; 310
- Corrective measures are taken in a timely manner if the collateral drops in value; 311
- From a legal perspective, the ability to realize the collateral rapidly is unequivocally provided for; 312
- Individual collateral is subject to specific, statistically based haircuts which are usually higher than the standard regulatory haircuts (margin no. 148); 313
- Collateral is immediately realized if the counterparty misses a scheduled margin payment; 314
- Risk concentrations in collateral are monitored appropriately. 315

[§232] Ex ante, no minimum number of positions per pool is required. 316

[§232, first item] Positions to small business entities (margin no. 302) may be allocated to the retail position category if they meet the conditions set out in [§232, first item]. 317

[§233] The position sub-category "(a) exposures secured by residential properties" shall denote mortgage positions (typically fully) secured by residential or commercial real estate. Other positions may be allocated to the position sub-category "(b) qualifying revolving retail exposures", provided the necessary conditions are met (cf. [§235]). Otherwise, positions shall be allocated to the position category "(c) all other retail exposures". 318

J. Definition of Equity Shares

Equity shares are deemed to include all shares and equity interests as per [§235], including investment (mutual) fund units. Depending on the type of equity shares involved, the categories of equity positions are distinguished as follows:

- Repealed 319*
- positions in equity shares traded on a recognized exchange; 320
- All other equity share positions including private equity positions. 321*

[§344] Private equity positions shall include any form of investment in companies the equity shares of which are not freely traded on an exchange, i.e. illiquid interests in unlisted companies. Private equity investors shall either profit because of an initial public offering, a sale or merger, or a recapitalization. Private equity position types shall include, among others, leveraged buyouts, venture capital, growth capital, angel investing, mezzanine capital. 322

Repealed 323*

K. Risk Weighting of Companies, Central Governments and Banks

[§272] The risk weighting for defaulted positions, after deduction of individual value adjustments and partial write-offs, is 100% both under A-IRB and F-IRB. 324

[§273] In the formula at the end of [§273] defining annual turnover S (or balance sheet total) of SMEs in CHF (margin no. 267), the term $(S-5)/45$ is to be substituted by $(S/1.5-5)/45$. 325*

[§274] Where the annual sales of a company are not a suitable indicator for measuring its size, the balance sheet total shall be used instead. If approved by the FINMA, a simplified approach may be adopted whereby sales may be allocated to segments of counterparties of similar size using a random sample basis. If neither annual sales nor balance sheet total are meaningful size indicators, the risk weighting reduction depending on the size of the company must not be used. 326

L. Risk Weighting for Specialized Lending and Highly Volatile Commercial Real Estate Financing (SL and HVCRE)

[§250] F-IRB for HVCRE positions: banks which satisfy the minimum IRB requirements with respect to PD estimates in connection with HVCRE loans may calculate the corresponding risk weightings according to F-IRB, taking into account [§283]. 327

[§251] A-IRB for HVCRE positions: banks which satisfy the minimum IRB requirements with respect to PD, LGD and EAD estimates in connection with HVCRE loans may calculate the corresponding risk weightings according to A-IRB, taking into account [§283]. 328

[§277] Reduced UL risk weightings for SL positions (excl. HVCRE positions): the risk weightings defined in [§277] shall apply. 329

[§282] Reduced UL risk weightings for HVCRE positions: the risk weightings defined in [§282] do not apply. Exceptions: cases where a foreign regulatory authority has prescribed a definition of HVCRE (cf. margin no. 299) and that regulatory authority has approved the use of reduced UL risk weightings for such positions. In such cases, the corresponding reduced UL risk weightings can be applied. 330

M. Subordinated Positions and Collateral

[§288] Definition of subordinated positions: all positions fulfilling subordination as defined in FINMA circular 08/2 "Accounting – Banks" shall be classified as subordinate. 331

[§289] Other collateral, eligible under F-IRB such as CRE or RRE: margin no. 335 – 336. 332

N. Non-application of Haircuts to Repo-like Transactions

[§294] The SA-BIS rules also apply to the non-application of haircuts for repo-like transactions. 333

O. Collateral under F-IRB

[§506] Referral to the minimum requirements under the standardized approach ([Section II.D] of the Basel minimum standards): in order for banks using the F-IRB approach to be entitled to take eligible financial collateral into account when calculating their capital adequacy requirements, they shall meet the minimum requirements under SA-BIS. 334

[§§507-508] CRE or RRE collateral eligible under F-IRB: in application of footnote 92 of the Basel Basic Text, multi-family housing units shall be eligible as collateral even if they are considered to be financing for income-producing real estate (SL or IPRE). Conversely, IPRE in the form of commercial property may not be used as collateral (thus the option given in footnote 93 of the Basel Basic Text is not exercised). 335*

[§521] Other eligible physical collateral: except for the collateral types named in [§507], no other physical collateral is eligible under the F-IRB approach. 336

P. Guarantees and Credit Derivatives under the F-IRB Approach

[§§302, 305](text between §120 and §121) Referral to the standardized approach: the SA-BIS rules for guarantees and credit derivatives are also applicable to the F-IRB approach. 337*

[§302](text between §120 and §121) Protection providers eligible under the F-IRB approach: all eligible protection providers under SA-BIS shall also be eligible under the F-IRB approach. Furthermore, protection providers shall also be eligible if they have an internal rating. 338*

Q. Value of Positions in case of Exposure at Default (EAD)

[§309] Referral to the standardized approach: the SA-BIS rules on legal and contractual netting shall also apply to the IRB approach. Currency and maturity mismatches shall be treated in the same way as under SA-BIS. 339

[§311] Referral to the standardized approach [§§82-87] regarding the F-IRB: in principle, the SA-BIS approach must be used to calculate credit equivalents (Articles 53-54 CAO). Exceptions to this are irrevocable commitments (irrespective of maturity), note issuance facilities (NIFs) and revolving underlying facilities (RUFs), for which a credit conversion factor of 75% [§312] shall be applied. 340

R. Maturity Adjustment of Risk Weightings under F-IRB and A-IRB

[§318] Maturity adjustment of risk weightings under F-IRB: banks using the F-IRB approach must adjust risk weightings for maturity in the same way as under the A-IRB approach. 341

[§319] Exceptions from maturity adjustment: the risk weightings of all corporate positions must be explicitly adjusted for maturity, without exception. 342

[§320] Maturity for positions with no defined maturity: for positions with no defined maturity, which the bank could nevertheless cancel unconditionally at any time, and which must be repaid within a maximum of 12 months from cancellation, $M = 1$ year. For other positions with no explicit maturity, $M = 2.5$ years. 343

[§320, second item] Effective maturity for positions with a defined maturity: if the bank is unable, or only able with excessive effort, to calculate the effective maturity (M) in accordance with [§320], the contractually agreed remaining maturity of the position may be used as an alternative. 344

[§322] Maturity adjustments of less than a year for short-term positions: in addition to the transactions referred to in [§321], the lower limit of one year for the maturity parameter M does not apply for the following positions: 345

- Positions arising from capital market transactions in the form of repo and repo-like transactions, margin lending, OTC transactions or exchange-traded derivatives. The following requirements must be met: the transactions must be collateralized and marked to market daily, and in case of excess or shortfall in protection compared to the originally agreed collateral, the margin must be settled or collateral must be adjusted on a daily basis. Should a borrower fail to meet margin calls, the transactions will be terminated by realizing the collateral within the timeframe applicable to options and futures exchanges. 346
- Positions to banks arising from foreign currency transactions on condition that connected settlement risks are eliminated using a suitable system. 347
- Positions from short-term, self-liquidating trade transactions, including letters of credit. 348
- Positions from electronic transfers (e.g. via SIC, SEGA, EUROCLEAR). 349

The FINMA may authorize a bank to exempt other short-term investments from the one-year floor. 349.1*

[§325] Maturity mismatches: the relevant SA-BIS rules shall apply correspondingly to the treatment of maturity mismatches. 350

S. Risk Weighting of Retail Positions

[§328] The position sub-category "exposures secured by residential properties" is defined in [§231] and margin no. 318. This shall supplement and clarify the rules set out in [§328]. 351

[§§328-330] The risk weighting for defaulted retail positions, after deduction of specific write-downs and partial write-offs, shall be 100% both under A-IRB and F-IRB. 352

T. Risk Weighting of Equity Shares

Repealed 353*

[§237, footnote 59] Exclusion of directly collateralized liabilities in the calculation of capital required for positions in equity shares: liabilities may be excluded in the capital requirements calculation if their income is linked to those of equity shares, provided that they are directly hedged by a position in equity shares so that the net position no longer represents a significant risk. 354

[§260] Obligation to use the IRB approach for equity shares: banks holding large volumes of equity shares but using the SA-BIS approach to calculate capital requirements for credit risks are not obliged to calculate capital requirements for equity shares according to the IRB approach. 355

[§343] Mandatory application of a particular market-based approach commensurate with the bank's characteristics: the bank may freely choose any applicable market-based approach when calculating capital requirements for equity shares, provided it meets the relevant minimum requirements. 356

Repealed 357*

Repealed 358*

[§346] Mandatory use of internal modeling method for the calculation of capital requirements for positions in equity shares: when calculating capital required for equity positions, a bank may choose the PD/LGD approach or the market-based approaches (simplified risk weighting method, internal modeling method), provided it meets the relevant minimum requirements. 359

Repealed 360*

[§348] Use of different market-based approaches to calculate the capital required for positions to equity shares: under the conditions described in [§348], a bank may use different market-based approaches to calculate its required capital. 361

Repealed 362*

Repealed 363*

- Repealed 364*

- Repealed 365*

- Repealed 366*

- [§356] Minimum capital for positions in equity shares in respect of counterparties assigned a 0% risk weighting in the standardized approach: for the position types in equity shares set out in [§356], minimum capital must be determined in accordance with the IRB approach. 367*

- [§357] Minimum capital for equity shares of government-subsidized counterparties: for equity shares specified in [§357], minimum capital must be determined in accordance with the IRB approach. 368*

- [§358] Minimum capital for insignificant positions in equity shares: for positions in equity shares which comply with all the criteria of insignificance set out in [§358], minimum capital shall be determined according to the IRB approach. 369*

- The risk weighting for defaulted equity shares after deduction of individual value adjustments and partial write-offs shall be 100%. 370

U. Risk Weighting of Purchased Receivables

- [§242, fourth item] The bottom-up approach is mandatory for pools with individual positions amounting to more than CHF 150,000 (cf. also margin no. 372). 371

- [§365] Possibility of the top-down approach for purchased corporate positions: upon request, the FINMA may authorize a bank to calculate its minimum capital for default risk on purchased corporate positions using the top-down approach. The bottom-up approach is mandatory for pools of individual positions amounting to more than CHF 150,000 (cf. also margin no. 371). 372*

- [§369] Maturity adjustment of risk weightings when calculating minimum capital for dilution risk: under the conditions set out in [§369], the maturity parameter M shall be 1 year. 373*

- [§373] Protection providers recognized under F-IRB used to calculate the minimum capital for dilution risk: the recognized protection providers shall be the same as those defined in margin no. 338. 374*

V. Expected Loss and Value Adjustments

- Repealed 375*

- Repealed 376*

- [§278] Reduced EL risk weights for SL positions (excl. HVCRE positions): margin no. 329. 377

- [§279] Reduced EL risk weights for HVCRE positions: margin no. 378. 378

- [§383] Allocation of general value adjustment for deferred risks (margin no. 95 FINMA circ. 13/1 “Eligible Capital – Banks”) to eligible capital: The FINMA may authorize a bank which is using or intending to use both the SA-BIS and the IRB approach to allocate general value adjustments as specified in margin no. 95 FINMA circ. 13/1 “Eligible Capital – Banks” using an internal procedure. This procedure shall lead to an appropriate allocation and must not be primarily designed to maximize the eligible capital. 379

Repealed	380*
Credit Valuation Adjustments (CVAs) of derivatives shall not be considered as value adjustments as per [§374 - §386]. Instead, they are deducted from the credit equivalent of the derivative in question.	380.1*

W. Minimum Capital Requirements and Lower Limits (Floor)

When calculating minimum capital requirements based on the IRB approach, capital required for unexpected losses calculated as per this circular and the underlying risk-weighted positions shall be multiplied with a scaling factor of 1.06 ([§14] defined by the Basel Committee) to obtain the IRB risk-weighted positions as per Article 42(2)(a) CAO. Together with the positions risk-weighted as per the standardized approach, these form the total of positions risk-weighted by credit risk in accordance with Article 42(2) (a) CAO.	381*
In application of the continued "floor regime" published by the Basel Committee, the following applies: ⁹ For banks calculating capital requirements for credit risks according to the IRB approach, the minimum capital requirements, taking into account deductions from the eligible capital, cannot be lower than 80% of the requirements and deductions that the bank would have had if applying the Basel I Minimum Standard. ¹⁰ In application of Article 47 CAO, the FINMA stipulates for each institution how it should calculate an adequate approximation of the theoretical Basel I requirements. For credit risk, this calculation is based on the international standardized approach.	381.1*

X. Minimum Risk Quantification Requirements

[§452, second item, footnote 89] Duration of late payment: 90 days should always be used regardless of the type of borrower.	382*
[§452] Alternative definition of default for lombard (collateral) loans: instead of the definition in [§452], banks may apply the following definition of default for lombard loans: a lombard loan is in default, if:	383
<ul style="list-style-type: none"> • the realizable market value of the available collateral falls below the level of the lombard loan, and • as a result, the position shows a shortfall, and • it is not known, or not likely, that the counterparty is able to meet its credit obligations, or agreed measures have failed to rectify the shortfall. 	384 385 386
[§454] Implementing and monitoring the indications for loans or positions at risk, as set out in [§453]: it is the bank's choice of how it wishes to implement and monitor the detecting of positions at risk; however, its implementation and monitoring will be reviewed during the bank's licensing procedure.	387
[§458] Re-aging: there are no further requirements regarding re-aging other than those contained in [§458].	388

⁹ Cf. press release of the Basel Committee of 13 July 2009: <http://www.bis.org/press/p090713.htm>

¹⁰ This is equivalent to the calculation of capital adequacy requirements as per the Banking Ordinance of 17 May 1972 that was valid until 31 December 2006 (AS 1995 253, 1998 16).

[§467] Seasoning effects: although not mandatory, it is recommended that banks increase PD estimates in order to avoid a jump in capital required for foreseeable seasoning effects. 389

[§471] Best EL estimate for defaulted positions: with the FINMA's agreement, specific provisions for defaulted positions and partial provisioning can be used as best estimate of the expected loss on a position. 390

XVI. Guidelines for a Prudent Valuation of Fair-value Positions

The guidelines for the prudent valuation of fair value positions as per margin nos. 32 – 48 of FINMA circ. "Market Risks – Banks" also apply to the banking book, although positions do not need to be valued on a daily basis. 391*

XVII. Capital Adequacy Requirements under CVA (Article 55 CAO)

(§99) CVAs (credit valuation adjustments) are value adjustments for derivatives which arise due to counterparty credit risks. A CVA risk shall be the risk of a potential loss in market value due to such value adjustments. 392*

In addition to the capital requirements for credit defaults of derivative counterparties as per margin no. 16-102, banks must also capitalize CVA risks of derivatives. This shall also be the case if the applicable accounting guidelines do not actually require the creation of provisions for value adjustments and the bank does not usually undertake such value adjustments. Capital adequacy requirements for CVA risks are called CVA capital requirements.

CVA capital requirements are not calculated on the individual positions but for the bank's entire portfolio (except if using the simplified approach). The calculation method is defined by the calculation method selected to determine the credit equivalents and for the specific interest rate risk held in the trading book. The following transactions do not need to be included in the CVA capital adequacy requirements:

- transactions which are guaranteed by a central counterparty, and 393*
- as a rule, repo and repo-like transactions. Should repo-like transactions bear significant CVA risks, the FINMA may demand that these be included in CVA capital adequacy requirements. 394*

Banks do not need to capitalize CVA risks for group-internal positions. 395*

A. Advanced Approach

(§99) Banks which use the EPE modeling method for credit equivalents of derivatives and the mark-to-market approach to determine the required capital for specific interest rate risks in their trading books shall calculate the capital adequacy requirements for CVA according to the Basel Minimum Standards. 396*

B. Standardized Approach

(§99) All other banks, i.e. banks that do not meet the requirements stipulated in margin no. 396, shall calculate the capital adequacy requirements for CVA using either the standardized approach or the simplified approach. 397*

The standardized approach uses the following formula to calculate the minimum capital (K) for the entire portfolio:¹¹ 398*

$$K = 2.33 \cdot \sqrt{\left(0.5 \sum_{\text{Counterparties } i} S_i - \sum_{\text{index positions } ind} S_{ind}\right)^2 + 0.75 \sum_{\text{Counterparties } i} (S_i)^2}$$

In this context,

$$S_i = w_i \left(\sum_{\text{netting sets } j} EAD_j \cdot M_j \cdot D_j - \sum_{\text{hedges } h} N_h \cdot M_h \cdot D_h \right)$$

shall be an approximation for the standard deviation of volatility due to CVA risks of counterparty "i" and

$$S_{ind} = W_{ind} \cdot N_{ind} \cdot D_{ind}$$

the corresponding standard deviation for the CDS index hedging position "ind". 399*

Furthermore, the following shall apply:

w_i is the weighting of the counterparty "i" on the basis of its external rating according to the table in margin no. 402. Subject to approval of the FINMA, the bank may map its internal rating to an external rating for counterparties without external rating. 400*

EAD_j refers to the credit equivalent (as per margin nos. 16–102) of one of the netting sets "j" underlying the CVA capital requirements (see margin no. 54) of positions taking into account collateral, as is used for capital requirements for default risks.

M_j is the effective maturity of the transactions "j". For banks using the EPE modeling approach, M_j must be calculated according to the provisions of the Basel Minimum Standards [Annex 4, §38], but without limiting M_j to 5 years. For all other banks, M_j is the greater value of 1 and the weighted average of the maturities (in number of years) of all transactions of the netting set; each transaction is weighted according to its nominal value.

¹¹ Some examples of this calculation are provided in Annex 4.

D_j is a discount rate of $[1 - \exp(-0.05 \cdot M_j)] / (0.05 \cdot M_j)$ for banks that use the current exposure method or standardized approach to determine credit equivalents. For banks using the EPE modeling approach, this discount is not allowed, as the discount factor is already included in the variable M_j , i.e. $D_j=1$.

N_h is the nominal value of a CDS position "h" used to hedge a CVA risk. If the CVA risk is not hedged by using CDS: $N_h=0$.

M_h is the residual term of the hedging instrument with nominal value N_h .

D_h is the discount rate of $[1 - \exp(-0.05 \cdot M_h)] / (0.05 \cdot M_h)$

W_{ind} is the weighting for index hedges. The bank shall assign to each index "ind" one of seven weightings w of the table in margin no. 402, based on their average spreads.

N_{ind} is the nominal value of an index CDS position "ind" used to hedge the CVA risk. If the CVA risk is not hedged by using an index CDS: $N_{ind}=0$.

M_{ind} is the residual term of the hedging instrument with nominal value N_{ind} .

D_{ind} is the discount rate of $[1 - \exp(-0.05 \cdot M_{ind})] / (0.05 \cdot M_{ind})$.

For counterparties also included in an index used to hedge an index CDS, this nominal value may be deducted on an individual basis from the nominal value of the index CDS and treated as a separate hedge (N_h) for this counterparty with a maturity reflecting this index's maturity. 401*

The weightings listed in this table shall be based on the counterparty's external rating: 402*

External Ratings ¹²	Weighting w
AAA – AA	0.7%
A	0.8%
BBB	1%
BB	2%
B	3%
CCC	10%

¹² See the concordance tables for details on mapping ratings by recognized external rating agencies to these weights.

Without Rating	Banks	1%
	Corporations	1.5%
	Public-law entities as per CAO Annex 2 Section 2.1	1.5%
	Public-law entities as per CAO Annex 2 Sections 2.2 and 2.3	1%
	Central governments and central banks	2%
	Swiss government, Swiss National Bank, European Central Bank, European Union	0.7%
	Other	2%

If two or more ratings exist for a counterparty, the weighting must be determined in application of the provisions in margin no. 6.

If a bank weights positions without using external ratings or if there is no rating from an external rating agency for a specific counterparty, the weight of the category “without rating” shall be used.

C. Simplified Approach

Banks that do not meet the criteria to use the advanced approach (margin no. 396) may use the simplified approach (margin no. 397 et seqq.) instead. 403*

In the simplified approach, the minimum capital required for CVA risks is determined separately for each contract or netting set (as per margin no. 54) and then these amounts are added together. 404*

For contracts without netting, the minimum required capital for CVA risks is 2.33 times the weight w (see table in margin no. 402) multiplied by the credit equivalent multiplied by the residual maturity (in number of years). Any residual maturity of less than one year must be rounded up to one year. 405*

For contracts with netting, the minimum capital for CVA risks for each netting set is 2.33 times the weight w (from table in margin no. 402) multiplied by the credit equivalent multiplied by the larger value of 1 or the weighted average of the residual maturities (in number of years) of all transactions in the netting set, whereas each transaction is weighted according to its nominal value. 406*

Banks that as a rule do not use any ratings may instead use a generic weight of $w = 2\%$ instead of the weights listed in the table in margin no. 402. 407*

XVIII. Credit and Replacement Risks of Derivatives and SFTs¹³ with Central Counterparties (Articles 69, 70 and 139 CAO)

In regard to positions of banks to central counterparties, the following provisional rules shall apply: these fully correspond to the interim provisions of the Basel III text for positions of banks to central counterparties (see margin no. 2.2.2). 408*

A. General Terms

- **A central counterparty (CCP)** is a clearing house that interposes itself between counterparties to contracts traded in one or more financial markets, becoming the buyer to every seller and the seller to every buyer, thereby ensuring the future performance of open contracts. A central counterparty can become a counterparty to a trade transaction with market participants in several ways: by novation, through an open bid system or by other contractually binding agreements. For Basel Minimum Standards, only a financial institution can be a central counterparty. 408.1*
- **A qualifying central counterparty (qualifying CCP, QCCP)** is an entity that is licensed to operate as a CCP (including a license granted either explicitly or as an exemption), and is permitted by the appropriate supervisory authority to operate as such with respect to the products offered. In addition, the central counterparty shall have its domicile in a jurisdiction in which it will be monitored for regulatory purposes and the competent supervisory authority publicly declares that the local rules and regulations are consistent at all times with the CPSS-IOSCO Principles for Financial Market Infrastructures. 408.2*

Supervisory authorities responsible for banks reserve the right to demand from the banks they supervise additional capital for positions to central counterparties that go beyond the minimum capital requirements. This might be appropriate where, for example, an external assessment such as an FSAP¹⁴ has found material shortcomings in the CCP or the regulation of CCPs, and the CCP and/or the supervisory authority concerned have not since publicly addressed the issues identified.

If a central counterparty is domiciled in a jurisdiction in which the supervisory authority responsible for central counterparties does not apply the CPSS-IOSCO principles to the central counterparty, the FINMA may decide whether the central counterparty meets this definition.

In order for a central counterparty to be considered a qualifying central counterparty (QCCP), it must provide or calculate the amounts mentioned in margin no. 408.30-408.44 (<§122, 123>) for the calculation of the capital required for default funds in accordance with margin no. 408.45 (<§124>).

- **A clearing member** is a member or a direct participant in a central counterparty that is entitled to enter into a transaction with the CCP, regardless of whether it enters into trades with a CCP for its 408.3*

¹³ Securities Financing Transactions (SFT) are transactions such as repurchase agreements (repos and reverse repos), securities lending and borrowing and securities lending (margin lending), in which the transaction value depends on market valuations that are often coupled with margining and remarking agreements.

¹⁴ Financial Sector Assessment Program.

own hedging, investment or speculative purposes or whether it also enters into trades as a financial intermediary between the CCP and other market participants.¹⁵

- A **client** is a party to a transaction with a CCP through either a clearing member acting as a financial intermediary, or a clearing member guaranteeing the performance of the client to the CCP. 408.4*
- **Initial margin** means a clearing member's or client's funded collateral posted to the CCP to mitigate the potential future exposure of the CCP to the clearing member arising from the possible future change in the value of their transactions. For the purpose of the following explanations, initial margin does not include contributions to a CCP for mutualized loss sharing arrangements (i.e. in case a CCP uses initial margin to mutualize losses among the clearing members, it will be treated as a default fund exposure). 408.5*
- **Variation margin (VM)** means a clearing member's or client's funded collateral posted on a daily or intra-day basis to a CCP based upon price movements of their transactions. 408.6*
- **Trade exposures** include the current¹⁶ and potential future exposure of a clearing member or a client to a CCP arising from OTC derivatives, exchange-traded derivatives or SFTs, as well as initial margin. 408.7*
- **Default funds (DFs)**, also known as clearing deposits or guarantee fund contributions (or any other names)¹⁷, are clearing members' funded or unfunded contributions towards, or underwriting of, a CCP's mutualized loss sharing arrangements. 408.8*
The description given by a CCP to its mutualized loss sharing arrangements is not determinative of their status as a default fund; rather, the substance of such arrangements will govern their status.
- **Offsetting transaction** means the transaction leg between the clearing member and the CCP when the clearing member acts on behalf of a client (e.g. when a clearing member clears or novates a client's trade). 408.9*

B. Scope

<§6i> Exposures to central counterparties arising from OTC derivatives, exchange-traded derivatives transactions and securities-financing transactions (SFTs)¹⁸ (SFT) will be subject to the counterparty credit risk treatment set out in margin nos. 408 and 408.12-408.48 of Section XVIII (<§106-127>).¹⁹ Exposures arising from the settlement of cash transactions (equities, fixed income, spot FX and spot commodities) are not subject to this treatment. The settlement of cash transactions remains subject to the treatment described in Article 76 CAO [Annex 3 in the Basel Basic Text]. 408.10*

¹⁵ For the purpose of these explanations, for a central counterparty settling transactions with another central counterparty the second central counterparty is to be considered to be the clearing member of the first. Whether collateral transferred by the second central counterparty to the first are to be considered as initial margin or as contribution to the default fund depends on the contractual provisions between the two central counterparties. The FINMA must be consulted in this regard.

¹⁶ For the purposes of this definition, the current exposure of a clearing member includes the variation margin due to the clearing member but not yet received.

¹⁷ "default fund, also known as clearing deposit or guaranty fund contributions (or any other name)".

¹⁸ See margin no. 288.1.

¹⁹ This in particular also applies to "brokered derivatives" of the clearing member on account of the client, if the clearing member guarantees the fulfillment obligation by the central counterparty to the client (see margin no. 408.16).

<§6ii> When the clearing member-to-client leg of an exchange-traded derivative transaction is conducted under a bilateral netting agreement, both the client bank and the clearing member are to capitalize that transaction as an OTC derivative. 408.11*

C. Central Counterparties

<§106> Regardless of whether a CCP is classified as a QCCP (see margin no. 408.2), a bank retains the responsibility to ensure that it maintains adequate capital for its exposures to the CCP. In the course of the bank's own assessment of its capital adequacy, a bank shall consider whether it might need to hold capital in excess of the minimum capital requirements if, for example, (i) its dealings with a CCP give rise to more risky exposures or (ii) where, given the context of that bank's dealings, it is unclear whether the CCP meets the definition of a QCCP. 408.12*

<§107> Where the bank is acting as a clearing member, the bank shall assess through appropriate scenario analysis and stress testing whether the level of capital held for exposures to a CCP adequately addresses the inherent risks of those transactions. This assessment shall include potential future or contingent exposures resulting from future drawings on default fund commitments, and/or from secondary commitments to take over or replace offsetting transactions from clients of another clearing member in case this clearing member defaults or becomes insolvent. 408.13*

<§108> A bank shall monitor and report to senior management and the appropriate committees of Management and the Board on a regular basis all of its exposures to CCPs, including exposures arising from trading through individual CCPs and exposures arising from CCP membership obligations such as default fund contributions and remargining calls. 408.14*

<§109> Where a bank is trading with a QCCP (see margin no. 408.2), margin nos. 408.16–408.46 (<§110–125>) will apply. In the case of non-qualifying CCPs, margin nos. 408.47–408.48 (<§126–127>) will apply. At most within three months of a central counterparty ceasing to qualify as a QCCP, unless the FINMA requires otherwise, the trades with a former QCCP may continue to be capitalized as though they are with a QCCP. After that time, the bank's exposures with such a central counterparty must be capitalized according to margin nos. 408.47–408.48 (<§126–127>). 408.15*

D. Positions toward Qualifying Central Counterparties

Trade exposures

<§110> Where a bank acts as a clearing member of a CCP for its own purposes, a risk weight of 2% shall be applied to the bank's trade exposure to the CCP in respect of OTC derivatives, exchange-traded derivative transactions and SFTs. Where the clearing member offers clearing services to a client, the 2% risk weight also applies to the clearing member's trade exposure to the CCP that arises when the clearing member is obligated to reimburse the client for any losses suffered due to changes in the value of its transactions in the event that the CCP defaults. 408.16*

<§111> The exposure amount (EAD) for such transactions is to be calculated in accordance with Section V using the Current Exposure Method, the Standardized Method or the EPE modeling method²⁰ or accord- 408.17*

²⁰ Changes to the EPE modeling approach under Basel III must also be taken into account in this context.

ing to the provisions on collateralized transactions credit and risk-mitigation techniques set forth in sections VI-XII, in line with the normal capital adequacy approach applied by such banks to such exposures.²¹

Where the respective exposure methodology allows for it, margining can be taken into account (initial margin and variation margin).

The 20-day floor for the minimum holding period as established in margin no. 163.1 will not apply for the calculation of exposures to central counterparties, provided that none of the criteria in margin nos. 163.2-163.4 (illiquid collateral or exotic trades) or in margin no. 163.6 is met (margin disputes). This shall refer to exposure calculations under the EPE modeling approach, the "shortcut method" in accordance with Annex 4, §41 of the Basel text with the corresponding amendments under Basel III, as well as to exposure calculations for repo and repo-like transactions as per section XI, and in particular margin no. 170.

<§112> Netting

408.18*

Where settlement is legally enforceable on a net basis in an event of default and regardless of whether the counterparty is insolvent or bankrupt, the total replacement cost of all contracts relevant to the trade exposure determination can be calculated as a net replacement cost if the applicable close-out netting agreements

(see margin no. 55.1) meet the following requirements:²²

- margin no. 115.0.1 [§173] and, if applicable margin no. 115 [§174] in the case of repo and repo-like trades;
- margin no. 115.2 [Annex 4, §96(i)-96(iii)] in the case of derivatives;
- §10-19 of Annex 4 of the Basel text in the case of the EPE modeling approach and cross-product netting.

To the extent that the rules referenced above include the term "master netting agreement," this term should be read as including any "netting agreement" that provides legally enforceable rights for netting of receivables and liabilities of all contracts in the netting set.²³ If the bank cannot demonstrate that netting agreements meet these rules, each single transaction will be regarded as a netting set of its own for the calculation of trade exposure.

Clearing Member Exposures to Clients

408.19*

<§113> The clearing member will always capitalize its exposure (including potential CVA risk exposure) to clients as bilateral trades, irrespective of whether the clearing member guarantees the trade or acts as an intermediary between the client and the CCP. However, to recognize the shorter close-out period for cleared transactions, clearing member banks can capitalize the exposure to their clients applying a margin

²¹ For OTC derivatives, see margin no. 148 [§151] for standard supervisory haircuts, or margin no. 151 [§154] for own-estimate haircuts, respectively; for SFTs, in particular margin no. 166 [§178] must be taken into account for the VaR model.

²² For the purposes of this Section XVIII, the treatment of netting agreements also applies to exchange-traded derivatives.

²³ This is to take account of the fact that for netting agreements employed by CCPs, no standardization has currently emerged that would be comparable to the level of standardization of bilateral netting agreements in OTC trading.

period of at least 5 days (if they adopt the EPE modeling method); or by multiplying the EAD by no less than 0.71 (if they adopt either the current exposure or the standardized method).²⁴

Bank Exposures as Clients of a Clearing Member

408.20*

<§114> Where a bank is a client of a clearing member, and it enters into a transaction with the clearing member acting as a financial intermediary (i.e. the clearing member completes an offsetting transaction with a CCP), the client's exposures to the clearing member may be treated as described in margin nos. 408.16-408.18, if the two conditions below are met (margin no. 408.21-408.22) Likewise, where a client enters into a transaction with the CCP, with a clearing member guaranteeing its performance, the client's exposures to the CCP may receive the treatment in margin nos. 408.16-408.18, if the following two conditions are met:

(a) The offsetting transactions are identified by the CCP as client transactions and collateral to support them is held by the CCP and/or the clearing member, as applicable, under arrangements that prevent any losses to the client due to: (i) the default or insolvency of the clearing member, (ii) the default or insolvency of the clearing member's other clients, and (iii) the joint default or insolvency of the clearing member and any of its other clients.²⁵

408.21*

The client shall be in a position to provide to the FINMA, if requested, an independent, written and substantiated legal opinion that concludes that, in the event of legal challenge, the relevant courts and administrative authorities would rule that the client would bear no losses on account of the insolvency of an intermediary clearing member or of any other clients of such intermediary under relevant law:

- the legislation of the jurisdiction(s) of the client, the clearing member and the CCP;
- if the foreign branch of the client, clearing member or CCP are involved, then also under the legislation of the jurisdiction(s) where the branch is/are located;
- the legislation that governs the individual transactions and collateral; and
- the legislation that governs any contract or agreement necessary to meet condition (a).

b) Relevant laws, regulation, rules, contractual, or administrative arrangements provide that the offsetting transactions with the defaulted or insolvent clearing member are highly likely to continue to be indirectly transacted through the CCP, or by the CCP, should the clearing member default or become insolvent. In such circumstances, the client positions and collateral with the CCP will be transferred at market value unless the client requests to close out the position at market value.

408.22*

<§115> Where a client is not protected from losses in the case that the clearing member and another client of the clearing member jointly default or become jointly insolvent, but all other conditions in margin

408.23*

²⁴ The risk reduction in case the margin period of risk is greater than 5 days are as follows: 6 days: 0.77, 7 days: 0.84, 8 days: 0.89, 9 days: 0.95, 10 days: 1

²⁵ Upon the insolvency of the clearing member, there should be no legal impediment (other than the need to obtain a court order the client may obtain) for the transfer of the collateral belonging to clients of a defaulting clearing member to the CCP, to one or more other surviving clearing members or to the client itself or a proxy. National supervisors should be consulted to determine whether this is achieved based on particular facts.

nos. 408.20-408.22 are met, a risk weight of 4% will apply to the clients' exposure (EAD) to the clearing member.

<§116> Where the bank is a client of a clearing member and the requirements in margin nos. 408.20-408.23 above are not met, the bank must capitalize its exposure (including potential CVA risk exposure, if applicable) to the clearing member as a bilateral trade. 408.24*

Treatment of posted collateral 408.25*

<§117> In all cases, any assets or collateral posted must, from the perspective of the bank posting such collateral, receive the risk weights that otherwise apply to such assets or collateral under the capital adequacy framework, regardless of the fact that such assets have been posted as collateral. Where assets or collateral of a clearing member or client are posted with a CCP or a clearing member and are not held in a bankruptcy remote manner, the bank posting such assets or collateral shall also meet capital adequacy requirements regarding the credit risk for the assets or collateral being exposed to risk of loss based on the creditworthiness of the entity²⁶ holding such assets or collateral.

<§118> Collateral posted by the clearing member (including cash, securities, other pledged assets, and excess initial or variation margin), that is held by a custodian²⁷, and is bankruptcy remote from the CCP, is not subject to a capital requirement for counterparty credit risk exposure to such bankruptcy-remote custodian. 408.26*

<§119> Collateral posted by a client, that is held by a custodian, and is bankruptcy remote from the CCP, the clearing member and other clients, is not subject to a capital requirement for counterparty credit risk. If the collateral is held at the CCP on a client's behalf and is not held on a bankruptcy remote basis, a 2% risk weight shall be applied to the collateral if the conditions established in margin nos. 408.20–408.22 are met; or 4% if the conditions in margin no. 408.23 are met. 408.27*

Default Fund Exposures 408.28*

<§120> Where a default fund is shared between products or trades with settlement risk only (e.g. shares and bonds) and products or trades which give rise to counterparty credit risk, i.e. OTC derivatives, exchange-traded derivatives or SFTs, all of the default fund contributions will receive the risk weight determined according to the methodologies set forth below, without apportioning to different classes or types of trades or products. However, where the default fund contributions from clearing members are segregated by product types and only usable for specific product types, the capital requirements for those default fund exposures determined according to the methodologies set forth below shall be calculated for each specific product giving rise to counterparty credit risk. In case the CCP's prefunded own resources are shared among product types, the CCP will have to allocate those funds to each of the calculations, in proportion to the respective product-specific EAD. (see DF CCP in margin no. 408.39).

²⁶ If the entity holding such collateral or assets is the CCP, a risk weight of 2% applies to collateral covered in the relevant position values of settled trades. The CCP's relevant risk weight will apply to assets or collateral posted for other purposes.

²⁷ In this paragraph, the word "custodian" may include a trustee, agent, pledgee, secured creditor or any other person that holds property in a way that does not give such person a beneficial interest in such property and will not result in such property being subject to legally enforceable claims by such persons creditors, or to a court-ordered stay of the return of such property, should such person become insolvent or bankrupt.

<§121> Whenever a bank is required to capitalize for exposures arising from default fund contributions to a qualifying CCP, it may apply one of the following approaches: 408.29*

Method 1 408.30*

<§122> Clearing member banks (CM banks) may apply a risk weight to their default fund contributions determined according to a risk-sensitive formula that considers: (i) the size and quality of a qualifying CCP's financial resources, (ii) the counterparty credit risk exposures of such CCP, and (iii) the application of such financial resources via the CCP's loss bearing waterfall, in the case of one or several clearing members default. The clearing member bank's risk-sensitive capital requirement for its default fund contribution (KCMi) must be calculated using the formulae and methodologies set forth below. This calculation may be performed by the CCP, the CM bank, the supervisory authority or another body with access to the required data, as long as the conditions in margin no. 408.45 are met.

<§123> The calculation steps shall be as follows:

K_{CCP} : 408.31*

First, calculate the CCP's hypothetical capital requirement in view of its counterparty credit risk exposures to all of its clearing members. This is calculated using the following formula for K_{CCP} ²⁸

Where

$$K_{CCP} = \sum_{clearing\ member\ 1} \max(EBRM_i - IM_i - DF_i, 0) \cdot RW \cdot capital\ quotient$$

RW corresponds to a risk weight of 20%.²⁹

The capital ratio is equal to 8%.

$\max(EBRM_i - IM_i - DF_i; 0)$ the exposure amount of the CCP to CM "i", with all values relating to the end-of-day valuation before the final margin call of that day is exchanged, and:

$EBRM_i$ denotes the CCP's exposure value to clearing member "i" before recognizing IM and DF as risk-mitigating measures when using the current exposure method for collateralized derivatives (margin nos. 200-201 and 16-63) or for collateralized derivatives when using the comprehensive approach to determine collateral (margin nos. 133-150 and 163-165, without 163.1) and with standardized regulatory haircuts for SFTs (margin nos. 199, 148-150, 115.0.1). This calculation also takes into consideration the variation margin that was exchanged (before the margin called on the final margin call of that day) in the mark-to-market value of the transactions. 408.32*

²⁸ K_{CCP} is the hypothetical capital adequacy requirement for a CCP, consistently calculated for the sole purpose of determining the capital required of clearing members' default fund contributions; it does not represent the actual capital requirements for a CCP which may be determined by the CCP together with its supervisory authority.

²⁹ The 20% weight is a minimum requirement. FINMA is authorized to increase this risk weight. Increasing this risk weight would be appropriate if, for example, a CCP's clearing members do not have a high-quality rating. Banks shall communicate any such increase in risk weight to the person responsible for calculation of capital requirements. Risk weights according to Article 49 and Annex 2 (6.1) and 3 (6.1) CAO do not apply to unwound/settled trade exposures and contributions to CCPs' default funds.

IM_i is the initial margin collateral posted by clearing member "i" with the CCP. 408.33*

DF_i is the default fund contribution deposited in advance by the clearing member "i" that will be applied in case of the clearing member's default, either along with or immediately following such member's initial margin (IM_i), to reduce the CCP's loss. 408.34*

As regards the calculation in this first step:

(i) For clarity's sake it should be noted that each exposure amount is the counterparty credit risk exposure amount a CCP has to a clearing member, calculated as a bilateral trade exposure; for OTC derivatives and exchange-traded derivatives, margin nos. 200-201 (§186–187) apply using the Current Exposure Method (CEM) described in Section V [Basel text Annex 4, Section VIII]; for SFTs, the standard regulatory haircuts stipulated in margin nos. 199 and 148 (§176, §151) apply. The minimum holding periods defined in margin no. 163 (§167) applying to SFTs also apply to netting sets containing more than 5000 trades, i.e. margin no. 163.1 will not apply in this context. 408.35*

In order to calculate K_{CCP} for derivatives using CEM, the weights of 40% in margin no. 59 needs to be replaced by 15% and the weight of 60% in margin no. 60 by 85%, i.e. $A_{Net} = (0.15 + 0.85 * NGR) * A_{Gross}$, where NGR (net to gross ratio) denotes the ratio described in margin no. 62. A_{Gross} denotes the sum of the individual add-ons described in margin no. 61. In addition, for the purposes of calculating K_{CCP} , the numerator of the NGR is $EBRM_i$ without the CEM add-on³⁰, and the denominator is the gross replacement cost³¹ of all transactions in the netting sets with clearing member "i". $EBRM$ and NGR must be calculated separately for each clearing members 'i'. If NGR cannot be calculated as described above, a transitional default NGR value of 0.3 must be applied until 31 March 2013. After this transitional period, the fallback approach established in margin no. 408.48 for non-qualifying central counterparties will apply. 408.36*

The add-on calculation under the CEM for options and swaptions settled through a CCP is adjusted by multiplying the notional amount of the contract by the absolute value of the option's delta, which, in turn, is calculated according to margin nos. 79-80. 408.37*

In the calculation of K_{CCP} , the netting sets to be considered for regulated clearing members are the same as those referred to in margin no. 408.18. All other clearing members need to follow the netting rules as laid out by the CCP at the time of its notification of a clearing member's trades. The FINMA can demand that netting sets be more granular than defined by the CCP to calculate K_{CCP} . 408.38*

(2) In a second step, the aggregate capital requirement for all clearing members (prior to concentration and granularity adjustment) need to be calculated, assuming a scenario where two average-sized clearing members default and, therefore, their default fund contributions are not available. This scenario is incorporated in the following risk-sensitive formula: 408.39*

³⁰ I.e. particularly the net replacement value in the denominator can only be netted within netting nets. The calculation must be based on end-of-day valuations without taking into account the last variation margin call of the day; however, already paid/received variation margins prior to the last variation margin call of the day must be taken into account in the valuations, but not in either the IM or the DF.

³¹ Should the margin call be settled more than once daily, the NGR must be calculated just before the margin is actually exchanged at the end of the day. NGR is expected to be positive and not equal to zero.

$$K_{CM}^* = \begin{cases} c_2 \cdot \mu \cdot (K_{CCP} - D') + c_2 \cdot D'_{CM} & \text{if } D'_{CM} < K_{CCP} & (i) \\ c_2 \cdot (K_{CCP} - DF_{CCP}) + c_1 \cdot (DF' - K_{CCP}) & \text{if } DF_{CCP} < K_{CCP} \leq D' & (ii) \\ c_1 \cdot DF'_{CM} & \text{if } K_{CCP} \leq DF_{CCP} & (iii) \end{cases}$$

where:

K_{CM}^* = aggregate capital required for default fund contributions from all clearing members prior to the application of granularity and concentration adjustments.

DF_{CCP} = the CCP's prefunded own resources (e.g. capital contributed to the default fund, retained earnings, etc.), which shall be used by the CCP to cover its losses before clearing members' default fund contributions are used to cover losses.

DF'_{CM} = Prefunded default fund contributions from surviving clearing members, available to mutualize losses under the assumed scenario of the default of two medium-sized clearing members, i.e.:

$$DF'_{CM} = DF_{CM} - 2 \cdot \overline{DF}_1$$

where \overline{DF}_i where it is the average default fund contribution.

$$DF' = DF_{CCP} - DF'_{CM}$$

DF' = total prefunded default fund contributions available to mutualize losses under the assumed scenario of the default of two medium-sized clearing members, i.e.

$$DF' = DF_{CCP} - DF'_{CM}$$

c_1 = a decreasing capital factor, between 0.16% and 1.6%, applied to the excess prefunded default funds provided by clearing members:

$$c_1 = \text{Max} \left\{ \frac{1.6\%}{\left(\frac{DF'}{K_{CCP}} \right)^{0.3}}; 0.16\% \right\}$$

c_2 = 100%; a capital factor applied if a CCP's own contributions to the default fund (DF_{CCP}) are lower than such a CCP's hypothetical capital required (K_{CCP}), and, as a result, the clearing member default funds are expected to help cover the CCP's hypothetical capital requirements (K_{CCP}).

μ = 1.2; an exposure factor of 1.2 is applied if all contributions to the default fund deposited in advance are smaller than (K_{CCP}).

Equation (i) in margin no. 408.39 applies when a CCP's total prefunded default fund contributions (DF) are lower than the CCP's hypothetical capital requirements (K_{CCP}). 408.40*

If a part of the CCP's own financial resources available to cover losses is used after all clearing members' default fund contributions (DFCM) are used to cover losses, then this part of the CCP's contribution to losses should be included as part of the total default fund (DF') for the calculation of equation (i).

Equation (ii) in margin no. 408.39 applies when a CCP's own resource contributions to losses (DF_{CCP}) is lower than K_{CCP} but the entire prefunded default contributions (DF) are enough to cover K_{CCP} ($DF' > K_{CCP}$). If a part of CCP's own financial resources is used in combination with the clearing members' default fund contributions to cover CCP losses, either on a pro rata basis or based on another formula, then equation (ii) needs to be adapted accordingly in consultation with the FINMA, such that this part of the CCP's contribution is treated just like a clearing member's contribution to the default fund. 408.41*

Equation (iii) described in margin no. 408.39 applies if the financial resources of a CCP (DF_{CCP}) available to cover the losses from clearing members' defaults are used prior to the default fund contributions of the other clearing members are used to cover losses greater than (K_{CCP}). 408.42*

(3) In a third and final step, the capital requirement for the default fund contributions of an individual clearing member 'i' (K_{CM_i}) is calculated by distributing K^*_{CM} to individual clearing members in proportion to the individual clearing member's share of the total prefunded default fund contributions³² and taking into account the CCP's granularity (by using the factor that accounts for the number of members 'N') and the CCP concentration (by using the factor β). 408.43*

$$K_{CM_i} = \left(1 + \beta \cdot \frac{N}{N-2}\right) \cdot \frac{DF_i}{DF_{CM}} \cdot K^*_{CM}$$

Where

$$\beta = \frac{A_{net,1} + A_{net,2}}{\sum_i A_{net,i}}$$

where subscripts 1 and 2 denote the clearing members with the two largest A_{Net} values. For derivatives A_{Net} is defined as in step 1 (margin no. 408.36), i.e.

$A_{net} = (0.15 + 0.85 \cdot NGR) \cdot A_{Gross}$; and for SFTs, A_{Net} will be replaced by

$E \cdot HE + C \cdot (H_C + H_{FX})$, as defined in margin nos. 144-150.

N = number of clearing members

DF_i = prefunded default fund contribution from clearing member 'i'

DF_{CM} = Prefunded default fund contributions from all clearing members (or any other member's financial resources contributed to cover collectively covered losses from the default of a clearing member).

³² Such an allocation method is based on the assumption that losses would be allocated in proportion to the prefunded DF contributions from CMs. If a CCP's practice differs, the allocation method may be adjusted in consultation with the FINMA.

Alternatively, where the above allocation method cannot be used because of the fact that the CCP does not have prefunded default fund contributions, the following conservative allocation method in the prescribed sequence may be used as an alternative: 408.44*

- Allocate K^*_{CM} based upon each CM's proportionate liability for default fund calls (unfunded DF commitment);
- Should the allocation method under 1 not be applicable; allocate K^*_{CM} based upon the size of each CM's pre-financed IM.

These allocation approaches would replace (DF_i / DF_{CM}) in the calculation of K_{CMi} .

<§124> The CCP, the bank, the supervisory authority in charge or any other body with access to the required data shall calculate K_{CCP} , DF_{CM} , and DF_{CCP} in such a way as to permit the CCP's supervisory authority to verify those calculations. Sufficient information shall be available to permit each clearing member bank to calculate its capital required for its share of the default fund and to allow the clearing member bank's supervisory authority (or an audit firm appointed by it) to verify and confirm such calculations. K_{CCP} should be calculated at least quarterly even though national supervisory authorities may require more frequent calculations in case of material changes (such as the CCP clearing a new product). The CCP, the bank, the supervisory authority in charge or any other body that did the calculations should make available to the home supervisory authority of any clearing member bank sufficient aggregate information on the composition of the CCP's exposures to clearing members and provide enough information to the clearing member to allow it to calculate K_{CCP} , DF_{CM} , and DF_{CCP} . Such information should be provided at least as frequently as the bank's home supervisory authority requires it to monitor the risk of the clearing member that it supervises. K_{CCP} and K_{CMi} must be recalculated at least quarterly, and shall also be recalculated when there are material changes to the number or exposure of cleared transactions or material changes to the CCP's financial resources. 408.45*

Method 2

<§125> Clearing member banks must apply a risk-weight of 1250% to their default fund exposures to the CCP, subject to an overall cap on the risk-weighted assets of all of its exposures to the CCP (i.e. including trade exposures). The cap amounts to 20% of trade exposures (EAD) to the CCP according to margin nos. 408.16-408.18. More specifically, under approach 2, the Risk Weighted Assets (RWA) for both the clearing member bank i and its default fund contributions are equal to:³³ 408.46*

$$\text{Min} \{ (2\% * TE_i + 1250\% * DF_i); (20\% * TE_i) \}$$

where

- TE_i is bank i 's trade exposure to the CCP, as measured according to margin nos. 408.16–408.18; and
- DF_i is clearing member bank i 's pre-funded contribution to the CCP's default fund.

³³ Under this approach the 2% risk weight on trade exposures (margin no. 408.16) does not apply as it is already included in the equation in margin no. 408.46.

E. Exposures to non-qualifying central counterparties

<§126> Banks must apply the Standardized Approach for credit risk to determine their capital requirements for their trade exposure to a non-qualifying CCP. 408.47*

<§127> Banks must apply a risk weight of 1250% to their capital requirements for default fund contributions provided to a non-qualifying CCP. In the case of non-qualifying CCPs, the default fund contributions of such banks will include both the prefunded as well as the unfunded contributions which are liable to be paid should the CCP so require. Where there is a liability for unfunded contributions (e.g. unlimited binding commitments) the FINMA shall determine the amount of unfunded commitments to which a 1250% risk weight is to be applied. 408.48*

XIX. Transitional provisions

A. Swiss Standardized Approach (SA-CH)

Banks making use of the transitional rules for using the SA-CH as per Article 137 CAO must apply the implementing provisions of FINMA circ. 2008/19 "Credit Risks – Banks" as valid under previous law. This shall include the Current Exposure Method as per SA-CH (margin nos. 16-63, 200), the risk weighting according to margin nos. 127-129 in the simplified approach, the risk weighting of margin no. 194 and the risk weighting of margin no. 249 for rating categories 1-5. Margin no. 203 of FINMA circ. 08/19 "Credit Risks – Banks" according to the new law shall also apply to banks using the SA-CH. 409*

This transitional provision does not apply to the calculation of TE_i in margin no. 408.46 in the context of capital requirements for default fund contributions of clearing member banks under Method 2 in margin no. 408.46.

B. Treatment of Exchange-traded Derivatives

Banks may determine credit equivalents for exchange-traded derivatives with the so-called exchange method as per previous law up to 31. 12. 2015. From 1 January 2016 onwards at the latest, however, exchange-traded derivatives must be treated like OTC derivatives; they will also be subject to a CVA capital charge. 410*

This transitional provision does not apply to the calculation of TE_i in margin no. 408.46 in the context of regulatory capital requirements for default fund contributions of clearing member banks under Method 2 in margin no. 408.46.

C. Transitional Provisions of 18 September 2013

The amendments dated 18 September 2013 on equity securities under IRB shall enter into force on 1.1.2014 and shall be implemented immediately. 411*

The other provisions that also changed on 18 September 2013 shall become effective as at 1 January 2014. With the exception of the unrestricted life insurance as per margin no. 413, these provisions are to be implemented by 30 June 2014. 412*

Until 31.12.2014, unrestricted life insurance with redemption value can be included as collateral using the simple and comprehensive approach as was possible under previous law (cf. margin nos. 118, 127, 148 and 163 and footnote 6 of FINMA circ. 08/19 in its version dated prior to 1.1.2014). 413*

Annex 1

Multilateral Development Banks

The following are classified as multilateral development banks as defined in Article 66 CAO or Annex 2 sect. 3.2:

- World Bank Group einschliesslich International Bank for Reconstruction and Development (IBRD) und International Finance Corporation (IFC)
- Asian Development Bank (ADB)
- African Development Bank (AfDB)
- European Bank for Reconstruction and Development (EBRD)
- Inter-American Development Bank (IADB)
- European Investment Bank (EIB)
- European Investment Fund (EIF)
- Nordic Investment Bank (NIB)
- Caribbean Development Bank (CDB)
- Islamic Development Bank (IDB)
- Council of Europe Development Bank (CEDB).

Annex 2

Abbreviations and Terms for IRB

A-IRB	Advanced IRB	fortgeschrittener IRB
CCF	credit conversion factor	Kreditumrechnungsfaktor
CCP	Central Counterparty	Zentrale Gegenpartei
CF	commodities finance	Rohstofffinanzierungen
CRE	commercial real estate	gewerbliche Liegenschaften
EAD	exposure at default	Positionswert bei Ausfall
EL	expected loss	erwarteter Verlust
F-IRB	foundation IRB	einfacher IRB
HVCRE	high-volatility commercial real-estate	Hochvolatile Renditeobjektfinanzierungen
IPRE	income-producing real estate	Renditeobjektfinanzierungen
IRB	Internal ratings-based approach	auf internen Ratings basierender Ansatz
LGD	loss given default	Verlustquote bei Ausfall
SMEs		kleine und mittlere Unternehmen
M	effective maturity	effektive Laufzeit
OF	object finance	Objektfinanzierungen
PD	probability of default	Ausfallwahrscheinlichkeit
PF	project finance	Financing projects
RRE	residential real estate	Wohnliegenschaften
RPV	replacement value	Wiederbeschaffungswert
SL	specialized lending	Spezialfinanzierungen
UL	unexpected loss	unerwarteter Verlust

Annex 3*

Amendments to the Basel Basic Text in regard to Securitizations

The following table provides information on how the Basel Basic Text (margin no. 2.1) was amended by the Basel Enhancements (margin no. 2.2) published in July 2009 in regard to securitizations.

Basler Basis- text	Basel Enhancement to the Basic Text	Comment
§538–540	No amendments	
§541	New paragraph §541(i) after §541	
§542–564	No amendments	
§565(a)...(f)	No amendments	
§565	Three new sub-paragraphs 565 (g) i), 565(g)(ii), 565(g)(iii)	
§565	Four new paragraphs 565(i), 565(ii), 565(iii), 565(iv) after §565	
§566	No amendments	
§567	Modified tables with risk weights	Standardized approach-based risk weights for securitization exposures (short-term and long-term ratings)
§568–578	No amendments	
§579	Revised	
§580	Deleted	
§581–612	No amendments	
§613	Revision of §613 (c)	Primarily a clarification, not a revision
§614	No amendments	
§615	Modified tables with risk weights	IRB risk weights for securitization positions (short-term ratings)
§616	Modified tables with risk weights	IRB risk weights for securitization positions (long-term ratings)
§617–622	No amendments	

Basler Basis- text	Basel Enhancement to the Basic Text	Comment
§623 (1)	<p>There were no amendments to the text itself, but clarifications regarding the minimum (floor) were added:</p> <p>Different application of the Supervisory Formula for securitization and re-securitization exposures.</p>	<p>Calculation of the tranche's capital expenditure: Item 1 (a)</p> <p>Unchanged floor for securitization exposures (floor = 7%). Item (a) uses the coefficient 0.0056 (=7% * 8%).</p> <p>With re-securitization exposures, the floor shall increase to 20%. The coefficient of (a) is to be adapted and fixed at 0.016 (=20% * 8%)</p>
§624-637	No amendments	
§638	Deleted	
§639	Revised	
§640-643	No amendments	

Annex 4*

Examples of the Standardized Approach for CVA Risks (margin nos. 397 – 402)

Example 1: Without hedging by way of a CDS

A bank has two counterparties. CP1 (with rating A) is the counterparty for two contracts that cannot be netted (or two netting sets of contracts that cannot be mutually netted). CP2 (with rating BB) is the counterparty for three contracts that cannot be netted (or three netting sets).

The rating of the counterparties is needed as input (bold in the table below) as well as the credit equivalents, taking into account collateral (EAD) and residual maturities (M) of all contracts (or netting sets). The discount factors of each are calculated according to the following formula:

$$D = \frac{1 - e^{-0.05 \cdot M}}{0.05 \cdot M}$$

Item S (an approximation for the standard deviation of volatility due to CVA risks) is calculated for each counterparty as the sum of EAD*M*D of all contracts multiplied by risk-weight w:

$$S = w \cdot \sum EAD \cdot M \cdot D$$

The minimum capital requirements for CVA risks are calculated as follows:

$$K = 2.33 \sqrt{(0.5 \cdot \sum S)^2 + 0.75 \cdot \sum (S^2)}$$

Table 1:

List of counterparties					K			
i	Rating	f			S			
1	A	0.8%	Contracts or netting sets		1.00			
			j	EAD		M	D	EAD*M*D
			1	10		15	0.704	105.5
			2	20		1	0.975	19.5
2	BB	2.0%	Contracts or netting sets		2.15			
			j	EAD		M	D	EAD*M*D
			1	10		10	0.787	78.7
			2	5		2	0.952	9.5
			3	20		1	0.975	19.5
					6.04			

Example 2: Hedges using CDSs and index CDSs.

Counterparties and contracts as in example 1. Two CDS hedges were concluded for the second counterparty. One CDS with nominal amount N=20 has a residual maturity of M=2 years and a CDS with nominal amount N=10 has a residual maturity of M=0.5 years. In this case, item S is reduced for the second counterparty:

$$S = w \left(\sum_{\text{contracts}} EAD \cdot M \cdot D - \sum_{\text{hedges}} N \cdot M \cdot D \right)$$

Moreover, two different index CDS hedges were concluded. The first index contains securities with an average rating of BBB. This hedge position runs over two years with a nominal value of 10. The first index contains securities with an average rating of BB. This hedge position runs over 10 years with a nominal value of 5. These hedges reduce the minimum capital adequacy further, namely via the first summand under the radical, according to the following formula:

$$K = 2.33 \sqrt{\left(0.5 \cdot \sum_{\text{counterparties}} S - \sum_{\text{index positions}} S_{\text{index}} \right)^2 + 0.75 \sum_{\text{counterparties}} (S^2)}$$

Table 2:

List of counterparties								K	
i	Rating	f					S		
1	A	0.8%	Contracts or netting sets				1.00	3.41	
			j	EAD	M	D			EAD*M*D
			1	10	15	0.704			105.5
			2	20	1	0.975			19.5
2	BB	2.0%	Contracts or netting sets				1.29		
			j	EAD	M	D			EAD*M*D
			1	10	10	0.787			78.7
			2	5	2	0.952			9.5
			3	20	1	0.975			19.5
			(individual counterparty) CDS hedges						
			h	N	M	D		N*M*D	
1	20	2	0.952	38.1					
2	10	0.5	0.988	4.9					
List of index CDS hedges									
ind	Rating	f	N	M	D	N*M*D	S _{index}		
1	BBB	2.0%	10	2	0.952	19.0	0.38		
2	BB	1.0%	5	10	0.787	39.3	0.39		

List of the amendments

The circular is amended as follows:

These amendments were passed on 17 November 2010 and shall enter into force on 1 January 2011.

Newly inserted margin nos. 2.1.2.2, 2.3, 391

Amended margin nos. 2, 102, 203, 215, 253, 266, 335, 382

These amendments were passed on 1 June 2012 and shall enter into force on 1 January 2013.

Newly inserted margin nos. 2.2.1, 4.1, 4.2, 11.1, 55.1 – 55.6, 56.1, 56.2, 115.1, 123.1, 135.1, 163.1 – 163.7, 216.1, 349.1, 380.1, 392 – 410

Amended margin nos. 2.3, 7, 8, 9, 11, 15, 16, 54, 55, 56, 102, 127 – 129, 133, 148, 163, 170, 194, 200, 203, 212 – 216, 249, 268, 280 – 283, 337, 338, 380, 381

Repealed margin nos. 21 – 23, 27 – 48

In addition, the references to the Capital Adequacy Ordinance (CAO; SR 952.03) have been adapted to the version entering into force on 1.1.2013.

These amendments were passed on 30 October 2012 and shall enter into force on 1 January 2013.

Newly inserted margin nos. 2.2.2, 115.0.1, 115.0.2, 381.1, 408.1 – 408.48

Amended margin nos. 2.3, 9, 11, 11.1, 288, 381, 400, 408, 409, 410

In addition, the references to the Capital Adequacy Ordinance (CAO; SR 952.03) have been adapted to the version entering into force on 1.1.2013.

These amendments were passed on 18 September 2013 and shall enter into force on 1 January 2014.

Newly inserted margin nos. 2.2.1, 13.1, 13.2, 13.3, 13.4, 232.1, 232.2, 411, 412, 413

Amended margin nos. 10, 20, 102, 116, 118, 124, 125, 127, 131, 148, 181, 200, 253, 266, 321, 325, 367, 368, 369, 372, 373, 374, 392, 405, 406, 408.10

Repealed margin nos. 319, 323, 353, 357, 358, 360, 362, 363, 364, 365, 366, 375, 376, 380

List of the amendments

The circular's annexes are amended as follows:

These amendments were passed on 17 November 2010 and shall enter into force on 1 January 2011.

Newly inserted: Annex 3

These amendments were passed on 1 June 2012 and shall enter into force on 1 January 2013.

Newly inserted: Annex 4

Amended: Annex 1

In addition, the references to the Capital Adequacy Ordinance (CAO; SR 952.03) have been adapted to the version entering into force on 1 January 2013.

Contacts

Philipp Rickert

Partner, Head of Financial Services, Member of the Executive Committee
Zurich
Tel. +41 58 249 42 13
prickert@kpmg.com

Cataldo Castagna

Partner, Financial Services
Zurich
Tel. +41 58 249 52 85
ccastagna@kpmg.com

Michael Schneebeli

Partner, Financial Services
Zurich
Tel. +41 58 249 41 06
mschneebeli@kpmg.com

Patrizio Aggio

Director, Financial Services
Lugano
Tel. +41 58 249 32 34
paggio@kpmg.com

Olivier Gauderon

Partner, Financial Services
Geneva
Tel. +41 58 249 37 56
ogauderon@kpmg.com

Markus Schunk

Partner, Head Investment Management
Zurich
Tel. +41 58 249 36 82
markusschunk@kpmg.com

Jürg Birri

Partner, Leiter Regulatory Competence Center
Zurich
Tel. +41 58 249 35 48
jbirri@kpmg.com

Mirko Liberto

Partner, Financial Services
Zurich
Tel. + 41 58 249 40 73
mirkoliberto@kpmg.com

Manfred Suppan

Director, Financial Services
Zurich
Tel. +41 58 249 57 98
msuppan@kpmg.com

www.kpmg.ch

The information contained herein is of a general nature and is not intended to address the circumstances of any particular individual or entity. Although we endeavor to provide accurate and timely information, there can be no guarantee that such information is accurate as of the date it is received, or that it will continue to be accurate in the future. No one should act on such information without appropriate professional advice after a thorough examination of the particular situation. The scope of any potential collaboration with audit clients is defined by regulatory requirements governing auditor independence.

© 2016 KPMG AG is a subsidiary of KPMG Holding AG, which is a member of the KPMG network of independent firms affiliated with KPMG International Cooperative ("KPMG International"), a Swiss legal entity. All rights reserved.