

## CALCULATING CAPITAL REQUIREMENTS FOR POSITION RISK

### Introduction

The capital requirement for position risk is based on the risk of adverse effects on the value of positions in the trading book of general movements in market interest rates or prices or movements specific to the issuer of a security.

For the purpose of this Annex position risk consists of two components, interest rate risk and equity position risk. Accordingly, credit institutions should calculate the **general market risk** arising from interest rate risk and the **specific risk** arising from exposures such as interest-bearing and discounted financial instruments, derivatives based on the movement of interest rates, foreign exchange forwards and interest rate exposures embedded in derivatives based on non-interest related derivatives. In all cases where positions give rise to interest rate risk there is general market interest rate risk. These risks may be accompanied by specific interest rate risk and/or counterparty/settlement risk, and/or foreign exchange risk and/or large exposures risk, depending on the nature of the position.

A credit institution which holds equity positions (whether long or short) in the trading book is exposed to the risk that the equity market as a whole may move against it – general risk – and that the value of individual equity positions relative to the market may move against the institution - specific risk.

### GENERAL PROVISIONS

#### Netting

1. The excess of an institution's long (short) positions over its short (long) positions in the same equity, debt and convertible issues and identical financial futures, options, warrants and covered warrants shall be its net position in each of those different instruments. In calculating the net position the authority shall allow positions in derivative instruments to be treated, as laid down in paragraphs 4 to 7, as positions in the underlying (or notional) security or securities. Institutions' holdings of their own debt instruments shall be disregarded in calculating specific risk under paragraph 14.
2. No netting shall be allowed between a convertible and an offsetting position in the instrument underlying it, unless the authority adopts an approach under which the likelihood of a particular convertible's being converted is taken into account or have a capital requirement to cover any loss which conversion might entail.
3. All net positions, irrespective of their signs, must be converted on a daily basis into the institution's reporting currency at the prevailing spot exchange rate before their aggregation.

**Particular instruments**

4. Interest-rate futures, forward-rate agreements (FRAs) and forward commitments to buy or sell debt instruments shall be treated as combinations of long and short positions. Thus a long interest-rate futures position shall be treated as a combination of a borrowing maturing on the delivery date of the futures contract and a holding of an asset with maturity date equal to that of the instrument or notional position underlying the futures contract in question. Similarly a sold FRA will be treated as a long position with a maturity date equal to the settlement date plus the contract period, and a short position with maturity equal to the settlement date. Both the borrowing and the asset holding shall be included in the first category set out in Table 1 in paragraph 16 in order to calculate the capital required against specific risk for interest-rate futures and FRAs. A forward commitment to buy a debt instrument shall be treated as a combination of a borrowing maturing on the delivery date and a long (spot) position in the debt instrument itself. The borrowing shall be included in the first category set out in Table 1 in paragraph 16 for purposes of specific risk, and the debt instrument under whichever column is appropriate for it in the same table.

The authority may allow the capital requirement for an exchange-traded future to be equal to the margin required by the exchange if they are fully satisfied that it provides an accurate measure of the risk associated with the future and that it is at least equal to the capital requirement for a future that would result from a calculation made using the method set out in this Annex or applying the internal models method described in Annex VII. The authority may also allow the capital requirement for an OTC derivatives contract of the type referred to in this paragraph cleared by a clearing house recognised by them to be equal to the margin required by the clearing house if they are fully satisfied that it provides an accurate measure of the risk associated with the derivatives contract and that it is at least equal to the capital requirement for the contract in question that would result from a calculation made using the method set out in the this Annex or applying the internal models method described in Annex VII.

For the purposes of this paragraph, 'long position' means a position in which an institution has fixed the interest rate it will receive at some time in the future, and 'short position' means a position in which it has fixed the interest rate it will pay at some time in the future.

5. Options on interest rates, debt instruments, equities, equity indices, financial futures, swaps and foreign currencies shall be treated as if they were positions equal in value to the amount of the underlying instrument to which the option refers, multiplied by its delta for the purposes of this Annex. The latter positions may be netted off against any offsetting positions in the identical underlying securities or derivatives. The delta used shall be that of the exchange concerned, that calculated by the competent authorities or, where that is not available or for

OTC-options, that calculated by the institution itself, subject to the competent authorities being satisfied that the model used by the institution is reasonable.

However, the authority may also prescribe that institutions calculate their deltas using a methodology specified by it.

Other risks, apart from the delta risk, associated with options shall be safeguarded against. The authority may allow the requirement against a written exchange-traded option to be equal to the margin required by the exchange if they are fully satisfied that it provides an accurate measure of the risk associated with the option and that it is at least equal to the capital requirement against an option that would result from a calculation made using the method set out in the remainder of this Annex or applying the internal models method described in Annex VII. The authority may also allow the capital requirement for an OTC option cleared by a clearing house recognised by them to be equal to the margin required by the clearing house if they are fully satisfied that it provides an accurate measure of the risk associated with the option and that it is at least equal to the capital requirement for an OTC option that would result from a calculation made using the method set out in the remainder of this Annex or applying the internal models method described in Annex VII. In addition they may allow the requirement on a bought exchange-traded or OTC option to be the same as that for the instrument underlying it, subject to the constraint that the resulting requirement does not exceed the market value of the option. The requirement against a written OTC option shall be set in relation to the instrument underlying it.

6. Warrants relating to debt instruments and equities shall be treated in the same way as options under paragraph 5.
7. Swaps shall be treated for interest-rate risk purposes on the same basis as on-balance sheet instruments. Thus, an interest-rate swap under which an institution receives floating-rate interest and pays fixed-rate interest shall be treated as equivalent to a long position in a floating-rate instrument of maturity equivalent to the period until the next interest fixing and a short position in a fixed-rate instrument with the same maturity as the swap itself.

#### A. TREATMENT OF THE PROTECTION SELLER

8. When calculating the capital requirement for market risk of the party who assumes the credit risk (the 'protection seller'), unless specified differently, the notional amount of the credit derivative contract shall be used. Notwithstanding the first sentence, the institution may elect to replace the notional value by the notional value, minus any market value changes of the credit derivative since trade inception. For the purpose of calculating the specific risk charge, other than for total return swaps, the maturity of the credit derivative contract, rather than the maturity of the obligation, shall apply. Positions are determined as follows:

- (i) A total return swap creates a long position in the general market risk of the reference obligation and a short position in the general market risk of a government bond with a maturity equivalent to the period until the next interest fixing and which is assigned a 0% risk weight under the Standardised Approach of BR/04. It also creates a long position in the specific risk of the reference obligation.
- (ii) A credit default swap does not create a position for general market risk. For the purposes of specific risk, the institution must record a synthetic long position in an obligation of the reference entity, unless the derivative is rated externally and meets the conditions for a qualifying debt item, in which case a long position in the derivative is recorded. If premium or interest payments are due under the product, these cash flows must be represented as notional positions in government bonds.
- (iii) A single name credit linked note creates a long position in the general market risk of the note itself, as an interest rate product. For the purpose of specific risk, a synthetic long position is created in an obligation of the reference entity. An additional long position is created in the issuer of the note. Where the credit linked note has an external rating and meets the conditions for a qualifying debt item, a single long position with the specific risk of the note need only be recorded.
- (iv) In addition to a long position in the specific risk of the issuer of the note, a multiple name credit linked note providing proportional protection creates a position in each reference entity, with the total notional amount of the contract assigned across the positions according to the proportion of the total notional amount that each exposure to a reference entity represents. Where more than one obligation of a reference entity can be selected, the obligation with the highest risk weighting determines the specific risk.

Where a multiple name credit linked note has an external rating and meets the conditions for a qualifying debt item, a single long position with the specific risk of the note need only be recorded.

- (v) A first-asset-to-default credit derivative creates a position for the notional amount in an obligation of each reference entity. If the size of the maximum credit event payment is lower than the capital requirement under the method in the first sentence of this paragraph, the maximum payment amount may be taken as the capital requirement for specific risk.

A second-asset-to-default credit derivative creates a position for the notional amount in an obligation of each reference entity less one (that with the lowest specific risk capital requirement). If the size of the maximum credit event payment is lower than the capital requirement

under the method in the first sentence of this paragraph, this amount may be taken as the capital requirement for specific risk.

Where an n-th-to-default credit derivative is externally rated, the protection seller shall calculate the specific risk capital charge using the rating of the derivative and apply the respective securitisation risk weights as applicable.

## B. TREATMENT OF THE PROTECTION BUYER

For the party who transfers credit risk (the 'protection buyer'), the positions are determined as the mirror principle of the protection seller, with the exception of a credit linked note (which entails no short position in the issuer). If at a given moment there is a call option in combination with a step-up, such moment is treated as the maturity of the protection. In the case of first-to default credit derivatives and nth to default credit derivatives, the following treatment applies instead of the mirror principle.

### **First-to-default credit derivatives**

Where an institution obtains credit protection, for a number of reference entities underlying a credit derivative under the terms that the first default among the assets shall trigger payment and that this credit event shall terminate the contract, the institution may offset specific risk for the reference entity to which the lowest specific risk percentage charge among the underlying reference entities applies according to Table 1 of this Annex.

### **Nth-to-default credit derivatives**

Where the nth default among the exposures triggers payment under the credit protection, the protection buyer may only offset specific risk if protection has also been obtained for defaults 1 to n-1 or when n-1 defaults have already occurred. In such cases, the methodology set out above for first-to-default credit derivatives shall be followed appropriately modified for nth-to-default products.

9. Institutions which mark to market and manage the interest-rate risk on the derivative instruments covered in paragraphs 4 to 7 on a discounted-cash-flow basis may use sensitivity models to calculate the positions referred to in those paragraphs and may use them for any bond which is amortised over its residual life rather than via one final repayment of principal. Both the model and its use by the institution must be approved by the authority. These models should generate positions which have the same sensitivity to interest-rate changes as the underlying cash flows. This sensitivity must be assessed with reference to independent movements in sample rates across the yield curve, with at least one sensitivity point in each of the maturity bands set out in Table 2 of paragraph 22.

The positions shall be included in the calculation of capital requirements according to the provisions laid down in paragraphs 16 to 33.

10. Institutions which do not use models under paragraph 9 may, with the approval of the authority, treat as fully offsetting any positions in derivative instruments covered in paragraphs 4 to 7 which meet the following conditions at least:
  - (a) the positions are of the same value and denominated in the same currency;
  - (b) the reference rate (for floating-rate positions) or coupon (for fixed-rate positions) is closely matched; and
  - (c) the next interest-fixing date or, for fixed coupon positions, residual maturity corresponds with the following limits:
    - (i) less than one month hence: same day;
    - (ii) between one month and one year hence: within seven days; and
    - (iii) over one year hence: within 30 days.
11. The transferor of securities or guaranteed rights relating to title to securities in a repurchase agreement and the lender of securities in a securities lending shall include these securities in the calculation of its capital requirement under this Annex provided that such securities meet the criteria laid down in paragraph 26.

### **INTEREST RATE POSITION RISK**

12. Net positions shall be classified according to the currency in which they are denominated and shall calculate the capital requirement for general and specific risk in each individual currency separately.
13. The aggregate capital requirement for interest rate risk will be the sum of the general market risk capital requirements **across currencies** (including the relative reporting currency) and the specific risk capital requirements.

#### **Specific and general risks**

14. The position risk on a traded debt instrument or equity (or debt or equity derivative) shall be divided into two components in order to calculate the capital required against it. The first shall be its specific-risk component — this is the risk of a price change in the instrument concerned due to factors related to its issuer or, in the case of a derivative, the issuer of the underlying instrument. The second component shall cover its general risk — this is the risk of a price change in the instrument due (in the case of a traded debt instrument or debt derivative) to a change in the level of interest rates or (in the case of an equity or equity

derivative) to a broad equity-market movement unrelated to any specific attributes of individual securities.

#### TRADED DEBT INSTRUMENTS

15. Net positions shall be classified according to the currency in which they are denominated and shall calculate the capital requirement for general and specific risk in each individual currency separately.

#### **Specific risk**

16. In those cases where debt securities issued by entities listed in Table 1 below are denominated and funded in domestic currency a 0% weighting can be assigned to such debt securities.
17. The reporting credit institution shall assign its net positions in the trading book in instruments that are not securitization positions, as calculated in accordance with paragraph 1 to the appropriate categories in Table 1 on the basis of their issuer/obligor, external or internal credit assessment, and residual maturity, and then multiply them by the weightings shown in that table. It shall sum its weighted positions resulting from the application of this point (regardless of whether they are long or short) in order to calculate its capital requirement against specific risk. It shall calculate its capital requirement against specific risk for positions that are securitization positions in accordance with paragraph 19a.

For the purposes of this paragraph and paragraphs 17a and 19a, the reporting credit institution may cap the product of the weight and the net position at the maximum possible default-risk related loss. For a short position, that limit may be calculated as a change in value due to the underlying names immediately becoming default risk-free.

Appendix III-A to this Annex sets out a table for the calculation of the Interest Rate Specific Risk.

Table 1

Categories	Specific risk capital charge
Debt securities issued or guaranteed by central governments, issued by central banks, international organizations, multilateral development banks or Member States' regional government or local authorities which would qualify for credit quality step 1 or which would receive a 0% risk weight under the rules for the risk weighting of exposures under the Standardised Approach.	0%
Debt securities issued or guaranteed by central governments, issued by central banks, international organizations, multilateral development banks or Member States' regional governments or local authorities which would qualify for credit quality step 2 or 3 under the rules for the risk weighting of exposures under the Standardised Approach of BR/04, and debt securities issued or guaranteed by institutions which would qualify for credit quality step 1 or 2 under the rules for the risk weighting of exposures under the Standardised Approach of BR/04, and debt securities issued or guaranteed by institutions which would qualify for credit quality step 3 under the rules for the risk weighting of exposures under the Standardised Approach of BR/04, and debt securities issued or guaranteed by corporates which would qualify for credit quality step 1, 2 or 3 under the rules for the risk weighting of exposures under the Standardised Approach of BR/04.  Other qualifying items as defined in paragraph 17 below.	0.25% (residual term to final maturity 6 months or less)  1.00% (residual term to final maturity greater than 6 months and up to and including 24 months)  1.60% (residual term to maturity exceeding 24 months)



<p>Debt securities issued or guaranteed by central governments, issued by central banks, international organizations, multilateral development banks or Member States' regional governments or local authorities or institutions which would qualify for credit quality step 4 or 5 under the rules for the risk weighting of exposures under the Standardised Approach of BR/04, and debt securities issued or guaranteed by institutions which would qualify for credit quality step 3 under the rules for the risk weighting of exposures under the Standardised Approach of BR/04 and debt securities issued or guaranteed by corporates which would qualify for credit quality step 4 under the rules for the risk weighting of exposures under the Standardised Approach of BR/04.</p> <p>Exposures for which a credit assessment by a nominated credit rating agency is not available.</p>	8.00%
<p>Debt securities issued or guaranteed by central governments, issued by central banks, international organizations, multilateral development banks or Member States' regional governments or local authorities or institutions which would qualify for credit quality step 6 under the rules for the risk weighting of exposures under the Standardised Approach of BR/04, and debt securities issued or guaranteed by corporates which would qualify for credit quality step 5 or 6 under the rules for the risk weighting of exposures under the Standardised Approach of BR/04.</p>	12.00%

For institutions which apply the rules for the risk weighting of exposures under the IRB Approach, to qualify for a credit quality assessment step the obligor of the exposure shall have an internal rating with a probability of default equivalent to or lower than that associated with the appropriate credit quality assessment step under the rules for the risk weighting of exposures to corporates under the Standardised Approach of BR/04.

Instruments issued by a non-qualifying issuer shall receive a specific risk capital charge of 8% or 12% according to Table 1 above. The authority may require institutions to

apply a higher specific risk charge to such instruments and/or to disallow offsetting for the purposes of defining the extent of general market risk between such instruments and any other debt instruments.

Securitisation exposures that would be subject to a deduction from Own Funds as set out in BR/03 or risk weighted at 1250% as set out in Appendix 3 Section I.4 of BR/04, shall be subject to a capital charge that is no less than that set out under those treatments. Unrated liquidity facilities shall be subject to a capital charge that set out in Appendix 3 Section I.4 of Banking Rule BR/04.

- 17a. By way of derogation from paragraph 17, an institution may determine the larger of the following amounts as the specific risk capital charge for the correlation trading portfolio:
- (a) the total specific risk capital charges that would apply just to the net long positions of the correlation trading portfolio;
  - (b) the total specific risk capital charges that would apply just to the net short positions of the correlation trading portfolio.
- 17b. The correlation trading portfolio shall consist of securitization positions and n-th-to-default credit derivatives that meet the following criteria:
- (a) the positions are neither re-securitisation positions, nor options on a securitization tranche, nor any other derivatives of securitization exposures that do not provide a pro-rata share in the proceeds of a securitization tranche; and
  - (b) all reference instruments are either single-name instruments, including single-name credit derivatives for which a liquid two-way market exists, or commonly-traded indices based on those reference entities. A two-way market is deemed to exist where there are independent bona fide offers to buy and sell so that a price reasonably related to the last sales price or current bona fide competitive bid and offer quotations can be determined within 1 day and settled at such price within a relatively short time conforming to trade custom.
- 17c. Positions which reference either of the following shall not be part of the correlation trading portfolio:
- (a) an underlying that is capable of being assigned to the exposure classes referred to in Banking Rule BR/04 Appendix 2 Section I.1 paragraph 4.0 (h) and (i), in an institution's non-trading book; or
  - (b) a claim on a special purpose entity.

A reporting credit institution may include in the correlation trading portfolio positions which are neither securitization positions nor n-th-to-default credit derivatives but which hedge other positions of that portfolio, provided that a liquid two-way market as described in paragraph 17b (b) exists for the instrument or its underlyings.

18. For the purposes of paragraph 16 *qualifying items* shall include:
- (a) long and short positions in assets qualifying for a credit quality step corresponding at least to investment grade in the mapping process described in the Standardised Approach of BR/04;
  - (b) long and short positions in assets which, because of the solvency of the issuer, have a probability of default which is not higher than that of the assets referred to under (a) above, under the Internal Ratings Based Approach of BR/04;
  - (c) long and short positions in assets for which a credit assessment by a nominated external credit assessment institution is not available and which meet the following conditions:
    - (i) they are considered by the institutions concerned to be sufficiently liquid;
    - (ii) their investment quality is, according to the institution's own discretion, at least equivalent to that of the assets referred to under paragraph (a) above;
    - (iii) they are listed on at least one regulated market in a Member State or on a stock exchange in a third country provided that the exchange is recognized by the competent authorities of the relevant Member State;
  - (d) long and short positions in assets issued by institutions which are considered by the institutions concerned to be sufficiently liquid and whose investment quality is, according to the institution's own discretion, at least equivalent to that of the assets referred to under paragraph (a); and
  - (e) securities issued by institutions that are deemed to be of equivalent, or higher, credit quality than those associated with credit quality assessment step 2 under the rules for the risk weighting of exposures to institutions set out under the Standardised Approach of BR/04 and that are subject to supervisory and regulatory arrangements comparable to those under this Rule.

The manner in which the debt instruments are assessed shall be subject to scrutiny by the authority, which shall overturn the judgement of the institution if the authority considers that the instruments concerned are subject to too high a degree of specific risk to be qualifying items.

19. The authority shall require the institution to apply the maximum weighting shown in Table 1 to instruments that show a particular risk because of the insufficient solvency of the issuer of liquidity.
- 19a. For instruments in the trading book that are securitization positions, the institution shall weight with the following its net positions as calculated in accordance with paragraph 1:
  - (a) for securitization positions that would be subject to the Standardised Approach for credit risk in the same institution's non-trading book, 8% of the risk weight under the Standardised Approach as set out in Banking Rule BR/04 Appendix 3 Section I.4;
  - (b) for securitization positions that would be subject to the Internal Ratings Based Approach in the same reporting credit institution's non-trading book, 8% of the risk weight under the Internal Ratings Based Approach as set out in Banking Rule BR/04 Appendix 3 Section I.4.

For the purpose of points (a) and (b), the Supervisory Formula Method may be used only with supervisory approval by institutions other than an originator institution that may apply it for the same securitization position in its non-trading book. Where relevant, estimates of PD and LGD as inputs to the Supervisory Formula Method shall be determined in accordance with the Internal Ratings Based Approach or alternatively and subject to separate supervisory approval, based on estimates that are derived from an approach set out in point 5a of Annex VII and that are in line with the quantitative standards for the Internal Ratings Based Approach.

Notwithstanding points (a) and (b), for securitization positions that would be subject to a risk weight in accordance with Banking Rule BR/04 Appendix 3 Section I.1 part 1.0 if they were in the same credit institution's non-trading book, 8% of the risk weight in accordance with Banking Rule BR/04 Appendix 3 Section I.1 part 1.0 shall be applied.

The reporting credit institution shall sum its weighted positions resulting from the application of this point (regardless of whether they are long or short) in order to calculate its capital requirement against specific risk.

By way of derogation from the fourth paragraph, for a transitional period ending 31 December 2013, the institution shall sum separately its weighted net long positions and its weighted net short positions. The larger of those sums shall

constitute the specific risk capital requirement. The institution shall, however, report to the Authority the total sum of its weighted net long and net short positions, broken down by types of underlying assets.

### **General Interest Rate Risk**

20. The capital requirement for general market risk for traded debt instruments is designed to capture the risk of loss arising from changes in market interest rates. The requirement must be calculated using either the *maturity-based approach* or, the *duration-based approach*. Each of these methods is set out in the following paragraphs. In each method, the capital charge is the sum of the following elements:

- a proportion of the matched positions in each maturity-band (under the maturity-based approach);
- a proportion of the matched positions in each of the three zones found in Tables 2 and 3 below;
- the unmatched position in the whole trading book; and
- a capital charge for options.

21. Returns based either on Appendix III-B and/or Appendix III-C should be completed for each currency. Capital charges should be calculated for each currency separately, converted into Euro at prevailing spot rates and then summed arithmetically to give the total general market risk requirement.

#### **(a) Maturity-based approach**

22. The steps in calculating the general risk requirement for interest rate position risk under the maturity-based approach are as follows:

- (a) The institution shall assign its net positions to one of the maturity bands (note that the maturity bands are grouped into three zones) in Table 2, on the following basis:
  - (i) Fixed-rate instruments will be allotted their maturity bands based upon the residual time to maturity and whether their coupon is above/below 3%.
  - (ii) Floating rate instruments will be allotted to maturity bands based upon the time remaining to the re-determination of the coupon.

Table 2

Zone	Maturity band		Weighting (in %)	Assumed interest rate Change (in %)
	Coupon of 3% Or more	Coupon of less than 3%		
(1)	(2)	(3)	(4)	(5)
<b>One</b>	0 ≤ 1 month	0 ≤ 1 month	0.00	-
	> 1 ≤ 3 months	> 1 ≤ 3 months	0.20	1.00
	> 3 ≤ 6 months	> 3 ≤ 6 months	0.40	1.00
	> 6 ≤ 12 months	> 6 ≤ 12 months	0.70	1.00
<b>Two</b>	> 1 ≤ 2 years	> 1.0 ≤ 1.9 years	1.25	0.90
	> 2 ≤ 3 years	> 1.9 ≤ 2.8 years	1.75	0.80
	> 3 ≤ 4 years	> 2.8 ≤ 3.6 years	2.25	0.75
<b>Three</b>	> 4 ≤ 5 years	> 3.6 ≤ 4.3 years	2.75	0.75
	> 5 ≤ 7 years	> 4.3 ≤ 5.7 years	3.25	0.70
	> 7 ≤ 10 years	> 5.7 ≤ 7.3 years	3.75	0.65
	> 10 ≤ 15 years	> 7.3 ≤ 9.3 years	4.50	0.60
	> 15 ≤ 20 years	> 9.3 ≤ 10.6 years	5.25	0.60
	> 20 years	> 10.6 ≤ 12.0 years	6.00	0.60
		> 12.0 ≤ 20.0 years > 20 years	8.00 12.50	0.60 0.60

- (b) Multiply the market value of the individual long and short net positions in each maturity band by the weighting factors given in Table 2 giving weighted long positions and weighted short positions respectively.
- (c) The matched and unmatched weighted positions in each maturity band are calculated as follows: where a maturity band has both weighted long and short positions, the extent to which the one offsets the other is called the matched weighted position. The remainder (i.e., the excess of the weighted long positions over the weighted short positions, or vice versa, within a band) is called the unmatched weighted position for that band.
- (d) The matched and unmatched weighted positions in each zone are calculated as follows: where a zone has both unmatched weighted long and short positions for various bands, the extent to which the one offsets the other is called the matched weighted position for that zone. The remainder (i.e., the excess of the weighted long positions over the weighted short positions, or vice versa, within a zone) is called the unmatched weighted position for that zone.

- (e) Unmatched weighted positions for a zone may be offset against positions in other zones as follows:
- (i) The unmatched weighted long (short) position in zone one may offset the unmatched weighted short (long) position in zone two. The extent to which the unmatched weighted position in zones one and two are offsetting is described as the matched weighted positions between zones one and two;
  - (ii) After (i), any residual unmatched weighted long (short) positions in zone two may then be matched by offsetting unmatched weighted short (long) position in zone three. The extent to which the unmatched positions in zones two and three are offsetting is described as the matched weighted position between zones two and three.
- The calculations in (i) and (ii) may be carried out in reverse order (i.e., zones two and three followed by zones one and two).
- (iii) After (i) and (ii) any residual unmatched weighted long (short) positions in zone one shall then be matched by offsetting unmatched weighted short (long) positions in zone three. The extent to which the unmatched positions in zones one and three are offsetting is described as the matched weighted position between zones one and three.
- (f) Any residual unmatched weighted positions following the matching calculations within a band, within a zone, and between zones shall be summed.

23. The general interest rate risk capital requirements will be the sum of:

- |     |   |        |
|-----|---|--------|
| (a) | Matched weighted positions in all maturity bands      | x 10%  |
| (b) | Matched weighted position in zone one                 | x 40%  |
| (c) | Matched weighted position in zone two                 | x 30%  |
| (d) | Matched weighted position in zone three               | x 30%  |
| (e) | Matched weighted position between zones one and two   | x 40%  |
| (f) | Matched weighted position between zones two and three | x 40%  |
| (g) | Matched weighted position between zones one and three | x 150% |
| (h) | Residual unmatched weighted positions                 | x 100% |

24. Appendix III – B to this Annex sets out a table for the calculation of general interest rate risk capital requirements according to the maturity-based approach.

**(b) Duration-based approach**

25. A credit institution may use a system for calculating the capital requirement for the general risk on traded debt instruments and other sources of interest rate exposures which reflects duration instead of the system set out above, provided that the institution does so on a consistent basis.
26. Credit institutions should notify the authority of the circumstances in which they intend to adopt this method and once chosen, it must be applied consistently to categories of instruments within trading units and has to be specified in the institution's policy statement.
27. The steps in calculating the general risk requirement for interest rate position risk under the duration-based approach are as follows:

- (a) Under such a system the institution shall take the market value for each individual net position of each fixed rate debt instrument and calculate its yield to maturity. In the case of each individual net position of floating-rate instruments, the institution shall take the market value of each instrument and treat as its final maturity the date on which the coupon is next re-determined. The credit institution will then derive either the money market yield (in the case of an instrument which has a maturity of less than one year) or the yield-to-maturity (in the case of a maturity of more than 1 year);
- (b) The credit institution shall then calculate the modified duration of each debt instrument on the basis of the following formula:

$$D = \left( \frac{\sum_{t=1}^m (tC_t) / ((1+r)^t)}{\sum_{t=1}^m (C_t) / ((1+r)^t)} \right)$$

where:

$r$  = yield to maturity (see paragraph 23),

$C_t$  = cash payment in time  $t$ ,

$m$  = total maturity (see paragraph 23).

- (c) The institution shall then allocate individual net positions at current market value to the appropriate zone in Table 3. It shall do so on the basis of the modified duration of each instrument.
- (d) The credit institution will then calculate the modified duration-weighted position for each individual net position by multiplying its current market value by the modified duration and the assumed change in rates to obtain the weighted individual net positions.



- (e) The matched and unmatched weighted net individual positions in each zone are calculated as follows: where a zone has both weighted long and short positions, the extent to which the one offsets the other is called the matched weighted position for that zone. The remainder (i.e., the excess of the weighted long positions over the weighted short positions, or vice versa) is called the unmatched weighted position for that zone.

Table 3

<b>Zone</b>	<b>Modified duration (in years)</b>	<b>Assumed interest change (in %)</b>
<b>(1)</b>	<b>(2)</b>	<b>(3)</b>
One	$> 0 \leq 1.0$	1.0
Two	$> 1.0 \leq 3.6$	0.85
Three	$> 3.6$	0.7

- (f) Unmatched weighted positions for a zone may be offset against positions in other zones as follows:
- (i) The unmatched weighted long (short) position in zone one may offset the unmatched weighted short (long) position in zone two. The extent to which the unmatched weighted position in zones one and two are offsetting is described as the matched weighted positions between zones one and two;
- (ii) After (i), any residual unmatched weighted long (short) positions in zone two may then be matched by offsetting unmatched weighted short (long) position in zone three. The extent to which the unmatched positions in zones two and three are offsetting is described as the matched weighted position between zones two and three.

The calculations in (i) and (ii) may be carried out in reverse order (i.e., zones two and three followed by zones one and two).

- (iii) After (i) and (ii) any residual unmatched weighted long (short) positions in zone one shall then be matched by offsetting unmatched weighted short (long) positions in zone three. The extent to which the unmatched positions in zones one and three are offsetting is described as the matched weighted position between zones one and three.

- (g) Any residual unmatched weighted positions following the matching calculations within a band, within a zone, and between zones shall be summed.
28. The institution's capital requirement shall then be calculated as the sum of:
- |  |        |
|--|--------|
| (a) Matched weighted positions in all zones                | x 2%   |
| (b) Matched weighted positions between zones one and two   | x 40%  |
| (c) Matched weighted positions between zones two and three | x 40%  |
| (d) Matched weighted position between zones one and three  | x 150% |
| (e) Residual unmatched weighted positions                  | x 100% |
29. Appendix III-C to this Annex sets out a table for the calculation of general interest rate risk capital requirements according to the duration-based approach.

#### EQUITIES

30. The institution shall sum all its net long positions and all its net short positions in accordance with paragraph 1. The sum of the two figures shall be its overall gross position. The difference between them shall be its overall net position.

#### Specific risk

31. The institution shall sum all its net long positions and all its net short positions in accordance with paragraph 1. It shall multiply its overall gross position by 8% in order to calculate its capital requirement against specific risk.
32. Point 32 deleted as per EU Directive 2010/76/EU.

#### General risk

33. Its capital requirement against general risk shall be its overall net position multiplied by 8%.

#### Stock-index futures

34. Stock-index futures, the delta-weighted equivalents of options in stock-index futures and stock indices collectively referred to hereafter as 'stock-index futures', may be broken down into positions in each of their constituent equities. These positions may be treated as underlying positions in the equities in question, and may, subject to the approval of the authority, be netted against opposite positions in the underlying equities themselves.

35. The authority shall ensure that any institution which has netted off its positions in one or more of the equities constituting a stock-index future against one or more positions in the stock-index future itself has adequate capital to cover the risk of loss caused by the future's values not moving fully in line with that of its constituent equities; they shall also do this when an institution holds opposite positions in stock-index futures which are not identical in respect of either their maturity or their composition or both.
36. By derogation from paragraphs 34 and 35, stock-index futures which are exchange traded and - in the opinion of the competent authorities - represent broadly diversified indices shall attract a capital requirement against general risk of 8%, but no capital requirement against specific risk. Such stock-index futures shall be included in the calculation of the overall net position in paragraph 32, but disregarded in the calculation of the overall gross position in the same paragraph.
37. If a stock-index future is not broken down into its underlying positions, it shall be treated as if it were an individual equity. However, the specific risk on this individual equity can be ignored if the stock-index future in question is exchange traded and, in the opinion of the authority, represents a broadly diversified index.

#### UNDERWRITING

38. In the case of the underwriting of debt and equity instruments, the authority may allow an institution to use the following procedure in calculating its capital requirements. Firstly, it shall calculate the net positions by deducting the underwriting positions which are subscribed or sub-underwritten by third parties on the basis of formal agreements. Secondly, it shall reduce the net positions by the reduction factors in Table 4.

*Table 4*

working day 0:	100%
working day 1:	90%
working days 2 to 4:	75%
working day 4:	50%
working day 5:	25%
after working day 5:	0%

'Working day zero' shall be the working day on which the institution becomes unconditionally committed to accepting a known quantity of securities at an agreed price.

Thirdly, it shall calculate its capital requirements using the reduced underwriting positions.

The authority shall ensure that the institution holds sufficient capital against the risk of loss which exists between the time of the initial commitment and working day 1.

#### SPECIFIC RISK CAPITAL CHARGES FOR TRADING BOOK POSITIONS HEDGED BY CREDIT DERIVATIVES

39. An allowance shall be given for protection provided by credit derivatives, in accordance with the principles set out in paragraphs 40 to 43.
40. Full allowance shall be given when the value of two legs always move in the opposite direction and broadly to the same extent. This will be the case in the following situations:
  - (a) the two legs consist of completely identical instruments; or
  - (b) a long cash position is hedged by a total rate of return swap (or vice versa) and there is an exact match between the reference obligation and the underlying exposure (i.e. the cash position). The maturity of the swap itself may be different from that of the underlying exposure.

In these situations, a specific risk capital charge should not be applied to either side of the position.

41. An 80% offset will be applied when the value of two legs always move in the opposite direction and where there is an exact match in terms of the reference obligation, the maturity of both the reference obligation and the credit derivative, and the currency of the underlying exposure. In addition, key features of the credit derivative contract should not cause the price movement of the credit derivative to materially deviate from the price movements of the cash position. To the extent that the transaction transfers risk, an 80% specific risk offset will be applied to the side of the transaction with the higher capital charge, while the specific risk requirements on the other side shall be zero.
42. Partial allowance shall be given when the value of two legs usually move in the opposite direction. This would be the case in the following situations:

- (a) the position falls under paragraph 40(b) but there is an asset mismatch between the reference obligation and the underlying exposure. However, the positions meet the following requirements:
  - (i) the reference obligation ranks *pari passu* with or is junior to the underlying obligations; and
  - (ii) the underlying obligation and reference obligation share the same obligor and have legally enforceable cross-default or cross-acceleration clauses;
- (b) the position falls under paragraph 40(a) or paragraph 41 but there is a currency or maturity mismatch between the credit protection and the underlying asset (currency mismatches should be included in the normal reporting foreign exchange risk under Annex I); or
- (c) the position falls under paragraph 41 but there is an asset mismatch between the cash position and the credit derivative. However, the underlying asset is included in the (deliverable) obligations in the credit derivative documentation.

In each of those situations, rather than adding the specific risk capital requirements for each side of the transaction, only the higher of the two capital requirements shall apply.

- 43. In all situations not falling under paragraphs 40 to 42, a specific risk capital charge will be assessed against both sides of the positions.

**Capital charges for CIUs in the trading book**

- 44. The capital requirements for positions in CIUs which meet the conditions specified in paragraph 27 of this Rule for a trading book capital treatment shall be calculated in accordance with the methods set out in paragraphs 45 to 53.
- 45. Without prejudice to other provisions in this section, positions in CIUs shall be subject to a capital requirement for position risk (specific and general) of 32%. Without prejudice to the provisions of the fourth paragraph of paragraph 1.1.0 of Annex I or the sixth paragraph of paragraph 12 of Annex V (commodity risk) taken together with the fourth paragraph of paragraph 1.1.0 of Annex I, where the modified gold treatment set out in those paragraphs is used, positions in CIUs shall be subject to a capital requirement for position risk (specific and general) and foreign-exchange risk of no more than 40%.
- 46. Institutions may determine the capital requirement for positions in CIUs which meet the criteria set out in paragraph 48, by the methods set out in paragraphs 50 to 53.

47. Unless noted otherwise, no netting is permitted between the underlying investments of a CIU and other positions held by the institution.

#### GENERAL CRITERIA

48. The general eligibility criteria for using the methods in paragraphs 50 to 53, for CIUs issued by companies supervised or incorporated within the Community are that:

- (a) the CIU's prospectus or equivalent document shall include:
  - (j) the categories of assets the CIU is authorised to invest in;
  - (i) if investment limits apply, the relative limits and the methodologies to calculate them;
  - (ii) if leverage is allowed, the maximum level of leverage; and
  - (iii) if investment in OTC financial derivatives or repo-style transactions are allowed, a policy to limit counterparty risk arising from these transactions;
- (b) the business of the CIU shall be reported in half-yearly and annual reports to enable an assessment to be made of the assets and liabilities, income and operations over the reporting period;
- (c) the units/shares of the CIU are redeemable in cash, out of the undertaking's assets, on a daily basis at the request of the unit holder;
- (d) investments in the CIU shall be segregated from the assets of the CIU manager; and
- (e) there shall be adequate risk assessment of the CIU, by the investing institution.

49. Third country CIUs may be eligible if the requirements in paragraphs (a) to (e) of paragraph 48 are met, subject to the approval of the institution's overseas regulatory authority.

#### SPECIFIC METHODS

50. Where the institution is aware of the underlying investments of the CIU on a daily basis, the institution may look through to those underlying investments in order to calculate the capital requirements for position risk (general and specific) for those positions in accordance with the methods set out in this Annex or, if permission

has been granted, in accordance with the methods set out in Annex VII. Under this approach, positions in CIUs shall be treated as positions in the underlying investments of the CIU. Netting is permitted between positions in the underlying investments of the CIU and other positions held by the institution, as long as the institution holds a sufficient quantity of units to allow for redemption/creation in exchange for the underlying investments.

51. Institutions may calculate the capital requirements for position risk (general and specific) for positions in CIUs in accordance with the methods set out in this Annex or, if permission has been granted, in accordance with the methods set out in Annex VII, to assumed positions representing those necessary to replicate the composition and performance of the externally generated index or fixed basket of equities or debt securities referred to in (a), subject to the following conditions:
- (a) the purpose of the CIU's mandate is to replicate the composition and performance of an externally generated index or fixed basket of equities or debt securities; and
  - (b) a minimum correlation of 0.9 between daily price movements of the CIU and the index or basket of equities or debt securities it tracks can be clearly established over a minimum period of six months. 'Correlation' in this context means the correlation coefficient between daily returns on the CIU and the index or basket of equities or debt securities it tracks.
52. Where the institution is not aware of the underlying investments of the CIU on a daily basis, the institution may calculate the capital requirements for position risk (general and specific) in accordance with the methods set out in this Annex, subject to the following conditions:
- (a) it will be assumed that the CIU first invests to the maximum extent allowed under its mandate in the asset classes attracting the highest capital requirement for position risk (general and specific), and then continues making investments in descending order until the maximum total investment limit is reached. The position in the CIU will be treated as a direct holding in the assumed position;
  - (b) institutions shall take account of the maximum indirect exposure that they could achieve by taking leveraged positions through the CIU when calculating their capital requirement for position risk, by proportionally increasing the position in the CIU up to the maximum exposure to the underlying investment items resulting from the mandate; and
  - (c) should the capital requirement for position risk (general and specific) according to this paragraph exceed that set out in paragraph 44, the capital requirement shall be capped at that level.

53. Institutions may rely on a third party to calculate and report capital requirements for position risk (general and specific) for positions in CIUs falling under paragraphs 50 and 52, in accordance with the methods set out in this Annex, provided that the correctness of the calculation and the report is adequately ensured.

**Returns**

54. Returns based on Appendix III-F should be completed for the calculation of the capital requirements of the credit institutions' specific and general equity position risks.
55. Appendix III-G is the summary return for all the capital requirements under position risk.