CALCULATING CAPITAL REQUIREMENTS FOR COMMODITIES RISK

Introduction

1. This section establishes a minimum capital standard to cover a credit institution's risk of holding or taking positions on its entire business activities (i.e., trading and banking books) in commodities[1], including precious metals, but excluding positions in gold (which is treated as a foreign currency according to the methodology set out in Annex I – Foreign Exchange risk). Furthermore, the interest-rate and foreign exchange risk not covered by the provisions of this Annex shall be included in the calculation of Interest Rate Position risk and Foreign Exchange risk according to Annex III and Annex I respectively.

2. There are two alternatives for measuring commodities position risk which are described in sub-sections **(a)** and **(b)** below. Thus, commodities risk can be measured in a standardised manner using a measurement system based on seven time-bands (sub-section **(a)**) or by using a very simple framework (sub-section **(b)**).

3. Each position in commodities or commodity derivatives shall be expressed in terms of the standard unit of measurement (barrels, kilos, grams etc.). The spot price in each commodity shall be expressed in the reporting currency.

4. Positions which are purely stock financing (i.e., a physical stock which has been sold forward and the cost of funding has been locked in until the date of the forward sale) may be omitted from the commodities risk calculation although they will be subject to interest rate and counterparty risk requirements.

5. Credit institutions are advised to guard against the risk that arises when a short position falls due before a long position. Owing to a shortage of liquidity in some markets it might be difficult to close the short position and the institution might be squeezed by the market.

6. Each position in commodities or commodity derivatives shall be expressed in terms of the standard unit of measurement. The spot price in each commodity shall be expressed in the reporting currency.

7. Positions in gold or gold derivatives shall be considered as being subject to foreign exchange risk and treated according to Annex I or Annex VII, as appropriate, for the purpose of calculating market risk.

8. For the purposes of this Annex, positions which are purely stock financing may be excluded from the commodities risk calculation only.

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[1] *Refer to Appendix B – Definition No. 6.*

9. The interest rate and foreign exchange risks not covered by other provisions of this Annex shall be included in the calculation of general risk for traded debt instruments and in the calculation of foreign exchange risk.

10. When the short position falls due before the long position, institutions shall also guard against the risk of a shortage of liquidity which may exist in some markets.

11. For the purpose of paragraph 24, the excess of an institution's long (short) positions over its short (long) positions in the same commodity and identical commodity futures, options and warrants shall be its net position in each commodity.

    The authority shall allow positions in derivative instruments to be treated, as laid down in paragraphs 13, 14 and 15, as positions in the underlying commodity.

12. The authority may regard the following positions as positions in the same commodity:

    (a) positions in different sub categories of commodities in cases where the sub categories are deliverable against each other; and

    (b) positions in similar commodities if they are close substitutes and if a minimum correlation of 0,9 between price movements can be clearly established over a minimum period of one year.

Particular instruments

13. Commodity futures and forward commitments to buy or sell individual commodities shall be incorporated in the measurement system as notional amounts in terms of the standard unit of measurement and assigned a maturity with reference to expiry date.

    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 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 commodity 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 remainder of this Annex or applying the internal models method described in Annex VII.

14. Commodity swaps where one side of the transaction is a fixed price and the other the current market price shall be incorporated into the maturity ladder approach, as set out in paragraphs 13 to 18, as a series of positions equal to the notional amount of the contract, with one position corresponding with each payment on the swap and slotted into the maturity ladder set out in Table 1 to paragraph 13. The positions would be long positions if the institution is paying a fixed price and receiving a floating price and short positions if the institution is receiving a fixed price and paying a floating price.

    Commodity swaps where the sides of the transaction are in different commodities are to be reported in the relevant reporting ladder for the maturity ladder approach.

15. Options on commodities or on commodity derivatives shall be treated as if they were positions equal in value to the amount of the underlying 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 commodity or commodity derivative. The delta used shall be that of the exchange concerned, that calculated by the authority or, where none of those is available, or for OTC options, that calculated by the institution itself, subject to the authority 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 the authority.

    Other risks, apart from the delta risk, associated with commodity options shall be safeguarded against.

    The authority may allow the requirement for a written exchange traded commodity 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 commodity 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 commodity option to be the same as that for the commodity underlying it, subject to the constraint that the resulting requirement does not exceed the

market value of the option. The requirement for a written OTC option shall be set in relation to the commodity underlying it.

16. Warrants relating to commodities shall be treated in the same way as commodity options referred to in paragraph 15.

17. The transferor of commodities or guaranteed rights relating to title to commodities in a repurchase agreement and the lender of commodities in a commodities lending agreement shall include such commodities in the calculation of its capital requirement under this Annex.

(a) *Maturity ladder approach*

18. The institution shall use a separate maturity ladder in line with Table 1 for each commodity. All positions in that commodity and all positions which are regarded as positions in the same commodity pursuant to paragraph 12 shall be assigned to the appropriate maturity bands. Physical stocks shall be assigned to the first maturity band.

Table 1

Maturity band (1)	Spread rate (in %) (2)
0 ≤ 1 month	1,50
> 1 ≤ 3 months	1,50
> 3 ≤ 6 months	1,50
> 6 ≤ 12 months	1,50
>1 ≤ 2 years	1,50
> 2 ≤ 3 years	1,50
> 3 years	1,50

19. The authority may allow positions which are, or are regarded pursuant to paragraph 7 as, positions in the same commodity to be offset and assigned to the appropriate maturity bands on a net basis for the following:

(a) positions in contracts maturing on the same date; and

(b) positions in contracts maturing within 10 days of each other if the contracts are traded on markets which have daily delivery dates.

20. The institution shall then calculate the sum of the long positions and the sum of the short positions in each maturity band. The amount of the former (latter)

which are matched by the latter (former) in a given maturity band shall be the matched positions in that band, while the residual long or short position shall be the unmatched position for the same band.

21. That part of the unmatched long (short) position for a given maturity band that is matched by the unmatched short (long) position for a maturity band further out shall be the matched position between two maturity bands. That part of the unmatched long or unmatched short position that cannot be thus matched shall be the unmatched position.

22. The institution's capital requirement for each commodity shall be calculated on the basis of the relevant maturity ladder as the sum of the following:

    (a) the sum of the matched long and short positions, multiplied by the appropriate spread rate as indicated in the second column of Table 1 to paragraph 18 for each maturity band and by the spot price for the commodity;

    (b) the matched position between two maturity bands for each maturity band into which an unmatched position is carried forward, multiplied by 0,6% (carry rate) and by the spot price for the commodity; and

    (c) the residual unmatched positions, multiplied by 15% (outright rate) and by the spot price for the commodity.

23. The institution's overall capital requirement for commodities risk shall be calculated as the sum of the capital requirements calculated for each commodity according to paragraph 22.

(b) *Simplified approach*

24. The institution's capital requirement for each commodity shall be calculated as the sum of:

    (a) 15% of the net position, long or short, multiplied by the spot price for the commodity; and

    (b) 3% of the gross position, long plus short, multiplied by the spot price for the commodity.

25. The institution's overall capital requirement for commodities risk shall be calculated as the sum of the capital requirements calculated for each commodity according to paragraph 24.

(c) *Extended Maturity ladder approach*

26. The authority may authorise institutions to use the minimum spread, carry and outright rates set out in the following table (Table 2) instead of those indicated in paragraphs 18, 19, 22 and 23 provided that the institutions, in the opinion of their authority:

(a) undertake significant commodities business;

(b) have a diversified commodities portfolio; and

(c) are not yet in a position to use internal models for the purpose of calculating the capital requirement on commodities risk in accordance with Annex VII.

Table 2

	Precious metals (except gold)	Base metals	Agricultural products (softs)	Other, including energy products
Spread rate (%)	1,0	1,2	1,5	1,5
Carry rate (%)	0,3	0,5	0,6	0,6
Outright rate (%)	8	10	12	15