

**BASLE CAPITAL ACCORD:**

**THE TREATMENT OF THE CREDIT RISK  
ASSOCIATED WITH  
CERTAIN OFF-BALANCE-SHEET ITEMS**

*Netting - Amendments*

*Add-ons - Proposals*

**Basle Committee on Banking Supervision**

**Basle**

**July 1994**

## **The capital adequacy treatment of the credit risk associated with certain off-balance-sheet items**

### **I. Introduction**

1. The Basle Committee on Banking Supervision<sup>1</sup> is issuing an amendment to the Capital Accord of July 1988 that broadens the recognition of bilateral netting for capital adequacy purposes, and for industry comment a proposal for recognising netting effects in the calculation of add-ons for potential future credit exposure and a proposal to expand the matrix of add-on factors for potential future credit exposure in the 1988 Capital Accord.
2. The amendment to the Capital Accord, attached as Annex 1, will be implemented by members of the Committee in accordance with their own rules and procedures.
3. The two proposals are clearly linked and should be assessed together in order for individual banks to determine the overall impact on their adherence to capital adequacy standards. Comments on the proposals, which are being issued by members of the Committee in their respective countries, are invited by 10th October 1994. The consultative process will be handled at national level in the first instance and the Committee will coordinate the comments and responses made to its members individually. The Committee aims to implement the proposals by mid-1995.

### **II. Amendment to the Capital Accord**

1. In April 1993 the Committee issued a proposal for a change in the supervisory recognition of bilateral netting under the Capital Accord. The proposal defined the conditions under which banks would be permitted to net the credit risks arising from positions in certain financial instruments. The comment period ended on 31st December 1993, and the Committee has reviewed comments from the banking industry and supervisory authorities worldwide.

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<sup>1</sup> The Basle Committee on Banking Supervision is a committee of banking supervisory authorities which was established by the central-bank Governors of the Group of Ten countries in 1975. It consists of senior representatives of bank supervisory authorities and central banks from Belgium, Canada, France, Germany, Italy, Japan, Luxembourg, Netherlands, Sweden, Switzerland, United Kingdom and the United States. It usually meets at the Bank for International Settlements in Basle.

2. Commenters widely welcomed the Committee's proposal to allow the bilateral netting of certain transactions covered by Annex 3 of the Capital Accord for capital adequacy purposes, provided certain conditions are met. The Committee received no major comments which would have caused it to alter these conditions in any fundamental way.

3. Many of the comments concerned administrative issues related to satisfying the legal and procedural conditions in the proposal. For example, some wished for the Committee to specify exactly what is expected for satisfactory legal opinions and for adequate internal review procedures. Others wished for the Committee to publish a list of acceptable netting documents.

4. Under the amendment the primary burden rests on banks to demonstrate to their supervisors the legal enforceability of netting arrangements in all relevant jurisdictions. In this regard, the Committee has decided to leave to national discretion the development of any guidelines or procedures banks must follow. The Committee will not publish a list of acceptable agreements. In the implementation of the amendment, however, the Committee will be sure to promote consultation among and between national supervisors to facilitate monitoring of adherence to the specified conditions.

5. The April 1993 proposal stated that netting agreements containing walkaway clauses would not be recognised for capital adequacy purposes. Some commenters sought an additional transition period or a grandfathering of agreements containing such clauses. The Committee feels that its views on walkaway clauses have been known to the industry for some time and therefore that no additional transition period or grandfathering is warranted.

6. Under the amendment banks using the current exposure method are permitted to net the current exposure associated with covered transactions, but there is only very limited scope allowed for netting notional amounts for the purpose of calculating add-ons for potential future exposure. For the reasons explained below, the Committee is proposing a formula to recognise netting effects in the calculation of add-ons for potential future exposure. However, the Committee does not wish to delay any longer the netting of current exposure, and that is the purpose for now issuing this amendment to the Capital Accord. The Committee will later modify the Capital Accord to reflect the results of the consultation process on the netting of potential future exposure and the expanded add-ons matrix.

7. Finally, banks using the original exposure method may apply lower credit conversion factors to obtain supervisory benefit for netting arrangements which satisfy the stated requirements. However, this will only be permitted until market risk-related capital requirements are implemented, at which time the original exposure method will cease to be available for banks supervised according to the Capital Accord.<sup>2</sup>

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<sup>2</sup> Where appropriate, an additional transition period up to 12 months will be permitted.

### III. Proposal to recognise netting effects in the add-ons for potential future exposure

1. In the April 1993 proposal the Committee favoured retaining the present approach in the Capital Accord to calculating add-ons for potential future credit exposure (i.e. multiplying the notional principal amounts of transactions by the appropriate add-on factors found in Annex 3). This was the Committee's view in the absence of a compelling case having been made for any of the alternative approaches put forward up to that time.

2. Some industry participants and supervisory authorities took the opportunity of the comment process to provide the results of empirical research on the effects of netting on potential future credit exposure and to submit alternative formulae for recognising netting effects in the calculation of add-ons. The Committee also has conducted further research in this area and now sees merit in incorporating into the add-ons methodology a formula for recognising netting effects on potential future exposure.

3. The Committee proposes the formula below to reduce the add-ons for transactions subject to legally enforceable netting agreements consistent with the requirements set out in the attached amendment to the Capital Accord on bilateral netting. Under the proposal the add-on for netted transactions ( $A_{Net}$ ) would equal the average of the add-on as presently calculated ( $A_{Gross}$ ),<sup>3</sup> reduced by the ratio of net current replacement cost to gross current replacement cost (NGR), and the  $A_{Gross}$ .

$$A_{Net} = 0.5 * A_{Gross} + 0.5 * NGR * A_{Gross}$$

where

NGR = level of net replacement cost/level of gross replacement cost for transactions subject to legally enforceable netting agreements

4. The advantage of the formula from a supervisory perspective is that it uses bank-specific information (i.e. the NGR) but imposes greater stability over time and across banks than a formula giving full weight to the NGR. Moreover, using this formula banks will always hold capital against potential exposure as the net add-on can never be zero. In this context, the NGR can be seen as somewhat of a proxy for the impact of netting on potential future exposure but not as a precise indicator of future changes in net exposure relative to gross exposure, reflecting the fact that the NGR and potential exposure can be influenced by many idiosyncratic properties of individual portfolios. With the weight at 0.5 the reduction in add-on, assuming an NGR of 0.5, would be 25%.

5. In presenting the formula above the Committee has not specified whether the calculation of NGR should be made on a counterparty by counterparty basis or on an aggregate basis for all transactions subject to legally enforceable netting agreements which

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<sup>3</sup>  $A_{Gross}$  equals the sum of notional principal amounts of all transactions subject to legally enforceable netting agreements times the appropriate add-on factors from Annex 3 of the Capital Accord.

meet the Committee's requirements. The Committee invites specific comment on this issue, in particular whether the choice of method could bias the results, and whether there is a significant difference in calculation burden between the two. A highly simplified example of calculating the NGR in both ways is presented in Annex 2.

6. As a result of the comment process on the April 1993 netting proposal the Committee is aware of the view that internal simulation models may be useful in the calculation of add-ons for potential future credit exposure. The Committee believes this is an interesting approach and worthy of further consideration at some future date. However, for the time being the Committee wishes to enhance prudential coverage of derivatives under the existing methodology.

#### **IV. Proposal to expand the matrix of add-on factors**

1. Recently the Committee undertook a broader review of the method for calculating add-ons for potential future credit exposure contained in Annex 3 of the Capital Accord. The Committee's review indicated that the current approach may produce insufficient capital for certain types of derivatives instruments. Long-dated interest rate swaps, commodity swaps (frequently with multiple exchanges of principal) and equity derivatives were among those for which the current approach may not generate sufficient levels of capital.

2. There are two main difficulties with the current approach. First, in some cases the current add-on, which is a function of a factor that depends on both the type of the underlying instrument and the remaining maturity as well as the notional amount, does not accurately reflect the cash flows and thus the true level of potential future credit exposure. Second, the add-on factors in the Capital Accord were designed for interest rate and exchange rate instruments, not for commodity and equity derivatives, which are rapidly growing segments of the market.

3. To address these difficulties the Committee concluded that an acceptable approach would be to adapt the matrix of add-on factors in the Capital Accord to take account of problem cases. Specifically, the Committee is proposing an expanded matrix which incorporates an additional maturity row and three additional columns to cover instrument types not explicitly dealt with in the Capital Accord.

4. The proposed expanded matrix is attached as Annex 3. The add-on factors in the original Capital Accord have been left unchanged. The proposed factors were developed using Monte Carlo simulations of matched pairs of representative transactions and are intended to provide reasonable prudential coverage for a high proportion of potential exposures. The proposed add-on factors thus may seem overly conservative in some specific cases and understated in others. In a portfolio context, however, the Committee would expect this to result overall in a reasonable level of prudential coverage.

5. For transactions such as commodity swaps, in which full exchanges of the contract principal are made periodically throughout maturity, the higher potential future

exposure would be captured by multiplying the add-on factors by the number of remaining payments. In the equity column a footnote has been added indicating that for contracts automatically resetting to zero value following a payment the remaining maturity is set equal to the time until the next payment. This is to reflect the nature of equity index swaps which typically trade a return on an equity index against a floating interest rate and thus reprice to zero value following a payment. The Committee invites comment on this treatment and whether there are other transactions of a similar nature which might deserve such treatment. In addition, the Committee invites comment on the possible distinction between the automatic reset feature of equity index swaps and transactions involving interim cash settlements to extinguish (or diminish) outstanding credit exposure, which could involve changes to the original terms of the transactions.

6. More generally, the Committee invites comment on the structure of the proposed expanded matrix as well as on the scale of add-ons for the different instrument classes. The Committee is aware that it could achieve a greater degree of accuracy by making further breakdowns in maturities and instruments. However, it has tried to strike a balance between the relative simplicity of the Capital Accord's approach and achieving a reasonable level of capital for a wide variety of transactions.

7. Finally, all banks engaging in transactions covered by the proposed new columns in the matrix (i.e. equity, precious metals and other commodities) must use the current exposure method. The Committee strongly believes that banks involved in such transactions must have the capacity to implement the marking-to-market process associated with the current exposure method as part of a sound risk management program.

Basle, July 1994

## Annex 1

### Amendment to the 1988 Capital Accord for bilateral netting

In the last sentence of the first paragraph on page 28 (Annex 3) of the 1988 Capital Accord the word "are" is replaced with "may be".

The language below replaces page 30 (Annex 3) of the 1988 Capital Accord in respect of the recognition of bilateral netting for the purpose of calculating capital requirements. The footnote numbers are as they would appear in the revised Capital Accord.

"Careful consideration has been given to the issue of **bilateral netting**, i.e., weighting the net rather than the gross claims with the same counterparties arising out of the full range of forwards, swaps, options and similar derivative contracts.<sup>6</sup> The Committee is concerned that if a liquidator of a failed counterparty has (or may have) the right to unbundle netted contracts, demanding performance on those contracts favourable to the failed counterparty and defaulting on unfavourable contracts, there is no reduction in counterparty risk.

Accordingly, it has been agreed for capital adequacy purposes that:

- (a) Banks may net transactions subject to novation under which any obligation between a bank and its counterparty to deliver a given currency on a given value date is automatically amalgamated with all other obligations for the same currency and value date, legally substituting one single amount for 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 cases (a) and (b), a bank will need to satisfy its national supervisor that it has:<sup>7</sup>
  - (1) 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;

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6 Payments netting, which is designed to reduce the operational costs of daily settlements, will not be recognised in the capital framework since the counterparty's gross obligations are not in any way affected.

7 In cases where an agreement as described in (a) has been recognised prior to July 1994, the supervisor will determine whether any additional steps are necessary to satisfy itself that the agreement meets the requirements set out below.

- (2) 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 such a net amount under:
- the law of the jurisdiction in which the counterparty is chartered and, if the foreign branch of a counterparty is involved, then also under the law of the jurisdiction in which the branch is located;
  - the law that governs the individual transactions; and
  - the law that governs any contract or agreement necessary to effect the netting.

The national supervisor, after consultation when necessary with other relevant supervisors, must be satisfied that the netting is enforceable under the laws of each of the relevant jurisdictions;<sup>8</sup>

- (3) procedures in place to ensure that the legal characteristics of netting arrangements are kept under review in the light of possible changes in relevant law.

Contracts containing walkaway clauses will not be eligible for netting for the purpose of calculating capital requirements pursuant to this Accord. A walkaway clause is a provision which permits a non-defaulting counterparty to make only limited payments, or no payment at all, to the estate of a defaulter, even if the defaulter is a net creditor.

For banks using the **current exposure** method, credit exposure on bilaterally netted forward transactions will be calculated as the sum of the net mark-to-market replacement cost, if positive, plus an add-on based on the notional underlying principal.<sup>9</sup> The scale of add-ons to apply will be the same as those for non-netted transactions as set out in this Annex. The Committee will continue to review the scale of add-ons to make sure they are appropriate. For purposes of calculating potential future credit exposure to a netting counterparty for forward foreign exchange contracts and other similar contracts in which notional principal is equivalent to cash flows, notional principal is defined as the net receipts falling due on each value date in each currency. The reason for this is that offsetting contracts in the same currency maturing on the same date will have lower potential future exposure as well as lower current exposure.

The **original exposure** method may also be used for transactions subject to netting agreements which meet the above legal requirements until market risk-related capital requirements are implemented, at which time the original exposure method will cease to be

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8 Thus, if any of these supervisors is dissatisfied about enforceability under its laws, the netting contract or agreement will not meet this condition and neither counterparty could obtain supervisory benefit.

9 Supervisors will take care to ensure that the add-ons are based on effective rather than apparent notional amounts.



available for banks supervised according to this Accord<sup>10</sup>. The conversion factors to be used during the transitional period when calculating the credit exposure of bilaterally netted transactions will be as follows:

<b>Maturity</b>	<b>Interest rate contracts</b>	<b>Exchange rate contracts</b>
Less than one year	0.35%	1.5%
One year and less than two years	0.75%	3.75% (i.e. 1.5% + 2.25%)
For each additional year	0.75%	2.25%

These factors represent a reduction of approximately 25% from those on page 29 of the Accord. For purposes of calculating the credit exposure to a netting counterparty during the transitional period for forward foreign exchange contracts and other similar contracts in which notional principal is equivalent to cash flows, the credit conversion factors on page 29 of the Accord could be applied to the notional principal, which would be defined as the net receipts falling due on each value date in each currency. In no case could the reduced factors above be applied to net notional amounts."

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10 Where appropriate, national supervisors may allow an additional transition period, but in no case longer than 12 months.

## Annex 2

### Simple example of calculating the net to gross ratio

Transaction	Counterparty 1		Counterparty 2		Counterparty 3	
	Notional amount	Mark to market value	Notional amount	Mark to market value	Notional amount	Mark to market value
Transaction 1	100	10	50	8	30	-3
Transaction 2	100	-5	50	2	30	1
Gross replacement cost (GR)		10		10		1
Net replacement cost (NR)		5		10		0
NGR (per counterparty)	0.5		1		0	
NGR (aggregate)	$\Sigma NR / \Sigma GR = 15 / 21 = 0.71$					

### Annex 3

#### Proposed Expanded Matrix\*

Residual Maturity	Interest Rate	Foreign Exchange And Gold	Equity**	Precious Metals, Except Gold	Other Commodities
Less Than One Year	0.0%	1.0%	6.0%	7.0%	12.0%
One To Five Years	0.5%	5.0%	8.0%	7.0%	12.0%
Five Years Or More	1.5%	7.5%	10.0%	8.0%	15.0%

- \* For contracts with multiple exchanges of principal, the factors are to be multiplied by the number of remaining payments in the contract.
- \*\* For contracts that automatically reset to zero value following a payment, the residual maturity is set equal to the time until the next payment.