

BASLE CAPITAL ACCORD:

**TREATMENT OF POTENTIAL EXPOSURE
FOR OFF-BALANCE-SHEET ITEMS**

Basle Committee on Banking Supervision

Basle

April 1995

The treatment of potential exposure for off-balance-sheet items

In July 1994, the Basle Committee on Banking Supervision¹ issued for comment a proposal to recognise the effects of netting in the calculation of the add-ons for potential exposure and to expand the matrix of add-on factors of the 1988 Accord. The Committee has carefully reviewed the responses, which indicated that the overall approach of the proposal was appropriate. It has accordingly decided to amend the Capital Accord to recognise the effects of netting in the add-ons and to expand the matrix of add-on factors, as indicated in the attached Annex. This amendment is due to become effective by the end of 1995. As always, member countries will implement the changes in accordance with their own rules and procedures. The main differences between this amendment and the proposal released in July, which reflect industry comments, are summarised below.

(a) Netting of add-ons

In the July proposal, the Committee invited industry comment on whether the net to gross ratio (NGR) should be calculated on a counterparty by counterparty basis or on an aggregate basis. The Committee has concluded that neither approach is likely systematically to bias the results of the overall capital calculation and that supervisors should have discretion to permit both methods, on condition that the method chosen by an institution should be used on a consistent basis.

A number of respondents argued that the NGR weight of 0.5 in the formula of the July proposal significantly understates the reduction in potential exposure resulting from legally valid bilateral netting agreements. The Committee has reviewed these comments and concludes that an NGR weight of 0.6 should be applied. This weight represents an appropriate compromise between recognising the effects of netting in the add-ons and providing a cushion against potential fluctuations in the net current exposure.

(b) The expanded matrix

A number of respondents argued that the July proposal's treatment of equity contracts with automatic zero value reset provisions should be extended to all contracts in the matrix. The Committee has reviewed this issue and concluded that the residual maturity of contracts covered by the expanded matrix may be set equal to the time until the next reset date if the following conditions are met 1) the contract must be structured to settle outstanding exposure following specified payment dates and 2) at these specified dates, the

1 The Basle Committee on Banking Supervision is a committee of banking supervisory authorities which was established by 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 United States. It usually meets at the Bank for International Settlements in Basle, where its permanent Secretariat is located.

terms of the contract must be reset such that the market value is zero. However, in the case of interest rate contracts with remaining maturity of more than one year that meet the above criteria, the add-on factor will be subject to a floor of 0.5%. The reason for this floor is that while the above contract features limit potential price movements of long-dated instruments to the period until the next reset date, the contract still represents a long-term obligation and consequently greater risk than a contract with a shorter maturity. A floor ensures that the capital charge for such a contract is never zero.

A number of commenters questioned the assumptions of contract structure and volatility used to arrive at the add-on factors for "other commodities" in the July 1994 proposal. Based on additional work, the Committee concluded that it would be reasonable to reduce the add-ons for the less than one year remaining maturity row from 12% to 10%.

The Committee has modified the residual maturity rows of the expanded matrix to include the last day of the year. The residual maturities are to be defined as follows: one year or less, over one year to five years, and over five years.

April 1995

Text amending the Capital Accord

The following text is to substitute for the section beginning on p. 23 of Annex 3 of the 1988 Capital Accord. It recognises the effects of netting in the calculation of the add-ons, expands the matrix of add-on factors, and also incorporates the language of the July 1994 amendment recognising bilateral netting in the calculation of current exposure. Footnotes are as they would appear in the amended 1988 Capital Accord.

Forwards, swaps, purchased options and similar derivative contracts

The treatment of forwards, swaps, purchased options and similar derivative contracts needs special attention because banks are not exposed to credit risk for the full face value of their contracts, but only to the potential cost of replacing the cash flow (on contracts showing positive value) if the counterparty defaults. The credit equivalent amounts will depend inter alia on the maturity of the contract and on the volatility of the rates and prices underlying that type of instrument. Instruments traded on exchanges may be excluded where they are subject to daily receipt and payment of cash variation margin. Options purchased over the counter are included with the same conversion factors as other instruments.

Despite the wide range of different instruments in the market, the theoretical basis for assessing the credit risk on all of them has been the same. It has consisted of an analysis of the behaviour of matched pairs of swaps under different volatility assumptions. Interest rate contracts are defined to include single-currency interest rate swaps, basis swaps, forward rate agreements, interest rate futures, interest rate options purchased and similar instruments. Exchange rate contracts include cross-currency interest rate swaps, forward foreign exchange contracts, currency futures, currency options purchased and similar instruments. Exchange rate contracts with an original maturity of 14 calendar days or less may be excluded. Gold contracts are treated the same as exchange rate contracts for the purpose of calculating credit risk except that contracts with original maturity of 14 calendar days or less are included. Precious metals other than gold receive a separate treatment and include forwards, swaps, purchased options and similar derivative contracts that are based on precious metals (e.g. silver, platinum, and palladium). Other commodities are also treated separately and include forwards, swaps, purchased options and similar derivative contracts based on energy contracts, agricultural contracts, base metals (e.g. aluminium, copper, and zinc), and any other non-precious metal commodity contracts. Equity contracts include forwards, swaps, purchased options and similar derivative contracts based on individual equities or on equity indices.

The current exposure method

The G-10 supervisory authorities are of the view that the best way to assess the credit risk on these items is to ask banks to calculate the current replacement cost by marking

contracts to market, thus capturing the current exposure without any need for estimation, and then adding a factor (the "add-on") to reflect the potential future exposure over the remaining life of the contract. It has been agreed that, in order to calculate the credit equivalent amount of these instruments under this current exposure method, a bank would sum:

- the total replacement cost (obtained by "marking to market") of all its contracts with positive value and
- an amount for potential future credit exposure calculated on the basis of the total notional principal amount of its book, split by residual maturity as follows:

| Residual Maturity | Interest Rate | Exchange Rate And Gold | Equity | Precious Metals Except Gold | Other Commodities |
|-----------------------------|----------------------|-------------------------------|---------------|------------------------------------|--------------------------|
| One year or less | 0.0% | 1.0% | 6.0% | 7.0% | 10.0% |
| Over one year to five years | 0.5% | 5.0% | 8.0% | 7.0% | 12.0% |
| Over five years | 1.5% | 7.5% | 10.0% | 8.0% | 15.0% |

Notes:

1. For contracts with multiple exchanges of principal, the factors are to be multiplied by the number of remaining payments in the contract.
2. For contracts that are structured to settle outstanding exposure following specified payment dates and where the terms are reset such that the market value of the contract is zero on these specified dates, the residual maturity would be set equal to the time until the next reset date. In the case of interest rate contracts with remaining maturities of more than one year that meet the above criteria, the add-on factor is subject to a floor of 0.5%.
3. Forwards, swaps, purchased options and similar derivative contracts not covered by any of the columns of this matrix are to be treated as "other commodities."
4. No potential future credit exposure would be calculated for single currency floating/floating interest rate swaps; the credit exposure on these contracts would be evaluated solely on the basis of their mark-to-market value.

Supervisors will take care to ensure that the add-ons are based on effective rather than apparent notional amounts. In the event that the stated notional amount is leveraged or enhanced by the structure of the transaction, banks must use the effective notional amount when determining potential future exposure.

The original exposure method

At national supervisory discretion,³ banks may also use a simpler alternative method for interest rate and foreign exchange related contracts, whereby the potential credit exposure is estimated against each type of contract and a notional capital weight allotted, no matter what the market value of the contract might be at a particular reporting date. The original exposure method may be used 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 this Accord.⁴ Banks that engage in forwards, swaps, purchased options or similar derivative contracts based on equities, precious metals except gold, or other commodities are required to apply the current exposure method.

In order to arrive at the credit equivalent amount using this **original exposure method**, a bank would simply apply one of the following two sets of conversion factors to the notional principal amounts of each instrument according to the nature of the instrument and its maturity:

| Maturity⁵ | Interest Rate Contracts | Exchange Rate Contracts and Gold |
|-----------------------------|--------------------------------|---|
| One year or less | 0.5% | 2.0% |
| Over one year to two years | 1.0% | 5.0% (i.e. 2% + 3%) |
| For each additional year | 1.0% | 3.0% |

Bilateral netting

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.⁶ The Committee is

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- 3 Some national authorities may permit individual banks to choose which method to adopt, it being understood that once a bank has chosen to apply the current exposure method, it would not be allowed to switch back to the original exposure method.
- 4 Where appropriate, national supervisors may allow an additional transition period, but in no case longer than 12 months.
- 5 For interest rate contracts, there is national discretion as to whether the conversion factors are to be based on original or residual maturity. For exchange rate contracts and gold, the conversion factors are to be calculated according to the original maturity of the instrument.
- 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.

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:⁷
 - (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;
 - (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;⁸

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.

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.

- (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. The add-on for netted transactions (A_{Net}) will equal the weighted average of the gross add-on (A_{Gross})⁹ and the gross add-on adjusted by the ratio of net current replacement cost to gross current replacement cost (NGR). This is expressed through the following formula:

$$A_{Net}=0.4*A_{Gross}+0.6*NGR*A_{Gross}$$

where

NGR=level of net replacement cost/level of gross replacement cost for transactions subject to legally enforceable netting agreements¹⁰

The scale of the gross add-ons to apply in this formula 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

9 A_{Gross} equals the sum of individual add-on amounts (calculated by multiplying the notional principal amount by the appropriate add-on factors set out in this Annex) of all transactions subject to legally enforceable netting agreements with one counterparty.

10 National authorities may permit a choice of calculating the NGR on a counterparty by counterparty or on an aggregate basis for all transactions subject to legally enforceable netting agreements. If supervisors permit a choice of methods, the method chosen by an institution is to be used consistently. Under the aggregate approach, net negative current exposures to individual counterparties cannot be used to offset net positive current exposures to others, i.e., for each counterparty the net current exposure used in calculating the NGR is the maximum of the net replacement cost or zero. Note that under the aggregate approach, the NGR is to be applied individually to each legally enforceable netting agreement so that the credit equivalent amount will be assigned to the appropriate counterparty risk weight category.

requirements are implemented. The conversion factors to be used during the transitional period when calculating the credit exposure of bilaterally netted transactions will be as follows:

| Maturity | Interest Rate Contracts | Exchange Rate Contracts |
|----------------------------|------------------------------------|------------------------------------|
| One year or less | 0.35% | 1.5% |
| Over one year to 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.

Risk weighting

Once the bank has calculated the credit equivalent amounts, whether according to the current or the original exposure method, they are to be **weighted** according to the category of counterparty in the same way as in the main framework, including concessionary weighting in respect of exposures backed by eligible guarantees and collateral. In addition, since most counterparties in these markets, particularly for long-term contracts, tend to be first-class names, it has been agreed that a 50 per cent. weight will be applied in respect of counterparties which would otherwise attract a 100 per cent. weight.¹¹ However, the Committee will keep a close eye on the credit quality of participants in these markets and reserves the right to raise the weights if average credit quality deteriorates or if loss experience increases.

11 Some member countries reserve the right to apply the full 100% weight.