

# The BIS Capital Adequacy "Rules": A Critique

## The quest for convergence in supervisory practice

Since the establishment of the *Basle Committee of Supervisors*<sup>1</sup> in 1975, which issued the famous *Basle Concordat* covering the division of supervisory responsibilities between parent and host bank supervisor (last amended in 1983), the convergence process in banking supervision has been carried forward by both multilateral and bilateral agreements amongst supervisors (*see* Hall, 1987a, the appendix). The European Commission and the *Basle Committee* have taken the lead on the former front, with the Bank of England playing an important part on both fronts.

The first major breakthrough since the publication of the *Concordat* in the quest for convergence occurred with the signing of the US/UK *accord* on capital adequacy in January 1987 (Bank of England, February 1987). The desire for convergence was based upon identification of the following needs: (i) to ensure that all institutions were caught within the supervisory net; (ii) to eliminate the possibility of regulation drifting towards the "lowest common denominator" as a result of "competition in laxity"; (iii) to remove the incentive for banks to shift business between locations on the basis of the differential "costs" imposed by supervision; (iv) to ensure competitive equity between banks operating internationally.

Given the strength of feeling of international bankers on the last point when related to the question of capital adequacy assessment (Group of Thirty, 1982), the authorities in the two countries

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<sup>1</sup> Comprising banking supervisors from Belgium, Canada, France, Germany, Italy, Japan, the Netherlands, Switzerland, the UK, the USA and Sweden.

concerned — the Bank of England in the UK and the Board of Governors of the Federal Reserve System, the Office of the Comptroller of the Currency and the Federal Deposit Insurance Corporation of the US — could not have chosen a better place from which to begin their convergence exercise.

Under the *accord*, a common approach was to be adopted in the US and the UK towards both the measurement of capital and the assessment of capital adequacy. On the latter front, it was agreed that the “risk weighted” approach pioneered in the UK and recommended for adoption by the US regulatory authorities in January 1986 be used as the basis for assessment. The assignment of risk weights proposed largely reflected perception of the degrees of “credit risk” inherent in the holding of certain types of asset, but the intention was, at some stage in the future, to take both “position risk” and “interest rate risk” into account. Nor were off-balance-sheet items overlooked. The nominal amounts of contracts would first have to be converted into on-balance-sheet loan equivalents (the “deemed credit risk equivalents”) by the application of “conversion factors” before being slotted into the basic risk weighting framework according to the type of counterparties involved.

Finally, and most importantly from the perspective of banks seeking equitable treatment, the regulatory bodies agreed to impose a common minimum capital ratio on all “internationally-active” banks operating in the two countries. Beyond prescribing this minimum ratio (which would be published), the regulatory bodies retained the freedom to set, on a confidential basis, minimum ratios for each institution falling within their jurisdictions.

Although the UK and US authorities were the only signatories to the agreed proposals for capital adequacy assessment it was, nevertheless, hoped that other supervisory bodies would be won over. Encouragingly, and despite the formidable problems encountered — even the US supervisors had to deal with the problem of the exclusion of specific reserves from the capital base which, at that time, ranked as capital in the US — others soon indicated their willingness to abide by at least the spirit of the accord. Thus, Japan was brought into the fold in June 1987, although the problem remained of how to treat Japanese banks’ hidden reserves in the form of unrealised gains on securities holdings; and, in September 1987, it was rumoured that the G10 central banks were close to accepting the “accord”, subject to agreement on a “phasing-in” period.

In December 1987, however, the convergence process initiated by the “accord” was abruptly superseded by an initiative launched by the *Basle Committee of Supervisors* operating under the auspices of the BIS. The new approach embraced a similar methodology to that used under the “accord” in the shape of establishing a common system of risk weights and measure of capital to be used in the calculation of a “risk assets ratio”, for which a minimum would be set. Differences, however, lay in the specification of the set of risk weights and conversion factors to be applied to both on- and off-balance-sheet transactions respectively and in the definition of capital.

### The BIS “rules” for the assessment of banks’<sup>2</sup> capital adequacy

*The definition of capital.* The definition of capital to be used by national bank supervisors in the assessment of the capital adequacy of banks consists of two groupings of capital elements — the so-called Tier 1 (“core”) and Tier 2 (“supplementary”) components (see Exhibit 1). The former group consists solely of ordinary paid-up share capital and disclosed reserves and is included without limit. The latter group, however, comprising undisclosed reserves, asset revaluation reserves, general provisions, “hybrid” capital instruments and subordinated term debt, can only constitute, in aggregate, a maximum of 100 per cent of Tier 1 capital. This means that at least 50 per cent of the “capital base”, which is derived by summing (allowable) Tier 1 and Tier 2 capital, must comprise Tier 1 (core) capital. Additionally, the inclusion of subordinated term debt within the capital base is subject to a maximum of 50 per cent of Tier 1 capital *i.e.* 25 per cent of the capital base. A further limit also applies to the inclusion of general provisions — see part B of Exhibit 1 — and asset revaluation reserves in the form of latent gains on unrealised securities holdings are subject to a discount of 55 per cent.

Although signatories to the document are obliged to implement its proposals by the end of 1992 at the latest, transitional arrangements were agreed — see Exhibit 2. As far as the definition of the

<sup>2</sup> More specifically, “internationally-active” banks.

capital base is concerned, this involves the gradual phasing out of supplementary elements from core capital and the gradual introduction of limits on the amount of general provisions (expressed as a percentage of *risk assets* — see below) that can be included as Tier 2 capital.<sup>3</sup> At the discretion of national supervisors, introduction of the limit on term subordinated debt as an element of supplementary capital and the deduction of goodwill from Tier 1 capital may be left until the end of 1992.

*Capital requirements.* Promoting the “risk asset ratio” (RAR) methodology — see below — applied by the Bank of England since 1980, the *Basle Committee* calls on all G10 supervisors to use the RAR framework within their assessment procedures and to require observation of a minimum 8 per cent ratio by all “internationally-active” banks falling within their jurisdiction by the end of 1992 at the latest (transitional arrangements are presented in Exhibit 2). The RAR is to be derived by expressing the (adjusted) capital base as a percentage of the “total of weighted risk assets”, this denominator, in turn, being derived by summing the products of the nominal balance sheet amounts of each asset and their corresponding risk weights (see Exhibit 3) and adding this figure to the sum of the weighted “loan equivalents” arising from off-balance-sheet activities. [For the treatment of off-balance-sheet (OBS) activities see pp. 220-1.]

## A critique of the BIS document

### *The definition of capital*

The first obvious issue to address is the appropriateness or otherwise of the measures of capital used within the assessment process. Although at least one country (Germany) is known to favour confining the definition of the “capital base” to “core” elements — *permanent shareholders’ equity* (issued and fully paid ordinary shares/common stock), *disclosed reserves* (created or increased by appropriations of retained earnings or other surplus *e.g.*

<sup>3</sup> This is assuming that no agreement is reached on a consistent basis for including unencumbered provisions or reserves in capital.

share premiums, retained profit,<sup>4</sup> general reserves and legal reserves), non-cumulative<sup>5</sup> *perpetual preferred stock* plus, in the case of consolidated accounts, *minority interests* in partly-owned subsidiaries — the BIS approach, which combines both “Tier 1” and “Tier 2” (but subject to limits and restrictions) elements, is supported by the overwhelming majority of G10 supervisors.

In the light of this (well-founded) degree of unanimity, and accepting the political need for the concession granted to US banks on the inclusion of non-cumulative, perpetual preferred stock,<sup>6</sup> any criticisms of the BIS approach must rest on the treatment of the “supplementary” elements of capital.

The BIS approach involves limiting both the inclusion of supplementary elements, which are open to inclusion at the discretion of national supervisors, within the total capital base and, within Tier 2, the inclusion of certain supplementary elements. Further, the eligibility of elements for inclusion as supplementary capital is restricted. Accordingly, “Tier 2” capital, representing the sum of supplementary elements, is limited to a maximum of 100 per cent of “Tier 1” capital (*i.e.* to 50 per cent of the capital base); “qualifying” subordinated term debt is limited to a maximum of 50 per cent of “Tier 1” capital (*i.e.* to 25 per cent of the capital base); “qualifying” general provisions/general loan loss reserves are limited to a maximum of 1.25 percentage points of risk assets, or exceptionally and temporarily up to 2.0 percentage points;<sup>7</sup> and asset revaluation reserves which take the form of latent gains on unrealised securities are subject to a discount of 55 per cent.

The first item included on the list of supplementary elements — see Exhibit 1 — is *undisclosed reserves*. Those which have passed through the profit and loss account and which are accepted by the bank’s supervisory authority are eligible for inclusion in the capital base, their lack of transparency accounting for their exclusion from Tier 1. Given that they are of the same intrinsic quality as published

<sup>4</sup> In fact, the Basle proposals leave the treatment of current year’s earnings to the discretion of the individual supervisory authority.

<sup>5</sup> *i.e.*, when the borrower has no obligation to make catch-up payments if dividend payments are interrupted for whatever reason.

<sup>6</sup> Ironically, virtually all the present outstanding issues made by American banks are cumulative and so are not eligible for inclusion in Tier 1 capital.

<sup>7</sup> Again, this assumes that no agreement will be reached on a consistent basis for including unencumbered provisions or reserves in capital.

retained earnings, it is hard to argue against their inclusion within the capital base, and their confinement to Tier 2 capital, arguably, provides banks with a sufficient incentive to phase them out, a move which, despite the objections of those using them to smooth "disclosed" profits, would facilitate bank comparability exercises for potential investors and depositors.

*Revaluation reserves*, the second item on the list, are eligible for inclusion in Tier 2 provided that the assets are considered by the supervisory authority to be "prudently valued", fully reflecting the possibility of price fluctuations and forced sale.

Such reserves can arise in two ways: from a formal revaluation, carried through to the balance sheet, of fixed assets (usually premises in the case of banks); or from a notional addition to capital of hidden values which arise because of the book-keeping practice of valuing securities in the balance sheet at historic cost. Inclusion of the latter form of latent revaluation reserves, albeit subject to a 55 per cent discount on the difference between the historic cost book value and the market value to reflect the potential volatility of this form of unrealised capital and the notional tax charge on it, has raised concern in some circles. Given that they can be used to absorb losses on a going-concern basis (the prime qualification for inclusion as capital under the Basle proposals), it would appear that such objections are misdirected, however; rather, the argument should be about the appropriate size of the discount to be applied. In this, the protagonists may have a case, for it is not clear how the figure of 55 per cent was arrived at. To what extent did objective considerations of potential equity price volatility and notional tax charges feature in the protracted political bargaining that took place? Hopefully, the experiences of October 1987, when the world's stock markets "crashed", were fully taken into account, notwithstanding the subsequent performance of the Nikkei index.

The treatment of *general provisions* (general loan loss reserves) has also caused controversy. Under the Basle proposals, only those provisions held against future, presently unidentified, losses which are not ascribed to particular assets (*i.e.* are not "specific" or "earmarked") and do not reflect a reduction in the value of particular assets qualify for inclusion in the capital base as Tier 2 capital. However, pending agreement on the refined definition of unencumbered resources eligible for inclusion in supplementary capital, general provisions, which may include amounts reflecting lower

valuations for assets or latent but unidentified losses present in the balance sheet, will qualify but subject to the condition that they constitute no more than 1.5 and 1.25 percentage points of "risk assets" at the end of 1990 and 1992 respectively; or exceptionally and temporarily up to 2.0 percentage points of risk assets.

The principle adopted in the Basle proposals is that, although it is not always easy to distinguish between general provisions which are truly available to meet, presently unidentified, future losses and those provisions which, in reality, are earmarked against assets already identified as impaired, the former should, nevertheless, rank as capital on conceptual grounds. This view, however, may be challenged on the grounds that, although they are available to meet, presently unidentified, future losses they do *not* provide a cushion against *unexpected*, future losses. In reality, they are "earmarked" against (*i.e.* accounted for by) unidentified but, nevertheless, expected future losses and so provide little protection against unanticipated "shocks" unless they have been overestimated. This line of argument calls for the exclusion of all general provisions from the capital base, not just those "earmarked" against particular assets or categories of assets.

*Hybrid instruments*, combining certain characteristics of both debt and equity, are eligible for inclusion in Tier 2 capital under the Basle proposals where they are deemed to have close similarities to equities, in particular "when they are able to support losses on an on-going basis without triggering liquidation".

The qualifying criteria established by the Basle Committee of Supervisors embrace the following: the instruments have to be unsecured, subordinated and fully paid-up; they may not be redeemable at the initiative of the holder nor redeemed without the prior consent of the supervisory authority; they must be available to participate in losses without the bank being obliged to cease trading; they should allow for the deferment of service obligations (as with preference shares) where the profitability of the bank would not support payment. Debt capital instruments not meeting these criteria may be eligible for inclusion in the capital base as subordinated term debt (*see below*).

Given the stiffness of the qualifying criteria, it is hard to argue against the approach taken towards hybrid instruments.

The final item on the list of supplementary elements of capital that may qualify for inclusion in the capital base is *subordinated term*

*debt*. Again, however, given the nature of the “qualifying” criteria specified in the BIS proposals, it is difficult to criticise the proposals as being too “soft”.

The final area of controversy which arises in the definition of capital to be used within the risk asset ratio (RAR) framework relates to the issue of what, if any, items should be deducted from the capital base before the RAR calculation is made. In the BIS framework, the following deductions are made: (i) goodwill (including all intangible assets), as a deduction from Tier 1 capital; and (ii) investments in unconsolidated financial subsidiaries, as a deduction from the total capital base. The latter deduction is necessary to prevent multiple use of the same capital resources in different parts of the group. The assets representing investments in subsidiary companies whose capital had been deducted from that of the parent would not be included in total assets for the purposes of computing the ratio.

On principle, it is difficult to argue against these proposals, but the Committee’s decision to allow, at least for the time being, individual supervisory authorities the discretion to apply a deduction to all or part of a bank’s holdings of other banks’ capital in calculating a bank’s capital base is a different matter. This decision was made in full recognition of the systemic dangers that such “double-gearing” can have for the banking system — it makes it more vulnerable to the rapid transmission of problems from one institution to another — on the grounds that enforced deduction “could impede certain significant and desirable changes taking place in the structure of domestic banking systems”. When no deduction is applied, however, the BIS requires that banks’ holdings of other banks’ capital instruments bear a risk weight of 100 per cent, and member countries are asked to ensure that reciprocal cross-holdings of bank capital designed artificially to inflate the capital position of the banks concerned are not permitted.

#### *The role of the risk asset ratio (RAR)*

The Basle Committee’s use of a RAR is designed to provide a measure of a bank’s financial strength and one that, to a degree, allows for ready comparability between institutions. By ensuring that banks hold a minimum level of capital against each on- and off-balance-sheet item, the amount to be determined by the super-

visor’s perception of the (mainly credit) risk attaching to each area of activity, the supervisory authorities hope that banks will be able to bear any losses which, unfortunately, may materialise and continue trading in a viable fashion. In other words, the prescription of risk weights and a minimum (or “target”) RAR is designed to act as a safeguard against insolvency.

This approach raises two basic questions. Firstly, is it true that the riskiness of a bank’s operations can be captured by evaluating its component parts in isolation of each other? And secondly, is the use of the RAR framework either a necessary or sufficient safeguard against insolvency and, if so, can the “optimal” value of the RAR be objectively determined?

In answer to the first question, it is clear from basic portfolio finance theory (e.g. Tobin, 1965) that the overall risk incurred by a bank cannot simply be determined in an additive fashion by summing the risks inherent in each business activity; their mode of combination must also be taken into account. Further, other statistics have to be taken into account, such as the first two moments of the probability distributions of expected returns and the correlation between the expected returns. Thus, even if the risk weights (and conversion factors) assigned to each area of activity are the “true” weights (in an actuarial sense — see below for further discussion), a simple summation of “weighted risk assets” will not represent the real level of exposure which a bank faces. Accordingly, to prescribe a minimum holding of capital against such a measure is a theoretically dubious exercise.

To counter such criticisms, the supervisory bodies quite rightly point out that the RAR measure represents only a part, and perhaps a small part, in their overall evaluation of the capital adequacy of a bank. They also accept that the risk weights are only rough guides to the riskiness of individual operations and that overall portfolio risk is not captured by the RAR measure. But yet, despite such reservations, they persist with the RAR methodology, presumably intending to adjust the risk weights (and conversion factors) and “target” RARs in the light of experience. Why?

The answer would appear to be that, despite the shakiness of the theoretical foundations for their chosen measure and the inexactitude with which risks are measured and captured, the supervisory authorities feel a compelling need to incorporate at least some objective assessment within their overall (subjective) evaluation exercise.

Moreover, as the level of capital held by a bank in relation to its overall risk exposure is undoubtedly important in ensuring continued solvency, it is an obvious area to which to apply an objective measure of assessment.

But, given the widely recognised deficiencies of the RAR measure, what constructive roles can it perform? Certainly, it forces banks to focus on the riskiness of each business undertaken and to assess present and future business strategy in the light of the actual and potential availability of capital. Moreover, for the supervisors, it does provide a measure that may act as a screening device and allow for ready comparison between institutions, thereby facilitating comparability exercises such as peer group assessment;<sup>8</sup> and, hopefully, it contributes to a reduction in the fragility of the domestic and international banking systems. However, the danger is that banks' pricing and other business decisions — *see below* — become based on a set of dubious risk weights and conversion factors, thereby introducing arbitrary distortions into business development, both within and between on- and off-balance-sheet activities. Such induced balance sheet restructuring might, indeed, actually increase overall portfolio risk. Finally, should ratio requirements be set at "inappropriate" levels, national supervisory authorities risk driving business away from the regulated to the unregulated sector — subject to the degree of latitude allowed under international agreements — and/or inducing "pure" disintermediation.

As for the necessity or sufficiency of the RAR as a safeguard against insolvency, it would appear that neither is the case. Historical evidence demonstrates that most bank insolvencies, where they are not a direct result of generalised financial panic, result from fraud or mismanagement rather than inadequate capital holdings. Thus it is certainly the case that the RAR, on its own, cannot prevent insolvency; and it is not clear that more than a bank's own prudence on capital adequacy is necessary. Even if this is the case, however, the fact remains that it is still impossible to derive a level for the RAR that guarantees solvency. Moreover, there is a danger that raising capital requirements will actually increase risk exposure as, for

<sup>8</sup> Unfortunately, as the BIS readily admits, even the widespread adoption of the proposals recommended by the Basle Committee would not allow for meaningful comparison of banks across national borders because of differences in legal and fiscal systems and accounting conventions.

example, banks switch to higher yielding (and hence, normally, more risky) assets to generate the profit to cover the higher capital backing requirement and its servicing.<sup>9</sup> And even if the risk weight differentials adequately discourage such activity, risk may nevertheless rise if the structure of risk weights induces pure disintermediation and high quality loan business is "securitised", leaving a higher level of risk exposure on the remaining portfolio.

In the light of such arguments, as Llewellyn (1988) points out, supervisors have little to lose by exploring further the potential contributions that alternative diagnostic devices — such as the "multivariate discriminant analysis" developed by Vojta (1974) and the computerised "contingency testing" advocated by Gardener (1982) — can make to enhancing the effectiveness of bank supervisors' capital adequacy assessment techniques.

#### *The derivation of risk weights*

If one accepts the legitimacy of the RAR methodology, the first subject of debate, apart from the appropriate measure of capital to use, must be the appropriateness of the schema of risk weights established.

As shown in Exhibit 3, the risk weights proposed by the Basle Committee number five in total and range from 0 to 100 per cent. The Committee focused mainly on credit risk (and, within this, country transfer risk) in deriving the set of risk weights, although it hopes that further study of investment risk and, more especially, interest rate risk, may lead to the eventual development of a satisfactory method of measurement which might allow for the application of a control complementary to that imposed within the credit risk framework to take account of this aspect of risk.

Given the Committee's preoccupation with credit risk, it is legitimate to question the "validity" of the risk weights assigned to particular components on the assets side of the balance sheet. Moreover, even in its assessment of credit risk, the Committee fails

<sup>9</sup> LOMAX (1987) argued for a combination of a more rigorous policy on provisioning (*e.g.* against LDC debt) and lower capital ratios against the healthy parts of the balance sheet for, as he points out, higher across-the-board capital requirements make it harder for banks to write down poorly-performing assets.

to take into account the characteristics of the obligor, a necessity, for example, in any assessment of the "true" credit risk attaching to market advances.<sup>10</sup> Beyond this, it is not clear that the "relativities" between different asset components have been correctly established, e.g. is a claim on the private sector really five times more risky than a domestic interbank loan? Only actuarially-based calculations would provide soundly-based differentials.

Such criticisms do not represent mere "nit-picking". As Lomax (1987) has pointed out, the assignation of risk weights to different balance sheet activities (and "conversion factors" to off-balance-sheet activities) fundamentally affects a bank's business strategy, pricing policy and capital allocation;<sup>11</sup> failure to reflect "true" risk in risk weights therefore leads to important distortions in business policy<sup>12</sup> and resource allocation, with concomitant effects for consumers and the real economy.

While supervisors have always accepted that the choice of risk weights is, inherently, somewhat arbitrary and that attempts to encapsulate all the risks<sup>13</sup> involved in particular activities within the weights would only serve to complicate matters without necessarily improving the validity of the weights, they have, nevertheless, failed to give adequate thought to the consequences of their actions. Admittedly, the Basle Committee emphasises that capital adequacy assessment should not be based upon ratio analysis alone — the quality of a bank's assets and the level of provisions held outside the

<sup>10</sup> This is an argument for differentiation in the weights attached to different categories of advances as, for example, is undertaken by the Building Societies Commission with respect to mortgage advances in its assessment of the capital adequacy of building societies — see HALL, 1987 (b).

<sup>11</sup> Assuming there is no room for cross-subsidisation (as would arise if the capital backing required against some activities is set too low) and that the capital constraints "bite" on a bank, the profits earned from each balance sheet activity have, *inter alia*, to be sufficient to generate the required capital backing and cover its servicing costs. The setting of risk weights, the capital allocation process and pricing policy are, therefore, inextricably interwoven.

<sup>12</sup> An early example of this was the incentive provided for banks to shift business off-balance-sheet in the hope of minimising, if not avoiding altogether, the costs associated with the risk weight framework. Although most regulators have now caught up with the practitioners and include off-balance-sheet items within the framework of assessment it is still not clear that differentials established in the treatment of on- and off-balance-sheet activities are neutral in their impact on business choice.

<sup>13</sup> In partial mitigation of its approach, the Basle Committee warns that "weightings should not be regarded as a substitute for commercial judgement for purposes of market pricing" but, given the capital constraints likely to be faced by many banks as a result of the imposition of its proposals, it is not clear that banks have much room for manoeuvre *vis-à-vis* pricing in a highly-competitive world.

capital base are also held to be important indicators of a bank's strength. Notwithstanding this, the fact has to be faced that the authorities themselves have elevated the role of capital ratios — RARs in their present guise — to the fore in their assessment procedures, and that the application of imperfect (by their own admission) risk weights can lead to potentially serious distortions of the type noted earlier.

In order to understand how the risk weight framework presented in Exhibit 3 was arrived at, it is necessary to examine in more detail the Basle Committee's approach to the assessment of credit risk, by category of asset.

*Claims on public sector and official-sector bodies.* After assessment of various alternative approaches, the Committee concluded that there was no wholly satisfactory method for incorporating country transfer risk within the weighting system. Accordingly, the Committee went along with the majority view that a zero weight (or a low weight if the national supervisory authority elects to incorporate interest rate risk) should be assigned to claims on the domestic central government and a low weight to claims on domestic official-sector bodies. All claims on foreign public-sector bodies were to attract a risk weight of 100 per cent unless: (i) they are local currency claims on central governments booked in banks' foreign offices which are funded by local currency liabilities (in which case the weight was reduced to 20 per cent); or (ii) it is customary for banks in one country to manage their liquidity by holding securities issued by the central government of a neighbouring country (whose banking system is closely integrated with that of the former country) and those claims are funded by liabilities in the same currency. In the second case, national supervisory authorities are given the discretion to apply a low weighting. (According to the revised proposals issued in July 1988, a further concession is also to be allowed in the shape of a reduced weight — 0% — for claims on OECD countries plus Saudi Arabia.) And finally, national supervisory authorities are given the discretion, within a choice of 0, 20 or 50 per cent, to determine the appropriate weights to be assigned to claims on domestic, public sector entities below the level of central government (which includes local authorities and public corporations).

*Inter-bank claims.* The Committee did not differentiate between claims on domestic banks and claims on foreign banks in order to preserve the efficiency and liquidity of the international interbank

market. However, a distinction was drawn between short term (*i.e.* under one year) and longer-term cross-border loans to foreign banks, which are often associated with particular transactions and carry greater transfer and/or credit risk. A 20 per cent weight was therefore proposed for claims on all banks, domestic and foreign, with an original maturity of under one year, and for longer-term claims on domestic banks; and longer-term cross-border claims on foreign banks would be weighted at 100 per cent.

*The treatment of collateral and guarantees.* The Basle proposals take only limited account of collateral because the Committee found it impossible to develop a basis for recognising it generally in the weighting system. However, it is recognised to the extent that: (i) loans secured against cash or domestic central government securities attract the weight given to the collateral (0, 10 or 20 per cent); and (ii) secured loans to owner occupiers for residential house purchase attract a weight of 50 per cent, half that applied to a normal claim on the private sector.

As regards loans or other exposures guaranteed by third parties, the Committee proposed that loans guaranteed by the domestic central government, domestic public sector agencies, or domestic (but not foreign) banks should attract the weight allocated to a direct claim on the guarantor (*e.g.* 20 per cent in the case of banks). For loans covered by partial guarantees, only that part of the loan which is covered by the guarantee would attract the reduced weight. And the contingent liability assumed by banks in respect of guarantees would attract a "conversion factor" of 100 per cent.

*Off-balance-sheet business.* The approach adopted by the Basle Committee to the treatment of off-balance-sheet transactions was consistent with its earlier paper of March 1986; all off-balance-sheet (OBS) engagements are to be converted to *credit risk equivalents* by multiplying the notional principal amounts by a "credit conversion factor" (see Exhibits 4 and 5), the resultant amounts then being weighted according to the nature of the counterparty. The credit conversion factors reflect the estimated size and likely occurrence of the credit exposures as well as a perception of the relative degrees of credit risk attaching to the activities.

Under the proposals, OBS business is divided into five broad categories, within which member countries will have some limited

discretion to allocate particular instruments according to their individual characteristics in national markets. These comprise (see Exhibit 4): (i) those which substitute for loans, attracting a 100 per cent credit risk conversion factor; (ii) certain transaction-related contingencies, attracting a 50 per cent conversion factor; (iii) short-term, self-liquidating, trade-related contingent liabilities arising from the movement of goods, attracting a 20 per cent conversion factor; (iv) commitments with an original maturity exceeding one year and all NIFs and RUFs, attracting a 50 per cent conversion factor (shorter-term commitments or those which can be cancelled bear a nil weight); and (v) interest and exchange rate related items, the credit risk equivalent amount for which may be calculated in one of the two ways described below.

Foreign exchange and interest rate related items are afforded special treatment 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 (*i.e.* 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 underlying that type of instrument.

Because of disagreements between member countries on the assessment system to be adopted, national supervisors are, for the time being, to be allowed to operate either of the following systems: (i) calculating the current replacement cost by "marking-to-market" and adding a factor to represent potential exposure during the remaining life of the contract — this is called "the current exposure method"; or (ii) basing conversion factors on the notional principal sum underlying each contract according to its type and maturity — the so-called "original exposure method". The former method of assessment (see the BIS document, Annex 3, pp. 3-6, for further details) is recognised to be the "correct" approach, but the latter appeals to some as it is less complex.

This completes the discussion of the risk weights and conversion factors proposed for adoption by the Basle Committee. As noted earlier, however, it is by no means certain that the weights and conversion factors prescribed correspond to their "true" values, despite the effort made to make their derivation as objective as possible.



## Concluding comments

The Basle initiative on capital adequacy assessment is to be applauded in the sense that it will secure a necessary degree of convergence — although much remains to be done to secure the objectives outlined earlier in the paper — in supervisory practice and establish a floor to the RARs run by (most) internationally-active banks. However, despite the good intentions of the Basle Committee, serious concerns remain regarding the implementation of the “rules”. For example, it is not clear that the risk weights and conversion factors prescribed correspond to their “true” values, with the result that serious distortions to business practice and to capital and resource allocation within the economy may be induced. Nor is it certain that the 8 per cent minimum RAR prescribed by the Basle Committee for adoption by the end of 1992 at the latest will achieve the degree of strengthening of international banks’ balance sheets, as a means of ensuring their continued solvency, that the bulk of supervisory authorities insist they want. Equally worrying, is the fact that the “level playing field” will not materialise by 1992, partly because of the considerable discretion afforded to national supervisors under the proposals. This means that international banks will continue to compete on an (albeit reduced) inequitable basis and that the associated risks of financial instability, as business migrates to “low-cost” regulation centres, will remain within the system.<sup>14</sup>

Such concerns serve only to demonstrate that the present initiative represents but a small step in the convergence direction (securities operations have yet to be tackled), that it is difficult to strike an appropriate balance between the prescription of rules and the sanctioning of discretion in the field of prudential regulation, and that there are real dangers in relying too heavily on the prescription of “simple” balance sheet ratios to ensure the continued solvency of internationally-active banks.

Loughborough

MAXIMILIAN J.B. HALL

<sup>14</sup> There is some evidence that this danger may be overstated, however — witness the “flight to quality” (*i.e.* to more tightly-regulated centres) that took place in the wake of the “banking” problems experienced in Hong Kong in the early to mid-eighties (*see* HALL, 1986).

EXHIBIT 1

### ELEMENTS OF CAPITAL INCLUDED IN THE CAPITAL BASE UNDER BIS PROPOSALS

(To apply at end-1992 - see Exhibit 2  
for transitional arrangements)

#### A. Capital elements

- |        |   |
|--------|---|
| Tier 1 | (a) Ordinary paid-up share capital/common stock<br>(b) Disclosed reserves   |
| Tier 2 | (a) Undisclosed reserves<br>(b) Asset revaluation reserves<br>(c) General provisions/general loan loss reserves<br>(d) Hybrid (debt/equity) capital instruments<br>(e) Subordinated term debt |

The sum of Tier 1 and Tier 2 elements will be eligible for inclusion in the capital base, subject to the following limits.

#### B. Limits and restrictions

(i) The total of Tier 2 (supplementary) elements will be limited to a maximum of 100% of the total of Tier 1 elements *i.e.* at least 50% of the capital base must comprise Tier 1 elements.

(ii) Subordinated term debt will be limited to a maximum of 50% of Tier 1 elements *i.e.* to 25% of the capital base.

(iii) Where general provisions/general loan loss reserves include amounts reflecting lower valuations of assets or latent but unidentified losses present in the balance sheet, the amount of such provisions or reserves will be limited to a maximum of 1.25 percentage points, or exceptionally and temporarily up to 2.0 percentage points, of risk assets.<sup>1</sup>

(iv) Asset revaluation reserves which take the form of latent gains on unrealised securities (*see* below) will be subject to a discount of 55%.

#### C. Adjustments made to the Capital Base for Calculation of the Risk Asset Ratio Under BIS Proposals

Deductions from Tier 1: Goodwill  
Deductions from total capital:

(i) Investments in unconsolidated banking and financial subsidiary companies. (N.B. The presumption is that the framework would be applied on a consolidated basis to banking groups.)

(ii) Investments in the capital of other banks and financial institutions (at the discretion of national authorities).

Source: BIS, 1987 (as for Exhibits 2-5).

<sup>1</sup> This limit would only apply in the event that no agreement is reached on a consistent basis for including unencumbered provisions or reserves in capital.

## TRANSITIONAL ARRANGEMENTS UNDER BIS PROPOSALS

	Initial	End-1990	End-1992
1. Minimum standard (for the RAR)	The level prevailing at end-1987	7.25%	8.0%
2. Measurement formula for the capital base	Core elements plus 100%	Core elements plus 100% (3.625% plus 3.625%)	Core elements plus 100% (4% plus 4%)
3. Supplementary elements included in core	Maximum 25% of total core	Maximum 10% of total core (i.e. 0.36%)	None
4. Limit on general loan loss reserves in supplementary elements <sup>1</sup>	No limit	1.5 percentage points, or exceptionally up to 2.0 percentage points of risk assets	1.25 percentage points, or exceptionally and temporarily up to 2.0 percentage points of risk assets
5. Limit on term subordinated debt in supplementary elements	No limit (at discretion)	No limit (at discretion)	Maximum of 50% of Tier 1
6. Deduction for goodwill	Deducted from Tier 1 (at discretion)	Deducted from Tier 1 (at discretion)	Deducted from Tier 1

N.B. The Committee as a whole had not endorsed any precise minimum standard figure at this stage. The figures given in line 1 are those proposed by the ten member countries wishing to announce indicative levels as a basis for consultation on the framework.

<sup>1</sup> This limit would only apply in the event that no agreement is reached on a consistent basis for including unencumbered provisions or reserves in capital.

## RISK WEIGHTS BY CATEGORY OF ON-BALANCE-SHEET ASSET UNDER BIS PROPOSALS

0%	(a) Cash (b) Balances at and claims on domestic central bank (c) Loans to domestic central governments (d) Securities issued by domestic central governments <sup>1</sup> (e) Loans and other assets fully collateralised by cash or domestic central government securities <sup>1</sup> or fully guaranteed by domestic central governments
0 or 20%	(a) Claims on IBRD and regional development banks (at national discretion) (EC countries would treat EC institutions consistently)
20%	(a) Claims on domestic and foreign banks with an original maturity of under 1 year (b) Claims on domestic banks with an original maturity of 1 year and over and loans guaranteed by domestic banks (c) Claims on foreign central governments in local currency financed by local currency liabilities (d) Cash items in process of collection
0, 20 or 50%	(a) Claims on the domestic public sector, excluding central government (at national discretion) and loans guaranteed by such institutions
50%	(a) Loans to owner-occupiers for residential house purchase fully secured by mortgage
100%	(a) Claims on the private sector (b) Cross-border claims on foreign banks with an original maturity of 1 year and over (c) Claims on foreign central governments (unless 20 per cent) (d) Claims on commercial companies owned by the public sector (e) Premises, plant and equipment and other fixed assets (f) Real estate and other investments (including non-consolidated investment participations in other companies) (g) Capital instruments issued by other banks (unless deducted from capital) (h) All other assets

<sup>1</sup> Some member countries intend to apply weights to securities issued by their domestic central government to take account of investment risk. These weights would, for example, be 10 per cent for all securities or 10 per cent for those maturing in under one year and 20 per cent for those maturing at one year or over. (The latter approach will be adopted by the Bank of England.)

## EXHIBIT 4

CREDIT CONVERSION FACTORS FOR OFF-BALANCE-SHEET ITEMS  
UNDER BIS PROPOSALS

Instruments	Credit conversion factors
1. Direct credit substitutes, e.g. general guarantees of indebtedness (including standby letters of credit serving as financial guarantees for loans and securities) and acceptances (including endorsements with the character of acceptances)	100%
2. Certain transaction-related contingent items (e.g. performance bonds, bid bonds, warranties and standby letters of credit related to particular transactions)	50%
3. Short-term self-liquidating trade-related contingencies (such as documentary credits collateralised by the underlying shipments)	20%
4. Sale and repurchase agreements and asset sales with recourse, <sup>1</sup> where the credit risk remains with the bank	100%
5. Forward purchases, forward deposits and partly-paid shares and securities, which represent commitments with certain drawdown	100%
6. Note issuance facilities and revolving underwriting facilities	50%
7. Other commitments (e.g. formal standby facilities and credit lines) with an original maturity exceeding one year	50%
8. Similar commitments with an original maturity of less than one year, or which can be cancelled at any time	0%
9. Foreign exchange and interest rate related items	Treated separately

(N.B. Member countries will have some limited discretion to allocate particular instruments into items 1 to 8 above according to the characteristics of the instrument in the national market.)

<sup>1</sup> These items are to be weighted according to the type of asset and not according to the type of counterparty with whom the transaction has been entered into.

## EXHIBIT 5

POTENTIAL CREDIT EXPOSURE  
PROPOSED CONVERSION FACTORS<sup>1</sup> FOR  
INTEREST RATE AND FOREIGN EXCHANGE RATE CONTRACTS  
(percentage of notional principal amount)

Remaining maturity	Interest Rate <sup>2</sup> Contracts	Exchange Rate <sup>3</sup> Contracts
Less than one year		
Less than three days	0	0
Three days to one month	0	1 to 2%
One month to three months	0	2 to 4%
Three months to one year	0	4 to 8%
One year or longer	(½ to 1%) per complete year	(5 to 10%)+(1 to 2%) per complete year

<sup>1</sup> The authorities will carefully review these proposed credit conversion factors in light of public comments on the implications for pricing and competition.

<sup>2</sup> Interest rate contracts include single-currency interest rate swaps, forward rate agreements, interest rate options purchased (except those purchased on exchanges), and similar instruments. However, no potential credit exposure will 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.

<sup>3</sup> Exchange rate contracts include cross-country interest rate swaps, forward foreign exchange options purchased (except those purchased on exchanges), and similar instruments.

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