The Basle Committee's proposals for a new capital adequacy assessment framework: a critique *

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Introduction

In June 1999, the Basle Committee (or Basel Committee as it now prefers to call itself) of Banking Supervisors issued a consultative paper (Basle Committee 1999a) proposing the introduction of a new framework for the assessment of the capital adequacy of internationally-active banks. More definitive proposals, reflecting the comments received from interested parties, were issued in January 2001. The proposed framework is designed to replace the regime which has operated under the guise of the Basle Capital Accord since July 1988 (Basle Committee 1988). This paper critically analyses the new proposals from a cost-benefit standpoint, assessing, in particular, the extent to which the deficiencies in the current assessment regime would be eradicated and the Committee's ability to secure its stated objectives enhanced.

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1. A review of the current 'rules' under the Basle capital accord

Since 1 January 1993 internationally-active banks incorporated in G10 countries have been obliged to comply with a minimum risk asset ratio (RAR) requirement of 8% (or higher, if so demanded by their national supervisory authority). A bank's RAR is derived by expressing its 'adjusted capital base' (ACB – see Exhibit 1), comprising allowable 'Tier 1' and 'Tier 2' capital (subject to limits and restrictions – see Exhibit 1), as a percentage of its 'total of weighted risk assets' (TOWRA). The denominator is, in turn, derived by adding the sum of the risk-weighted (see Exhibit 3 for the risk weights applied) on-balance-sheet items to the sum of risk-weighted off-balance-sheet 'credit risk equivalents', the latter being derived by multiplying the notional principal exposures by the relevant 'conversion factors' (see Exhibits 4 and 5). Using this methodology (see Exhibit 2 for full details), regulators have attempted to link a bank's capital to credit risk-weighted activities, both on- and off-balance sheet. Since 1 January 1998,[1] however, in an attempt to accommodate banks' market risk exposures (Basle Committee 1996), the RAR methodology has been modified (see Exhibit 6) to take account of both a new source of regulatory capital, 'Tier 3', which is available to meet market risk capital charges subject to limits and restrictions (see Exhibit 7), and the market risks to which banks are exposed. The 8% minimum ratio, however, remained as the effective regulatory floor. For those banks allowed by their national supervisory authorities[2] to use internal models (i.e. VaRs) to calculate their market risk capital charges, the market risk capital charge alluded to in Exhibit 6 can be calculated in accordance with Exhibit 8 as an alternative to the 'standardised approach' (see Basle Committee 1996).

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[1] 1 January 1996, for EU members because of the adoption of the "Capital Adequacy Directive" (EC 1993).

[2] The supervisory authorities have first to satisfy themselves that their banks comply with six sets of 'safeguards' relating to their usage, covering general criteria, qualitative standards, quantitative standards, the specification of risk factors, stress testing and external validation of the models (see Basle Committee 1996).

EXHIBIT 1

ELEMENTS OF CAPITAL INCLUDED IN THE CAPITAL BASE
UNDER THE G10 CAPITAL ACCORD

A. Capital elements

Tier 1
a) Ordinary paid up share capital/common stock
b) Disclosed reserves
c) Non-cumulative perpetual preferred stock.

Tier 2
a) Undisclosed reserves
b) Asset revaluation reserves
c) General provisions/general loan loss reserves
d) Hybrid (debt/equity) capital instruments
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 limits and restrictions noted below.

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 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 of risk assets.
iv) Asset revaluations reserves which take the form of latent gains on unrealised securities will be subject to a discount of 55%.

C. Adjustments made to the capital base for calculation of the risk asset ratio under the 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 (1988, as subsequently amended).

EXHIBIT 2

THE RISK ASSET RATIO METHODOLOGY EMPLOYED BY BANKING REGULATORS UNDER THE G10 CAPITAL ACCORD

Under the accord, all internationally-active banks authorised by G10 countries have to observe a minimum risk asset ratio (RAR) of 8%. The RAR is calculated as follows:

$$RAR\,(\%) = \frac{ACB}{TOWRA}$$

where *ACB* is the adjusted capital base and *TOWRA* (the total of weighted risk assets) =

$$\sum_{i=1}^{s}\sum_{j=1}^{t}(A_{ij}W_j) + \sum_{i=1}^{u}\sum_{j=1}^{v}\sum_{k=1}^{w}(B_{ijk}X_kW_j) + \sum_{i=1}^{x}\sum_{j=1}^{y}\sum_{k=1}^{z}[(C_{ijk}X_k + M)W_j]^{*}$$

A_{ij} being the value of the ith asset with risk weight, W_j, B_{ijk} being the notional principal amount of off-balance-sheet activity *i* with risk weight W_j and conversion factor X_k, and C_{ijk} being the notional principal amount of the interest or exchange rate related activity *i* with risk weight W_j and conversion factor X_k, *s* the number of different asset components, *u* the number of distinct off-balance-sheet activities (excluding interest rate and exchange rate related activities), *x* the number of distinct interest and exchange rate related off-balance-sheet instruments, and *M* the 'mark-to-market' value of the underlying contract

where $x < u < s$; $v \leq t = 5$; $y \leq t = 5$; $w = 4$; and $z = 4$.

*'Current exposure' assessment method employed.

Source: Hall (1994).

EXHIBIT 3

RISK WEIGHTS BY CATEGORY OF ON-BALANCE-SHEET ASSET UNDER THE G10 CAPITAL ACCORD

Risk weight		Category
0%	a)	Cash
	b)	Claims on central governments and central banks denominated in national currency and funded in that currency
	c)	Other claims on OECD central governments and central banks
	d)	Claims collateralised by cash or OECD central government securities or guaranteed by OECD governments.
0, 10, 20 or 50% (at national discretion)	a)	Claims on domestic public sector entities (excluding central government) and loans guaranteed by or collateralised by securities issued by such entities.
20%	a)	Claims on multilateral development banks (including the IBRD, the IADB, the AsDB and the EIB) and claims guaranteed or collateralised by securities issued by such banks
	b)	Claims on banks incorporated in the OECD and loans guaranteed by OECD incorporated banks
	c)	Claims on securities firms incorporated in the OECD subject to comparable supervisory and regulatory arrangements including, in particular, risk-based capital requirements, and claims guaranteed by these securities firms
	d)	Claims on banks incorporated in countries outside the OECD with a residual maturity of up to one year and loans with a residual maturity of up to one year guaranteed by banks incorporated in countries outside the OECD

EXHIBIT 3 (*cont.*)

	e)	Claims on non-domestic OECD public sector entities (excluding central government) and loans guaranteed or collateralised by securities issued by such entities
	f)	Cash items in process of collection.
50%	a)	Loans fully secured by mortgage on residential property that is, or will be, occupied by the borrower, or that is rented.
100%	a)	Claims on the private sector
	b)	Claims on banks incorporated outside the OECD with a residual maturity of over one year
	c)	Claims on central governments outside the OECD with a residual maturity of over one year
	d)	Claims on central governments outside the OECD (unless denominated in national currency and funded in that currency)
	e)	Claims on commercial companies owned by the public sector
	f)	Premises, plant and equipment and other fixed assets
	g)	Real estate and other investments (including non-consolidated investment participations in other companies)
	h)	Capital instruments issued by other banks (unless deducted from capital)
	i)	All other assets.

Source: BIS (1988, as subsequently amended).

EXHIBIT 4

CREDIT CONVERSION FACTORS FOR OFF-BALANCE-SHEET ITEMS UNDER THE G10 CAPITAL ACCORD

	Instruments	Credit conversion factors
1.	Direct credit substitutes, e.g. general guarantees of indebtedness (inc. standby letters of credit serving as financial guarantees for loans and securities) and acceptances (incl. 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,* where the credit risk remains with the banks	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 (see Exhibit 5)

* 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.

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.

Source: BIS (1988).

EXHIBIT 5

CREDIT CONVERSION FACTORS FOR (NON-NETTED) INTEREST RATE AND FOREIGN EXCHANGE RATE RELATED ACTIVITIES UNDER THE G10 CAPITAL ACCORD

1. If the Current Exposure Method is used

Residual maturity	Type of contract (per cent of notional principal amount)				
	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
One 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

2. If the Original Exposure Method is used

Maturity	Interest rate contracts (%)	Exchange rate contracts and gold (%)
One year or less	0.5	2.0
One to five years	1.0	5.0 (i.e. 2+3)
Over five years	1.0 for each additional year	3.0 for each additional year

Source: BIS (1988, as amended by Basle Committee 1995).

EXHIBIT 6

THE RISK ASSET RATIO METHODOLOGY EMPLOYED BY G10 BANKING REGULATORS SINCE THE IMPLEMENTATION OF THE AMENDED CAPITAL ACCORD ON 1 JANUARY 1998

Under the "Amendment to the Capital Accord to Incorporate Market Risks" (Basle Committee 1996), all G10-incorporated internationally-active banks have to observe, continuously, a minimum capital requirement derived as follows:

$$RAR(\%)^{a} = \frac{ACB^{b}}{TOWRA^{c} + [12.5 \times \text{Market Risk Capital Charge}]^{d}}$$

[a] This remains subject to a minimum of 8%.

[b] The capital items which may be included in the capital base (CB) are the same as those which were eligible for inclusion (subject to limits and deductions) within the capital base under the original accord (see Exhibit 1). However, national regulators are empowered to permit banks to adopt an alternative definition of capital (see Exhibit 7), subject to limits and restrictions, but only in respect of satisfying the risk-based requirements arising from *trading-book* activities.

[c] This now represents the 'total of weighted risk assets' arising from *banking book* activities only (although, note, it covers credit counterparty risk on *all* over-the-counter derivatives, whether or not they are included in the trading book) and is calculated using the general methodological approaches set out in Exhibit 2.

[d] This represents notional risk-weighted assets on the trading book.

Source: Hall (1997a).

EXHIBIT 7

ALTERNATIVE SOURCE OF CAPITAL ALLOWED, AT NATIONAL DISCRETION, TO SATISFY THE MARKET RISK CAPITAL CHARGES UNDER THE G10 AGREEMENT OF 1996

The alternative source of capital, to be known as 'Tier 3' capital, consists of short-term subordinated debt which satisfies the following conditions:

- it is unsecured, subordinated and fully paid up;
- it has an original maturity of at least two years;
- it may not be repayable before the agreed repayment date without the agreement of the supervisory authority;
- it is subject to a 'lock-in' clause which stipulates that neither interest nor principal may be paid (even at maturity) if such payment would cause the bank to fall below or remain below its minimum capital requirement.

The following limits and restrictions will also apply:*

- Tier 3 capital can only be used to support market risks. It cannot be used to satisfy any capital requirement arising in respect of credit or counterparty risk under the 1988 accord, nor to satisfy credit counterparty risk requirements arising from the use of derivatives in either the trading or banking books;
- Tier 3 capital will be limited to 250% of a bank's Tier 1 capital that is required to support market risks (i.e. a minimum of around 28.5% of market risks need to be met by Tier 1 capital which is not required to support risks in the remainder of the book);
- Tier 2 elements may be substituted for Tier 3 capital up to the same limit of 250% as long as the overall limits in the 1988 accord are not breached (i.e. as long as eligible Tier 2 capital does not exceed total Tier 1 capital, and long-term subordinated debt does not exceed 50% of Tier 1 capital).

* It is left to national supervisors to decide whether or not to apply the principle that Tier 1 capital should represent at least half of total eligible capital, i.e. that the sum of eligible Tier 2 capital plus eligible Tier 3 capital should not exceed total Tier 1 capital.

Source: Basle Committee (1996).

EXHIBIT 8

THE CALCULATION OF THE CAPITAL CHARGE FOR MARKET RISK UNDER THE INTERNAL MODELS APPROACH ALLOWED, AT NATIONAL DISCRETION, BY THE BASLE COMMITTEE

Under the Basle Committee's internal models approach, banks have to apply the following formula to calculate their market risk capital charge:

$$CMR_t = Max\left[\frac{SM_t}{60}\sum_{i=1}^{60} VaR_{t-i}, VaR_{t-1}\right] + SR_{t-1}$$

where CMR_t = bank's market risk capital requirement at time t; VaR_{t-i} = bank's market risk exposure estimate at date t–i; SM_t = supervisory-determined factor [$3 \leq SM_t$] and SR_{t-1} = additional capital charge for the *specific* risk of trading book positions.

Source: Kupiec and O'Brien (1996).

2. Deficiencies in the current assessment regime

Although a number of important benefits have resulted from the widespread adoption of the Accord since its inception – notably, the contribution to system stability resulting from banks being forced to hold more (and higher quality) capital than would otherwise have been the case, and to link this, albeit in a fairly arbitrary fashion, to the risks to which they are exposed – a number of potentially serious flaws/deficiencies have long been recognised. One such analysis has been conducted by Hall (1989 and 1994), and his concerns are listed in Exhibit 9, along with possible reform options for addressing the concerns.

EXHIBIT 9

DEFICIENCIES IN THE BASLE CAPITAL ACCORD OF 1988:
SOME OPTIONS FOR REFORM

	Deficiencies		Reform options
1.	The *agreement* is *not legally binding*, undermining its effectiveness.	1.	Transform the agreed guidelines into legally-binding rules (as in the EU). (This would require moving the debate into another forum such as the OECD or the WTO.)
2.	The *geographical coverage* achieved is *limited*, undermining stability of the international banking system.	2.	Widen the coverage achieved by promoting the associated benefits more widely and/or by moving the discussions to an alternative forum such as the OECD or the WTO.
3.	The use of a *flawed methodology* in the credit risk assessment process.	3.	Change the basis of risk assessment. (Possible alternatives include: the use of a portfolio approach – such as that used by the SFA in the UK; the use of options pricing theory; the use of multi-variate discriminant analysis; the use of computerised 'contingency testing'.)
4.	The use of "inexact" (in an actuarial sense) *risk weights and conversion factors* in the weighting system.	4.	i) Revise the calculus more frequently to reflect up-dated analysis of historical loss evidence. ii) Encapsulate additional (i.e. non-credit) risks within the risk measures. iii) Change the basis of risk assessment.
5.	Induces a *misallocation of capital resources within the banking industry.*	5.	i) Change the basis of risk assessment. ii) Stress the importance of banks taking other factors into account when allocating capital.

EXHIBIT 9 (*cont.*)

	Deficiencies		**Reform options**
6.	Induces a *misallocation of capital resources between the bank and non-bank sectors* of the economy.	6.	Change the basis of risk assessment and the overall capital requirements.
7.	Induces *distortion* in banks' pricing and other business decisions.	7.	i) Change the basis of risk assessment and the overall capital requirements. ii) Revise the calculus of risk weights and conversion factors. iii) Impress upon banks the importance of considering other factors before making such decisions.
8.	Leads to a *misallocation* of *resources* due to the induced balance sheet restructuring by banks.	8.	i) Change the basis of risk assessment. ii) Revise the calculus of risk weights and conversion factors.
9.	May *breed complacency*. (Strict adherence to the guidelines by all internationally-active banks would still not guarantee their solvency nor the stability of the international financial system.)	9.	Impress upon banks and their supervisors the limitations of the agreement as a device for ensuring the continued solvency of individual banks. (The significance of complementary devices – especially those designed to assist in the detection and prevention of fraud – should be highlighted.)
10.	*Not enough done to level the playing field* for international banks.	10.	i) Narrow the scope for national discretion. ii) Widen the geographical coverage achieved.
11.	Risks contributing to global and/or regional "credit crunches".	11.	Consider relaxation of the 'rules' on a 'case-by-case' basis at the G10 level.
12.	May *induce perverse* and *potentially destabilising responses* on the part of banks.	12.	Change the basis of risk assessment.

Source: Derived from Hall (1989 and 1994).

Perhaps the most serious of the deficiencies identified (they are not ranked by order of 'seriousness' in Exhibit 9) is the use of a flawed methodology in the credit risk assessment process. Putting aside, for the time being, the arbitrariness of the risk weights and conversion factors used to derive a bank's risk asset ratio (RAR – see Exhibit 2), the major problem associated with the use of the 'TOWRA' expression as a proxy for bank risk is that it ignores correlation effects. Accordingly, credit risks are assumed to be additive and no account is taken of diversification (nor, indeed, of hedging) within the asset portfolio. Moreover, non-credit risks are ignored (market risk was only accommodated from January 1998). As a result, a bank's published RAR is a poor indicator of its underlying soundness. (Estrella, Park and Peristiani 2000 suggest that simple ratios – such as the leverage ratio and the ratio of capital to gross revenue – should supplement the risk-based ratio because of their comparable ability to predict bank failure over one to two year time horizons).

This situation is made even worse if we then acknowledge that the risk weights and conversion factors used in the derivation of TOWRA are unsound in an actuarial sense, being simply rough approximations to the true levels of economic risk based upon outdated analysis of historic loss data of the banking industry and a desire to reward OECD membership and incorporation. Moreover, the failure to differentiate finely enough between borrowers' default risks (e.g. all non-bank borrowers are grouped together within the 100% risk weight category irrespective of their true default risks) has led to the banks engaging in 'capital regulatory arbitrage'. Defined by Jones (1999, p. 103) as "activities that permit a bank to assume greater risk with no increase in its minimum regulatory requirements, while at the same time showing no change, or possibly an increase, in its reported capital ratios", capital regulatory arbitrage represents the outcome of the economic inefficiencies and perverse incentives created by the (credit risk based) Accord in its current guise[3] (see also Jones 2000).

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[3] For further discussion and analysis of the available empirical evidence on the relationship between (risk-based) regulatory capital requirements and bank risk see Blum (1999), Calem and Rob (1996), Flannery (1989), Furlong and Keeley (1989), Gennottee and Pyle (1991), B.J. Hall (1993), Haubrich and Wachtl (1993), Jacques and Nigro (1997), Jagtiani, Saunders and Udell (1995), Park (1997), Rochet (1992) and Shrieves and Dahl (1992).

One such form of arbitrage, termed "cherry picking" (*ibid.*, p. 42), involves banks in shifting, within a particular risk-weight category, their portfolios' composition toward lower quality credits, with the result that the banks' TOWRAs and RARs would remain unchanged, even though overall riskiness had increased. This is likely to have contributed towards banks courting high risk (but high return) personal and corporate customers.

Similarly, asset securitisation[4] has been widely adopted as a means of circumventing regulatory capital requirements as it can be used to achieve a high nominal overall RAR while obfuscating capital weakness in relation to the actual economic risks inherent in the banks' portfolios (Basle Committee 1999a, p. 36, para. 3; see also Basle Committee 1999e).

While such arbitrage activities can be used to exploit the divergence between true economic risk and risk as measured by the Accord, thereby further undermining the reliance of reported RAR figures, most (e.g. Jones 1999) argue that they are necessary as a safety-valve for mitigating the adverse effects of certain unreasonably-high capital requirements. If such activities were denied to the banks, they would be forced to abandon such low risk lines of business. The solution is thus seen to lie in reducing the divergence between economic risk and the Accord's measure of risk (i.e. TOWRA).

Another problem arising from the widescale adoption of regulatory capital arbitrage is, of course, the scale of real and financial resources consumed during such exercises. The induced balance sheet restructuring, or financial engineering, referred to in Exhibit 9 (item 8) represents an additional source of economic inefficiency bred by the Accord, to complement the (allocative) inefficiencies arising from

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[4] Jones (1999) distinguishes "securitisation with partial recourse" from "remote origination" and securitisation involving "indirect credit enhancements". The first-mentioned form of activity can be used to boost Tier 1 and RAR ratios, regardless of whether any risk has been shifted to the asset-backed-securities issued by the Special Purpose Vehicle (SPV). The second form of securitisation, which involves the SPV rather than the bank itself in originating the securitised assets, often results in banks getting partial credit enhancements treated as 'direct credit substitutes', which incur only an 8% risk weight rather than the 100% weighting attached to credit enhancements treated as 'recourse'. Finally, in the third form of financial alchemy, indirect credit enhancements, such as early amortisation and fast-payout provisions, are used to further reduce capital charges incurred in respect of securitised assets – in some cases to zero – as they are not recognised as instruments subject to any formal capital requirement.

the use of arbitrary risk weights and conversion factors, an arbitrarily-chosen minimum RAR of 8% and a flawed risk asset methodology (in the guise of the RAR; see items 3 to 7 in Exhibit 9).

The remaining "deficiencies" identified by Hall (1994) relate to its non-legal status (outside the European Union – see Hall 1997a), the limited geographical coverage secured (as for the above item, however, 'market pressures' may come to the rescue), the failure to do enough to level the playing field (see also Hall 1992; Wagster 1996 and Scott and Iwahara 1994), the risks of contributing to global or regional 'credit crunches',[5] and the danger of breeding complacency amongst the regulatory fraternity. Possible solutions to these problems are also provided.

Finally, for the sake of comprehensiveness, one should add to this list the Accord's failure to provide proper incentives for the use and development of risk mitigation techniques (Basle Committee 1999a, p. 9, para. 8),[6] an omission which has distorted bank risk management practice and undermined stability of the banking and financial sectors (Jones 1999, p. 103).

3. The June 1999 proposals from Basle – An assessment

3.1. *Aims and objectives of the proposals (summarised in Exhibit 10)*

In conducting its review of the Accord, the Basle Committee has set out to achieve a number of *aims* (Basle Committee 1999a, "Executive summary"):

i) to improve the way regulatory capital requirements reflect underlying risks;

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[5] The jury is still out on whether or not the Accord has contributed to or caused a 'credit crunch' owing to the conflicting empirical evidence on the subject (see, for example, Berger and Udell 1994, Bernanke and Lown 1991, Brinkman and Horvitz 1995, Peek and Rosengren 1995a and 1995b, Wagster 1999 and Wilcox and Hancock 1998).

[6] For analysis of the Basle Committee's treatment of *off-balance-sheet* netting (multilateral and bilateral) see Hall (1996a and 1997b).

ii) to better address the financial innovation that has occurred in recent years;

iii) to recognise the improvements in risk measurement and control that have occurred; and

iv) longer-term, to introduce a framework that is flexible, more accurately reflects the risks to which banks are exposed, and is responsive to financial innovation and developments in risk management practices.

The Committee's main supervisory *objective* remains the "promotion of safety and soundness in the financial system", with its subsidiary goal continuing to be "enhancement of competitive equality" (Basle Committee 1999a, p. 2). Although it has now added two additional objectives – to adopt a more comprehensive approach to addressing risks and to continue focusing on internationally-active banks – the former is really a means to an end rather than an objective *per se*; while the latter just reflects the Committee's operational focus, although clearly it harbours desires that the new framework's underlying principles be adopted by a much wider audience.

3.2. *Components of the new framework*

The basis of the proposed new framework of assessment is the so-called supervisory 'pillars', comprising:

i) minimum regulatory capital requirements;

ii) supervisory review of an institution's capital adequacy and internal assessment process; and

iii) greater market discipline.

These three elements are believed to be the "essential pillars of an effective capital framework" (*ibid.*, p. 4).

EXHIBIT 10

SUMMARY OF THE BASLE COMMITTEE'S PROPOSALS
OF JUNE 1999 FOR A NEW CAPITAL
ADEQUACY ASSESSMENT FRAMEWORK

Objectives

- to continue to promote safety and soundness in the financial system
- to continue to enhance competitive equality
- to adopt a more comprehensive approach to addressing risks
- to continue to focus on internationally-active banks, although the new framework's underlying principles should be suitable for application to banks of varying levels of complexity and sophistication.

Aims of the review

- to improve the way regulatory capital requirements reflect underlying risks
- to better address the financial innovation that has occurred in recent years
- to recognise the improvements in risk measurement and control that have occurred
- longer term, to introduce a framework that is flexible, more accurately reflects the risks to which banks are exposed, and is responsive to financial innovation and developments in risk management practices.

Components of the new framework

The three 'pillars':
- minimum regulatory capital requirements
- supervisory review of an institution's capital adequacy and internal assessment process
- greater market discipline.

The first pillar: minimum regulatory capital requirements
- the vast majority of banks to continue to use a 'standardised' approach based upon the current Accord, but amended to allow for:
  - widescale usage of external credit assessments to determine the appropriate risk weights (see Table below)
  - the introduction of a new risk bucket (150%) for certain low quality exposures
  - the introduction of a new risk weighting scheme to address asset securitisation
  - the application of a 20% credit conversion factor for certain types of short-term commitments
  - abolition of the 50% cap on the risk weighting of certain derivative exposures
  - wider supervisory recognition of credit risk mitigation techniques
  - extension of the accord to cover interest rate risk in the banking book and 'other' risks, such as operational risk
  - extension of the principle of full consolidation to embrace holding company parents of banking groups
- more sophisticated banks being allowed to use internal ratings (and, possibly, portfolio credit risk models, at some future date) to set capital charges, although this would be subject to supervisory approval and adherence to quantitative and qualitative guidelines.

EXHIBIT 10 (*cont.*)

TABLE

PROPOSED NEW RISK WEIGHTINGS (in %)

		Assessment[a]					
		AAA to AA–	A+ to A–	BBB+ to BBB–	BB+ to B–	Below B–	Unrated
Sovereigns[b]		0	20	50	100	150	100
Banks[c]	Option 1[d]	20	50	100	100	150	100
	Option 2[e]	20	50[f]	50[f]	100[f]	150	50[f]
Corporates		20[g]	100	100	100	150	100
Securitisations[h]		20	50	100	150 (BB+ to BB–)	Deduction from capital (B+ and below)	Deduction from capital

[a] Assessments are based on Standard & Poor's ratings by way of example only – other equivalent assessments of eligible external agencies could be used.
[b] Includes central banks. Modified treatment available for domestic currency exposures.
[c] Claims on multilateral development banks would be weighted 20%. Claims on public sector entities would generally be treated in the same way as a claim on a bank in the same country.
[d] Risk weighting based on risk weighting of sovereign in which the bank is incorporated.
[e] Risk weighting based on assessment of the individual bank but weighting could not be lower than that applied to the country of the bank's incorporation.
[f] Claims on banks of a short original maturity, for example less than six months, would receive a weighting that is one category more favourable than the usual risk weight on the bank's claims.
[g] Risk weighting could not be lower than that applied to the country of the corporate's incorporation.
[h] Supervisors may also impose a 20% risk weighted capital charge on originating banks in the case of revolving facilities when uncontrolled early amortisation or master trust agreements may pose special problems for the originating bank.

Source: O'Neill (1999, derived from Basle Committee 1999a).

The second pillar: supervisory review of capital adequacy
- early supervisory intervention encouraged
- supervisors to be required to set bank-specific capital charges that reflect each bank's particular risk profile and control environment, and which may exceed the minimum capital ratio standard (currently, 8% on a RAR basis – see Exhibit 2)
- supervisory review to cover, *inter alia*, banks' internal capital assessment processes and control environments.

The third pillar: greater market discipline
- to be achieved through enhanced information disclosure covering, *inter alia*:

EXHIBIT 10 (*cont.*)

- *capital structure*, including information on i) amounts of Tier 1, Tier 2, and (if applicable) Tier 3 capital held; ii) accounting policies, especially policies adopted in respect of the valuation of assets and liabilities, provisioning and income recognition; iii) components of capital and the terms and main features of capital instruments, especially in the case of innovative, complex and hybrid capital instruments; iv) reserves set aside for credit losses and other potential losses; v) any conditions that may merit special attention in an analysis of the strength of a bank's capital, including maturity, level of seniority, step-up provisions, interest or dividend deferrals, use of Special Purpose Vehicles, and terms of derivatives embedded in hybrid capital instruments
- *risk exposures*. Qualitative (e.g. management strategies) and quantitative (e.g. position data) information needs to be disclosed in a manner which facilitates objective assessment of the nature and magnitude of the risk exposures run by banks
- *capital adequacy*, including disclosure of risk-based capital ratios calculated in accordance with the prescribed methodology, and qualitative disclosures about the internal processes used for evaluating capital adequacy
- more detailed guidance was promised during 1999 by the Basle Committee. (It actually materialised in January 2000 – see Basle Committee 2000b.)

Timetable for action

- comments from interested parties must be received by 31 March 2000
- more definitive proposals were promised by the end of year 2000. (They actually emerged in January 2000 – see Basle Committee 2001a.)

3.2.1. The first pillar: minimum regulatory capital requirements

Under the Committee's proposals, the vast majority of banks will continue to use a 'standardised' approach based upon the current Accord.[7] This, however, would be subject to a significant number of amendments. First and foremost, external credit assessments would be widely used to determine the appropriate risk weights (see Exhibit 10), with current privileges accorded OECD membership/incorporation being abolished. Secondly, a new risk 'bucket', of 150%, would be introduced to accommodate certain low quality exposures (and even higher risk weights are being considered). Thirdly, to address the concerns felt about the use of securitisation to circumvent regulatory requirements, a new risk weighting scheme for securitisation tranches resulting from the issue of asset-backed securities would be introduced (Basle Committee 1999a, pp. 36-37; see also Exhibit 10). Fourthly, to close the loophole arising from the current zero risk

[7] The definition of capital would remain unchanged – see Exhibit 1, as clarified by Basle Committee (1998a). This was confirmed in Basle Committee (2001a).

weighting of commitments up to one year, a 20% conversion factor would be introduced for certain types of short-term commitments. Fifthly, in line with its earlier recommendations (Basle Committee 1999b) and because of the proposal to lower the risk weighting of highly-rated institutions, the 50% cap on the risk weighting of exposures to counterparties in over-the-counter derivatives transactions would be abolished. Sixthly, wider supervisory recognition of credit risk mitigation techniques would be given to encourage their development and adoption. The Committee is proposing to recognise the use of credit derivatives, collateral, guarantees and on-balance-sheet netting (see Basle Committee 1999a, Annex 2 for full details). Seventhly, as part of its desire to make the Accord more comprehensive, additional capital charges would be imposed for 'significantly above average' interest rate risk in the banking book[8] and to account for operational risk[9] (additional charges for 'other' risks, such as legal and reputational risk, might also be introduced). And, finally, to enhance the efficacy of the supervision of banking groups, holding company parents of such groups would be included on a fully consolidated basis. This would complement sub-consolidation of each internationally-active bank within a group structure and separate examination of

[8] Following its earlier release of a consultative paper on the measurement of banks' exposure to interest rate risk (Basle Committee 1993), the Committee was still considering how best to identify those banks which are 'outliers'. It indicated, however, that it was likely to take into account the adequacy of a bank's internal risk management process and its compliance with sound risk management practices (such as those set out in its 1997 paper – Basle Committee 1997b) when deliberating on the issue (Basle Committee 1999a, p. 49). Some national discretion, however, would be allowed in respect of the definition of outliers and the methodology used to calculate interest rate risk in the banking book. In the event, the Committee decided not to levy an explicit capital charge, leaving supervisors to tackle the issue under Pillar 2 (see Basle Committee 2001b).

[9] Following its earlier work on the subject (Basle Committee 1998b), the Committee identified several options for handling operational risk, ranging from a simple benchmark to various modelling techniques. A simple benchmark could be based on an aggregate measure of business activity, such as gross revenue, fee income, operating costs, managed assets or total assets adjusted for off-balance-sheet exposures, or a combination of these. This could be balanced by including an anchoring reference to the balance sheet. Particular regard, however, would be paid to the capital arbitrage potential, to any disincentives to better operational risk control that might thereby be created, and to the capital impact for particular types of banks (Basle Committee 1999a, p. 50, para. 84). Qualification factors, such as the integrity of the controls process and internal measures for handling operational risk, are also likely to be considered (*ibid.*, p. 15, para. 30). (For the latest proposals to handle operational risk see the text below and Basle Committee 2001h.)

each authorised institution on a solo basis (for further details see Basle Committee 1999a, p. 12, para. 19 and Annex 1).

In recognition of recent advances in risk management practices and controls and in order to encourage their further development, the Committee indicated its willingness to consider allowing more sophisticated banks to use internal credit ratings and, possibly (at some future date), portfolio credit risk models to set capital charges.[10] This, however, would be subject to supervisory approval and to adherence to qualitative and quantitative guidance, similar to that issued in respect of the supervisory recognition of the use of models to calculate market risk capital charges (Basle Committee 1996). In respect of the possible supervisory recognition of internal credit ratings, the Committee indicated that it would issue a further consultative paper on the subject, based upon deliberation of the issues outlined on pp. 37-41 of Basle Committee 1999a. (The Committee's survey of industry practice was duly published in January 2000 – see Basle Committee 2000a; see also Treacey and Carey 2000, for a survey of US practice.) And, with regard to the possible supervisory recognition of portfolio credit risk models, the Committee promised that it would monitor closely industry developments in this area (see also Basle Committee 1999c), although it remained concerned, in particular, about the problems associated with lack of data availability over the economic cycle and model validation (see Jones and Mingo 1998; Jackson, Nickell and Perraudin 1999; Lopez and Saidenberg 2000 and Jackson and Perraudin 2000).[11] (A joint study of industry practice in respect of portfo-

[10] The European Commission is considering, giving a wide range of European Economic Area (EEA) credit institutions, the right to adopt internal credit ratings rather than the standardised approach, subject to the usual supervisory safeguards. While this would extend the benefits of reduced compliance costs to a much broader community of institutions than envisaged under the G10 proposal, the burdens placed on EEA supervisors would increase correspondingly.

[11] In an empirical study, involving out-of-sample assessment, of ratings- and equity-priced-based portfolio credit risk models covering large Eurobond portfolios over a 10-year time horizon, researchers at the Bank of England (Nickell, Perraudin and Varotto 1999) have found that both types of model, when bench-marked to default probabilities, seriously understate the riskiness of the bond portfolios (i.e. actual portfolio losses substantially exceed the VaR estimates). These findings, if confirmed for other forms of credit-sensitive portfolios and by longer-term studies, herald the prospect of significant 'comfort margins', similar to the scaling factors applied to models-generated market risk capital charges (see Hall 1996b and Exhibit 8), being built into any supervisory recognition accorded portfolio credit risk models. (For an assessment of the performance of market risk models see Basle Committee 1999f.)

lio credit risk modelling was published by the Institute of International Finance and the International Swaps and Derivatives Association in February 2000 – see Financial Times Business 2000a.)

3.2.2. The second pillar: supervisory review of capital adequacy

The significance of the Committee's proposals in this area relate to the greatly-increased burdens that most supervisors are being asked to bear by virtue of the demands for a more intensive supervisory review and for supervisors to become more pro-active. In particular, early supervisory intervention is encouraged, along the lines of the 'prompt corrective action' policies adopted in recent years in the USA and Japan (Hall 1999); and supervisors are to be required to set bank-specific capital charges that reflect each bank's particular risk profile and control environment, and potential to contribute to systemic risk. These capital charges may exceed the minimum capital ratio standard.

As far as the supervisory review is concerned, the Committee notes that supervisors already typically review and evaluate a bank's capital adequacy through on-site examinations, off-site surveillance, and review of the work of internal and external auditors. In the future, however, the Committee calls upon supervisors to: *i*) review the internal capital adequacy assessments of individual banks and discuss the internal capital targets set by the bank; *ii*) review a bank's assessment of its own risk profile, inquire about the bank's estimate of its capital needs for new activities or markets, and trace the capital impact of activities such as commercial credit securitisation, all based upon periodic meetings with bank managements, bank-prepared reports that detail the results of its capital adequacy assessment and/or internal and external audit reports; *iii*) review whether a bank's approach treats similar risks across products and/or business lines in a consistent manner, and whether changes in the bank's risk profile are readily incorporated; *iv*) evaluate the reasonableness of the bank's approach by reviewing technical documentation provided by the bank and the results of sensitivity analyses and stress tests conducted by the bank and how these relate to capital plans; *v*) evaluate whether the sophistication of methodologies and stress tests used in the bank's approach are commensurate with the kinds of activities in which the

bank is engaged; and *vi*) consider other relevant factors in assessing the bank's approach, for instance, its adherence to sound accounting and valuation principles, the quality of information reporting and systems for aggregating business risks and activities, and the proactiveness of the bank in responding to emerging or changing risks (Basle Committee 1999a, Annex 3, pp. 56-57).

In connection with the determination of bank-specific capital charges, the Committee asserts that the supervisor needs to take account of the following factors: *i*) the experience and quality of the bank's management and key personnel; *ii*) the bank's appetite and track record in managing risk; *iii*) the nature of the markets in which the bank operates; *iv*) the quality, reliability and volatility of the bank's earnings; *v*) the quality of the bank's capital and its access to new capital; *vi*) the diversification of the bank's activities and the concentration of its exposures; *vii*) the bank's liability and liquidity profile; *viii*) the complexity of the bank's legal and organisational structure; *ix*) the adequacy of the bank's risk management systems and controls; *x*) the support and control provided by the bank's shareholders; *xi*) the degree of supervision exercised by other supervisors over the bank; *xii*) business cycle effects and the overall macroeconomic environment; *xiii*) whether the bank's chosen internal capital targets are consistent with its overall risk profile and the current operating environment; and *xiv*) the bank's relative importance to the national and international financial markets, and its potential to trigger systemic instability (*ibid.*, pp. 53-54).

Finally, in connection with early intervention, all supervisors are expected to possess an approach for identifying and intervening in banks where capital levels are falling to levels that raise questions about the ability of the banks to withstand normal business shocks. Such regimes might depend, for example, on informal monitoring of regulatory capital ratios to check for compliance with regulatory requirements, moral suasion to encourage banks to improve their capital positions and to correct underlying internal control and risk management weaknesses, and the use of capital ratios (perhaps set above prescribed regulatory minimum) to trigger supervisory action, up to and including the closure of a bank (*ibid.*, pp. 57-58).

3.2.3. The third pillar: greater market discipline

The third and final pillar, greater market discipline, is to be achieved through enhanced information disclosure. As summarised in Exhibit 10, the new disclosure requirements relate to issues of capital structure, risk exposures and capital adequacy.[12] Although more detailed guidance on the subject was promised before the end of 1999 – it actually materialised in January 2000 – the Committee is currently of the opinion that effective market discipline requires reliable and timely information that enables counterparties to make well-founded risk assessments. Banks should thus publicly, and in a timely fashion, disclose all key features of the capital held as a cushion against losses, and the risk exposures that may give rise to such losses.[13] This would enable market participants to assess the bank's ability to remain solvent. Moreover, at a minimum, this information should be provided in annual financial reports, and should include quantitative and qualitative details on the bank's financial condition and performance, business activities, risk profile and risk management activities (*ibid.*, p. 18).

3.2.4. Other issues

Finally, it is worth noting that the Committee is planning to review the treatment of *trading book* positions to ensure consistency of treatment between the banking and trading books and to reduce the incentive for regulatory capital arbitrage, given the proposals to amend capital requirements for the banking book (*ibid.*, p. 52, para. 88). It is also concerned that the current treatment in the Accord does

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[12] The Committee called for comment on its views on promoting sound practice guidance on loan valuation, loan loss provisioning and credit risk disclosure in October 1998 (Basle Committee 1998c). It has also produced a paper demonstrating the individual benefits that a bank will enjoy if it is perceived as safe and well-managed as a result of its public disclosures (Basle Committee 1998d), including those relating to trading and derivatives activities (Basle Committee and IOSCO 1999).

[13] The European Commission, however, has argued against the disclosure of regulatory capital requirements on the grounds that this might reduce the incentive for depositors and investors to make their own credit assessment of the institutions. Moreover, changes in required ratios might be misinterpreted by analysts causing them to overreact which might, in turn, constrain the action taken by supervisors (see Financial Times Business 2000b).

not address the differences in the liquidity of various instruments in the trading book. Additionally, it is eager to follow up on its earlier recommendations in respect of exposures to highly-leveraged institutions.

3.3. *Implications*

If the Basle Committee's proposals of June 1999 were to be implemented in full, this would significantly affect the way financial markets and supervisors operate and the current pricing structure for loans and debt instruments. The effects are summarised in Exhibit 11.

As far as the *market effects* are concerned, a major outcome would be the wide-scale repricing of loans and debt instruments (O'Neill 1999). Removal of the current bias resulting from the privileges accorded membership of the OECD,[14] for example, would result in the following: *i*) increased funding costs for lowly-rated (i.e. those with ratings below 'AA–') OECD sovereigns, such as Greece, Hungary, South Korea, Poland and, especially, Mexico and Turkey; *ii*) increasing funding costs for lowly-rated (i.e. below 'AA' unless 'Option 2' is adopted and the loans are taken for less than six months, in which case it is below 'A–') OECD-incorporated banks and securities firms;[15] *iii*) reduced borrowing costs for highly-rated (i.e. above 'BB+') non-OECD countries, such as Columbia, Chile, Hong Kong, Israel and, especially, Singapore; *iv*) reduced funding costs for highly-rated non-OECD banks and securities firms,[16] especially under the first option where a bank's risk weight depends (it is one category

[14] The reduced risk weights levied against claims on OECD central governments and central banks (0%), claims collateralised by OECD central government securities or guaranteed by OECD central governments (0%), claims on banks/securities firms incorporated in the OECD (20%), and against loans guaranteed by OECD-incorporated banks/securities firms (20%) – see Exhibit 3 – only apply if the country in question has not rescheduled its debt in the previous five years.

[15] Assuming they comply with the IMF's "Special data-dissemination standards". (This requirement was later dropped – see Basle Committee 2001a.)

[16] Assuming their local regulators ensure compliance with the Basle Committee's "Core principles for effective banking supervision" (Basle Committee 1997a) and IOSCO's "Objectives and principles for securities regulation" (IOSCO 1998) respectively. (These requirements were later dropped – see Basle Committee 2001a.)

EXHIBIT 11

IMPLICATIONS OF ADOPTION OF THE BASLE COMMITTEE'S PROPOSALS OF JUNE 1999

Market implications

1. Wide-scale repricing of loans and debt instruments would follow, favouring sound issuers and penalising riskier borrowers. In particular, removal of the anomalies/bias existing in the current rules will result in: increased funding costs for lowly-rated OECD sovereigns and OECD banks and securities firms; increased borrowing costs for some central governments whose claims are denominated in domestic currency and funded in that currency; reduced borrowing costs for highly-rated non-OECD countries and non-OECD banks/securities firms; higher funding costs for very lowly-rated (i.e. below 'B–') sovereigns, banks/securities firms and corporates; short-term, especially for periods of between six months and up to one year, interbank borrowing becoming more expensive; very highly-rated corporates enjoying reduced funding costs; higher fees being charged for commitments entered into for a period of up to one year; higher funding costs for certain derivative users.
2. A general reassessment by the banking industry of the merits of securitisation, although only deeply-subordinated tranches of securitisations would typically be adversely affected, providing incentives to securitise highly-rated debt instruments, including residential mortgages and corporate debt.
3. Increased use by banks of collateral and guarantees, with concomitant effects for the yields on eligible paper.
4. May slow the advance of disintermediation as lower capital charges for highly-rated corporate debt allow for reduced loan charges, thereby reducing the attractions of the securities markets for corporates.
5. Banks incurring additional capital charges for 'other' risks, such as operational risk and 'significantly above-average' interest rate risk in the banking book.

Other

6. Market discipline being used, to a greater degree than before, to usurp the traditional role of banking supervisors. 'Prescription' is giving way to inspection of industry standards and monitoring for compliance with 'best practice'.
7. Supervisors becoming more pro-active.

lower) on the credit rating of the country in which it is incorporated.[17]

Similarly, removal of the bias resulting from the privileged risk weight (20% rather than 100% – see Exhibit 3) accorded short-term (i.e. with a residual maturity of up to one year) claims on OECD-incorporated banks would raise short-term funding costs for lowly-rated[18] non-OECD banks.

Abolition of the 50% cap on the risk weighting of derivatives exposures, even for counterparties whose on-balance-sheet obligations are weighted at 100%, would also result in some derivative users paying more to raise funds and/or a fall in trading volumes. And the rescinding of the zero risk weight accorded commitments of up to one year – off-balance-sheet activities are to incur a risk weight of 20% unless the facility is effectively unconditionally cancellable at any time by the bank – would serve to raise the fees charged for such facilities.

Apart from the proposed removal of the 'anomalies' in the present system, other proposed changes would also impact on the market. Introduction of an additional risk bucket, of 150%, for very lowly-rated (i.e. below 'B–') debt of banks, sovereigns and corporates would obviously serve to put upward pressure on the funding costs of their issuers. Contrariwise, the introduction of a new 20% risk weight for corporate debt rated above 'A+' would significantly reduce such firms' funding costs and increase their relative attractiveness as counterparties for derivatives and other transactions (O'Neill 1999). Finally, on the pricing front, some central governments might find it more expensive to raise funds by issuing securities denominated in local currency as a result of the discretion to be given (in the light of the recent crisis in Russia) to national regulators to apply a positive risk weight (it is currently zero) to such claims.

The proposed treatment of securitisation would also significantly affect developments in this area. The risk-weighting of securitisation tranches with a rating of 'BB+ to B–' at 150% – most securiti-

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[17] In this case, those incorporated in countries rated above 'BBB+' would benefit. If 'Option 2' is adopted, where a bank's risk weight depends solely on its own credit rating (although it cannot be lower than that applicable to the country in which it is incorporated), those rated above 'BB+' (at or above 'B–' if the loans are for up to six months) would benefit.

[18] I.e. those rated below 'AA–' ('A–' for 'Option 2') if the 'Option 1' treatment of banks is adopted.

sation assets are currently weighted at 100% – and the requirement to deduct from capital tranches which have a rating of below 'B–' or are otherwise unrated, would discourage such activities; while the preferential weightings given to tranches rated above 'BBB+' would encourage the securitisation of high quality debt instruments, including residential mortgages (which currently attract a risk weight of 50%) and corporate debt.

Increased supervisory recognition of collateral and guarantees would also generate an increased use by banks, with concomitant effects for the yields on eligible paper. At present, only cash, OECD government securities, securities issued by multilateral development banks, securities issued by non-domestic OECD public-sector entities, and securities issued by domestic public sector entities (see Exhibit 3) are recognised as eligible collateral, deserving of reduced risk weights; while only the guarantees given by OECD central governments, domestic public sector entities, multilateral development banks, OECD-incorporated banks, OECD-incorporated securities firms (subject to comparable supervision and regulation), non-domestic OECD public sector entities and, in respect of loans with a residual maturity of up to one year, banks incorporated outside the OECD are currently thought worthy of a reduced risk weighting. Under the Basle Committee's proposed new treatment, the risk-reducing effects of all collateral and guarantees which have a lower risk weighting than the secured exposure would be recognised.

Finally, as far as market reactions are concerned, the introduction of lower capital charges for highly-rated (i.e. above 'A+') corporates would allow for lower loan charges, which might stem their flight to the securities markets, thereby slowing the pace of disintermediation.

As far as the *other* implications of the adoption of the new proposals are concerned, all market participants would be affected. Apart from the implications for product pricing, banks would incur additional capital charges for assuming 'other' risks, such as operational risk and 'significantly above average' interest rate risk in the banking book. Most would also face an increased compliance burden to match the increased burdens borne by the supervisory authorities as they take on board the new requirements relating to the more extensive supervisory review, the promulgation of bank-specific capital charges, the adoption of a more pro-active approach under the guise of

'prompt corrective action' and, further down the road, the approval and monitoring of banks' internal credit rating systems and, possibly, portfolio credit risk models. Skill and resource shortages may well thwart effective delivery on the latter front in many developing nations. Lastly, implementation of the new packages of proposals would represent an important milestone in the displacement of the traditional supervisory role by 'market discipline'. While the jury may still be out on the effectiveness of the market in disciplining banks (see, for example, Bruni and Paterno 1995; Pettway 1980; Randall 1989; Hannan and Hanweck 1988; Ellis and Flannery 1992; Cargill 1989; Avery, Belton and Goldberg 1988; Fraser and McCormack 1978; Gorton and Santomero 1990), the *potential* benefits are beyond dispute (Evanoff 1993, Mantripragada 1992, Benston 1993, Macey and Garrett 1988).[19]

3.4. *A 'cost-benefit' analysis*

Starting with the *positive aspects* of the Basle Committee's proposals (summarised in Exhibit 12), full adoption of the reform package would certainly assist in the stabilisation (i.e. the promotion of 'safety and soundness') of the international banking and financial systems, the primary objective of the Committee (see p. 127 of this article). A whole range of factors would contribute towards the delivery of this outcome. For example, the attempts made to ensure that regulatory capital requirements more accurately reflect banks' true risk profiles, thereby minimising 'perverse' incentives, and the broadening of the scope of the regulatory framework to capture risks other than credit and market risk, both pull in this direction. Similarly, the new obliga-

[19] This has led, for example, to demands that all internationally-active banks be required to hold a certain proportion of their capital in the form of subordinated debt. This is because subordinated debt-holders' incentives are more closely aligned with those of regulators (and hence taxpayers) than are those of shareholders – who stand to make unlimited gains from 'gambles for resurrection' – and so would be expected to exert a greater restraining influence on bank management and to increase the demand for information disclosure. Moreover, the yields on such debt instruments should closely reflect the risks run by the issuing banks, so that steep increases in yields could be used to justify regulatory intervention. Critics, however, point out that subordinated debt instruments are only actively traded in the US so that, outside the US (and especially in emerging markets), prices may not be transparent. Moreover, even in the US, there would be a danger of price manipulation.

tions placed on supervisors to engage in 'prompt corrective action' and to impose bank-specific capital charges that closely reflect the risk exposures actually run by banks would impart a further stabilising effect. So, too, would the requirements relating to increased information disclosure by banks and the incentives provided to all borrowers (bar some of those currently unrated – see below) to take action to improve their credit ratings. The introduction of a higher (i.e. 150%) risk weight for lowly-rated (i.e. below 'B–') borrowers (be they sovereigns, banks or corporates), the abolition of the 50% cap on the risk-weighting of derivatives exposures, and the reduction of the bias in favour of short-term interbank lending, which had helped fuel the recent crisis in Asia, would also act as stabilising forces. The proposal to extend consolidation to parent holding companies which, currently, may be unregulated and unsupervised, would serve to enhance the efficacy of the regulation and supervision of banking groups/financial conglomerates. The encouragement given, *via* wider supervisory recognition, to the development and increased use of credit risk mitigation techniques (e.g. use of collateral, guarantees and on-balance-sheet netting) would also contribute to the promotion of safety and soundness, as would the linking of the benefits (in the form of reduced risk weightings) available to highly-rated banks to their supervisors' adoption of the Basle Committee's "Core principles for effective banking supervision" (Basle Committee 1997a). Finally, the issue of systemic risk is explicitly addressed by the new requirement placed on supervisors to take account of individual banks' relative importance in national and international markets.

Although not an explicit objective of the Committee, significant gains in economic *efficiency* would also result from the adoption of the reform package. Once again, many of the individual components of the package would contribute to the delivery of such an outcome. For example, the efficiency of the capital allocation process, and hence the banks' product pricing procedures (see Exhibit 9), would be increased as a result of the widescale adoption of external credit ratings, which take account of, *inter alia*, the characteristics of the obligor in the determination of risk weights, something which is currently conspicuous by its absence in respect of non-bank creditors. Efficiency gains would also result from supervisory recognition, assuming it is forthcoming (see Basle Committee 1999a, pp. 26-27, for

EXHIBIT 12

AN ASSESSMENT OF THE BASLE COMMITTEE'S PROPOSALS OF JUNE 1999

Positive features

1. Would increase stability of the internationalised banking system.
   This would result from: the attempts made to minimise the 'perverse' incentives facing banks; the focus on other bank risks; the new obligations placed on supervisors to engage in 'prompt corrective action' and to impose bank-specific capital charges that closely reflect the risk exposures actually assumed; the consolidation of parent holding companies; the linking of the benefits to be derived, in the form of reduced risk weightings (i.e. below 100%), by highly-rated banks to their supervisors' adoption of the Basle Committee's "Core principles for effective banking supervision"; the encouragement given, *via* wider supervisory recognition, to the development of risk mitigation techniques; the reduction of the bias in favour of short-term interbank lending; the introduction of a higher (i.e. 150%) risk weight for lowly-rated (i.e. below 'B–') borrowers; the abolition of the 50% cap on the risk-weighting of derivative exposures; the incentives provided to all borrowers (bar some of those currently unrated) to seek higher credit ratings; the demand for greater information disclosure; and the new requirement for supervisors to take explicit account of an individual bank's relative importance in national and international markets and potential to trigger systemic instability.
2. Would increase economic efficiency.
   This would result from: the use of external credit ratings, which take account of, *inter alia*, the characteristics of the obligor, to determine risk weights; possible supervisory recognition of internal credit ratings and portfolio credit risk models, which would align regulatory capital requirements more closely with the internal allocation of economic capital; the removal of the bias in favour of loans to OECD countries and OECD banks; the reduction in the bias in favour of short-term (i.e. for less than 365 days) interbank lending; the removal of the bias in favour of off-balance-sheet (rather than on-balance-sheet) exposures *via* abolition of the 50% cap on the risk weighting of derivative exposures; the removal of the bias in favour of commitments of up to one year; the introduction of a 150% risk weight for lowly-rated borrowers; the linking of the benefits gained by highly-rated sovereign borrowers (from reduced risk weights, i.e. below 100%) to the country's compliance with the IMF's "Special data-dissemination standards"; the attempts to block the use of securitisation as a means of circumventing capital requirements through the risk-weighting of securitisation tranches; the incentives created for all borrowers (other than some of those currently unrated) to seek improved ratings; the encouragement given to the continued development of sophisticated risk management techniques and their closer integration with capital allocation procedures; the enhanced information disclosure requirements, which will lead to improved market transparency and greater market discipline.
3. Would contribute, on balance, to a further levelling of the regulatory playing field.
   This would result from: the enforced geographical spread of prompt corrective action and the application of bank-specific capital charges; convergence in information disclosure standards and supervisory practices; removal of the bias resulting from OECD membership/incorporation.

EXHIBIT 12 (*cont.*)

Concerns

1. Too much power being vested in the hands of far from infallible credit rating agencies?
   Anxieties relate to: the previous track record of the rating agencies, especially in respect of their 'performance' in the recent Asian crisis; the degree of concentration in the industry (currently there are only three main players, Moody's Investors Service, Standard and Poor's, and Fitch IBCA); the commercial and political pressures they would face in the new environment; their potential to act in a destabilising fashion; the opportunities for regulatory arbitrage.

2. Perverse incentives also exist in the proposed new framework.
   For example: those sovereigns, banks and corporates currently without a rating and fearful of being awarded a rating of below 'B–' have a positive disincentive to seek a rating as they would end up being worse off if their fears were realised (because unrated borrowers typically incur a 100% risk weight whereas those rated below 'B–' incur a 150% risk weight); because of the uneven distribution of risk weights on securitisation tranches, banks would still have a strong incentive to securitise their high quality loans, thereby reducing the quality of the remaining loan portfolios; given the failure to differentiate adequately between corporate borrowers (those with a rating of between 'A+' and 'B–' all incur the same risk weighting of 100%), as under the current accord banks have an incentive to court high risk corporate borrowers if they believe they can extract sufficiently high loan charges to more than offset the increased risk of default; this is also true, but to a more limited degree, for loans to banks (under either option) and, given the impracticality of differentiating between personal loan customers for regulatory purposes, for loans to individuals.

3. Similarly, inexplicable anomalies also feature in the proposed new framework.
   For example: it is not clear why sovereign borrowers are generally favoured by the proposed risk weight framework, while little differentiation is made in respect of corporates and, to a lesser degree, between banks (under either option), factors which reduce incentives to seek higher ratings; if 'Option 2' is adopted in respect of the treatment of bank claims (which involves risk weighting banks on the basis of their individual characteristics but improving, by one category, the risk weighting for claims with an original maturity of less than six months), interbank lending might become even more skewed towards shorter maturities than at present.

4. The imposition of additional flat rate capital charges to cover 'other' risks, such as operational risks, is ill-conceived.

5. As the Committee acknowledges, insufficient attention has been paid to the maturity of claims in the promulgation of risk weights, militating against accurate assessment of underlying risks.

6. The scope for 'national discretion' is still too great, militating against a levelling of the playing field.
   New areas for discretion relate to: the determination of the weighting of local currency-denominated sovereign debt; and identification and treatment of those banks with 'excessive' interest rate risk in their banking books.
   A ratings-based framework also discriminates against institutions in those countries which, traditionally, have not sponsored a ratings culture (e.g. Germany).

EXHIBIT 12 (*cont.*)

7. The proposals imply a significant (and possibly untenable) increase in the burden placed on most supervisory authorities.
   As a result of: the new requirements relating to the adoption of prompt corrective action and the application of bank-specific capital charges, subject to the minimum capital ratio; the requirement for a more extensive supervisory review, including an assessment of all internal control processes and systems relating to capital and risk management; the burden associated with approving and monitoring banks' internal credit rating systems and, further down the road, their portfolio credit risk models.
8. Although the proposals offer the prospect of reduced compliance costs for some (i.e. the small group of highly-sophisticated, global players), as a result of the closer alignment of regulatory requirements with the internal procedures adopted to allocate economic capital, most banks are likely to face higher costs following the adoption of the complete package of reforms, not least because of the demands for increased information disclosure.
9. In respect of the treatment of bank claims, adoption of 'Option 1', by ignoring the banks' individual characteristics, would penalise sound, well-managed banks through no fault of their own; yet adoption of 'Option 2', while being more equitable, would, as noted earlier, accentuate the trend towards ever-shortening maturities for interbank loans.
10. Although the introduction of prompt corrective action has been widely promoted in many countries (e.g. the USA and Japan) as a device for limiting supervisory 'forbearance', poor design and injudicious use of the policy instrument could, potentially, be destabilising.
11. In so far as the standardised approach, which the vast majority of banks would still adopt, would still treat credit risks as being additive (as in the current risk asset ratio methodology), the basic flaw in the risk assessment methodology would remain, notwithstanding the greater supervisory recognition of risk mitigation techniques.
12. Finally, the Committee's desire to at least maintain the current overall level of capital within the international banking system should be predicated upon its ability to demonstrate that the fragility of the system warrants this; otherwise, what is the point in refining credit risk assessment, and linking capital requirements more closely to the 'true' (in an actuarial sense) level of risk run by individual banks?

the Committee's concerns), of internal credit ratings (which, potentially, are superior to external ratings given the institutions' superior knowledge of borrowers) and portfolio credit risk models, which would align regulatory capital requirements more closely with the internal allocation of economic capital. Similarly, the proposals aimed at aligning regulatory capital requirements more closely with the underlying risks through the removal of certain 'anomalies' in the current regime – which, for example, exert a bias in favour of loans to OECD countries and OECD banks, short-term (i.e. for less than 365 days) interbank lending, off-balance-sheet derivatives activity, and the

provision of commitments of up to one year's maturity – would serve to enhance allocative efficiency. So, too, would the introduction of an additional risk bucket (i.e. the 150% risk weight) for lowly-rated borrowers and the measures aimed at blocking the use of securitisation as a means of circumventing the regulatory capital requirements. The package of incentives is also well-designed from an efficiency point of view. All borrowers, other than some of those currently unrated, would have an incentive to seek improved ratings. The banking industry is incentivised to continue its development of sophisticated risk management techniques and to put pressure on governments to improve their own ratings (assuming the 'Option 1' treatment of banks is adopted). And sovereigns have to recognise and ensure compliance with the IMF's "Special data-dissemination standards" if they wish to reap the benefits of the reduced risk weights available to them. Finally, the enhanced information disclosure requirements, relating to capital ratios and capital structure, loan loss reserves, accounting policies used for the valuation of assets and liabilities, provisioning and income recognition, and risk exposures (see Basle Committee 1999a, p. 60), would also increase economic efficiency through improved market transparency and greater market discipline.

Lastly, in terms of the enhancement of 'competitive equality', a subsidiary goal of the Committee, the net effect of all the proposals would be positive. A levelling of the regulatory playing field would result, for example, from the enforced geographical spread of prompt corrective action and the application of bank-specific capital charges; from the induced convergence in information disclosure standards and supervisory practices; and from the removal of the bias resulting from OECD membership/incorporation. As now, however, there is a recognition that competitive inequalities would persist whatever regulators do because of the all-pervasive influence of factors beyond their control, such as institutional structures, and accounting, fiscal and legal regimes.

Switching the focus of attention to the *potential problems* inherent in the Committee's proposals (summarised in Exhibit 12), the first issue to address is the wisdom of placing external credit ratings at the centre of the revised standardised approach. A number of concerns have been raised in this respect. Firstly, some have questioned the previous track record of the rating agencies, especially in respect of their 'performance' during the recent Asian crisis (Basle Committee

1999d, Jackson and Perraudin 1999, p. 138). Secondly, concerns have been raised about the level of concentration in the credit rating industry (currently comprising only three world players, Moody's Investor Service, Standard and Poor's, and Fitch IBCA) and their centralisation in London and New York. Thirdly, whatever the verdict on their previous track record, how would they handle the intense commercial and political pressures they would face in the new environment? Fourthly, some (see Euromoney 1999 and Altman and Saunders 2001: the authors worry that reliance on 'traditional' agency ratings could produce cyclically lagging rather than leading capital requirements, thereby *enhancing* instability in the banking and financial system) fear that they might operate as a destabilising force in the world's financial markets. And, fifthly, given the multiplicity of ratings available even today, sometimes from the same agency, will opportunities for regulatory arbitrage emerge?

While the widespread use of external credit ratings has undoubted potential benefits, notably in securing a more efficient allocation of capital than currently takes place within the banking sector and in instilling market discipline amongst debtors, the above concerns cannot be lightly dismissed. And, given the desire for greater competitive equality, it is far from clear that the decision to leave 'recognition' of credit rating institutions to national supervisory authorities is a sensible move. Moreover, whatever body is made responsible for recognition, it will face a very difficult task in 'assessing' the rating institutions using the set of criteria established by the Committee (Basle Committee 1999a, pp. 33-34).[20] Who is to say what constitutes "best market practice" (see Krahnen and Weber 2001) and whose methodologies are the soundest? And what safeguards should be introduced to ensure the integrity of the ratings process? Maybe external regulation of the rating agencies is the only way of securing the public interest in such matters.

Moving away from a consideration of the merits of embracing external ratings, the proposed new framework, like the existing one, harbours a set of 'perverse' incentives. For example, those borrowers (sovereigns, banks and corporates) currently without a rating and

[20] The *minimum* essential criteria for recognition cover seven areas: 'objectivity', 'independence', 'transparency', 'credibility', 'international access', 'resources' and 'recognition'.

fearful of being awarded a rating of below 'B–' would have a positive *disincentive* to seek a rating as they would end up being worse off if their fears were realised (because unrated borrowers typically incur a 100% risk weight whereas those rated below 'B–' incur a 150% risk weight). This seems absurd. (The Committee's justification is that it is trying to minimise the competitive advantage enjoyed by banks in countries, especially the US, where the ratings culture is more widespread.) Secondly, because of the uneven distribution of risk weights on securitisation tranches (see Exhibit 12), banks would retain their existing incentive to securitise only their highest quality loans, thereby reducing the quality of their remaining loan portfolios. And thirdly, given the failure to differentiate adequately between corporate borrowers (those with a rating of between 'A+' and 'B–' all incur the same risk weighting of 100%), as under the current accord banks would have an incentive to court high risk corporate borrowers if they believe they can extract sufficiently high loan charges to more than offset the impact of the increased risk of default. (Altman and Saunders 2001 are also concerned about this 'lack of granularity' and proceed to develop a revised weighting system which, based on the default loss experience on corporate bonds for the period 1981-99, more closely resembles actual loss experience.)[21] This is also true, but to a more limited degree, for loans to banks (under either option) and, given the impracticability of differentiating between personal loan customers for regulatory purposes, for loans to individuals.

Similarly, inexplicable 'anomalies' also feature in the proposed new framework of risk weights. For example, it is not totally clear why sovereign borrowers are generally favoured by the proposed risk weight framework; while little differentiation is made in respect of corporates and, to a lesser degree, between banks (under either option), factors which reduce incentives to seek higher ratings. Similarly, if 'Option 2' is adopted in respect of the treatment of bank claims (which involves risk weighting banks on the basis of their in-

[21] Based on their analysis, Altman and Saunders (2001) suggest the following alternative risk weighting of bank corporate loans as a means of reducing regulatory capital arbitrage: for corporates rated between 'AAA' and 'AA–', 10%; for corporates rated 'A+' to 'BBB–', 30%; for corporates rated between 'BB+' and 'BB–', 100%; and for corporates rated below 'B–', 150%. No specific risk weighting for 'unrated' corporate borrowers is proposed; the authors prefer that this be based on a combination of external and internal ratings.

dividual characteristics but improving, by one category, the risk weight for claims with an original maturity of less than six months), interbank lending might become even more skewed towards shorter maturities than at present.

As for the concern with competitive equality, the scope for national discretion would be increased under the proposals because of the decisions taken to allow national supervisors to determine the weighting for local currency-denominated sovereign debt and to be responsible for the identification of those banks with 'excessive' interest rate risk in their banking books. Such proposals militate against a levelling of the (regulatory) playing field, as does the introduction of the ratings-based system itself, which discriminates against institutions in those countries which, traditionally, have not sponsored a ratings culture.

The broadening of the scope of capital adequacy assessment to embrace risks other than credit risk and market risk is, in principle, to be welcomed if it causes banks and their supervisors to spend more time identifying the nature and extent of such risks. Introducing new flat rate capital charges to cover risks such as operational risk is, however, highly questionable (see Financial Times Business 1999 and 2000c); they are probably best dealt with in the internal risk management and control assessment aspect of the supervisory review.

The reform proposals also imply a significant increase in the burden borne by most banks and supervisory agencies. Outside the ranks of the highly-sophisticated global players, who, ultimately, are likely to enjoy considerable benefits once supervisory recognition of internal ratings and portfolio credit risk models is forthcoming, most banks will endure increased compliance costs, not least because of the demands for enhanced information disclosure and for more comprehensive stress testing (Basle Committee 1999a, pp. 54-56). Similarly, most supervisory authorities will incur significantly increased costs as a result of the requirements relating to the adoption of a more proactive stance (in the guise of 'prompt corrective action'), the application of bank-specific capital charges, the introduction of a more extensive supervisory review and, further down the road, the approval and monitoring of the banks' internal credit rating systems and portfolio credit risk models. In many countries, skill shortages and inadequate budgets may prevent the delivery of the anticipated reforms,

not all of which (i.e. prompt corrective action – see Eisenbeis and Horvitz 1994) are beyond contention.

Concerns have also arisen in respect of the proposed treatment of claims on banks. 'Option 1' is clearly deficient in the sense that it ignores the banks' individual characteristics and, hence, penalises sound, well-managed banks through no fault of their own. Yet, 'Option 2', as currently envisaged, while being more equitable and efficient, would (as noted earlier) accentuate the trend towards ever-shortening maturities for interbank loans. Neither option is wholly satisfactory.

Worringly, in so far as the standardised approach (which the vast majority of banks will still adopt) is concerned, the basic flaw in the risk assessment methodology would remain; that is, as in the current risk asset ratio methodology, credit risks would be treated as being additive, with no account being taken of the correlations between the risks (Exhibit 9). While wider supervisory recognition of risk-mitigation techniques serves to ameliorate the position somewhat for risk-conscious and well-hedged banks, this is no substitute for explicit recognition of the portfolio effects of banks' lending and investment activities.

Finally, one can challenge one of the stated goals of the Committee's proposals, namely that of seeking to "at least maintain the overall level of capital currently in the banking system" (Basle Committee 1999a, p. 10, para. 10). (This was qualified in the 2001 proposals to relate solely to the impact on regulatory capital of the standardised approach, after allowing for the effects of the new operational risk capital charge.) Surely, the main thrust of its proposals is to refine the credit risk assessment exercise with a view to linking regulatory capital requirements more closely to the true levels of risk run by individual banks. Whether this exercise, properly carried out, would result in the industry's stock of capital being maintained at the current level is highly doubtful – I suspect that most would argue that, from a welfare-maximising perspective, there is too much equity capital invested in the banking (and finance) industry. (For a contrary view see Clementi 2000.) Adoption of such an objective is symptomatic of the low priority accorded the Committee to issues of efficiency, a term not even mentioned in its communiqué.

4. The major changes to the June 1999 proposals unveiled by the Basle Committee in January 2001 – The implications

In January 2001, the Committee unveiled its latest proposals (see Basle Committee 2001a) for a new capital accord, having digested the criticisms and comments received during the consultation period following the publication of its June 1999 proposals. The new proposals are summarised in Exhibit 13. As expected, the Committee confirmed that its new approach would be based around the previously-identified mutually reinforcing 'pillars' of minimum regulatory capital requirements, supervisory review and market discipline. The approaches to be adopted under each of these pillars, however, have been substantially revised and extended, necessitating a brief overview of the major changes made (also identified in Exhibit 13) before a final assessment of the Basle Committee's deliberations on the reform of capital adequacy assessment can be provided.

Before looking at the changes made under each pillar, it is worth noting that the long-term focus has switched to ensuring compliance by all 'significant' banks rather than just 'internationally-active' banks. Moreover, the Committee's guiding philosophy now reflects a greater emphasis than hitherto on providing banks and their supervisors with a range of options for the assessment of capital adequacy, and a greater willingness to allow banks to deploy their own assessment of the risks to which they are exposed in the calculation of regulatory capital charges. The former mutation reflects the Committee's desire to move further away from prescription and a 'one size fits all' approach, as first became evident in its sanctioning of the use of internal models to generate market risk capital charges (see p. 112 of this article). This manifests itself in Pillar 1, where a choice of options (subject to approval by national supervisors) is available to banks, depending upon the complexity of their business as well as on the quality of their risk management. Incentives, by way of lower capital requirements,[22] are provided for banks to improve their risk management and measurement capabilities so as to enable them to access the more risk-sensitive options.

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[22] For example, relative to the standardised approach, the foundation internal ratings-based approach in the aggregate is expected to reduce risk-weighted assets by between 2% and 3%.

EXHIBIT 13

SUMMARY OF THE BASLE COMMITTEE'S LATEST PROPOSALS (OF JANUARY 2001) FOR A NEW CAPITAL ACCORD

Confirmation/Clarification of June 1999 proposals

- *Aims/objectives* remain the same except that greater emphasis is now placed on providing banks and their supervisors with a range of options for the assessment of capital adequacy.
- The *scope* of the revised accord is to be extended on a consolidated basis to parent holding companies of banking groups, and will apply on a sub-consolidated basis to all internationally-active banks at every tier below group level.
- The new approach is to be based on the three mutually reinforcing *pillars* previously outlined namely, minimum regulatory capital requirements, supervisory review (of an institution's capital adequacy and internal assessment process) and greater market discipline (to be achieved through enhanced information disclosure).
- Within *Pillar 1*, a "standardised approach", building upon the 1988 accord but embracing external credit assessments, will be available for "less complex" banks; an "internal ratings-based approach" will be available, at national discretion (supervisory approval will depend on, *inter alia*, the local financial, accounting, legal, supervisory and market environment), to banks with more advanced risk management capabilities which satisfy rigorous supervisory standards. The use of *portfolio credit risk models* is still envisaged as a possible future option.[1] An explicit capital charge to cover *operational risk* will also be introduced. Finally, a (new) set of proposals will provide capital reductions for various forms of *credit risk mitigation techniques* that serve to reduce risk. However, they will only be available to banks meeting minimum operational standards (in recognition of the fact that poor management of operational risks, including legal risks, can render such mitigants of little or no value). Moreover, although partial mitigation is rewarded, banks will be required to hold capital against residual risks (see Basle Committee 2001c and 2001d).
- Under *Pillar 2*, a (revised and extended) set of procedures has been proposed whereby supervisors seek to ensure that each bank has sound internal processes in place to allow it to assess the adequacy of its capital and to set targets for capital that are commensurate with the bank's specific risk profile and control environment. This internal process is then subject to supervisory review and intervention where appropriate, supervisors drawing on, *inter alia*, their knowledge of best practice across institutions and the minimum criteria attached to the various approaches available for regulatory capital assessment. Interest rate risk in the banking book (and 'other' risks) are to be treated under Pillar 2, in accordance with a revised set of principles (see Basle Committee 2001b).
- Under *Pillar 3*, a (new and extended) set of disclosure requirements and recommendations have been set out to allow market participants to assess critical information describing the risk profile and capital adequacy of banks.

[1] While concerns about data quality and validation of model outputs currently rule out supervisory recognition of portfolio credit risk models, the Committee believes that those deficiencies can be overcome in the context of an internal ratings based approach through the development of rigorous minimum requirements that banks must meet in establishing the inputs and outputs of their internal rating systems, and by ruling out at this stage banks' own assessments of portfolio effects such as concentration and diversification.

EXHIBIT 13 (*cont.*)

Main changes/Developments since June 1999

In *Pillar 1*:

- Under the *standardised approach*, a more risk-sensitive approach, but still embracing the use of external credit assessments, is proposed.
  For banks' exposures to sovereigns (i.e. governments, central banks and PSEs treated as such by national supervisors), the use of published credit scores of export credit agencies is sanctioned along with the use of other external credit assessments. The definition of a 'short term inter-bank loan' has been redefined to include only those with an original maturity of at least 3 months (not 6 months, as previously proposed). A new treatment of asset securitisation, embracing both a standardised and internal ratings-based approaches, has been proposed for further consultation (see Basle Committee 2001e); and a revised treatment of credit risk mitigation is proposed. The Committee has dropped its previous proposal for a 'sovereign floor' to risk weights on bank and corporate exposures, whereby such risk weights could never be below those applied to the sovereign of corporation. However, although exposures to banks and corporates that have external credit assessments higher than those of their sovereigns may now enjoy preferential risk weights, these will not be permitted to fall below 20%.
  Finally, the Committee has dropped its proposal that the availability of preferential risk weights in the standardised approach is conditional on adherence to the IMF's "Special data dissemination standards", the Basle Committee's "Core principles for effective banking supervision", or IOSCO's "Objectives and principles of securities regulation". The decision was taken in the light of the fact that judgements regarding compliance with such standards would in large part be qualitative; moreover, the Committee did not want such assessments to be taken in a mechanical fashion.
- As noted above, *internal ratings-based (IRB) systems* will now be available, on a much wider basis than originally intended (see note 10), to qualifying banks with more advanced risk management capabilities. Banks will be able to choose between a 'foundation' approach and a more complicated 'advanced' approach, depending upon their ability to comply with demanding sets of supervisory standards.

In *Pillar 2*:

- A revised and extended set of proposals covering the supervisory review process has been published based on the establishment of four "key principles of supervisory review" (see Basle Committee 2001f).

In *Pillar 3*:

- More detailed guidance, distinguishing between "requirements" and "strong recommendations", has now been produced covering information disclosure on capital structure, risk exposures and capital adequacy (see Basle Committee 2001g).
- Separate disclosure requirements have also been put forth as prerequisites for supervisory recognition of internal methodologies for credit risk, credit risk mitigation techniques and asset securitisation (and, in the future, for advanced approaches to operational risk).

EXHIBIT 13 (*cont.*)

Issues still to be resolved/Work on-going

- *The treatment of asset securitisations*
  Although the Committee has developed for consultation standardised and IRB approaches for treating the explicit risks facing banks in traditional securitisations (see Basle Committee 2001e, for a full discussion of the operational, disclosure and minimum capital requirements proposed), it has also identified a limited number of issues requiring additional work, which may result in changes to the proposed treatment of asset securitisation. These issues relate to:
  - synthetic securitisation transactions (i.e. those involving portfolio credit derivatives)
  - how to attain greater risk-sensitivity under the foundation and advanced IRB approaches
  - how to attain the appropriate degree of economic consistency between the IRB treatment of securitisation and various forms of credit risk mitigation
  - the treatment of implicit and other residual risks.
- *The treatment of operational risk*
  On-going consultation with the industry is taking place with a view to establishing an accurate calibration of the related minimum capital requirements. The Committee is also calling for a co-ordinated, industry-wide collection and sharing of data based on consistent definitions of loss, risks and business lines to help it develop the advanced approaches to operational risk.
- *Assessing the potential impact of provisioning practices on capital adequacy*
  The Committee is currently contemplating doing some work on methods for addressing losses that are expected but have not yet materialised.
- *The development of the IRB approach*
  Although the Committee has proposed an IRB treatment for six broad exposure classes, its work on corporate, bank and sovereign exposures (which are treated in a broadly similar fashion) is most developed. Accordingly, its proposals for retail exposures are still being refined (e.g. should it cover loans to small businesses or not?), while its preliminary work on project finance and equity exposures will be continued during the consultation period.
  The Committee is also considering incorporating *maturity* as an explicit risk driver under the IRB approach; and is seeking comment on its proposal to include an explicit maturity adjustment under the advanced IRB approach.
  Finally, the Committee is considering the application of the IRB approach to credit risk in the trading book, and the treatment of potential future exposure of over-the-counter derivative instruments.
- *The development of the advanced IRB approach*
  The Committee has made it clear that its proposals are only a starting point for discussion, with emphasis on ensuring that the regulatory capital will cover the underlying risks with a high degree of confidence. The tentative risk weights put forward are based on a calibration that would produce a capital requirement of 8% for an asset with a 0.7% probability of default, a 50% loss given default, and a three-year maturity. The Committee will provide a revised calibration in its final proposals reflecting further consultation with the industry and its on-going work in this area.

EXHIBIT 13 (*cont.*)

The Committee also wants to provide banks with a modest incentive (by way of reduced capital charges) to adopt more sophisticated risk management methods, although it is not sure what this should be in order to induce greater take-up of the advanced (rather than foundation) IRB approach. During the first two years following the date of implementation (i.e. until some date in the year 2006), the Committee is proposing a floor on the advanced IRB approach equal to 90% of the capital requirements which would result under (a simplified calculation of) the foundation IRB approach. During this two-year period, the Committee will review the results of the capital requirements calibrated under the advanced approach. The Committee also notes that the substantial risk sensitivity of the IRB approaches could imply changes over time in the capital required for particular assets as their quality varies over the course of the economic cycle. They thus ask banks to perform relevant stress tasks and establish additional capital cushions during periods of economic growth.

- *The mapping of external credit assessments to the standardised risk buckets*
  During the consultation period, the Committee has promised to develop guiding principles for the mapping of external credit assessments provided by export credit agencies (ECAs) and external credit assessment institutions (ECAIs) to the standardised risk buckets. The Committee will also continue its work on the use of short-term assessments for risk weighting purposes.

- *The development of the Committee's information disclosure requirements and recommendations*
  The Committee has invited comment on the relevance, appropriateness and level of detail set out in its documents, particularly in the IRB areas, and on how the disclosures might be streamlined. It will also continue to work with the accounting authorities, including the International Accounting Standards Committee, to promote consistency between disclosure frameworks.
  The Committee is clarifying the concepts used in defining the trading book to ensure that positions which should be in the banking book are not inappropriately assigned to the trading book. It has also provided guidance on the prudent valuation of positions in the trading book, and made changes to the specific risk capital treatments applicable under the standardised methodology to the trading book consistent with the changes made in the banking book capital requirements under the standardised approach.

Timetable for implementation

- Comments on the January 2001 consultation document (and supporting documents) have to be received by the Committee by end-May 2001.
- A final, definitive version of the new capital accord is promised by end-2001.
- Internationally-active banks in member jurisdictions are required to implement the proposals during the year 2004. It is hoped that, eventually, all 'significant' banks will comply with the new 'rules'.
- In those jurisdictions where it proves impossible to fully implement all of the three pillar requirements, supervisors should, at the minimum, implement Pillar 1; more intensive use of another pillar should also, where possible, compensate for non-compliance with the remaining pillar.

EXHIBIT 13 (*cont.*)

- A set of transitional arrangements will also apply, embracing the following:
  - countries unable to initially comply with the consolidation/sub-consolidation requirements will be given three years from the date of implementation of the new accord to fall into line
  - for those banks contemplating adoption of the IRB approaches, the Committee is currently considering, for corporate, banking and sovereign exposures under the foundation IRB approach, as well as for retail exposures, granting a three-year transition period (i.e. until 2007) during which data-related minimum requirements would be relaxed – subject to supervisors ensuring that implementation of the IRB approaches is done in a sound manner during this period. Banks availing themselves of these arrangements, however, must make appropriate disclosure, covering the nature and extent of their non-compliance with the minimum requirements.

The Committee's greater willingness to rely on banks' own assessment of risk is reflected in their proposals for the internal ratings-based (IRB) approaches – see below – whereby banks, themselves, are allowed to estimate some of the key elements of credit risk, such as the probability of borrowers defaulting. Moreover, more generally, banks are expected to set their own internal targets for capital and its allocation, with supervisors being responsible for 'vetting' this process and for monitoring for compliance with the relevant minimum criteria where more sophisticated approaches to capital adequacy assessment are adopted.

4.1. *Main changes made under Pillar 1*

4.1.1. A more risk-sensitive standardised approach

Under the Committee's new proposals (see also Basle Committee 2001c), banks adopting the standardised approach now enjoy a more risk-sensitive framework. For example: an additional risk bucket of 50% is included for corporate exposures and the risk weights applied to lower quality corporates have been reconfigured; certain categories of asset (e.g. claims on sovereigns, PSEs, banks and securities firms rated below B–, claims on corporates rated below BB–, securitisation tranches that are rated between BB+ and BB–, and the unsecured portion of any asset that is past due for more than 90 days, net of specific provisions) have been identified for the higher (i.e. 150%) risk bucket; and the 'sovereign floor' to bank and corporate exposures has

been removed (although preferential risk weights, in relation to the sovereign, are still not allowed to fall below 20%). Moreover, the Committee has clarified the treatment of unrated corporates – the previously set 100% risk weight for bank exposures is now to represent a floor, with supervisors being encouraged to raise the figure where warranted – and has sanctioned the use of export credit agencies' (ECAs) published credit scores, alongside the ratings of external credit assessment institutions (ECAIs), in the banks' risk weighting of sovereign exposures. The new ratings-based risk weights are set out in Exhibit 14. It is also worth noting that the Committee is no longer calling for adherence to the IMF's "Special data dissemination standards", the Basle Committee's "Core principles for effective banking supervision", or IOSCO's "Objectives and principles of securities regulation" as pre-conditions for the adoption of preferential risk weights in the standardised approach. And it has extended the preferential treatment of short-term (now defined as having an original maturity of no more than 3 months) bank claims to banks' short-term exposures to other banks provided they are denominated and funded in the local currency – see Exhibit 14, Table 2.

EXHIBIT 14

THE JANUARY 2001 PROPOSALS FOR THE RISK WEIGHTING OF BANKING BOOK EXPOSURES UNDER THE STANDARDISED APPROACH

TABLE 1

CLAIMS ON SOVEREIGNS[1]
(in %)

If banks use the credit assessments of eligible[2] external credit assessment institutions (ECAIs), the following risk weights are to be applied:[3]

Credit assessment[4]	AAA to AA–	A+ to A–	BB+ to BBB–	BB+ to B–	Below B–	Unrated
Risk weights	0	20	50	100	150	100

If banks, instead, use the country risk scores of 'qualifying'[5] Export Credit Agencies (ECAs), the following risk weights are to be applied:

ECA risk scores	1	2	3	4 to 6	7
Risk weights	0	20	50	100	150

[1] To include central banks and public sector entities treated as sovereign.
[2] As defined in Basle Committee (2001a, Section A2, pp. 12-13).
[3] At national discretion, a lower risk weight may be applied to banks' exposures to sovereigns where they are denominated in domestic currency and funded in that currency. The lower risk weight may also be extended to the risk weighting of collateral and guarantees.
[4] The notation follows that used by Standard & Poor's.
[5] To qualify, an ECA must publish its risk scores and subscribe to the OECD 1999 methodology.

Source: Basle Committee (2001a, pp. 7-8).

EXHIBIT 14 (*cont.*)

TABLE 2

CLAIMS ON BANKS[1] (AND SECURITIES FIRMS SUBJECT TO COMPARABLE REGULATORY AND SUPERVISORY ARRANGEMENTS)
(in %)

Option 1: Risk weights based on the rating of the sovereign of incorporation[2, 3]

Credit assessment of sovereigns	AAA to AA–	A+ to A–	BB+ to BBB–	BB+ to B–	Below B–	Unrated
Risk weights	20	50	100	100	150	100

Option 2: Risk weights based on the external credit assessments of the banks themselves[4]

Credit assessment of banks	AAA to AA–	A+ to A–	BB+ to BBB–	BB+ to B–	Below B–	Unrated
Risk weights	20	50	50	100	150	50
Risk weights for short-term claims[5]	20	20	20	50	150	20

[1] National supervisors must choose and apply one option to all banks in their jurisdiction. No claim on an unrated bank may receive a risk weight less than that applied to its sovereign of incorporation.

[2] Under this option, all banks in a given country are to be assigned a risk weight one category less favourable than that assigned to claims on the sovereign of incorporation. However, for claims on banks in sovereigns rated BB+ to B– and on banks in unrated countries, the risk weight may be capped at 100%.

[3] At national discretion, a lower risk weight (subject to a floor of 20%) can be assigned to such exposures where the claims are of an original maturity of 3 months or less and are denominated and funded in the domestic currency. This also applies in Option 2.

[4] Under this option, a preferential risk weight that is one category more favourable than the risk weight shown may be applied to short-term claims, subject to a floor of 20%. This treatment is available to both rated and unrated claims, but not to banks risk weighted at 150%.

[5] Defined as having an original maturity of 3 months or less.

Source: Basle Committee (2001a, pp. 9-10).

EXHIBIT 14 (*cont.*)

TABLE 3

CLAIMS ON CORPORATES (AND INSURANCE COMPANIES)
(in %)

Credit assessment	AAA to AA–	A+ to A–	BB+ to BBB–	Below BB–	Unrated[1]
Risk weight	20	50	100	150	100

[1] No claim on an unrated corporate may be given a risk weight preferential to that assigned to its sovereign of incorporation. And in countries where corporates have higher default rates, supervisors should increase the standard risk weight for unrated claims where they judge that a higher risk weight is warranted by the overall default experience in their jurisdiction. As part of their review process, supervisors should also consider whether the credit quality of corporate claims held by individual banks should warrant a standard risk weight higher than 100%.

Source: Basle Committee (2001a, p. 10).

4.1.2. Operational requirements to be applied under the standardised approach.

National supervisors are responsible for ensuring that banks do not assign risk weights based on external credit assessments in a mechanical fashion. Rather, they, together with the banks, should evaluate the methodologies used by the ECAIs and the quality of the ratings produced.

Before gaining supervisory recognition of their credit assessments, ECAIs must satisfy six criteria, covering issues of 'objectivity', 'independence', 'international access'/'transparency', 'disclosure', 'resources' and 'credibility' (for full details see Basle Committee 2001a, p. 13). Supervisors are responsible for mapping the ECAIs' assessments with the risk weights, for ensuring that the risk weight assignment is consistent with the level of credit risk involved, and for preventing banks from 'cherry-picking' from the available assessments. Banks are expected to apply the assessments consistently for both risk weighting and risk management purposes. Guidelines have also been developed covering the use of multiple external assessments, issuer *versus* issue assessments, short-term *versus* long-term assessments and unsolicited assessments (*ibid.*, pp. 14-15).

4.1.3. Credit risk mitigation in the standardised approach

As envisaged under the June 1999 proposals, certain credit risk mitigation techniques – i.e. the use of collateral, credit derivatives, guarantees and netting arrangements – have been recognised under the Committee's latest proposals. Consistent with its policy of maximising choice, the Committee offers the banks the option of using a standardised approach, a foundation IRB approach or an advanced IRB approach. Whatever approach is adopted, however, a set of minimum operational standards has to be adhered to. (For further details see Basle Committee 2001a, pp. 15-31.) And recognition of credit risk mitigation is also dependent on the fulfilment of certain disclosure requirements set out under Pillar 3 (*ibid.*, p. 123, paras 654-56).

4.1.4. The standardised approach to asset securitisation

The Committee has published for consultation standardised and IRB approaches for treating the explicit risks that traditional securitisations pose for banks, be they issuing banks, investing banks or sponsoring banks. Operational requirements, disclosure requirements (the receipt of favourable capital treatment is dependent upon compliance with these requirements – *ibid.*, pp. 125-27, paras 659-60) and minimum capital requirements[23] are laid down within each approach. (For full details see Basle Committee 2001a, pp. 87-93.)

4.1.5. IRB approaches

As foreshadowed in its June 1991 consultation paper, banks with more advanced risk management capabilities are to be able, at national discretion, to use internal assessments of credit risk – now set out as IRB approaches – provided they satisfy rigorous supervisory standards. To be eligible to use the so-called 'foundation' approach (see below), banks must satisfy the following *minimum requirements*, both at the outset and on an on-going basis:

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[23] The risk-weighting of securitisation tranches for banks investing in asset backed securities remains as shown in Exhibit 10.

i) a meaningful differentiation of risk;

ii) completeness and integrity of rating assignments;

iii) oversight of the rating system and processes;

iv) criteria and orientation of the rating system;

v) estimation of the probability of default (PD);

vi) data collection and IT systems;

vii) use of internal ratings;

viii) internal validation;

ix) disclosure requirements (as set out in Pillar 3).

In addition, a bank using its own estimates of any of the components of the 'advanced' IRB approach – i.e. in respect of loss given default (LGD), exposure at default (EAD) and the treatment of guarantees and credit derivatives – must satisfy all of the above as well as the additional minimum requirements for the relevant risk component it is estimating. (For full details see Basle Committee 2001a, Section III.)

Once a bank uses own estimates for one of the risk components, supervisors will expect the bank to use the advanced approach for the other risk components within a reasonably short period of time. Similarly, a banking group that adopts the IRB approach for some of its exposures must adopt it across all classes of exposure and all significant business units (i.e. subsidiaries and branches) within a reasonably short period of time.

Under the IRB approach, banks are first required to categorise banking book exposures into six broad classes of assets with different underlying credit risk characteristics. These categories are: corporate exposures, bank exposures, sovereign exposures, retail exposures, project finance exposures, and equity exposures. For each exposure class, the treatment (which is similar for the first three categories but distinct for the last three) is based on three main elements: risk components, where a bank may use either its own or standardised supervisory estimates; a risk weight function, which converts the risk components into risk weights to be used by banks in calculating risk-weighted assets; and a set of minimum requirements (as set out above) that a bank must meet to be eligible for IRB treatment. Under the *foundation* IRB approach, banks are allowed to input their own as-

sessment of default probabilities (PDs) for borrowers; but estimates of additional risk factors, such as losses incurred by the bank given defaults (LGDs), and the expected exposures at default (EADs) have to be derived through the application of standardised supervisory estimates. Under the *advanced* IRB approach, however, more of the risk components can be estimated internally by the bank. (For full details see Basle Committee 2001a, Section III, and Basle Committee 2001d.)

4.1.6. The treatment of operational risk

In confirmation of its earlier intention to require banks to establish an explicit capital charge to cover operational risk,[24] the Committee has proposed three[25] possible approaches for adoption: the 'basic indicator approach', the 'standardised approach' and the 'internal measurement approach'. The last-mentioned is the most sophisticated, and all internationally-active banks and banks with significant operational risk exposure are expected to use this or the standardised approach. The Committee has adopted a standard industry definition of operational risk – "the risk of direct or indirect loss resulting from inadequate or failed internal processes, people and systems or from external events" (Basle Committee 2001a, p. 94) – and, based on industry experience, has proposed that a figure of 20% of regulatory capital be used as a first approximation in developing minimum capital charges. As additional loss data becomes available, the minimum capital requirements will be adjusted accordingly.

Under the *basic indicator approach*, the capital charge is linked to a single indicator, such as gross income,[26] that serves as a proxy for the bank's overall risk exposure. Each bank has to hold capital equal to a fixed percentage (the 'alpha factor') of this indicator. Under the *stan-*

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[24] This means that the risk asset ratio (RAR) is now to be calculated as follows:

$$\text{RAR (\%)} = \frac{\text{ACB}}{\begin{bmatrix}\text{credit risk – weighted assets} \\ \text{in banking book}\end{bmatrix} + \begin{bmatrix}\text{12.5 x (market risk capital charge +} \\ \text{operational risk capital charge)}\end{bmatrix}}$$

(For a comparison with the current methodology used to calculate the risk asset ratio, see Exhibit 6.)

[25] A fourth, the 'loss distribution approach', in which the bank specifies its own loss distributions, business lines and risk types, may become available in the future.

[26] When 'gross income' is currently defined as net interest income plus net non-interest income.

dardised approach, which may be used by banks meeting certain minimum standards (see Basle Committee 2001a, p. 97, para. 563), a bank's activities are divided into a number of standardised industry business lines (e.g. corporate finance, retail banking, asset management, etc.) into which banks map their internal framework. Within each business line, the capital charge is calculated by multiplying an indicator of operational risk (e.g. gross income, annual average assets, total funds under management) by a fixed percentage (the 'beta factor'). Both the indicator and the beta factor (see Basle Committee 2001h, for a discussion of their derivation) can differ across business lines. The total operational risk capital charge is then the sum of the regulatory capital charges applying across each of the business lines. Finally, under the *internal measurement approach*, which is available to banks meeting yet more rigorous supervisory standards (see Basle Committee 2001a, pp. 97-98), the operational risk capital charge is calculated as follows:

i) a bank's activities are categorised into the same business lines as in the standardised approach. A broad set of operational risk types is then defined and applied across business lines (Basle Committee 2001h, Annex 4);

ii) within each business line/risk type combination, the supervisor specifies an exposure indicator (EI) which is a proxy for the size (or amount of risk) of each business line's operational risk exposure to each risk type;

iii) for each business line/risk type combination, in addition to the exposure indicator, banks must measure, based on their internal loss data, a parameter representing the probability of loss event (PE) and a parameter representing the loss given that event (LGE). The product of EI, PE and LGE represents the expected loss (EL);

iv) the supervisor supplies a factor (the 'gamma factor'), based on industry-wide data, for each business line/risk type combination. This is used to translate the expected loss (EL) into a capital charge by simply multiplying the EL by the gamma factor;

v) the overall capital charge (which, in the short term at least, will be subject to a 'floor' set by the Committee) is the sum of all the individual capital charges.

As part of the process of supervisory validation, banks are required to supply their supervisors with the individual components of the expected loss calculations; and, in the long term, banks may be allowed to use their own definitions of business lines and risk types.

4.2. *Main changes made under Pillar 2*

In its latest package of proposals the Committee has identified four 'key principles' of supervisory review which are designed to complement the extensive supervisory guidance already established (e.g. in Basle Committee 1997a and 1999g). The first of these principles is that:

> "Banks should have a process for assessing their overall capital adequacy in relation to their risk profile, and a strategy for maintaining their capital levels" (Basle Committe 2001a, p. 105).

Guidance given under this principle is designed to ensure that banks are able to demonstrate that chosen internal capital targets are well founded and that these targets are consistent with their overall risk profiles and current operating environments. The Committee reminds banks that, in assessing capital adequacy, they should take account of the particular stages of the business cycle in which the bank is operating; and recommends that rigorous, forward-looking stress testing be used to identify possible events or changes in market conditions that could adversely impact upon the banks. Finally, the Committee sets out the main features that it believes should constitute the rigorous process sought, namely: a sound risk management process subject to effective board and senior management oversight, sound capital assessment, a comprehensive assessment of risks, an adequate system for monitoring and reporting risk and adequate internal control review. (For full details see Basle Committee 2001a, pp. 105-08.)

The second key principle, associated with internal control review, is that:

> "Supervisors should review and evaluate banks' internal capital adequacy assessments and strategies, as well as their ability to monitor and ensure their compliance with regulatory capital ratios. Supervisors should take appropriate supervisory action if they are not satisfied with the result of this process" (*ibid.*, p. 108).

Under this principle, the Committee is seeking to ensure that supervisors regularly review, on the basis of published criteria, banks' capital adequacy assessment processes, banks' risk positions, and the resultant amounts and quality of capital held by the banks. Supervisors are also expected to evaluate the soundness of the banks' internal capital adequacy assessment processes. The Committee believe that the emphasis of the review should be on the quality of the banks' risk management and controls, and should comprise some or all of the following: on-site examinations or inspections, off-site review, discussions with bank management, review of relevant work done by external auditors, periodic reporting. A detailed review of each bank's internal analysis is also called for.

The third key principle (like the fourth), also falling within the remit of internal control review and covering the nature of the supervisory response, states that:

> "Supervisors should expect banks to operate above the minimum regulatory capital levels and should have the ability to require banks to hold capital in excess of the minimum" (*ibid*., p. 110).

This may involve, as in the UK, supervisors setting banks specific 'target' and 'trigger' capital ratios or, as in the US, defining categories above minimum regulatory capital ratios (e.g. 'well-capitalised' and 'adequately-capitalised') when identifying the capitalisation level of a bank. Other countries may choose to set higher ratios for the banking system as a whole. Whatever operational route is chosen, supervisors should require (or otherwise encourage) banks to operate within a buffer, over and above the Pillar 1 standard, in order to take account of: banks' own preferences for higher levels of creditworthiness than delivered by Pillar 1; fluctuations in the type and volume of business activities undertaken (which impact on the overall capital ratio); potential future difficulties faced by banks when raising additional capital; the severity of the impact of sanctions/remedial action triggered by breaches of the relevant laws; and the risks not captured by Pillar 1 requirements. At the individual bank level, supervisors should clearly explain their reasons for setting capital requirements above the minimum requirement.

Finally, principle 4 states that:

> "Supervisors should seek to intervene at an early stage to prevent capital from falling below the minimum levels required to support

> the risk characteristics of a particular bank, and should require rapid remedial action if capital is not maintained or restored" (*ibid.*, p. 111).

Under this principle, supervisors are expected to consider a range of options if they become concerned that banks are not meeting the requirements embodied in the supervisors' principles outlined above. These actions may include: intensifying the monitoring of the bank; restricting the payment of dividends; requiring the bank to prepare and implement a satisfactory capital adequacy restoration plan; and requiring the bank to raise additional capital immediately. Supervisors should have the discretion to use the tools best suited to the circumstances of the bank and its operating environment. (Note, however, that this is not totally consistent with the 'prompt corrective action' type legislation introduced in recent years in the USA and Japan.) Increased capital may sometimes be best used as an interim measure while permanent measures to improve the bank's position, such as improving systems and controls, are being put in place.

4.3. *Main changes made under Pillar 3*

Building on the six broad recommendations set out in its January 2000 paper (Basle Committee 2000b), the Committee has developed a set of more specific qualitative and quantitative disclosures in four key areas: scope of application, composition of capital, risk exposure assessment (covering credit risk in the banking book, market risk, operational risk and interest rate risk in the banking book) and management processes, and capital adequacy (for full details see Basle Committee 2001a, pp. 114-33). It also now distinguishes between disclosure *requirements*, which serve as pre-conditions for the use of a particular methodology or instrument, and *strong recommendations*. The latter's status is enhanced by embedding them in an adequate bank management process, as described in the following overarching principle that every bank is expected to be bound by:

> "Banks should have a formal disclosure policy approved by the board of directors. This policy should describe the bank's objective and strategy for the public disclosure of information on its financial condition and performance. In addition, banks should implement a process for assessing the appropriateness of their disclosure, including the frequency of disclosure" (*ibid.*, p. 114).

A distinction is also now drawn between 'core' and 'supplementary' disclosure recommendations, in recognition of the disclosure burden placed on some institutions. Core disclosures are defined as those which convey vital information for all institutions and are important to the basic operation of market discipline. All institutions are expected to disclose their information subject to 'materiality'.[27] Supplementary disclosures, in contrast, are important for some, but not all, institutions depending on the nature of their risk exposure, capital adequacy and methods adopted to calculate the capital requirements. Sophisticated, internationally-active banks are expected to make the full range of core and supplementary information publicly available, again on the basis of materiality.

In respect of the strong recommendations made in relation to the disclosure of information on capital structure, core disclosure recommendations are both quantitative and qualitative in nature. The former cover disclosure of:

- the amount of Tier 1 capital held, with separate disclosure of:
  - paid-up share capital/common stock;
  - disclosed reserves;
  - minority interests in the equity of subsidiaries;
  - innovative Tier 1 capital instruments grandfathered (in accordance with the Committee's Press Release of October 1998 – see Basle Committee 1998a);
  - innovative Tier 1 capital instruments not grandfathered (*ibid.*);
  - goodwill and other amounts deducted from Tier 1;
- the total amount of Tier 2 and Tier 3 capital held;
- deductions made from Tier 1 and Tier 2 capital;
- overall eligible capital held.

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[27] Information is regarded as 'material' if its omission or misstatement could change or influence the assessment or decision of a 'reasonable investor' relying on that information.

The latter cover, in turn:

– accounting policies used for the valuation of assets and liabilities, provisioning and income recognition;

– information on consistency of accounting principles used between years;

– whether unrealised gains are included in Tier 1 capital;

– whether unrealised losses have been deducted from Tier 1 capital;

– what influence deferred taxes have on Tier 1 capital;

– the nature and functions of innovative Tier 1 capital instruments.

Supplementary disclosures, meanwhile, are expected to cover: the amount of Tier 2 capital (split between 'Upper' and 'Lower' Tier 2), with separate disclosure of material components, and the amount of Tier 3 capital. Summary disclosure of information about the terms and conditions of the main features of all capital instruments, especially in the case of innovative, complex or hybrid capital instruments, is also expected under both core and supplementary disclosures. And this information should provide a clear picture of the loss-absorbing capacity of each instrument, and highlight any conditions (e.g. 'trigger' events) that may affect the analysis of banks' capital adequacy.

Similarly, with respect to 'capital adequacy' disclosures, core disclosure recommendations (to be made on a consolidated basis by each internationally-active bank within a banking group, and by holding companies of banking groups) embrace:

– capital requirements for credit risk for balance sheet assets;

– capital requirements for credit risk for off-balance-sheet instruments;

– capital requirements for market risk, including disclosure of capital charges for component risk elements;

– capital requirements for operational risk;

– total capital requirements;

– total eligible capital;

– percentage of total eligible capital to total capital requirements.

Banks using the internal models approach should also disclose their individual capital requirements for component elements of market risk.

Under the supplementary disclosure recommendations, banks are also expected to provide an analysis of factors impacting on their capital adequacy position and economic capital allocations. This would include:

– changes in capital structure and the impact on key ratios[28] and the overall capital position;

– information about contingency planning;

– its capital management strategy including, where appropriate, future capital plans;

– the amount of economic capital allocated to different transactions, products, customers, business lines, or organisational units.

Banks are also invited to consider disclosing a summary comparison/analysis of internal estimates of *aggregate* economic capital requirements *versus* reported capital amounts *versus* regulatory requirements.

Finally, in connection with the *frequency of disclosure* (and banks are encouraged to use electronic media as the medium for more frequent disclosures), the Committee believes that it is desirable for the disclosures covered in its paper to be made on no worse than a semi-annual basis, subject to proper verification on no worse than an annual basis. For certain categories of disclosure which are subject to rapid time delay (e.g. risk exposure) and, in particular, for internationally-active banks, quarterly disclosures are expected.

[28] These will vary according to the individual institution but might, for example, include the ratio of Tier 2 to Tier 1 capital, the ratio of Tier 1 to total capital and the ratio of deductions from Tier 1 and Tier 2 capital to total capital.

5. Summary and conclusions

The Basle Committee is to be applauded for finally responding, if somewhat belatedly, to the chorus of criticism, backed by empirical evidence, levelled at the design and operation of the original Basle Capital Accord. Its proposals for a replacement capital adequacy assessment framework for internationally-active banks are both comprehensive and revolutionary. Based on the three supervisory 'pillars' of minimum regulatory capital requirements, supervisory review of capital adequacy and internal assessment processes, and greater market discipline, the new framework would divide banks into two distinct classes: 'less complex' banks and those with more advanced risk management capabilities.[29] The former group would be bound by a substantially revised 'standardised' approach which would involve the extensive use of external credit assessments in the determination of the appropriate risk weights, with current privileges accorded OECD membership/incorporation being abolished. The latter group are offered the prospect of supervisory recognition, subject to adherence to qualitative and quantitative guidance, of *internal* credit ratings and, perhaps, further down the road, of portfolio credit risk models. The ramifications of full adoption of the package of proposals, as presently constituted, are profound and far-reaching; and, even before the proposals have been ratified, significant market effects have become apparent.

In order to appraise the merits of the Committee's original proposals, a cost-benefit type of analysis was conducted with a view to determining the extent to which the flaws/ deficiencies in the current Accord would be eradicated and the Committee's ability to secure its major objectives (i.e. stability and competitive equality) enhanced. On the former front, a range of efficiency gains, largely resulting from the removal of current 'anomalies' and perverse incentives, that would derive from full implementation of the Committee's proposals were identified. And, in a similar vein, those proposals that would serve to

[29] Originally, the distinction was more stark, involving separating out a small group of highly sophisticated global players from the rest. All internationally-active banks involved in complex risk transfers and those with an above-average risk profile are now expected to (eventually) adopt the IRB approach.

enhance the Committee's ability to secure its stated objectives were paraded for the reader's attention.

While the potential benefits to be reaped from implementation of the reform package were shown to be clearly substantial, a number of important concerns remained, however. Firstly, in respect of the proposal to embrace external credit assessments within the revised standardised approach, doubts persisted about the wisdom of concentrating so much power within the hands of so few agencies which, moreover, had questionable track records (the Committee's own concerns are documented at pp. 26-27 of Basle Committee 1999a). While the safeguards contained in the Committee's "minimum essential criteria for recognition" looked good on paper, nothing less than external regulation of the rating agencies might be sufficient to secure the public interest.

Apart from concerns about the wisdom of using external credit assessments, the new framework originally proposed could legitimately be accused of harbouring, like the current one, its own set of 'perverse' incentives and 'anomalies'. Further refinement of the proposed risk weight framework, based on external credit ratings, would be necessary if such flaws were to be removed. The proposed extension in the scope for national discretion was also criticised on the grounds that it detracted further from the delivery of a level regulatory playing field. Likewise, the Committee's proposal to introduce new flat rate capital charges to cover other risks, such as operational risk, was also questioned. In awareness of the additional burdens generated for both banks (especially the small to medium-sized) and supervisors alike, the Committee was asked to be receptive to proposals from the former to cut compliance costs elsewhere, and from the latter to phase in the new requirements. Additionally, the Committee's proposed treatment of claims on banks was also challenged as both options put out for consultation were clearly flawed. Moreover, it was warned against granting premature recognition to portfolio credit risk models (and, indeed, to internal credit ratings given lack of consistency within the industry and concerns about comparability both between banks and across countries – see Hirtle *et al.* 2001), given the problems inherent in their current state of development. Last, but by no means least, the Committee was asked to address the basic flaw inherent in the risk assessment methodology embraced in the standardised approach; as under the current regime, correlations between (cre-

dit) risks would otherwise largely be ignored, militating against an accurate assessment of portfolio risk and hence an optimal allocation of capital.

In the light of these criticisms and other representations made during the consultation period, the Committee subsequently produced, in January 2001, a revised set of proposals. This new package represents a major advance on the first because of the increased cost-effectiveness likely to result from, *inter alia*:

– the increased choice (subject to national supervisory approval) now offered to a wider range of banks as a result of the Committee's more concerted attempt to move away from the current 'one size fits all' policy;

– the promulgation of a more risk-sensitive standardised approach which addresses the concerns raised about the lack of granularity in the treatment of corporates, the operation of a sovereign floor for bank/corporate exposure risk weights, and the assignment of a 100% risk weight to unrated borrowers;

– the reduction, from six to three months, in the original maturity of interbank claims before they quality for preferential treatment under 'Option 2';

– the additional safeguards built into the use of external credit assessments and internal assessments (under the IRB approaches);

– the new IRB framework for credit risk explicitly recognising more elements of credit risk (i.e. the creditworthiness of the obligor, the structure and maturity of the transaction, and the concentration of loans to a particular borrower or borrower group) in the regulatory capital calculation;

– the increased financial stability induced by the extension of the supervisory review process;

– the enhanced market discipline deriving from the adoption of a much broader range of disclosure requirements and recommendations, the former now extending to the provision of prerequisites for the supervisory recognition of internal methodologies for credit risk assessment, credit risk mitigation techniques and asset securitisation;

– the attempts made to lighten the overall burden placed on banks and supervisors alike by the decisions taken to, respectively, distinguish between core and supplementary disclosure requirements/recommendations under Pillar 3, and to phase in the new requirements (under the Committee's transitional arrangements).

This does not mean, however, that all the previously-expressed fears and concerns have dissipated. As far as the Committee's stability objective is concerned, doubts persist because of the following:

– notwithstanding the greater supervisory recognition to be given to credit risk mitigation techniques, credit risks will still be treated in an additive fashion under the standardised approach, with no account being taken of the degree of portfolio diversification secured;

– the risk that the more risk-sensitive framework might amplify business cycles (see Altman and Saunders 2001);

– the danger that some banks will be allowed to operate the IRB approaches prematurely;

– the very real fear that, because of limited skills, expertise and experience and a lack of professional standing, supervisors in a number of jurisdictions will not match up to the Committee's expectations (indeed, the Committee has acknowledged this, promising that it, together with the BIS's "Financial Stability Institute", will stand ready to provide assistance and will serve as a forum for information dissemination and exchange among supervisors);

– the feeling that the 'safeguards' introduced to assuage the fears of the dissenters concerning the use of external credit assessments still do not do enough to ensure that the public interest prevails;

– some perverse incentives remain in the new framework;

– the Committee's failure to take account of a bank's liquidity and access to future funding when assessing the value of its loan portfolio (a 'fair value' approach may overstate true worth as the latter may depend on its liquidation value);

– a belief that both external ratings and IRB approaches are too blunt an instrument to reflect the day-to-day riskiness of credit portfolios.

Widespread concerns also continue to be expressed in relation to the overall burden – reporting and otherwise – to be placed on banks, and to the decision to treat operational risk under Pillar 1 rather than Pillar 2.

Similarly, in connection with the Committee's level playing field objective, a number of fears persist. The main one relates to the wide range of opportunities available to national supervisors to exercise their discretion under the latest set of proposals and the fear that, despite the Committee's promise to monitor the use of discretion, serious competitive distortions will materialise. In a similar vein, bankers are anxious about the possible further loss of market share to non-bank financial service providers active in certain markets yet not subject to comparable regulation (e.g. insurance companies involved in credit derivatives).

All in all, however, the Committee is to be congratulated for its attempts to move forward with the times and increase the cost-effectiveness of capital regulation. As ever, the "proof of the pudding will be in the eating", and there is still time for the Committee to further refine its approach. Moreover, by demonstrating its willingness to work with the grain of the market, the Committee has paved the way for the eventual adoption of a fully market-based approach, if a consensus for such an approach ever emerges.

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