Basel II: panacea or a missed opportunity?

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Introduction

For a number of years now, the Basel Committee has been working tirelessly to get agreement on a New Capital Accord to replace the original agreed on by G10 bank supervisors back in July 1988. This quest has been driven by a recognition that the original has become superseded by market developments, not least in the area of risk management, and that it is failing to operate in the intended fashion because of, for example, 'regulatory capital arbitrage' (Jones 2000). The first visible fruits of its labour appeared in June 1999 in the form of a consultative paper outlining proposals for reform of Basel I (Basel Committee 1999). Following consultation with interested parties, a revised set of reform proposals was then issued in January 2001 (Basel Committee 2001a) and, once again, these were put forward for consultation. This duly resulted in a third consultation paper ('CP3') being issued in April 2003 (Basel Committee 2003a) and it is refinement of this document which resulted in the publication of Basel II in June 2004 (Basel Committee 2004a).

Following a brief review of the current 'rules' applying under Basel I and the proposals for change outlined by the Basel Committee in June 1999 ('CP1'), as revised by its proposals of January 2001 ('CP2'), this article will address in detail developments in the run-up to publication of 'CP3', the changes introduced under 'CP3', and the final amendments incorporated in Basel II. A 'cost-benefit' analysis of Basel II will then ensue, highlighting the outstanding concerns still felt by many observers. Possible alternative approaches to capital ade-

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quacy assessment are introduced for comparative purposes and the section also explains how more might have been done to enhance the cost-effectiveness of the reforms adopted, not least by embracing market discipline more fully within the supervisory process. Section 7 summarises and concludes.

1. A review of the current 'rules' applying under Basel I

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), comprising allowable 'Tier 1' and 'Tier 2' capital (subject to limits and restrictions), 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 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'. Using this methodology (see Exhibit 1 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 (Basel Committee 1996), the RAR methodology has been modified (see Exhibit 2) 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, 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 2 can be calculated in

[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 Basel Committee 1996).

accordance with Exhibit 3 as an alternative to the 'standardised approach' (see Basel Committee 1996).

EXHIBIT 1

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 2

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" (Basel Committee 1996), all G10-incorporated, internationally-active banks have to observe, continuously, a minimum capital requirement derived as follows:

$$\mathrm{RAR}(\%)^{1} = \frac{\mathrm{ACB}^{2}}{\mathrm{TOWRA}^{3} + [12.5 \times \text{Market Risk Capital Charge}]^{4}}$$

[1] This remains subject to a minimum of 8%.
[2] 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. However, national regulators are empowered to permit banks to adopt an alternative definition of capital, subject to limits and restrictions, but only in respect of satisfying the risk-based requirements arising from *trading-book* activities.
[3] 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 1.
[4] This represents notional risk-weighted assets on the trading book.

Source: Hall (1997).

EXHIBIT 3

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

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

$$\mathrm{CRM}_t = \mathrm{Max}\left[\frac{\mathrm{SM}_t}{60} \sum_{i=1}^{60} \mathrm{Var}_{t-1}, \mathrm{VaR}_{t-1}\right] + \mathrm{SR}_{t-1}$$

where CMR_t = bank's market risk capital requirement at time t,

VaR_{t-1} = bank's market risk exposure estimate at date $t-i$,

SM_t = supervisory-determined factor [3≤SMt] and

SR_{t-1} = additional capital charge for the *specific* risk of trading book positions.

t = day.

Source: Kupiec and O'Brien (1996).

2. The reform proposals of June 1999

As a belated response to criticisms of Basel I – see Exhibit 4 – and in an attempt to catch up with market developments since 1988, the Committee produced a set of reform proposals in June 1999. Its specific aims were to improve the way regulatory capital requirements reflect underlying risks, to better address the financial innovation that has occurred in recent years and to recognise (and indeed promote) improvements in bank risk management and control that have occurred. The Committee was also keen to adopt a more comprehensive approach to addressing risks by, for example, embracing additional risks such as operational risk.

Under the new framework, three mutually reinforcing supervisory 'pillars' were to be used, with a 'supervisory review' of an institution's capital adequacy and internal assessment process and greater 'market discipline' (to be effected through enhanced information disclosure) operating alongside the traditional minimum regulatory capital requirements. The last-mentioned, however, would now be based upon external credit assessments provided by rating agencies rather than the, fairly arbitrary, risk weights and conversion factors previously supplied by the Committee, and further thought would be given to allowing sophisticated banks to use *internal* credit ratings and, possibly, at some future date, portfolio credit risk models to set capital charges. These and the other changes proposed are summarised in more detail in Exhibit 5; a cost-benefit style of analysis of reforms is provided in Exhibit 6.

EXHIBIT 4

DEFICIENCIES IN THE BASEL CAPITAL ACCORD OF 1988:
SOME OTPIONS 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 Security and Futures Authority 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 updated 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 4 (*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).

EXHIBIT 5

SUMMARY OF THE BASEL 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

EXHIBIT 5 (*cont.*)

– 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.

PROPOSED NEW RISK WEIGHTINGS
(in percentage)

Claim		Assessment[1]					
		AAA to AA–	A+ to A–	BBB+ to BBB–	BB+ to B–	Below B–	Unrated
Sovereigns[2]		0	20	50	100	150	100
Banks[3]	Option 1[4]	20	50	100	100	150	100
	Option 2[5]	20	50[6]	50[6]	100[6]	150	50[6]
Corporates		20[7]	100	100	100	150	100
Securitisations[8]		20	50	100	150 (BB+ to BB–)	Deduction from capital (B+ and below)	Deduction from capital

[1] Assessments are based on Standard & Poor's ratings by way of example only – other equivalent assessments of eligible external agencies could be used.
[2] Includes central banks. Modified treatment available for domestic currency exposures.
[3] 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.
[4] Risk weighting based on risk weighting of sovereign in which the bank is incorporated.
[5] Risk weighting based on assessment of individual bank but weighting could not be lower than that applied to the country of the bank's incorporation.
[6] 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.
[7] Risk weighting could not be lower than that applied to the country of the corporate's incorporation.
[8] 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 Basel Committee 1999).

EXHIBIT 5 (*cont.*)

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 1)
– 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*:
  – *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 Basel Committee. (It actually materialised in January 2000 – see Basel Committee 2000.)

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 2001 – see Basel Committee 2001a.)

Source: Hall (2001a).

EXHIBIT 6

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

A. 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 Basel 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.

EXHIBIT 6 (*cont.*)

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.

B. Concerns

1. Too much power being vested in the hands of far from infallible 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

EXHIBIT 6 (*cont.*)

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).
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; and 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.

EXHIBIT 6 (*cont.*)

11. In so far as the standardised approach, which the vast majority of the 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?

Source: Hall (2001a).

3. Revisions to the June 1999 proposals suggested in January 2001

In the light of the feedback received during the round of consultation following publication of its June 1999 paper (which became known as 'Consultation Paper 1', i.e. 'CP1') and to accommodate developmental work undertaken since that date, a revised set of proposals ('CP2') duly appeared in January 2001. The three-pillared approach was confirmed although proposals on each front were refined and extended. In connection with Pillar 1 (i.e. minimum regulatory capital requirements), a more risk-sensitive framework was proposed for the 'standardised approach', but still embracing the use of external credit assessments and, with respect to sovereign exposures, the use of published country risk scores of export credit agencies (see Exhibit 7). For more complex banks, an 'internal ratings-based (IRB) approach' would be available, at national discretion, providing the banks' risk management capabilities satisfied rigorous supervisory standards. Qualifying banks would be able to choose between a 'foundation' IRB approach and an 'advanced' IRB approach, depending on their ability to comply with demanding sets of supervisory standards.[3] An explicit capital

[3] Under the IRB approaches, supervisory formulae (see Fabi, Laviola and Marullo Reedtz 2004, for an excellent explanation of the methodology adopted) link minimum capital requirements to the probability of default (PD), loss given default (LGD), exposure at default (EAD) and effective maturity (M). Generally, for the

charge to cover operational risk was also promised, and a new treatment recognising credit risk mitigation techniques was proposed. These changes to CP1, together with those proposed for Pillars 2 and 3, are summarised in Exhibit 8, which also sets out the work still to be done by the Committee and the planned timetable for action.

In general, the changes proposed in January 2001 reflected the Committee's greater emphasis than hitherto on providing banks and their supervisors with a range of options for the assessment of capital adequacy, in an attempt to move further away from prescription and a 'one size fits all' policy. A greater willingness to allow banks to deploy their own assessments of the risks to which they are exposed in the calculation of minimum regulatory capital charges is also evident in their proposals for the use of the IRB approaches.

EXHIBIT 7

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

TABLE 1

CLAIMS ON SOVEREIGNS[1]

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–	BBB+ 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.

foundation IRB approach, banks *must* use their own estimates for PD's but supervisory estimates for the other three parameters (unless national supervisors require banks to use their own estimates for M). In contrast, under the advanced IRB approach, banks may use their own estimates for PDs, LGDs and EADs and *must* use their own estimates for the Ms.

EXHIBIT 7 (*cont.*)

ECA risk scores	0-1	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 Basel 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 public its risk scores and subscribe to the OECD 1999 methodology.

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

TABLE 2

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

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–	BBB+ 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–	BBB+ 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 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: Basel Committee (2001a, pp. 9-10).

EXHIBIT 7 (*cont.*)

TABLE 3

CLAIM ON CORPORATES (AND INSURANCE COMPANIES)

Credit assessment	AAA to AA–	A+ to A–	BBB+ to BB–	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: Basel Committee (2001a, p. 10).

EXHIBIT 8

SUMMARY OF THE BASEL COMMITTEE'S 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

EXHIBIT 8 (*cont.*)

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 Basel Committee 2001b and 2001c).

– 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 Basel Committee 2001d).
– 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.

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 Public Sector Entities 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).

[1] While concerns about data 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 IRB 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 8 (*cont.*)

A new treatment of asset securitisation, embracing both a standardised and internal ratings-based approaches, has been proposed for further consultation (see Basel 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 Basel 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, 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 Basel 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 Basel Committee 2001g).
– Separate disclosure requirements have 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).

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 Basel Committee 2001e for a full discussion of

EXHIBIT 8 (*cont.*)

the operational, disclosure and minimum capital requirements proposal), 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 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 advance 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

EXHIBIT 8 (*cont.*)

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.

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 2008), 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.

EXHIBIT 8 (*cont.*)

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 (later revised to end-2003 and then to mid-2004).
- Internationally-active banks in member jurisdictions are required to implement the proposals during the year 2004 (later revised to 2007). 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.
- 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 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.

Source: Hall (2001a).

4. Developments post-'CP2' in the run-up to publication of Basel II

4.1. *Developments pre-'CP3'*

As foreshadowed at the time of publication of CP2, work proceeded apace on a number of fronts. A new *Working Paper* on *operational risk* was issued in September 2001, refining the definition of operational risk and presaging a future recalibration of the associated capital charge (the proximate 'target' for the minimum capital charge was also cut from the initially proposed 20% of total capital charge to 12%). And, in respect of *disclosure requirements*, a new *Working Paper* on market discipline was also released in September 2001, proposing a number of changes to required disclosures with the intention of reducing the overall burden placed on banks (although the Committee also suggested that the proposed streamlined disclosures become 'requirements' rather than 'recommendations'). As regards the treatment of *credit risk mitigation*, the Committee announced the same month that it would drop the idea of applying a 'w factor' to account for residual risks, although these will now have to be addressed under Pillar 2.

Two further *Working Papers* were released in October 2001. The first set out a modified IRB approach for the *treatment of specialised lending*. The second, on *asset securitisation*, established the eligibility conditions for the treatment of securitised assets under the IRB approach.

The first major initiative taken in 2002, following pressure from the German government and other interested parties, was to reduce the required capital charges associated with loans to SMEs (confirmed in July 2002). (This issue is addressed in more detail in Fabi, Laviola and Marullo Reedtz 2004.) This was followed, in October 2002, by the Committee producing another revised set of proposals and launching the third and final 'Quantitative Impact Study' ('QIS3') to assess the likely effects of the revised package on the minimum capital requirements of banks worldwide. The latest revisions involved the following refinements to Pillar 1 capital charges for *retail exposures* (for full details see Jackson 2002 and Fabi, Laviola and Marullo Reedtz 2004): under the standardised approach, the risk weights for residential mortgages and other retail exposures were reduced to 40% (from 50%) and 75% (from 100%) respectively; and, under the IRB approaches, flatter risk weight curves (i.e. showing risk weights rising less steeply with increases in the probability of default) for corporate and SME exposures were produced to reflect the findings from an earlier quantitative impact study (Basel Committee 2001h) that capital requirements in these areas were generally too high. Some attempt was also made to address the concerns over 'procyclicality' (banks using IRB approaches must now use a time horizon of more than one year when assigning ratings, and must also use stress testing or otherwise take account of borrowers' characteristics rendering them vulnerable to adverse economic conditions). As noted earlier, the target amount of capital to be delivered by the *operational risk* charge was also cut from 20% of the overall requirement arising under the current accord to 12%, or even less. A new 'advanced' approach (the 'Advanced Measurement Approach' – AMA) to the calculation of the operational risk capital charge was also introduced, as agreed in July 2002, which allows banks greater flexibility in the choice of assessment methodology and is no longer subject to a capital floor requirement. And, finally, the minimum standards required of banks seeking to use the IRB approaches were redrafted to try to ensure that they result in consistent measures of internal estimates across institutions while also allowing for differences in the way banking organisations work.

The results of QIS3 were published in May 2003 (Basel Committee 2003a). As explained in Exhibit 9, considerable variability in the impact of the latest set of proposals on individual banks and groups of banks is evident. With respect to the standardised approach, *all* groups of participant banks experienced average increases in overall capital requirements compared with current requirements, with small banks in the EU and G10 faring the best. The driving force behind this result was the introduction of a new capital charge for operational risk which more than offset the relief experienced with respect to retail and SME portfolios. In respect of the foundation IRB approach, the biggest 'winners' were again the small banks in the G10 and EU, who achieved average reductions in overall capital charges of 19 and 20% respectively. Finally, the results indicated that the best option for large banks in both the EU and G10 was to adopt the advanced IRB approach, which yielded average capital reductions of 6 and 2% respectively on current levels.

In the light of these results, the Committee decided to make a number of changes to its Pillar 1 requirements in order to secure the right incentive effects, and these are summarised in Exhibit 9.

EXHIBIT 9

RESULTS OF THE THIRD QUANTITATIVE IMPACT STUDY ('QIS3') AND THEIR IMPACT ON BASEL II

Results

A total of 365 banks from 43 different countries participated in the study, yielding the following results:

– with respect to the *standardised approach*, all groups of banks (comprising 'large' G10 banks, 'small' G10 banks, 'large' EU banks, 'small' EU banks, and 'other' banks) experienced average increases in capital requirements relative to current requirements, ranging from 12% for 'other' banks to 1% for small (i.e. 'Group 2') EU banks – see Table A below.

TABLE A

WORLDWIDE RESULTS: OVERALL PERCENTAGE CHANGES IN CAPITAL REQUIREMENTS REVEALED BY QIS3

Bank grouping	Standardised approach			IRB foundation approach			IRB advanced approach		
	Av.	Max.	Min.	Av.	Max.	Min.	Av.	Max.	Min.
G10, Group 1	11	84	−15	3	55	−32	−2	46	−36
Group 2	3	81	−23	−19	41	−58			
EU, Group 1	6	31	−7	−4	55	−32	−6	26	−31
Group 2	1	81	−67	−20	41	−58			
'Other' banks	12	103	−17	4	75	−33			

Source: Basel Committee (2003a).

The considerable variability in the impact on individual banks is explained in Table B below, which highlights the contributions to the change in overall requirements deriving from different credit portfolios. As can be seen, the main factor contributing to falls in overall *credit risk* requirements is the relative size of the retail portfolio because of the significantly lower risk weights employed in Basel II. For each group of banks, however, the new capital charge levied for *operational risk*, varying from 8 to 15%, more than offsets any declines enjoyed with respect to overall credit risk requirements leading to the net positive overall results exhibited in Table A, column 1.

EXHIBIT 9 (*cont.*)

TABLE B

PERCENTAGE CONTRIBUTIONS TO CHANGES
IN OVERALL CAPITAL REQUIREMENTS
FROM CORE PORTFOLIOS UNDER THE STANDARDISED APPROACH

Portfolio type	G10		EU		Other
	Group 1	Group 2	Group 1	Group 2	
Corporate	1	–1	–1	–1	0
Sovereign	0	0	0	0	1
Bank	2	0	2	1	2
Retail	–5	–10	–5	–7	–4
SME	–1	–2	–2	–2	–1
Securitised assets	1	0	1	0	0
Other portfolios	2	1	2	–1	3
Overall credit risk	0	–11	–3	–11	2
Operational risk	10	15	8	12	11
Overall change	11	3	6	1	12

Source: Basel Committee (2003a).

– With respect to the *Foundation IRB approach*, again there is wide variation in the impact on individual banks and groups of banks. The biggest 'winners' (see Table A) are the small banks in the G10 and EU, the latter enjoying average falls in overall capital requirements of 20%, while the 'losers' are large G10 banks and banks from non-EU/G10 countries, both groups experiencing small average increases. As in the standardised approach, the relative size of the retail (especially mortgage) portfolio largely drives the results, although nearly all banks also enjoy significant reductions in capital requirements in respect of corporate exposures and loans to SMEs – see Table C.

EXHIBIT 9 (*cont.*)

TABLE C

PERCENTAGE CONTRIBUTIONS TO
CHANGES IN OVERALL CAPITAL REQUIREMENTS
FROM CORE PORTFOLIOS UNDER THE IRB FOUNDATION APPROACH

Portfolio type	G10		EU		Other
	Group 1	Group 2	Group 1	Group 2	
Corporate	–2	–4	–5	–5	–1
Sovereign	2	0	2	1	1
Bank	2	–1	2	–1	1
Retail	–9	–17	–9	–18	–8
SME	–2	–4	–3	–5	1
Securitised assets	0	–1	0	–1	1
General provisions	–1	–3	–2	–2	–2
Other portfolios	4	3	3	5	5
Overall credit risk	–7	–27	–13	–27	–3
Operational risk	10	7	9	6	7
Overall change	3	–19	–4	–20	4

Source: Basel Committee (2003a).

In terms of the incentive effects of Basel II, these results suggest that most small EU/G10 banks would be well advised to adopt the Foundation IRB approach rather than the standardised approach, although the position is less clear for banks located outside these regions.

– Finally, with respect to the *Advanced IRB approach*, the results contained in Table A demonstrate that many (large) banks in the EU and G10 would benefit from adopting the more sophisticated IRB approach, with average falls (of 6 and 2% respectively) in overall capital requirements resulting. As under the Foundation IRB approach, the main factors driving this result are the relative sizes of the retail, corporate and SME portfolios – see Table D.

EXHIBIT 9 (*cont.*)

TABLE D

PERCENTAGE CONTRIBUTIONS TO
CHANGES IN OVERALL CAPITAL REQUIREMENTS
FROM CORE PORTFOLIOS UNDER THE ADVANCED IRB APPROACH

Portfolio type	G10 – Group 1	EU – Group 1
Corporate	–4	–4
Sovereign	1	1
Bank	0	–1
Retail	–9	–9
SME	–3	–4
Securitised assets	0	0
General provisions	–2	–3
Other portfolios	2	4
Overall credit risk	–13	–15
Operational risk	11	10
Overall change	–2	–6

Source: Basel Committee (2003a).

Impact on Basel II

Having digested the results of QIS3, the Basel Committee decided to make the following changes to its proposed Pillar 1 capital requirements in order to enhance its ability to meet its overall reform aims and objectives:

- in respect of the *standardised approach*, a lower risk weight of 35% (previously 40%) is to be allocated to residential mortgages, and 'past due' loans with significant levels of specific provisioning (i.e. equal to at least 20% of the outstanding amount of the loan) will now enjoy a risk weight of 100% (previously 150%). An alternative standardised treatment for operational risk will also now be available, at national discretion.
- With respect to the *IRB approaches*, further fine-tuning has also been made. For example, floors have been set for retail mortgage LGDs (10%) – to apply for a 3-year transitional period following implementation of the IRB approaches – and for retail PDs (3 basis points), the risk weight curve for qualifying revolving retail exposures has been modified, and the implicit maturity for repos has been reduced to 6 months. Partial adoption of the AMA in respect of the calculation of the operational risk requirement is now also possible, and banks using this approach may now also recognise insurance as an operational risk mitigant when calculating regulatory capital.

These refined Pillar 1 requirements, together with a set of streamlined Pillar 3 disclosure requirements and updated guidance in respect of supervisory review (Pillar 2), constitute the components of the third consultation paper on 'A New Basel Capital Accord' published in April 2003 (Basel Committee 2003b).

4.2. *CP3*

The main Pillar 1 adjustments made to CP2 in response to QIS3 are produced in Exhibit 9. It is perhaps worthwhile, however, briefly indicating the refinements introduced to the other two pillars under CP3 (Basel Committee 2003b, Cornford 2004).

As indicated in Basel Committee (2001f, p. 1), *supervisory review* (Pillar 2) is to be based on four 'key principles'. The first of these 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".

This requires banks to demonstrate that chosen internal capital targets are well founded and that these targets are consistent with their overall risk profile and current operating environment. In assessing capital adequacy, banks have to take account of the stage of the business cycle in which they are operating, and rigorous, forward-looking stress tests that identify possible events or changes in market conditions that might adversely impact upon the bank should be carried out. The term 'rigorous' is taken to mean that there is board and senior management oversight, that the capital assessment process is sound, that the assessment of risks is comprehensive, that there is an adequate system for monitoring and reporting risk exposures and, finally, that periodic reviews of internal controls are undertaken to ensure well-ordered and prudent conduct of business and the integrity, accuracy and reasonableness of the risk management process.

The second key principle 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.*).

The emphasis of the periodic review should be on the quality of the banks' risk management and controls and is likely to involve a combination of the following: on-site examinations or inspections; off-site review; discussions with bank management; review of relevant work done by external auditors; and periodic reporting.

Key principle number three is that

> "Supervisors should expect banks to operate above the minimum regulatory capital ratios and should have the ability to require banks to hold capital in excess of the minimum" (p. 2).

This is because of, *inter alia*, the possibility that, in unfavourable market conditions, banks may find it very costly to raise additional capital. Moreover, if banks are not to breach minimum requirements, they have to operate with a margin for manoeuvre. Thus, while many banks may voluntarily choose to operate above Pillar 1 minimums (e.g. to gain possible funding advantages associated with being well-capitalised, and hence highly-rated by rating agencies), supervisors have to possess the means to force all to do so.

The fourth and final key principle is 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.*).

Options which supervisors can use to ensure compliance with this principle include intensifying the monitoring of the banks, restricting the payment of dividends, requiring the errant banks to prepare and implement a satisfactory capital restoration plan and requiring them to raise additional capital immediately. The last-mentioned remedial option is often likely to be an interim measure to be used while more permanent solutions, such as improving systems and controls, are put in place.

Apart from adhering to these key principles, supervisors are asked to focus on a number of important issues when carrying out the supervisory review process. These include some key risks, such as interest rate risk in the banking book and credit concentration risk, which are not directly addressed by Pillar 1. Moreover, even for those risks which are covered by Pillar 1, there may be cause for further assessment under Pillar 2, e.g. the conduct of stress tests under the IRB approaches, the definition of default adopted and the treatment of residual risks arising from credit risk mitigation can all materially influence the adequacy of the credit risk capital charge. Similarly, the Pillar 1 treatment of securitisation may not adequately take account of the risks to which individual banks are exposed.

Finally, supervisors are asked to carry out their obligations in a highly transparent and accountable manner, making publicly available the criteria to be used in the review of banks' internal capital assessments. In this way, banks can be reassured about the objectivity of the supervisors' chosen actions which, by their very nature, are discretionary.

With respect to the Pillar 3 *disclosure requirements*, the Committee aims to encourage market discipline by developing a set of disclosure requirements which allow market participants to assess key pieces of information on the scope of application, capital, risk exposures and risk assessment processes, and thus on the capital adequacy of individual banks. Compliance with specific disclosure requirements will also be used as a qualifying criterion to obtain lower risk weightings and/or to apply specific methodologies under Pillar 1.

When deciding what information is relevant to the Pillar 3 disclosure regime (disclosures are not required to be audited by external auditors unless otherwise required by accounting standards setters or other authorities), a bank has to base its judgement on the concept of 'materiality'. Information should be regarded as material if 'its omission or misstatement could change or influence the assessment or decision of a user relying on that information' (Basel Committee 2003b, p. 155). This so-called 'user test' is believed to provide a useful benchmark for achieving sufficient disclosure. Banks should also have a formal disclosure policy approved by the Board of Directors that addresses the bank's approach for determining what disclosures it will make and the internal controls over the disclosure process. In addition, banks are expected to implement a process for assessing the appropriateness of their disclosures, including validation and the frequency of disclosure.

As for the frequency of disclosure, the Committee generally calls for semi-annual disclosure. Large internationally-active banks and other 'significant' banks (and their significant subsidiaries), however, must disclose their Tier 1 and total capital adequacy ratios, and their components, on a quarterly basis. Moreover, if information on risk exposure or other items is prone to rapid change, then banks should also disclose such information on a quarterly basis. In all cases, banks should publish material information as soon as practicable.

The formal disclosure requirements set out under Pillar 3 in CP3, which were designed to be consistent with the broader requirements of accounting standards and believed to strike an appropriate balance between the need for meaningful disclosure and the protection of proprietary and confidential information, comprise sets of qualitative and quantitative disclosures that banks have to make in each of the areas outlined earlier – scope of application, capital structure, capital adequacy, risk exposures and risk assessment processes (distinguishing between the use of standardised approaches and IRB approaches). Separate regimes for credit risk mitigation and asset securitisation are also established (for full details see Basel Committee 2003b, pp. 156-68). Separate 'strong recommendations', as suggested in CP2, no longer feature in the proposed disclosure regime.

4.3. *Developments post-'CP3'*

Following a meeting held in Madrid during the period 10-11 October 2003, a Press Release (Basel Committee 2003c) was issued announcing that agreement in principle had been reached on the treatment of expected versus unexpected losses. Accordingly, the calibration adopted within the IRB approach (the standardised approach is not affected) to credit losses would be revised so that capital charges only cover *unexpected* losses (i.e. expected losses would no longer be covered), with banks' loan pricing and loan loss provisioning being used to cover the expected element of losses.[4] If, when comparing the IRB measurement of expected losses with the total amount of provisions (general plus specific) held, a 'shortfall' in provisions is revealed, 50% has to be deducted from Tier 1 capital and 50% from Tier 2 capital. Any 'excess' can, at national discretion, be counted as Tier 2 capital, subject to a limit (later revised – see below) of 20% of Tier 2 capital. The new proposal also means that the current practice of including general provisions within Tier 2 capital will end, at least in respect of the IRB approach.

The Committee also announced that a number of issues remained to be resolved (i.e. the definitive treatment of expected versus unexpected losses, securitisation, credit card commitments and risk

[4] The Committee chairman claims the original approach was "intended as a practical compromise to account for differences in national accounting and supervisory practices regarding provisioning" (Caruana 2003a, p. 21). Many people see the *volte face* as a cave-in to the US credit card lobby.

mitigation techniques) and these would be reviewed at a meeting to be held in January 2004 with a view to publishing a final and definitive version of the New Accord by mid-2004 for implementation by G10 countries by end-2006. Prior to implementation of the New Accord, a further review of the calibration of capital charges will be conducted to take account of additional information that may become available (e.g. as derives from further impact assessments in some jurisdictions). Work, post-implementation, will focus on, *inter alia*, possible recognition of portfolio credit risk models.

As foreshadowed in the Press Release of 11 October 2003, a further Press Release (Basel Committee 2004b) was issued on 15 January 2004 announcing the following:

– that the proposed *treatment of expected/unexpected losses* within the IRB approach outlined in October 2003 will be adopted, although the cap on the recognition of 'excess' provisions within Tier 2 capital will be expressed as a percentage (the amount was confirmed as 0.6% in Basel Committee 2004a) of IRB credit risk-weighted assets and not, as originally proposed, as a percentage of Tier 2 capital;

– that, within the *treatment of securitisation exposures*:

i) banks are to be allowed to derive the risk-weights on unrated exposures to asset-backed commercial paper conduits (mainly liquidity facilities) by mapping their internal risk assessments to external credit ratings;

ii) a less complex 'Supervisory formula' will be available for determining capital requirements for unrated securitisation exposures;

iii) both originating and investing banks will be able to make equivalent use of the 'Ratings-Based Approach' (RBA) for rated securitisation exposures; and

iv) the calibration of the securitisation RBA risk weights has been revised to ensure a closer alignment with the level of risk inherent in the positions (for further details see Basel Committee 2004b, 'Attachment A');

– that, in respect of the *treatment of credit risk mitigation techniques*, the rules will be refined following industry comments. The Committee recognises that the treatment must continue to evolve to reflect industry practices and is still working to find a 'prudentially-sound' solution.

The Committee also took the opportunity to clarify its views concerning the implementation of the *supervisory review* of capital under Pillar 2. Given the differences in legal and regulatory structures across countries, the Committee is keen to maintain an adequate degree of flexibility in the application of the rules. For this reason, it deliberately eschews giving extensive prescriptive guidance in this area. However, it is still concerned to promote consistency in the implementation of Pillar 2 and to secure convergence in supervisory practices and, accordingly, emphasises the need for "a combination of information-sharing on supervisory practices between supervisors on the one hand and constructive dialogue between banks and supervisors on the other (p. 8)". The 'Accord Implementation Group' (AIG) will work to facilitate such information exchanges and to secure greater co-operation between supervisors. At the end of the day, however, the Committee does not expect to see "perfect uniformity of approaches or results across national jurisdictions" (p. 10), not least because certain countries will choose to impose formal requirements in excess of those demanded under Pillar 2.

The Committee went on to re-affirm that prime responsibility for determining capital adequacy resides with the banks, who must take into account their own individual circumstances and risk exposures (including those arising outside Pillar 2, i.e. interest-rate risk in the banking book and credit concentration risk). The role of supervisors is to satisfy themselves as to the appropriateness of the banks' approaches and the adequacy of banks' capital and to take appropriate action in the light of any concerns that they might have in this regard. This is not intended to lead to specific additional, formal across-the-board requirements, nor does Pillar 2 require an explicit 'add-on' for each risk element mentioned in the Accord. However, supervisors are required to ensure that internationally-active banks operate above the Pillar 1 minimum requirement, although it is up to them how they choose to ensure this.

Finally, in respect of the cross-border implementation of Pillar 2, the 'high level principles' outlined in August 2003 (Basel Committee 2003d) are to be adopted without prejudice to the operation of the

'Basle Concordat' (see Hall 1999, chapter 3) (for further details see Basel Committee 2004b, 'Attachment B').

With respect to *Pillar 3*, consultation post-'CP3' has focussed on three main issues: proprietary versus public information; principles versus rules; and consistency with emerging Accounting Standards (Caruana 2003b). As regards the *proprietary versus public information debate*, the Committee recognises that some information should remain private but also emphasises the needs of end-users (i.e. creditors, shareholders and counterparties). The Chairman goes on to argue that what should drive the debate is:

> "What a bank itself would want to know before making an investment or credit decision, rather than the concerns that some have about what formerly had been considered secret" (p. 10).

The Committee believes it has struck an appropriate balance between meaningful disclosure and the protection of proprietary and confidential information.

On the *principles versus rules debate*, the Chairman notes that while a principles-based approach would offer benefits in terms of simplicity and flexibility, the absence of specific rules would not ensure the consistent application of the New Accord across jurisdictions, and hence a level playing field; moreover, it might not provide markets with a clear view of a bank's risk profile. Accordingly, having rejected proposals for optional supplementary disclosures, the Committee decided to advocate disclosure rules based upon the following principles:

> "that market participants require an understanding of how the capital requirements apply to the consolidated banking organisation; that they should know what risks banks face, to what degree, and how they assess those risks; and that they should have details on what capital they hold" (p. 9).

Compliance with these principles requires that

> "banks should have a formal disclosure policy approved by the Board, that internal measurement tools must be credible, that they must adequately capture risk, and that they must be used by banks in the daily management of their operations and not just for regulatory purposes" (*ibid.*).

The Committee recognises their principles-based disclosure rules are more detailed than some banks wanted, but they were determined not to base them on a set of looser principles which might be subject to local interpretation.

Thirdly, as regards the *consistency of the disclosure requirements with emerging Accounting Standards*, the Chairman argues that the Pillar 3 requirements should be seen as a "further refinement of accounting standards requirements as they should apply to banks in the light of the specific risks they face" (p. 12). The Committee, nevertheless, is keen to ensure that its requirements do not conflict with broader accounting standards and, to that end, has liased closely with the International Accounting Standards Board (IASB). Where regulatory and accounting principles may not yet be fully consistent, the Committee

> "has sought to align its requirements as best as possible with international accounting standards and to resolve other matters reasonably and based on its understanding of the potential direction that accounting standards might take in the future" (p. 13).

The Committee will continue to monitor its Pillar 3 requirements in the light of accounting and market developments.

The final piece of the jigsaw fell into place with the announcement, on 11 May 2004, by the Committee that "consensus had been reached on all outstanding issues"[5] (Basel Committee 2004c, p. 1). The Committee also confirmed that the text of the new international capital standard would be published by end-June 2004, as previously

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[5] The technical issues resolved related to specification of a treatment for revolving retail exposure, and related securitised portfolios, and agreement on the measurements required for LGD parameters by banks adopting an IRB approach to credit risk. In connection with the latter, the Committee's concern, as explained in CP3, was that banks need to take into account the potential for loss rates to be higher than average when borrowers default during an economic downturn when assigning LGDs, particularly for exposures where it could make a material difference. Subsequent discussions with the banking industry indicated both that the importance of this issue varies across exposure types and that individual banks do not have highly-developed approaches to assess this risk. The Committee remains of the view that each bank should assign a single LGD that reflects 'economic downturn' conditions where necessary to capture the relevant risk. The Committee is looking to further industry input and dialogue to ensure that appropriate economic downturn LGDs are applied where necessary. Whilst such a consensus is being reached, the Committee canvasses the idea of banks using their internal LGD processes to derive 'expected' LGDs for each category of exposure.

intended, although implementation of the advanced IRB approach would be delayed until end-2007 to allow for further study of its impact and the development of a consistent approach to its implementation by supervisors and the banking industry. The rest of Basel II has to be adopted by G10 banks by end-2006, as planned. The Committee also stated that there was a need for a further review of the 'calibration' of the new framework prior to its implementation in order to ensure that the objective of broadly maintaining the aggregate level of required bank capital, whilst providing incentives to adopt the more advanced risk-sensitive approaches of the new framework, were satisfied. If the former goal is threatened, the Committee reserves the right to apply a single scaling factor, which could be greater than or less than one (the current 'best estimate' is 1.06), to the results of the new framework. The final determination of any scaling factor will be based on the 'parallel running'[6] results, which will reflect all of the elements of the framework to be implemented.

In addition to the above, the Committee also took the opportunity to elaborate further on the principles and issues associated with cross-border implementation of Basel II. The Committee believes that closer co-ordination and co-operation between home and host supervisors is essential if the New Accord is to be implemented effectively and efficiently and at minimum cost to the banking industry. Accordingly, the AIG is charged with identifying and coming up with ways of handling the practical implications of countries adopting the 'high level principles' set out in August 2003 (see p. 248 above). Notwithstanding this, the Committee has clarified its own views on a number of related issues, stressing that the co-ordination effort be led by home country supervisors. For example, in the co-ordination of requests for information, the Committee asserts that if host country supervisors need information about foreign subsidiaries operating in their jurisdic-

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[6] For those banks adopting the foundation IRB approach to credit risk, the Basel I standardised approach will run alongside the new approach for one year, i.e. during 2006. A capital floor of 95% of Basel I standardised minimum requirements (after allowing for the new treatment of provisions explained on pp. 246-47 of this article) will apply in 2007, with floors of 90 and 80% operating during 2008 and 2009 respectively. For those banks moving directly from the existing framework to the advanced approaches to credit and operational risk, there will be two years of parallel running/impact studies – during 2006 and 2007. As for foundation IRB banks, capital floors of 90 and 80% of Basel I standardised requirements will operate in 2008 and 2009 respectively.

tions, the first port of call should be the home country supervisors and not the banks themselves (although this does not preclude host country discussions about prudential matters with the banks direct). Similarly, in the approval and validation work necessitated by Basel II, the Committee expects the initial validation work for most advanced IRB approaches for larger corporate exposures to be led by the home country, with appropriate input from the host country supervisor and material reliance by host countries on the work of the home regulator. And finally,[7] with respect to the practical considerations involved in the recognition of AMA operational risk capital across borders (a technical note on which was first issued in January 2004 – see Basel Committee 2004d), the Committee argues that

> "[a]s a general rule, where a banking organisation wishes (or is required) to adopt an AMA at both the group-wide and subsidiary levels [...] it would be beneficial for the supervisory assessment of the AMA models to be co-ordinated by the home supervisors" (Basel Committee 2004c, p. 9)

and

> "desirable for the home supervisor to receive a banking organisation's AMA submission and co-ordinate comments from host supervisors in jurisdictions where the AMA will be applied" (*ibid.*).

However, both home and *host* supervisors are expected to cooperate in both the initial validation of an AMA and on-going monitoring of a banking organisation's operational risk management. Moreover, host supervisors will still need to be assured that the board and senior management of a subsidiary bank understand the subsidiary's operational risk profile, including how its operational risks are managed, and approve its Pillar 1 methodology for determining its operational risk capital requirements, whether that methodology comprises a stand-alone AMA or an allocation mechanism.[8]

[7] 'Partial use' rules, the ability to leverage group resources and 'use tests' are also further elaborated upon in the Press Release of 11 May 2004.

[8] The Committee has shied away from defining the term 'significant' used in its publication of January 2004 (Basel Committee 2004d) and hence from determining ineligibility for an 'approved allocation mechanism'. It is thus left to home and host supervisors to work together to determine which internationally-active subsidiaries can reasonably be deemed to be 'significant' and hence must adopt stand-alone AMAs.

5. Basel II

The revised framework for assessing the capital adequacy of internationally-active banks – Basel II – was finally endorsed by the G10 bank supervisors on 26 June 2004 (Basel Committee 2004a). It incorporated all the changes alluded to in section 4 of this article plus a revised treatment of credit risk mitigation and of qualifying revolving retail exposures (see paras 109-210 and 329 respectively of Basel Committee 2004a). Of the 239 pages, 146 are devoted to Pillar 1 requirements, with 17 being devoted to Pillar 2 requirements and 16 to Pillar 3. With respect to the Pillar 2 requirements, the supervisory review process is based around the same four 'key principles' outlined in section 4.2 above; and the disclosure requirements established under Pillar 3 cover the same areas noted in section 4.2 above.

As for the future, the Basel Committee intends to monitor and review the application of the new framework with a view to achieving greater consistency in application, and to revise it where necessary to accommodate market developments and further advances in risk management practices. It is also, in a consultation with IOSCO, reviewing the regulatory treatment of banks' trading book operations. Longer-term, the Committee proposes to look again at the definition of eligible capital; dialogue with the banking industry will continue concerning the possible future recognition of portfolio credit risk models.

6. A 'cost-benefit' analysis of Basel II

Despite the best endeavours of the Committee over the last few years there is still a, perhaps surprisingly-large, body of opinion opposing the introduction of Basel II, as presently constituted. This traverses all relevant sectors to embrace the supervisory fraternity, the banking industry, the political arena and academia. What is the rationale behind this strength and depth of opposition?

Academic commentators, whilst typically acknowledging the benefits of Basel II over Basel I – as outlined in Exhibit 6, as subsequently amended[9] – emphasise the residual flaws in the agreed approach and criticise the Committee for not doing a wider cost-benefit analysis of alternative approaches. In respect of the remaining flaws in Basel II, the main outstanding concerns relate to:

– the retention of the flawed standardised risk assessment methodology which ignores risk correlations (even though a more risk-sensitive framework, embracing external credit assessments, is to be applied);

– persisting disagreement over the risk assessment of certain credits (many view the treatment of securitisation as punitive, and the treatment of residential property loans and commercial lending as lenient);

– the failure to address, satisfactorily, the pro-cyclical impact of the reform package, which risks amplifying business cycles (although bankers are now being asked to assess the riskiness of the loans over the full economic cycle under a Pillar 2 requirement that demands 'meaningfully conservative credit risk stress testing' by banks adopting the IRB approaches);[10]

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[9] For example, as noted in Hall (2001a), the CP2 set of proposals represented a significant advance on CP1 because of the increased cost-effectiveness likely to result from, *inter alia*, the increased choice of assessment approaches offered to a much wider range of banks than previously envisaged, the promulgation of a more risk-sensitive standardised approach, 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 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 the attempts made to lighten the overall compliance burden for banks and supervisors alike.

[10] A more sanguine view is held by HM Treasury, which argues that a combination of the Pillar 2 stress tests, the flattening of the IRB curves and induced improvements in risk management will reduce the extent of procyclicality (HM Treasury 2003). Caterineu-Rabell, Jackson and Tsomocos (2003), however, demonstrate that the extent of procyclicality under Basel II, at least in respect of lending to corporates, depends crucially on the banks' choice of rating system; use of the external ratings-based standardised approach or an IRB approach based on such an approach is associated with little procyclicality, whereas use of an IRB approach based on a Merton-type model would produce considerable procyclicality, leading to 'overlending' in booms and 'underlending' in recessions as a result of significant changes in capital requirements. Moreover, banks are shown to have a clear financial incentive (i.e. higher profits over the cycle) to adopt procyclical ratings rather than a rating approach which delivered more stability over the cycle (for further contributions on the procyclicality

– given the continuing doubts about the current 'state of the art' in credit risk modelling and the lack of historical data on loan defaults, the real risks to 'safety and soundness' if banks are given, prematurely, supervisory recognition of their IRB approaches and, further down the round, their portfolio credit risk models (there is a real possibility that, in some jurisdictions, the banks will be able to 'browbeat' their supervisors into granting supervisory recognition of their models in circumstances where a more cautious approach would be advisable);

– the scale of the supervisory burden that will be faced in all jurisdictions, but especially in developing countries, which risks undermining the effectiveness of the proposals;

– continuing doubts about the wisdom of embracing external credit assessments within the assessment regime (for some, the safeguards designed to ensure the public interest prevails in instances where external credit assessments are embraced do not go far enough;[11] while others continue to question the accuracy of the credit assessment ratings produced by the rating agencies, the collapse of the Italian dairy group, Parmalat, in 2003 being the latest in a long list of high profile corporate failures that the agencies failed to pick up on);

– concerns that, in connection with the credit calibration process, the correct balance has not been struck between, on the one hand, encouraging the take-up of the IRB approaches and, on the other, ensuring 'safety and soundness';

– the Committee's determination to treat operational risk under Pillar 1 rather than Pillar 2;

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debate see Allen and Saunders 2003, Ayuso, Pérez and Saurina 2002, Ervin and Wilde 2001 and Lowe 2002).

[11] Concerns about potential conflicts of interest facing the rating agencies have heightened since the growth in sales of bespoke risk management systems to their banking clients has become apparent. This and other issues have sparked a review of the credit rating industry by the Securities and Exchange Commission of the US, which is likely to result in clarification of the criteria used in the US to award 'nationally recognised statistical ratings organisations' (NRSRO) status, the imposition of record-keeping and reporting requirements on rating agencies and closer examination of the rating agencies' approaches used to assess creditworthiness. The first of these outcomes would serve to stimulate competition in the industry, currently comprising only four firms in the US – Moody's Investors Service, Standard & Poor's, Fitch Ratings and the Dominion Bond Rating Service.

– the fear that, given the dramatic increase in the scope for national discretion (apparently, there are 85 opt-out clauses in the new agreement), the quest for a level regulatory laying field will be seriously undermined, an objective already threatened by the variability in the quality of national supervision (to allay such fears the Basel Committee has set up the 'Accord Implementation Group' to try to ensure a high degree of consistency in implementation); and

– the Committee's determination to secure endorsement of its proposals by *all* G10 countries, which has led to unfortunate compromises on principle, which risk undermining both the spirit and the impact of the reform package.

With regard to the Committee's failure to conduct a wider cost-benefit analysis of competing approaches to capital adequacy assessment, the following are the leading contenders for adoption: the *pre-commitment* approach (developed by Federal Reserve economists); a *mandatory subordinated debt requirement* (the option preferred by the Shadow Financial Regulatory Committee, e.g. see US Shadow Financial Regulatory Committee 2000); a less prescriptive and more market-based approach (i.e. with less emphasis on Pillar 1 requirements and more on Pillar 2 and Pillar 3 requirements); and a fully-fledged market-based approach (i.e. *laissez-faire*). The second and third options, in particular, have found favour in many quarters recently, especially amongst the proponents of enhanced market discipline, the majority of whom view it as being a complement to (rather than, as the *laissez-faire* school argues, a substitute for) a system of sound banking regulation and supervision. (The other two options are addressed in more detail in Hall 2001b.) For this reason, further discussion is merited here.

The general criticism made by the proponents of enhanced market discipline of Basel II is that it does not go far enough. As a result, they argue, the Committee has missed a golden opportunity to strengthen prudential regulation and supervision by, for example, linking it to supervisory actions[12] (Herring 2003). Whilst increased information disclosure, effected through the Pillar 3 requirements, is a necessary component of enhanced market discipline, it is not sufficient

[12] For example, 'prompt corrective action'-type measures, as currently operated in the US, could be linked, there and elsewhere, to movements in the yields on banks' subordinated debt.

to induce effective market discipline, whereby stakeholders take actions to both monitor and influence the behaviour of market borrowers (see Hall, Hamaleinen and Howcroft 2003 and 2004). The proposal for the operation of a mandatory subordinated debt requirement, at least within financially-developed countries,[13] is viewed in this context as a device for inducing effective market discipline by creating a large pool of 'at risk' (i.e. 'credibly uninsured') bank creditors, who clearly would have a financial incentive to at least try to monitor and influence the bank issuers' behaviour (Kaufman 2003, US Shadow Financial Regulatory Committee 2000). Such a development would help to weaken belief in the 'too-big-to-fail' doctrine, a perception which still predominates in most countries, at least outside the US,[14] and which has done so much to undermine market discipline.

As regards the Pillar 3 disclosure requirements themselves, there clearly is a need for enhanced information disclosure[15] but what constitutes the optimal disclosure regime (Board of Governors of the Federal Reserve System 2002)? Apart from the need to minimise the cost burden borne by the banking industry,[16] there is also a need to limit the volume of disclosures to manageable levels so that analysts and investors are not overloaded with information which may be misconstrued (Institute for International Finance 2003).

Some insight into the usefulness of information disclosure has been provided by the empirical study of Baumann and Erlend (2003). They found that greater disclosure may not only increase the usefulness of company accounts in predicting valuations, and hence could be of immense benefit to market participants, but that it could also decrease stock price volatility[17] (and hence the cost of capital for firms) and increase market valuations, thereby benefiting the banks them-

[13] Although the Basel Committee (2003e) commissioned a review of the markets for bank subordinated debt in member countries, it has not promoted a mandatory subordinated debt requirement as part of its capital adequacy assessment regime.

[14] The Federal Deposit Insurance Corporation Improvement Act of 1991 was designed, in part, to combat this problem.

[15] The Committee's earlier disclosure surveys (Basel Committee 2002 and 2003f) revealed serious omissions and a lack of consistency in the banks' chosen disclosures.

[16] Schaffer (1995) distinguishes the *direct* costs of collecting, processing and disseminating the information not used by management from the *indirect* costs that might arise should a bank's competitors be enabled to exploit the information the bank is forced to provide to the market.

[17] This is because of a possible reduction in investor uncertainty and in adverse selection problems.

selves. In addition, they identified those items of disclosure which are most beneficial to the banks on the one hand and to market participants on the other. In respect of the former, the disclosure of non-interest income is shown to be the most important factor in decreasing stock returns volatility, although other important items identified are information disclosure on off-balance-sheet items, contingent liabilities, long-term funding and deposits by type of customer. In terms of increasing market valuation, disclosures on the banks' loan structure (by type and by counterparty and the percentage of problem loans) as well as on the securities held (by purpose) were shown to have the strongest effects. And, with regard to the potential benefits to be reaped by market participants, they showed that disclosures on loan structure, funding structure, securities holdings and loan loss provisions had the most powerful effects. Finally, they noted the advantage of forcing banks to disclose more information on asset risk (e.g. relating to the composition of loans and other assets) as, collectively, banks in a particular country would benefit from such a move yet, individually, would not be rewarded for making such disclosures.

As for the optimality of the Committee's chosen disclosure regime, while the significant increase in the range and quantity of required disclosure is typically applauded,[18] a number of concerns remain. Herring (2003), for example, points to the following problems: *i*) the likely variability in enforcement that will ensue which will do little to reduce variability in the quality of disclosures across countries, which currently results from national differences in accounting regimes and provisioning policies; *ii*) some risk-relevant data (e.g. the currency breakdown of assets and liabilities, exposures to sovereign borrowers and real estate exposures) has been omitted from the list of required disclosures; *iii*) the comparability of capital adequacy across institutions is impaired by the freedoms (*via* the 'national discretions' and options available) granted under Pillar 1; and *iv*) only limited progress has been made to date in improving the disclosure of market risk exposures and details about the assessment models used, thereby frustrating meaningful comparison across both institutions and countries (see also Basel Committee 2002).

[18] These relate, in particular, to the scope of capital requirements at the holding company level, the terms and conditions of capital instruments used, the exposures incurred in respect of credit, market, operational and interest rate risk and, for banks allowed to adopt the IRB approaches, details on the inputs used within their models.

Notwithstanding the apparent benefits of an assessment regime that more fully embraces market discipline, however, it should be realised that each competing alternative regime would be associated with its own attendant costs and benefits, so that even if the political will existed to halt or abandon the Basel II bandwagon, it is unclear what the preferred strategy should be. Moreover, the 'theory of the second best' highlights the danger of assuming that continued progress towards the 'first best' solution – a regime which perfectly corrects for market failure – will ultimately deliver increased social welfare, let alone maximise social welfare.

Finally, if one moves away from the more arcane arguments of academics, one becomes aware of the major worries of those parties directly affected by the agreed proposals. The supervisors, in particular, worry about the resource burden implied by the movement to Basel II; the bankers argue passionately about the compliance burden they face, the 'capping' of the short-term benefits to be derived from movement to an IRB approach (e.g. for those banks adopting advanced approaches for measuring credit and/or operational risk, the associated capital charges cannot fall below 90% of the Basel I standardised minimum requirements in 2008 or below 80% in 2009, and the floors may be kept in place beyond 2009 'if necessary' – Basel Committee 2004a, para. 48) and the competitive inequalities they will most likely face due to national differences in interpretation, application and enforcement; and governments (especially in developing countries) worry about the possible short-term adverse consequences for their banking systems and economies – China and India have already ruled out participation in the foreseeable future and even the US Congress, notwithstanding the fact that only a dozen or so US banks will be required to comply with Basel II, has voiced concern about the potential disadvantages faced by small banks and the resultant pressures likely to be created for an acceleration in the process of concentration in the US banking industry. Further analysis of these and other concerns may yet delay implementation of Basel II in the US beyond the target date of end-2006.

7. Summary and conclusions

The Basel Committee is to be congratulated for, finally, moving to address some of the long-standing flaws inherent in the original Capital Accord. Similarly, by responding in such a positive fashion to some of the criticisms levelled at it during the various rounds of consultation, the definitive version of Basel II is, on balance, likely to prove more cost-effective than the packages proposed under CP1, CP2 and CP3. This does not mean, however, that the agreed reform package is without fault; a number of potentially-serious concerns remain. There is also still a widespread feeling (Rochet 2003; Décamps, Roger and Rochet 2004) that too much of the Committee's time has been devoted to refining the Pillar 1 capital requirements, but to no great effect: despite the complexity of the new rules, especially for the relatively-small number of banks adopting the IRB approaches, they are still likely to be easily circumvented by large, sophisticated banks if there remains an incentive to do so; the mapping of the rating agencies' credit ratings to the risk weights employed within the new standardised approach to credit risk is unlikely to eliminate the banks' incentive to engage in regulatory capital arbitrage, and so will result in all the resource misallocations associated with Basel I; the failure to take account of risk correlations within the standardised approach will further distort bank risk management practice; and the continued heavy reliance on book accounting risks undermining the Committee's attempts to secure both its stability and, by virtue of the variability in national accounting conventions, competitive equality objectives (Kaufman 2003).

Nor does the criticism stop with Pillar 1. Somewhat ironically, many who argue for less prescription in Pillar 1 want the opposite in Pillar 2. That is, they call upon the Committee to clarify the nature of the early supervisory intervention clearly expected under Pillar 2, to spell out precisely how national supervisors are to secure the objective of 'supervisory review', and to ensure that they are given sufficient powers to do the job so that greater convergence in supervisory practice across countries will actually materialise, with concomitant benefits for both the stability and level playing field objectives. Little faith is put in the AIG's ability to deliver on this front. Finally, as noted in section 6, the Pillar 3 requirements have also been criticised. Moreover, the Committee is berated for not doing more to promote the wider use of market discipline, as an integral part of prudential regulation and supervision.

Notwithstanding these on-going concerns and the fact that relatively-few banks around the world will actually be required to comply with Basel II,[19] much of value has come out of the Basel II process. First and foremost, the cause of sound risk management within the banking industry has been furthered, to the benefit of the banks themselves, their customers and the wider community given the knock-on effects for financial stability. Secondly, bank supervisors around the world are being pressured into adopting the 'best practices' pursued by their more advanced contemporaries, requiring a more intimate knowledge of each of their bank's practices, policies, systems and controls. Again, this can only be good for global financial stability. And finally, the Committee, through its Pillar 3 requirements for enhanced information disclosure, has stimulated discussion of the wider benefits of market discipline. It remains to be seen, however, if this leads, eventually, to its broader embrace by bank regulators and supervisors, as many desire.

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[19] As noted earlier, the US authorities have indicated that only a dozen or so of their largest internationally-active banks (but covering around 99% of US international banking assets) will be required to comply with Basel II, with perhaps another 10 or so doing so voluntarily. Moreover, China and India have opted out for the foreseeable future, despite the fact that they are not formally required to comply given that they are not G10 members. And, as for Basel I, only 'internationally-active' banks are formally required to comply (unless, of course, as in the EU, national supervisors determine otherwise).

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