

Response to the Basel Working Paper on the IRB
Treatment of Expected Losses and Future Margin Income

The Risk Management Association

November 2001

Response to the Basel Working Paper on the IRB Treatment of Expected Losses and Future Margin Income.¹

I. Overview.

This paper represents the response of the RMA Capital Working Group to the Working Paper (“WP”) prepared by the Joint Accounting Task Force – Models Task Force Working Group (“Joint Working Group” or JWG) of the Basel Committee, dated July 2001 and titled “Working Paper on the IRB Treatment of Expected Losses and Future Margin Income.” In that WP, the Basel group reiterates its intention to a) retain the current definitions of capital, b) treat Total Capital as the desired capital target which is being linked in some fashion to “economic capital,” c) continue to set Tier 1 capital at one-half the Total Capital target, and d) scale regulatory capital charges to the sum of measured Expected Losses (“EL”) and economic capital (or unexpected losses, UL). However, the WP recognizes that the industry has, in general, been critical of these decisions (made within the January 2001 Consultative Package) and, therefore, the WP attempts to address these industry criticisms. Indeed, the JWG states that:

-- “While the industry’s criticisms have validity, in many cases the fundamental problems reflect a tension between (a) the concept of ‘economic capital’ that underpins the IRB proposal and (b) the current definition of regulatory capital.”

We agree whole-heartedly with this statement. The JWG, however, then proceeds to develop a “pragmatic approach” that appears to largely ignore the group’s own admonition. In the RMA’s response to the Consultative Package, we too have stated our concern that the current definitions of capital under the old Accord are not consistent with the theory and practice of measuring and using economic capital.² More to the point, there is no easy way for accounting concepts of capital to be aligned with

¹ This response represents the view, as a whole of the RMA Capital Working Group, whose members consist of the senior officers of their respective banks responsible for risk measurement and the determination of economic capital. The financial institutions and the staff members participating in the Group are listed in Appendix A. Individual institutions may be responding separately to the Working Paper, and/or may hold differing views than those expressed in this Response.

² See “Response to the Basel Committee’s Consultative Paper on a New Capital Accord,” May 31, 2001, especially pp. 16-27.

economic capital. In particular, economic capital practitioners would disagree with the notion expressed on the first page of the Working Paper:

-- “Calibrating required capital solely on the basis of UL would mean that banks could use those general loss provisions twice, once to cover EL and again to cover UL (‘double-gearing’).”

II. The Economic Capital View of the General Loss Reserve.

The view of the general loss provision expressed above is an accounting view, not an economic capital (“EC”) view. Under EC precepts, the bank first measures EC using a particular “soundness standard” expressed as a maximum probability of insolvency over a particular chosen horizon. This measurement of EC is then compared to balance sheet components that represent a reasonable estimate of the mark-to-market value of net assets (equity). That is, the bank is meeting its own soundness standard when the mark-to-market value of net assets at the beginning of the horizon is equal to or greater than economic capital measured for that particular horizon. The question then becomes – which balance sheet items represent a reasonably good estimate of net asset value?

Ideally, the issue of capital adequacy under the theory and practice of economic capital would be addressed by the bank measuring its mark-to-market or mark-to-model net asset value using the same models and procedures used to measure economic capital. Still, one must necessarily look at the (accounting) balance sheet and ask, what is a reasonable estimate of the sale value of assets (assuming that liabilities’ market values are those expressed in the actual contracts)? In this regard, we believe that performing assets have a market value that is most closely represented by their carrying values (gross of any general loss reserve and regardless of how the particular accounting or regulatory regime requires such reserves to be established). When an asset is booked today, and a general reserve established against that asset, assuming that asset-yield is set properly, such an asset can be sold tomorrow for its book value, not its book value net of the general reserve. Put another way, from an EC perspective the general portion of the Allowance for Loan and Lease Losses (“ALLL”) could just as easily be carried as a positive on the right-hand side of the balance sheet instead of a negative on the left-hand side.

Such is not true of specific reserves. Specific reserves constitute, in the view of EC theory, a reasonable attempt to mark down an asset to a value closer to its true market value. If accountants or supervisors permit the bank to establish specific reserves that are inadequate, then the book value of equity will be overstated in relation to true market value of net assets. For this reason, the RMA group believes that the best balance sheet analogue to the concept of mark-to-market net asset value is tangible equity plus the general portion of the ALLL.

It is important to recognize that the attempt to approximate net asset value (on a MTM basis) with tangible equity plus the general reserve, while having nothing to do with the accounting rules regarding how general reserves are established, has a lot to do with how assets are priced (their embedded yields). EC practitioners assume that all assets are priced in relationship to risk, such as through the general principle of Risk-Adjusted Return on Capital (RAROC), and that, for the portfolio as a whole, such asset yields are consistent with the maximization of Shareholder Value-Added (SVA).³ If the asset is priced to exactly hit the targeted RAROC, its yield will cover, among other things, expected losses (EL) as measured by the same model that is used to measure economic capital. This is why, from an EC perspective, it is asset yields that are thought to cover EL, not the general reserve. The very definition of Economic Capital encompasses this view – it is the estimated loss at the chosen confidence interval *minus* the mean loss of the distribution. Economic capital, in other words, is defined as Unexpected Loss (UL).⁴

This difference of views between accountants and EC practitioners regarding the general portion of the ALLL is not in any way fatal to the proper setting of regulatory capital standards. We believe that accountants need not and should not change any of their practices in order for regulators to achieve rational capital standards. Rather, the

³ Under RAROC, the yield on the individual asset is set to cover all net non-interest expenses, the cost of funds, expected credit and other losses, and a targeted market return to the economic capital allocated to the asset. From a portfolio perspective, SVA is created whenever the bank invests in an asset having a RAROC above the targeted yield on economic capital; SVA is maximized when the bank invests in all possible assets having a RAROC above the targeted yield on EC.

⁴ The MTF should be aware of some confusion in the literature on economic capital. Some practitioners refer to EC as some multiple of “UL”, where “UL” is the term being used to refer to the estimated standard deviation of the loss distribution. Only in some structural credit risk models with very limiting

regulatory definition of capital needs to be changed in order to comply with the precepts of EC theory and practice. If the regulatory definitions do not change, or if they “change” in the manner contemplated by the JWG, we can see no result other than a continuing substantial difference between regulatory standards and best-practice EC standards that will result in the continuation of costly and otherwise unnecessary regulatory capital arbitrage.

We should note at this juncture that the assumption of “proper” pricing of assets, while critical to the practical application of EC theory, may be violated by certain banks under certain conditions. For example, the bank may be engaging in the systematic under-pricing of assets, in which case, the true market value of performing assets is overstated by their gross book values. Conversely, certain market conditions may permit some banks for some credit products to achieve asset yields that imply much higher than “normal” RAROCs. These sub-normal or super-normal yields constitute a problem of analysis that exists whether or not Basle continues to adhere to its current arbitrary definitions of capital. This issue is discussed at length in a later section.

III. What Should Basel Do to Achieve Consistency with the Practice of EC Estimation?

The Basel Committee has consistently failed to address the very most basic questions, the answers to which are needed in order to assure the elimination of regulatory capital arbitrage.

- 1) What is Basel’s definition of “soundness”, achieving a minimum level of which presumably is the aim of the regulatory capital standards?
- 2) What is the quantitative minimum soundness standard that Basel has in mind?

We know how best-practice banks answer these questions; we do not know how Basel answers them. We do not see how progress can be achieved on making the balance sheet components (the definition) of regulatory capital consistent with the principles of economic capital practice until these questions are addressed. At banks, the soundness definition expressly takes the form of a maximum insolvency probability over a chosen horizon. Basel has indeed used this definition of soundness for purposes of computing its

assumptions, would loss at the x% confidence interval (let alone loss at the confidence interval minus EL) be related in any consistent manner with the standard deviation of the loss distribution.

own EC estimates for commercial loans, and, as we understand it, the Models Task Force is working on developing a new generation of EC estimates for retail credit products. That is, the Models Task Force has explicitly built credit risk models that mirror those of best-practice banks, then applied a specific confidence interval to the resulting estimated loss distributions. For commercial loans, the horizon chosen was one year and the confidence interval was 99.5%. This confidence interval was chosen on the grounds that the implied regulatory soundness standard should be to have banks adhere to no less than the equivalent of a BBB(-) soundness standard. That is, in terms of soundness, banks should be at least “investment grade.” We agree with such a quantitative standard for a minimum soundness requirement.

However, Basel, after making reasonable estimates of EC for commercial loans, then abandoned the concept of EC when establishing “Total Capital” as the arbitrary definition of its capital target. In particular, we do not see how subordinated debt, or debt of any kind, could be included within a definition of capital aimed at limiting the bank to a particular, maximum insolvency probability. Substituting subordinated debt for, say, insured deposits, may cushion the loss to the insurance agency in the event of bank failure, but such a substitution does not in any fashion reduce the probability of failure. Subordinated debt cannot act as a cushion against losses in the accounting sense, as does the general reserve, nor would any, no matter how crude, estimate of mark-to-market value of equity include subordinated debt. So long as subordinated debt is included in the numerator of the targeted capital ratio, we do not see any other revision of this definition providing any meaningful way of bringing regulatory capital into close proximity with Economic Capital as the term is used by practitioners. The only defense given by the JWG for retaining Total Capital, essentially in its current form, as the prime “capital target” is that this was an “earlier decision.” This decision needs to be questioned. Does it make any sense to totally revamp the method for establishing regulatory capital standards under the Advanced IRB approach – involving several years of costly effort on the part of regulators and the industry – in such a fashion as to follow best-practice procedures for *measuring* risks, then continue to adhere to the same capital definitions established in 1988 and which bear no resemblance to current best-practice methods for establishing capital-adequacy?

We therefore once more ask Basel to give serious consideration to the counter proposals put forth by RMA in our original response to the January 21, 2001 Basel consultative package (RMA response dated May 31, 2001).

First, we believe that Basel should continue to build and maintain best-practice credit risk models, as well as models for the estimation of other forms of risk. Economic capital, in the sense used by best-practice banks, should then be measured through the application of a chosen soundness standard – we believe that a 99.5% confidence interval over a one-year horizon for commercial loan products is a wise choice of such a standard. For certain retail products for which it may make sense to employ longer horizons, appropriately shortened confidence intervals should be used.⁵

Next, a balance sheet analogue to mark-to-market equity (net asset value) should be chosen to implement the chosen insolvency probability standard. In our view, therefore, a new “Primary Capital” definition should be used to implement the insolvency probability standard. In equation form, this standard would be represented as follows:

$$(1) \text{ mark-to-market value of net assets} \approx \text{tangible equity} + \text{general reserve} \approx \text{EC}_{@99.5\%}$$

Under this definition of a capital standard, there would be no limit to the amount of the general reserve that should be included within capital, just as there would be no limit to any other form of true equity that would be included. We believe that establishing a new “primary capital” to total assets ratio, using the definition above, and replacing Tier 1 capital with this ratio, would fulfill what should be the main objective of the Basel committee – making sure that insolvency probability of any individual Advanced bank was no greater than a particular percentage (0.5%). In this view, there would be no “multiples” applied to the EC measurement. Regulatory Primary Capital would be whatever EC was generated by the best-practice regulatory risk model that was built by the Models Task Force.

⁵ This is necessary to adhere to a consistent chosen soundness standard such as BBB(-). For example, if for a particular product a 5-year horizon is to be used, then the historical default rate for BBB(-) bonds over that horizon should be used. Since the longer the horizon the greater the default rate, this means that 1 minus the default rate (the confidence interval) will be shortened as the chosen horizon lengthens.

Now, it is entirely possible that some banks in some regimes might have difficulty in meeting this standard with their current equity levels and their current book of risks. For some observers, this may be viewed as a political problem. If so, there are several remedies, including but not limited to:

- Providing for an even greater period before the new capital rules take effect, to allow specific groups of banks to reduce their risks or increase their capital.
- Reducing the targeted confidence interval (increasing the acceptable insolvency probability) to permit additional banks to qualify under the primary capital standard.

While we do not necessarily advocate such solutions to political problems, we think they are far superior to creating arbitrary definitions of capital that have nothing to do with insolvency probability (i.e., our straight-forward solutions are preferable to including subordinated debt in the definition of capital, then applying arbitrary multiples to EC – or to the sum of EC plus EL – to reach some sufficient level of political “comfort” with the resulting regulatory capital ratios). We would even go so far as to say that until Basel relies in a straightforward manner on its own best-practice estimates of EC – rather than manipulating these estimates to suit arbitrary notions of capital adequacy – we will have little confidence that the current effort at revising the capital standards is anything other than a costly exercise.

At the same time, we recognize that it would be politically difficult to rely *solely* on a targeted capital definition – Primary Capital – that included no subordinated debt in the numerator. We therefore suggest that a second definition of capital be used, in parallel with Primary Capital, under a specific alternative definition of soundness. This alternative definition of soundness would involve setting a limit on the probability of the insurance agency (or the government, in some regimes) incurring a loss in the event of bank failure. This second definition of capital would be essentially the same as the current Total Capital definition – primary capital plus qualifying subordinated debt – and like primary capital would have no limit on the amount of the general reserve that would qualify as capital.

However, the Total Capital target should bear no fixed multiple to primary capital (i.e., should not be in a fixed 2 to 1 relationship as Total Capital currently relates to Tier

1 capital). Rather, the Total Capital requirement would be set by using a *higher* confidence interval (perhaps 99.8%) on the very same estimated loss distribution used to establish the primary capital target. Again, once the regulatory models were built, and once the confidence interval was chosen, there would be no arbitrary multiples applied to the resulting EC estimates. But because a higher confidence interval was being used, the Total Capital target would necessarily be higher than the Primary Capital target. In our earlier response to Basel, we made it clear that, unless specific confidence intervals are applied to specific risk models, the Total Capital ratios that result by applying an arbitrary multiple to an “economic capital” ratio will produce nothing but arbitrary soundness requirements. If Total Capital is set at twice Primary Capital, then for some loss distributions the resulting implied confidence interval will be so high that the capital standard will necessarily result in capital arbitrage, or the bank could not compete. Conversely, if a Primary Capital standard were set at an arbitrary one-half of a well-thought-out Total Capital standard, the resulting implied confidence interval might be so low that a bank might meet the standard but still be quite a bit less than “investment grade” in terms of its overall soundness.

IV. How Does the Current Total Capital Requirement Translate into an Insolvency Probability?

To provide the reader with a more precise view of the analytical “distance” between the views of practitioners and the views implied by the Consultative Package and the Working Paper, we can reduce both sets of views to equation format. Equation (1) above expresses a balance-sheet analogue to EC, assuming that all performing assets are generating “normal” returns to allocated economic capital.

The Total Capital requirement of the regulators, however, can be expressed as follows, assuming that Total Capital is set at the level implied within the Working Paper – the sum of EL plus Economic Capital (UL), where EC is measured via a well-designed regulatory model using a specific confidence interval (99.x%):

$$(2) \text{ Tier 1 capital requirement} = \text{tangible equity} = 0.5 * \text{Total Capital} = 0.5 * [\text{EC}_{@99.x\%} + \text{EL}]$$

If the general reserve is established to equal EL, then equation (2) can be rewritten by adding EL to both sides of the equation:

$$(3) \text{ tangible equity} + \text{general reserve} = 0.5 * EC_{@99.x\%} + 1.5 * EL$$

Note that equation (3) does not look anything like equation (1) and cannot be made to look anything like (1) no matter what is included or excluded from the definition of Total Capital.⁶

What does the tangible equity + general reserve requirement expressed within equation (3) have to say about insolvency probability? The answer will depend on the asset-type's EL and its asset-value-change-correlation parameter. Asset-types with high EL's but low correlations will get assigned very high tangible equity + general reserve in relation to $EC_{@99.5\%}$. Meanwhile, asset-types with low EL's but high correlations will be assigned very low tangible equity + general reserve, so low that the effective confidence interval for these assets, when viewed through the prism of equation (1), may be lower than 99.5%.

Equation (3) above is complicated by the proposals of the Working Paper in that, in one proposal, the "EL charge" portion of Total Capital would be reduced to as low as zero, by subtracting the present value of net margin on the asset. We understand that this proposal pertains only to retail assets, not commercial credits. Thus, for retail credits, equation (2) can be rewritten as follows:

$$(2b) \text{ Tier 1 requirement} = 0.5 * [EC_{@99.x\%} + \max(0, EL - \text{present value of net interest margin})]^7$$

For retail credits, therefore, *in the case when the present value of net margin exceeds or equals EL*, equation (3) can be rewritten as

⁶ Note that equation (3) will look even less like equation (1) if regulators, in reaching a politically-determined Total Capital ratio, take their own estimates of EC, multiply it by some arbitrary multiple, then add EL.

⁷ Actually, the Working Paper states that Total Capital $\$ UL + \max \{0; (EL - SP - GP_{dRC} - FMI)\}$, where UL is $EC_{@99.x\%}$, EL is expected losses, SP is specific provisions, GP_{dRC} is the portion of general provisions in excess of the current ceiling, and FMI is future margin income. Exposures would be measured gross of

(3b) tangible equity + general reserve = $0.5 * EC_{@99.x\%} + EL$
 (again assuming that the general reserve is set to equal EL).

To provide a real example of how Basel's choice of a capital target can create severe anomalies, suppose that 99.9% is the confidence interval being used in a Merton-type regulatory credit risk model to generate the EC used in the Total Capital formulation. [Indeed, we understand that the MTF is considering using this particular confidence interval – 99.9% -- for a one-year horizon, while no longer applying an arbitrary multiple to the resulting $EC_{@99.9\%}$ to arrive at the UL component of Total Capital.] For any given asset-type, equations (3) and (3b) show the range of tangible equity plus general reserve the bank must hold. Now, take three assets – asset A has an EL of 2.7% and an asset-correlation of 4%, asset B has an EL of 0.3% and an asset-correlation of 10%, asset C has an EL of 0.3% and an asset-correlation of 20% (asset C may be viewed as a commercial credit). Table 1 below shows the impact of Basel's Total Capital-Tier 1 rule on required tangible equity plus general reserve (i.e., the impact of the proposed TC rule on required “primary capital”).⁸

specific provisions. Finally, the discussion of how FMI would be calculated is attenuated and extremely unclear.

⁸ The Economic Capital allocations solved for in the table were produced by a particular version of a Merton-type model authored by Ashish Dev and Michael Pykhtin of KeyCorp. A copy of their model is available upon request.

Table 1 -- Examples of the "Primary Capital" Implications of the Proposed Total Capital Rule

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
	EDF	LGD	EL	asset- correlation	EC at 99.9%	TC if EL charge = EL	"primary capital" if EL charge = EL	TC if EL charge = 0	"primary capital" if EL charge = 0	EC at 99.5%	"Well- capitalized" TC if EL charge = EL	"Well- capitalized" prim. Capital if EL charge = EL	"Well- capitalized" TC if EL charge = 0	"Well- capitalized" prim. Capital if EL charge = 0
Asset A	3.00%	90.00%	2.70%	4.00%	6.19%	8.89%	7.14%	6.19%	5.79%	4.65%	11.11%	9.36%	7.73%	7.34%
Asset B	1.50%	20.00%	0.30%	10.00%	1.79%	2.09%	1.34%	1.79%	1.19%	1.23%	2.61%	1.86%	2.23%	1.64%
Asset C	1.00%	30.00%	0.30%	20.00%	4.07%	4.37%	2.48%	4.07%	2.33%	2.54%	5.46%	3.57%	5.08%	3.35%

If the EL component of TC is equal to a full EL, Asset A has a regulatory requirement for its tangible equity plus general reserves (7.14%) that is about 53% higher than implied by Economic Capital at the 99.5% confidence interval – and it is even higher than EC at the 99.9% confidence level. This asset would be assigned so much capital as to imply an insolvency probability associated with a AA rated company. Meanwhile, Asset B has only slightly more tangible equity plus general reserves assigned to it than is implied by a 99.5% confidence interval. Asset C, the hypothetical commercial loan, has only slightly less than the “primary capital” that would be assigned to it by application of an EC standard using a 99.5% confidence interval.

This asymmetrical treatment, in which the high EL asset is disadvantaged, is made even worse by application of arbitrary “well-capitalized” multiples to the Basel minimums. For example, in the U.S. the true minimum is 1.5 times the Basel Tier 1 minimum (whereas the true Total Capital minimum is 1.25 times the Basel Total Capital standard). Table 1 shows how the “well-capitalized” standards within the U.S. act to compound the effects of the arbitrary capital definitions being proposed by Basel. In columns (14) and (15), for example, the assumption is made that the effective EL charge within Total Capital is reduced to zero by, for example, inclusion of Future Margin Income. Column (14) shows the “well-capitalized” Total Capital charge under this assumption, while Column (15) shows the effective “well-capitalized primary capital” charge (i.e., “well-capitalized” Tier 1 plus the general reserve, assuming the general reserve is set to equal EL). It is Column (15) that should be compared with the best-practice bank’s own internal view of the balance sheet equivalent to economic capital. For Asset A, the column (15) requirement exceeds by about 18% the EC associated with a 99.9% confidence interval, even when the EL charge is eliminated. In other words, for this asset, the “well-capitalized” level of Primary Capital would exceed that associated with an AA rating by quite a margin. For Assets B and C, the “well-capitalized” level of Primary Capital would be somewhere between $EC_{@99.5\%}$ and $EC_{@99.9\%}$, assuming that the EL charge is eliminated. However, for the commercial asset, the EL charge cannot be reduced by the application of future margin income. For this asset, the “well-capitalized”

primary capital charge, assuming the EL charge is the full amount of EL, is shown in column (13). In this instance, the primary capital charge, while below that implied by using EC at the 99.9% confidence interval, is approximately 40% higher than implied by EC at the 99.5% confidence interval. In other words, the commercial asset “well-capitalized” requirement is 40% higher than implied by an “investment grade” rating for the bank’s debt.

These sorts of arbitrary regulatory rules – the 2 to 1 relationship between Tier 1 and Total Capital, and the 1.5 multiple of the Tier 1 standard to reach “well-capitalized” status -- can only lead to regulatory capital arbitrage. The solution to us seems relatively straightforward -- eliminate the current, arbitrary, 2 to 1 relation between Total Capital and Tier 1 capital as per the recommendations of the RMA group, and replace the Tier 1 standard with a Primary Capital standard. Additionally, in certain G-10 countries such as the U.S., the “well-capitalized” standards need to be rethought to eliminate arbitrary multiples applied to the Basel standards that may drive the resulting confidence interval so high as to constitute a AAA+ soundness standard that cannot be maintained. We have discussed this issue at length in our May, 2001 response to Basel II.

V. The Impact of Sub-normal or Super-normal Yields on Performing Assets.

In the real world, not all assets generate yields that produce exactly normal rates of return on allocated economic capital (normal RAROCs). Super-normal returns might exist, for example, if there is a less than competitive environment in which the bank operates, or if the particular credit asset in question is subject to economies of scale or scope. Additionally, super-normal returns *in the current period* might reflect an asymmetry in the timing of expenses versus the realization of returns. For example, if the credit product is originated and serviced via the expenditure of very high, up-front fixed costs, then current yields on such assets can be expected to be very high to offset past expenditures (in order that the product-returns cover at least fixed costs). While accounting capital would have been reduced via the past expenditures, the super-normal returns flowing into the bank in the current period represent an additional cushion against credit losses.

A prime example of a high-yield asset is credit card receivables. Such receivables, while extremely expensive to originate, exhibit quite high yields, which, even after subtracting high expected-credit-losses, produce high *current-period* returns to capital. These high returns are manifested in the high premiums paid in the secondary market for the sale of such receivables (with such premiums often exceeding 10% of the outstandings). In effect, the purchaser is paying for a high but uncertain income stream off of the purchased receivables (which would have been extremely expensive to originate had the receivables not been purchased). Since, even in downturns, such receivables have market values exceeding their book values, these market premiums should be considered when assessing beginning-of-horizon mark-to-market net asset value.

Conversely, there may be some assets that, while still performing, have a true market value that is below that of their carrying value net of any specific reserves. For example, a performing commercial loan may have been downgraded yet is still quite certain of repayment. No specific reserves may have been established (for accounting purposes) against such a loan, yet its yield may now be too low (for the additional economic capital which should be allocated against it). The Working Paper refers to such assets as “fallen angels” and we agree that such assets exist and should be examined in the process of determining capital adequacy.⁹ However, this issue has nothing to do with Total Capital, per se, so much as it has to do with the appropriate Primary Capital needed to meet a particular insolvency probability standard. In equation format, we believe that a more accurate version of the Primary Capital equation (1) is as follows:

$$(1b) \text{ mark-to-market value of net assets} \approx \text{tangible equity} + \text{general reserve} + \text{present value of super-normal returns} - \text{present value of sub-normal returns} \approx EC_{@99.5\%}$$

We concur with the Working Paper, however, that such super-normal or sub-normal returns are difficult to estimate and therefore difficult to codify within capital

⁹ However, it should be noted that many commercial loans have risk-based pricing in which, when the rating of the credit declines, the yield rises, thereby reducing or eliminating the chance that the asset could become a “fallen angel.”

regulations (as opposed to through the supervisory process). If such premiums or discounts could be quantified easily, we would argue for their inclusion within both the definition of Primary Capital and the definition of Total Capital. However, we believe a more practical solution is simply to note that the bank must hold capital sufficiently above the regulatory minimum to meet the Pillar 2 standard. It is in meeting this Pillar 2 standard – adequate capital from a supervisory perspective – that the supervisor can reasonably include a best-practice estimate of the present value of super-normal or sub-normal returns.

Of course, if, for political reasons, Basel continues to couple reasonable estimates of risk (i.e., the MTF’s own estimates of EC) with arbitrary definitions of regulatory capital, we see no choice but to include such premiums or discounts within the regulatory definitions of capital. Under such circumstances, with respect to the Total Capital target, we would conclude that the numerator should include not only the general reserve, without limit, but also, the present value of *all* pre-loss credit-earnings (not just above-normal returns). This approach is consistent with the inclusion by some banks of all “available financial resources” as a capital cushion when determining capital adequacy for internal purposes. In equation form:

$$(4) \text{ Total Capital} = \text{Tier 1 capital} + \text{all of the general portion of the ALLL} + \text{present value of [net interest margin less net non-interest expenses over the horizon]} + \text{qualifying subordinated debt} = \$ * EC_{@99.x} + EL$$

Note that this equation is written in such a way as to agree with the suggestion of the JWG that the EL charge within the Total Capital charge be separated out from the EC (or UL) charge. We include an arbitrary multiple, \$, to be applied to measured EC, since that is the direction taken by the Consultative Package (although our analysis above uses examples in which \$ is equal to 1). At least by applying the arbitrary multiple only to EC and not to EL, the distortive effects of the regulatory rule are not compounded.

Credit earnings, gross of expected credit losses, unlike the excess or deficit of yield over normal RAROC, is easy to measure and present-value over the horizon. For example, the measured credit earnings over the *previous* year could be used as a proxy

for expected future credit earnings. Note also that, as emphasized earlier, equation (4) cannot be made to conform to any insolvency probability test. Nor does it represent our unconstrained, apolitical choice for a Total Capital rule. As indicated in the text, our preferred Total Capital rule would be expressed in equation form as

$$(5) \text{ Total Capital} = \text{tangible equity} + \text{general portion of the ALLL} + \text{qualifying subordinated debt} = \text{EC}_{@99.x\%}$$

where 99.x% is chosen to be greater than the 99.5% confidence interval used in the Primary Capital rule.¹⁰

Note also that in the constrained choice given to us by the JWG, our specification of equation (4) does not permit an exact equating of the present value of credit earnings with EL. That is, a proper pricing equation would look something like the following:

$$(6) \text{ asset yield} \geq \text{cost of funds} + \text{net non-interest costs} + \text{EL} + \text{normal return to allocated EC}$$

One can see by rewriting this RAROC equation that [net interest margin less net non-interest expenses] must cover EL plus a normal return to capital. Thus, like the political process that appears to be driving Basel's choice of capital definitions, our constrained choice of a Total Capital equation is not based purely on analysis, but rather reflects our desire to keep the Total Capital charge from being arbitrarily too high.¹¹

VI. The Specific Proposals Raised within the Working Paper.

¹⁰ The level of the effective confidence interval chosen by regulators cannot be arbitrarily high. To these minimum capital standards some additional capital to satisfy "well-capitalized" standards must be added. If the resulting regulatory standard exceeds, in effect, the sum of economic capital banks calculate to meet their own insolvency probability standard plus their desired subordinated debt levels for business reasons, there will arise the need for regulatory capital arbitrage. Or, if the regulatory process chokes off such arbitrage, those specific risk activities for which the well-capitalized regulatory standards are too high will be abandoned by the regulated sector.

¹¹ Of course, another way to minimize the damage, while still adhering to the "politically correct" choice of Total Capital as the regulatory capital target (including the EL charge with which we disagree), would be to set the confidence interval used within that determination of Total Capital to be significantly less than the 99.9% used in the examples in our table.

In the text above we have explained why the definitions of capital currently being used by Basel need to change. The Working Paper offers 6 proposals, none of which individually, nor all of which in total, can hope to redress the basic and severe problems we have identified. In the interests of being complete in our response, however, we should note that we support each of the first 5 proposals (presuming, of course, that Basel does not address the more fundamental definitional problems it faces). Moreover, we see no need to limit the effect of Proposals 3, 4, and 5, which currently are crafted such that the EL component of Total Capital can be reduced to no less than zero. Rather, we would include all general and all specific reserves without limit within the numerator of the Total Capital ratio.

Proposal 6 requires separate comment. Like the other 5 proposals, proposal 6 envisions that, at best, the Advanced bank can reduce its EL component for Total Capital only to zero. Credit earnings are an important cushion for future losses, however, and this cushion typically exceeds EL by a significant amount. In this less-than-best-practice-world, therefore, we would include projected credit earnings (less any adjustments for cases in which “fallen angels” have not had their yields adjusted upward) without limit in the numerator of the Total Capital ratio.

Appendix 1

Institutions in the RMA Working Capital Group

Bank of America	Bank of Montreal
Bank of New York	Bank One
Citigroup	First Union
FleetBoston Financial	JPMorganChase & Co.
KeyCorp	PNC Financial Services Group
Providian Financial	Royal Bank of Canada
Union Bank of California	Washington Mutual Bank
Wells Fargo	

Staff participating in drafting or reviewing this response

Bank of America: John S. Walter, Senior Vice President, Risk, Capital & Portfolio Analysis

Bank of New York: Nicholas C. Silitch, Senior Portfolio Manager

Bank One: Rantch Isquith, First Vice President, Risk Management; Miguel Nathwani, Vice President, Treasury; Joel Brodsky, Vice President, Risk Management; David Nunn, Vice President, Treasury

Citigroup: Jeff Nurre, Director, Consumer Credit Group

First Union: Will Alexander, Senior Vice President of Portfolio Analytics and Reporting; Chris Livingston, Senior Vice President, Treasury Group; Tim Hanlin, Assistant Vice President of Portfolio Analytics and Reporting; Dave Lobell, Assistant Vice President of Portfolio Analytics and Reporting

FleetBoston Financial: Ranga Rangarajan, Managing Director-Mgt. Sciences, Corporate Strategies; Larry Mielnicki, Senior Vice President; Mike Fadil, Director of Credit Research; William Schomburg, Director, Economic Methodologies

JPMorganChase & Co: Michel Araten, Senior Vice President; Bradford Pollock, Vice President; Adam Gilbert, Managing Director.

KeyCorp: Ashish K. Dev, Senior Vice President, Head of Capital Allocation & RAROC; Robert Kula, Senior Vice President, Head of Consumer Capital Allocation; Michael Pykhtin, Asst. Vice President, Capital Allocations Group.

PNC Financial Services Group: Shaheen Dil, Senior Vice President, Portfolio Development Group; Terry Jewell, Vice President & Manager, RAROC and Profitability

Providian Financial: Richard Laiderman, Senior Vice President and Treasurer; Chris Ballinger, Vice President

Royal Bank of Canada: Lyn McGowan, Senior Manager, Portfolio Management Methodology, Chitra Muralikrishman, Senior Manager, Finance

Union Bank of California: Philip B. Flynn, Executive Vice President, Head of Credit Management Group; David I. Matson, Executive Vice President & Chief Financial Officer; Paul C. Ross, Senior Vice President, Portfolio Risk Management; John Chittenden, Senior Vice President, Financial Planning & Analysis; Desta G. Medhin-Huff, Vice President, Portfolio Management;

Washington Mutual Bank: Alexander Kipkalov, First Vice President, Corporate Planning.

Wells Fargo: George Wick, Senior Vice President, Portfolio Strategies

RMA - The Risk Management Association: Pamela Martin, Director of Regulatory Relations & Communications

Mingo & Co.: John Mingo, Managing Director