One Liberty Place • 1650 Market Street • Suite 2300 • Philadelphia, PA 19103 • www.rmahq.org

Maurice H. Hartigan II
President & CEO
215-446-4001 • Fax 215-446-4008
e-mail: mhartigan@rmahq.org

November 5, 2003

Office of the Comptroller of the Currency
Docket No.03-14
Public Information Room, Mail Stop 1-5
250 E Street, SW
Washington, DC 20219

Ms. Jennifer J. Johnson
Docket No R-1154
Secretary, Board of Governors of the Federal Reserve System
20th Street and Constitution Avenue, NW
Washington, DC 20551

Robert E. Feldman
Attention: Comments
Executive Secretary, Federal Deposit Insurance Corporation
550 17th Street, NW
Washington, DC 20429

Regulations Comments
Docket 2003-27
Chief Counsel's Office, Office of Thrift Supervision
1700 G Street, NW
Washington, DC 20552

RE: Risk-Based Capital Guidelines; Implementation of New Basel Capital Accord

Dear Ladies and Gentlemen:

The RMA Capital Working Group welcomes the opportunity to respond to the Advance Notice of Proposed Rulemaking entitled "Risk-Based Capital Guidelines; Implementation of New Basel Capital Accord" (the ANPR) and to the Draft Supervisory Guidance Regarding AIRB Systems for Corporate Credit.

By separate letter, the RMA Working Group on Operational Risk Regulation will respond to the Draft Supervisory Guidance Regarding Operational Risk Advanced Measurement

Approaches. The RMA Securities Lending Committee has also issued a separate response to the ANPR addressing issues associated with securities lending activities.

The RMA Capital Working Group strongly supports the goal of aligning regulatory capital more closely with underlying risk. To this end, we have been actively involved in the process to reform the 1988 Basel Accord, producing a number of research papers to demonstrate how institutions in North America assign Economic Capital internally in addition to responding to the Consultative Papers and various Working Papers issued by the Basel Committee. All of the Group's work is on RMA's web site at www.rmahq.org/Basel2/Basel_intro.htm.

We appreciate greatly the work undertaken by the US regulatory agencies to move reform of the 1988 Accord forward and hope that the comments in this response will be of assistance. Moreover, it is our view that the reform process itself has served to further industry development of more advanced risk management practices. Much has been accomplished over the past four years.

RMA believes it is possible to develop a regulatory capital framework that allows for continued industry innovation in best practice risk management procedures. This will require the eventual move to a full, internal models-based approach. Moreover, the regulatory capital standard should represent a true minimum, a capital floor that is below an institutions' own internal Economic Capital requirement.

Again, we appreciate the opportunity to comment on the ANPR and the Draft Supervisory Guidance and look forward to continuing to work with you to bring about the alignment of regulatory capital requirements with underlying risk.

Sincerely,

Maurice H. Hartigan, II
President and CEO

Enclosure Attached

Response to the U.S. Banking Agencies' Advance Notice of Proposed Rulemaking Regarding New Risk-Based Bank Capital Rules

RMA – The Risk Management Association

November 2003

Introduction and Summary.

This paper represents the response of the RMA Capital Working Group[1] to the Advanced Notice of Proposed Rulemaking ("ANPR") regarding Risk-Based Capital Guidelines in the U.S., published August 4, 2003 in the Federal Register. The view of the Group continues to be that the Basel Accord II, as embodied in the ANPR with respect to the Advanced Internal Ratings Based ("AIRB") approach, represents a significant step forward in improving upon the risk sensitivity of the old Accord, and more closely aligns regulatory capital requirements with best risk measurement practices.

Recognizing the complexity of the new Accord, the ANPR invites responses to a whole host of questions raised by the U.S. agencies. We appreciate the care and thoroughness with which these issues have been raised, and we also appreciate the opportunity to continue this very important dialogue.

Although there are many issues still to be resolved, we remain convinced that the new Accord should be implemented as soon as is practical. In the U.S., such implementation is especially critical for on-balance-sheet exposures, because the U.S., unlike some other G-10 countries, already has finalized capital rules regarding securitization transactions – transactions that could be used to evade arbitrarily high capital requirements on certain credit products under the old Accord. These securitization rules treat much more rationally than the old Accord the credit risk inherent in such transactions. It is now time to rationalize the treatment of on-balance-sheet credit positions, as well as other off-balance-sheet positions not appropriately covered by the new U.S. securitization capital requirements.

Given the considerable effort to date, the marginal effort remaining should not delay the Accord. We applaud the regulators' efforts to "get it right the first time." We have provided a detailed response herein which, when combined with our CP3 response, is intended to provide a helpful framework for working through the remaining issues on this complex subject. We do not rank-order these issues in importance, because all of the issues are important (especially when viewed as a whole) and because each bank in our Group, depending on the nature of the bank's current mix of business, necessarily will rank-order the issues differently than other banks in the Group.

In broad terms, the ANPR still suffers from our main concerns regarding CP3. First, the proposed regulations (as Pillar 1 rules applying to all AIRB banks) are too prescriptive and less principles-based than we would prefer. Examples of these prescriptions are provided below. Second, at various points in the process regulators have chosen to employ conservative assumptions and requirements. Any one such conservative choice may not be onerous – but taken as a whole the ANPR does result in excessive conservatism. Examples of this "cumulative conservatism" are also given

[1] The Capital Working Group of The Risk Management Association consists of senior risk management officers at large banking organizations responsible for the measurement of risk and the determination of Economic Capital. The names of the institutions represented on the Capital Working group, along with staff members contributing to the preparation of this response, are shown in an Appendix. Individual banking organizations that are members of the Group may hold opinions regarding regulatory capital that differ from those expressed in this response.

below. Among the most important of these issues, both with regard to prescriptions and with regard to conservatism, are the following:

- The measurement of *required* capital should be set as loss-at-the-confidence interval minus EL. There should be no confusion between this measurement and other issues, such as the appropriate level of the reserve for loan and lease losses.
- Actual capital held by a bank, to be compared to the level of capital required of it, should be defined to include all of the ALLL, not just within the Total Capital definition, but also within the Tier 1 definition of regulatory capital.
- The measurement of risk parameter inputs into the Basel credit risk models – PD and LGD – should be on a "through-the-cycle" basis, using the so-called default-weighted method for measuring expected default frequency and expected LGD. If regulators persist in requiring LGD (and EAD) to be measured on a "recessionary" basis, then the appropriate confidence interval should be substantially lowered from the current 99.9% level used within the ANPR. Absent one or the other of these changes, and without regard to any of the other issues listed here, the resulting regulatory capital as computed in the QIS 3 exercise would be greatly increased.
- Asset-value-correlations ("AVCs") used in Basel's *retail* credit risk models are uniformly above those estimated by the industry. For example, the single-family residential mortgage AVC chosen by Basel (15%) is some 50% higher than the AVCs used by mortgage lenders. In some cases, credit assets are mis-bucketed (e.g., HELOCs and home equity term loans should not be treated as single-family-first-mortgages with respect to AVCs).[2]
- Asset-value-correlations used in Basel's *wholesale* credit risk models are closer to those used in best-practice banks, but there still are some anomalies. In particular, the obligor-size/AVC relationship may be specified in a less than optimal manner. Also, the proposed treatment of certain forms of commercial real estate loans, including multi-family loans, may be less than best-practice.
- Credit risk mitigation techniques are severely penalized by Basel's failure to recognize the benefits of "double-default" or "double-recovery" associated with guaranteed credits or credit derivatives.
- Very short-term loan facilities are severely disadvantaged by the ANPR's choice of treatment of short-dated loans. The analytical treatment of short-dated loans is faulty, and the capital result is far too conservative, thereby reducing the effectiveness of such facilities in managing portfolio credit risk.
- The arbitrary choice of a Tier 1 capital standard – equal to one-half of the Total Capital standard – may result in high-risk banks in some countries

[2] See RMA, "Retail Credit Economic Capital Estimation – Best Practices," February 2003.

being subjected to *too low* a minimum soundness standard (implying a less than "investment grade" soundness standard).

- The "well-capitalized" standard in the U.S., and the U.S. "well-capitalized" leverage ratio, act to negate much of the careful calibration of the AIRB process which was founded on best-practice economic capital techniques. These "well-capitalized" standards should be rationalized, as suggested in the attached high-level issues paper, and for simple fairness should be applied in all G-10 countries.

As indicated above, we have not attempted to rank-order these issues, nor is the list above exhaustive. We do not believe that addressing these issues would require lengthy delays in the process of finalizing the new Accord. We appreciate the regulators' efforts to get as much of it "right" as possible now -- given that the wheels of rules-reform can turn slowly.

Our response to the ANPR consists of 4 separate documents. First, is this paper consisting of our answers to the questions raised in the ANPR. Our responses are given below, in the order in which the questions were presented in the ANPR. Second, Attachment A contains our response to the supervisory guidance regarding the AIRB approach for corporate credit (also published August 4, 2003). Third, we are sending under separate cover the response of the RMA Working Group on Operational Risk Regulation to the supervisory guidance regarding operational risk advanced measurement approaches (also published August 4, 2003). Fourth, Attachment B contains a high-level issues paper that reviews all of the major recommendations we have made over the last four years regarding very basic issues, including the appropriate manner in which to measure required versus actual capital, suggestions for establishing confidence intervals, etc. We highly recommend that senior regulators read at least the executive summary of this document. The reader is also referred to the RMA response to CP3, which appears at the Basel and RMA websites.

Answers to Agency Questions:

1. *The New Accord proposed additional criteria for positions includable in the trading book for purposes of market risk capital requirements. The Agencies encourage comment on these additional criteria and whether the Agencies should consider adopting such criteria (in addition to the GAAP criteria) in defining the trading book under the Agencies' market risk capital rules. The Agencies are seeking comment on the proposed treatment of the boundaries between credit, operational, and market risk.* (P. 10)

GAAP should be applied in making the distinction between the banking book and the trading account. To do otherwise would cause banks to incur additional bookkeeping expenses without significant benefit in terms of risk measurement. Most large, complex banks, for risk measurement purposes, mark-to-market their trading account positions but do not do so for most banking book positions. Since GAAP is more or less universal in its application, competitive inequities would be avoided by continued application of GAAP, both for bank regulatory capital purposes and for Call Report purposes.

2. *What are commenters' views on the relative pros and cons of a bifurcated regulatory capital framework versus a single regulatory capital framework? Would a bifurcated approach lead to an increase in industry consolidation? Why or why not? What are the competitive implications for community and mid-size regional banks? Would institutions outside of the core group be compelled for competitive reasons to opt-in to the advanced approaches? Under what circumstances might this occur and what are the implications? What are the competitive implications of continuing to operate under a regulatory capital framework that is not risk sensitive?*

If regulatory minimum capital requirements declined under the advanced approaches, would the dollar amount of capital held by advanced approach banking organizations also be expected to decline? To the extent that advanced approach institutions have lower capital charges on certain assets, how probable and significant are concerns that those institutions would realize competitive benefits in terms of pricing credit, enhanced returns on equity, and potentially higher risk-based capital ratios? To what extent do similar effects already exist under the current general risk-based capital rules (for example, through securitization or other techniques that lower relative capital charges on particular assets for only some institutions)? If they do exist now, what is the evidence of competitive harm?

Apart from the approaches described in this ANPR, are there other regulatory capital approaches that are capable of ameliorating competitive concerns while at the same time achieving the goal of better matching regulatory capital to economic risks? Are there specific modifications to the proposed approaches or to the general risk-based capital rules that the Agencies should consider?

a) A bifurcated system is needed for the same reasons that Basel itself has chosen to implement a bifurcated system – most smaller, less complex banks will not be able to implement an AIRB approach. Furthermore, for the time being, smaller banks would realize fewer business benefits from establishing internal Economic Capital methods (EC being the underpinning for the Basel approach).

b) In the near term, with or without a new capital accord, the smaller banks will have some disadvantages and advantages relative to large, complex banks. Disadvantages include higher per unit costs of production, and higher capital needs to offset granularity and concentration concerns. Advantages include the marketing benefits of the "high touch" way of doing business, and the relatively less rate-sensitive demand for deposit and loan business associated with often less competitive local markets. The degree to which smaller banks are disposed toward acquisition by larger firms will continue to be determined (with or without a new Accord) by the concerns of management and shareholders – management succession issues, the current "buying power" associated with an acquirer's stock price, economies of scale and scope associated with specific buy/sell transactions, etc.

c) For the reasons above, the competitive effect of new capital standards are not likely to become significant *unless* the new Accord becomes binding on the large, price-leading firms (i.e., unless the Accord acts to influence the market-determined level of capital, and therefore the prices of credit products and the

returns to market capital). In the case where the regulatory capital requirement is above the best-practice estimate of capital, the banking sector (both large and small banking firms) will shrink relative to the unregulated sector. Similarly, when the relative regulatory capital charges (across product types) are misaligned, banks whose business is dominated by the disadvantaged product (e.g., the credit product to which Basel has attached an inappropriately high capital charge) will be at a competitive disadvantage to other banks and to the non-bank sector.

Under the old Accord, large banks generally were not bound by the arbitrariness of the capital regulations – price-leaders could use various capital arbitrage techniques to evade unreasonably high capital charges. Now, however, the U.S. already has acted to eliminate most of the low-cost regulatory arbitrage techniques (e.g., securitization), by rigorously applying a risk-based capital charge to off-balance-sheet positions when, as is often the case with arbitrage transactions, the underlying risk continues to reside with the originating bank. In particular, the January 2002 rules for capital treatment of securitization transactions have acted to make binding much of the arbitrary and often inappropriate capital allocations of the old Accord. In the face of this recent regulation regarding the capital treatment of securitization – which in and of itself is reasonable – the U.S. must act to rationalize the capital charges for on-balance-sheet positions. Indeed, failure to implement the new AIRB approach would harm the large U.S. banks relative to many non-U.S. banks and relative to unregulated institutions – institutions that are not subject to the U.S. capital rules for securitization transactions.

While capital reform is necessary for the very largest banks, smaller institutions – much less complex by their nature – can be subject to a substantially simpler Accord. This does not mean, however, that these less complex banks should be subject to the old Accord. At least some of the changes envisioned by Basel for the "standardized" approach make sense for all small banks, from a fairness point of view. For example, why should a "non-core" bank have to continue to hold 8% capital against its share of a participated loan to a triple-A corporation? Indeed, if the standardized version of the New Accord is to be applied elsewhere in the G-10 countries, why could not such a standardized approach be applied in the U.S. as well?

d) Although we strongly support a timely move to a new Accord for large, complex banks, we have several concerns regarding the basic structure of the proposals in the ANPR. These concerns are summarized in the attached documents and in RMA's response to CP3. Any new Accord that fails to treat these issues will fall well short of being truly risk-sensitive. Much work needs to be done, but given the importance of having, for the first time, a truly risk-sensitive set of regulatory capital rules, we would find unacceptable any significant delay in implementation of the AIRB approach.

e) As to the effect of the new Accord on actual capital levels, the rating agencies have made clear that any decline in minimum regulatory capital cannot be followed by declines in actual capital, or the bank will face a possible

downgrade in its credit rating. Thus, lowering the minimums should have no effect on actually held levels – all that will happen is that reported regulatory capital ratios will rise. The reverse is not true, however. Any significant increase in regulatory minimums may cause some banks to raise actual capital levels to preserve at least part of the cushion the banks had maintained over minimum requirements. Such increases, if sufficiently high, could begin to affect loan pricing. Thus, regulators should err on the side of somewhat lower overall minimum requirements. This caution, as indicated above, is especially relevant in the U.S., which in January of 2002 acted to increase effective required minimums through the imposition of a new set of rationalized rules for securitization capital.

3. *The Agencies are interested in comment on the extent to which alternative approaches to regulatory capital that are implemented across national boundaries might create burdensome implementation costs for the U.S. subsidiaries of foreign banks. (P. 17)*

No comment.

4. *The Agencies seek comment on whether changes should be made to the existing general risk-based capital rules to enhance their risk-sensitivity or to reflect changes in the business lines or activities of banking organizations without imposing undue regulatory burden or complication. In particular, the Agencies seek comment on whether any changes to the general risk-based capital rules are necessary or warranted to address any competitive equity concerns associated with the bifurcated framework. (P. 18)*

See comment under no. 2.c., above.

5. *The Federal Reserve specifically seeks comment on the appropriate regulatory capital treatment for investments by bank holding companies in insurance underwriting subsidiaries as well as other nonbank subsidiaries that are subject to minimum regulatory capital requirements. (P. 19)*

No comment. Individual members of the RMA Capital Working Group will be responding.

6. *Given the general principle that the advanced approaches are expected to be implemented at the same time across all material portfolios, business lines, and geographic regions, to what degree should the Agencies be concerned that, for example, data may not be available for key portfolios, business lines, or regions? Is there a need for further transitional arrangements? Please be specific, including suggested durations for such transitions.*

Do the projected dates provide an adequate timeframe for core banks to be ready to implement the advanced approaches? What other options should the Agencies consider?

The Agencies seek comment on appropriate thresholds for determining whether a portfolio, business line, or geographic exposure would be material. Considerations should include relative asset size, percentages of capital, and associated levels of risk for

a given portfolio, business line, or geographic region. (P. 20)

a) Some business lines clearly are problematic in the sense that individual core banks do not have sufficient historical loan performance data to validate parameter estimation processes for these lines. The degree to which this is the case will differ across banks and across products. For example, very low risk lines will have very few observable defaults as the basis for PD or LGD estimation. Internal operational risk data is another such arena. Thus, transitional arrangements might differ bank to bank. In general:
    - There should be a push-back in starting date equal to the amount of time after 12/31/03 that the U.S. finalizes its rule.
    - Each core bank should be able to work with supervisors to have a staggered start time (after the pushed back time) for certain business lines for which there exist data problems that cannot be solved by, for example, purchasing vended PD or LGD models or outside databases. Such lines might have to temporarily rely strictly on external data, including aggregated data, rather than the individual loan level data that drives risk measurements in other lines of business.
    - Each core bank should be permitted to use a Basel Standardized capital allocation for those business lines that are in a transition – again, as determined by supervisory review.
    - Standards of materiality could be treated under Pillar 2, rather than be hard-wired. The standard GAAP rule of 10% of Total Assets might be a starting point, but flexibility is required. For example, a bank with a business line that is x% of assets now, may nevertheless intend to phase out the line – a hard-wired materiality test of x% would require this bank to allocate resources to estimating PDs and LGDs for which there is no long-run use.
    - We see no reason for having different historical data requirements for different business lines or for different types of risk parameter (e.g., PD versus LGD). Five years of data for everything would seem an appropriate minimum standard after the transition period. Also, we wish to remind supervisors of the inappropriate conclusions that may be drawn from especially long time-series (See question number 16, response e), below). Too long a time series may be as inappropriate as too short a time series when it comes to estimating the *current* portfolio loss distribution for the next one-year horizon.
    - The ANPR appears to omit a *data* transitional period as provided for in CP3, implying that the 5 years of data (or 7 years) are necessary at the beginning of the parallel calculation period. For some business lines, gathering of data retroactively is simply not possible. Rather, regulators might require, say, at least 2 years of data at the beginning of 2006 (the beginning of the parallel calculation period, assuming no push back), with additional years of data to be added as time progresses. Full implementation with at least 5 years of data would then imply a 3-year transitional period beginning with the start of the

parallel calculation period. This would permit banks to begin compiling data early in 2004 (or later, if the final U.S. implementation plans are delayed beyond the end of this year) on those business lines that have heretofore not been adequately documented. As indicated above, there is no need to have data transitional requirements that differ across lines or across types of risk parameter. Moreover, since data management is the most expensive element of implementing the new Accord, it would be unfair to require banks to begin data compilation before the U.S. has finalized its supervisory guidance procedures. That is, data management contracts with outside vendors, and business plans for internal data management, cannot reasonably be finalized until there is a thorough understanding of the supervisory implementation process.

7. *The Agencies seek comment on the conceptual basis of the A-IRB approach, including all of the aspects just described. What are the advantages and disadvantages of the A-IRB approach relative to alternatives, including those that would allow greater flexibility to use internal models and those that would be more cautious in incorporating statistical techniques (such as greater use of credit ratings by external rating agencies)? The Agencies also encourage comment on the extent to which the necessary conditions of the conceptual justification for the A-IRB approach are reasonably met, and if not, what adjustments or alternative approach would be warranted.*

Should the A-IRB capital regime be based on a framework that allocates capital to EL plus UL, or to UL only? Which approach would more closely align the regulatory framework to the internal capital allocation techniques currently used by large institutions? If the framework were recalibrated solely to UL, modifications to the rest of the A-IRB framework would be required. The Agencies seek commenters' views on issues that would arise as a result of such recalibration. (P. 25)

Our response is contained broadly in the attached paper (Attachment B), "The Measurement of Required Capital versus Actual Capital, the Treatment of Expected Losses and the Loan Loss Reserve, and the Appropriate Soundness Standard Driving Regulatory Capital Minimums." The reader may find the executive summary of that paper useful.

In that paper we point out that neither theory nor practice would support the so-called "EL charge" for capital. Indeed, common practice is to have expected margins cover EL plus a return to capital (due to the need to generate positive Shareholder-Value-Added). Thus, capital is needed only to cover UL. Indeed, any regulatory test that requires expected margins to cover more than EL (as is the case for the FMI test for revolving consumer credits) represents a form of double-counting. That is, the proposed FMI test means that regulators want expected margins to cover all of EL <u>plus</u> a portion of UL – then they want capital to cover all of UL. Note also, that the treatment of EL – with respect to the measurement of required capital -- should have nothing whatsoever to do with the ALLL. Nevertheless, the ALLL generally is large enough to cover EL. Thus,

the ANPR's EL charge represents effectively a "triple coverage" of EL – margins cover EL, the ALLL covers EL, and capital covers EL.[3]

The attached paper discusses not only the measurement of required capital, but also the definition of actual capital. In this regard, the ALLL should be treated as Tier 1 capital, because this would transform Tier 1 capital into a fairly close analogue to mark-to-market equity of the bank – the "real" capital that should be compared to the required capital computed via the regulatory risk functions.

Finally, the paper notes that the new Accord's arbitrary setting of minimum Tier 1 requirements equal to one-half of "loss at the confidence interval" (i.e., one-half of the Total Capital requirement) may result in an insufficient minimum "real" capital requirement for banks with risky portfolios. At the same time, the arbitrary "well-capitalized" Total Capital requirement in the U.S. is beyond any reasonable minimum soundness requirement. Thus, while the proposed new Accord stems from a well-thought-out set of credit risk and operational risk processes (couched in terms of loss distributions), what Basel (and the ANPR) does with those carefully calibrated risk functions is well less than satisfactory. The attached paper suggests specific changes that would keep all of the underlying risk measurement framework – and, therefore, could be accomplished quickly – but would result in a much stronger minimum "real" capital requirement and, corresponding, a somewhat lower well-capitalized Total Capital requirement.

8. *The Agencies seek comment on the proposed definition of wholesale exposures and on the proposed inputs to the wholesale A-IRB capital formulas. What are views on the proposed definitions of default, PD, LGD, EAD, and M? Are there specific issues with the standards for the quantification of PD, LGD, EAD, or M on which the Agencies should focus? (P. 29)*

a) Definition of default. The definition of default outlined in CP3 and the ANPR should be simplified to correspond more closely to what is commonly used by risk practitioners. That is, loans that fall under the corporate and specialized lending models should utilize a default definition that coincides solely with the incidence of non-accrual or charge-off status (thus excluding the 90 days past due and other isolated conditions present in the Accord's current definition). Loans that fall under the retail model should utilize a definition of default that coincides with the Uniform Retail Credit Classification standards published by the FFIEC.

With respect to retail lending, the ANPR presents an updated point of view from the U.S. banking supervisors that the FFIEC definitions of loss recognition for retail credit will prevail. However, the ANPR goes on to state that retail default will also include the occurrence of any of the following events: 1) full or partial charge-off; 2) a distressed restructuring or workout involving forbearance and loan modification; or 3) notification that the obligor has sought or been placed in bankruptcy. The retail charge-off and bankruptcy conditions are addressed in the FFIEC guidelines, and, as such, would

[3] On October 11, 2003, the Basel Committee issued a press release in which a "compromise" treatment of the EL charge was described. This new treatment clearly is also not consistent with best practice as described above, but the RMA Capital Working Group will be responding to the new proposal by the required deadline of December 31, 2003.

be appropriately triggered as defaults by those procedures. However, the distressed restructuring criterion is outside of the scope of FFIEC and should be excluded from the Basel definition of default.

Our comments here will address primarily the application of the default definition to corporate and specialized lending portfolios. We are concerned that, in the absence of moving the default definition for wholesale loans to be based solely on the occurrence of non-accrual or charge-off status, core banks will be forced to track two separate measures of default – one for internal risk assessment and a second for regulatory capital purposes. This would be a costly exercise, but one without much impact on risk measurement. This is because the ultimate measurement of risk is the loss distribution, and shifting the default definition in incremental amounts will only serve to shift the mix of PD and LGD in an offsetting fashion. The impact on measured economic capital will be minimal.[4]

Non-accrual status already subsumes the more detailed definitions of default. Generally, an asset is placed on non-accrual when it is 90 days past due or when reasonable doubt exists about a loan's collectibility. And a declaration of bankruptcy would almost certainly trigger the condition of reasonable doubt regarding collectibility. An exception to these general rules occurs when a loan is well secured and in the process of collection, in which case it will not necessarily be placed on non-accrual status. However, this exception only applies in limited situations. To be "well secured," the asset must be secured by lien or pledge of collateral with realizable value sufficient to fully meet the obligation or guaranteed by a financially responsible party. An asset is in the process of collection if the collection through legal or other means is in due course. Generally, an asset can only remain in that status for 30 days unless it can be demonstrated that the amount and timing of the payment is sufficient and reasonably certain.

There are significant internal controls, internal audits, external audits and supervisory processes to ensure that non-accrual and charge-off policies are applied correctly. These policies, which govern whether banks continue to recognize income on their financial statements, should be sufficient to satisfy the Basel definition of default. The broader IRB definition of default, which includes bankruptcy, selling at a loss, distressed restructuring (either wholesale or retail), and 90 days past due, is likely to arrive at virtually the same overall conclusion regarding the frequency of defaults, once consideration is given to materiality and purely technical defaults are excluded.

The U.S. banking supervisors seem overly concerned regarding the potential for "silent defaults" -- that is, instances where the well secured and in-the-process-of-collection exceptions to non-accrual policies are triggered. Capturing these data would be a meaningless exercise for two reasons. First, these are exceptions in practice precisely because there is a strong expectation of zero loss. Second, as we previously

[4] Indeed, making the definition of default more stringent will increase measured PDs, while lowering measured LGDs. That is, if more loans are included within the defaulted condition (loans that do not go into non-accrual), many such loans are likely to be resolved with low or no losses. Thus, the more stringent the default measure, the lower will be historically observed LGDs within any loan segment. Within the context of the new Accord's capital models, for any given EL, a higher PD and a lower LGD will result in a somewhat lower EC measurement. Thus, even if the regulators wished to arbitrarily add a measure of increased "conservatism" by requiring a more stringent default definition, the result would likely be marginally *lower* regulatory capital requirements.

stated, the net result of tagging such events as "defaults" would be negligible, since increased PD estimates would be offset by lower LGD estimates.

The same thought process around silent defaults also seems to have driven the additional criterion to include loan sales at material credit related discounts as defaulted assets. We oppose this criterion on both practical and conceptual grounds. Loan sales are a part of the portfolio management function. Portfolio management strategies differ significantly across banks, with some institutions being much more active than others. Even within a single institution, loan sale strategies will vary across time depending on overall balance sheet management and liquidity issues. Clearly, including performing loan sales in the definition of default would introduce comparability problems. Further, discounts on loan sales can be due to a variety of factors unrelated to credit quality, such as interest rates, liquidity, or technical supply and demand issues. It would be quite difficult, and ultimately arbitrary, to disentangle these effects.

Finally, on a more fundamental level, the loss in a loan's value due to credit deterioration is migration risk and not default risk. Migration risk is already included in the Basel framework through the maturity adjustment portion of the IRB formula. To be consistent with the derivation of the IRB formula, the default probability that is estimated should not be artificially inflated for downgrades, and then only for those that are "realized" through discretionary loan sales. Such treatment could create perverse incentives for bank credit portfolio management and actually add to risk in the portfolio.

One final issue is the interplay between the definition of default and paragraph 366 of CP3, which prescribes that banks must have one point on their borrower rating scales that is reserved solely for defaulted loans. We see no reason why it should be necessary to create a risk rating bucket that, by design, has a 100% PD, so long as a bank would always be able to identify what the actual default rate is for each of its rating buckets. While it is highly likely that defaulting borrowers would congregate at the lower end of a rating scale, we do not think that a unilateral default rating construct should be prescribed for banks. However, the mandate for a single default bucket becomes a potentially more important issue when added to the fact that we disagree with the proposed definition of default in the first place. Without some change in the default definition, banks would be faced with the unnecessary cost of actually creating parallel risk rating methodologies – one for internal risk assessment and a second for regulatory capital purposes, with no value added to the risk management process, and, indeed, the potential to create confusion among those responsible for identifying and managing risk in the portfolio.

b) LGD quantification should not be "recessionary-only" in the context of an exceptionally high confidence interval (even before application of the arbitrary U.S. "well-capitalized" multiplier). See the paper attached as Attachment B. If the U.S. insists on this approach for LGD estimation, then the confidence interval should be lowered accordingly, to reflect a lower soundness standard (higher observed default rates for firms of all ratings) during recessions. We believe that a new QIS 4 would show a dramatic increase in regulatory capital (relative to QIS 3) associated with the use of a stressed LGD. But such a QIS 4 would slow down the implementation process. Rather, we believe that LGD should be estimated using a "default-weighted" process that is naturally weighted toward periods with high defaults. Stressed parameters such as

recessionary PDs and recessionary LGDs should be used in stress analyses that are part of the bank's and the supervisors' oversight of the reasonableness of internal capital policies.

c) PD quantification should be best-estimate, not best-estimate plus an arbitrary add-on for "conservatism." Not only is such an add-on incorrect in the sense of best-practice, it would be totally subjective.

9. *If the Agencies include a SME adjustment, are the $50 million threshold and the proposed approach to measurement of borrower size appropriate? What standards should be applied to the borrower size measurement (for example, frequency of measurement, use of size buckets rather than precise measurements)?*

Does the proposed borrower size adjustment add a meaningful element of risk sensitivity sufficient to balance the costs associated with its computation? The Agencies are interested in comments on whether it is necessary to include an SME adjustment in the A-IRB approach. Data supporting views is encouraged. (P. 33)

There is an analytical reason for the inclusion of the SME Adjustment for the Basel wholesale business loan model. Specifically, firm size is likely to be a determinant of AVC. All things equal, larger firms' asset values should be more sensitive to the systemic risk factor, while smaller firms' asset value volatilities are likely to be more idiosyncratic in nature. For this reason, AVCs arguably should be lower for smaller firms.[5] Some observers believe that, within the ASRF model used by Basel, this size-AVC relationship should replace the current PD-AVC relationship (for obligors of all sizes). Others, however, believe that, quite apart from the size-AVC relationship, AVCs should decline as PD rises. Implicit in this latter belief is the notion that managers of high PD firms (for a given size) may seek to alter their own portfolio composition toward having a greater idiosyncratic risk factor component – because the call option represented by the equity of such a high PD firm is closer to being "out of the money".

Only as more research is developed will these two views be reconciled. Indeed, a single risk factor model is not likely to reflect all of the nuances of the multi-factor models used at some large, complex banks. However, until such time as regulators become comfortable with a full internal models approach, the ASRF approach of Basel II is acceptable, especially given its simplicity of operation. Moreover, the AVCs used within the Basel wholesale model are reasonably close to the implied AVCs estimated from the industry median ECs at each PD level.[6] Individual bank practices, of course, will utilize differing AVCs than those used by Basel within the wholesale commercial loan model. For the reasons above, the addition of the proposed SME adjustment (for "wholesale" loans), and a separate PD/AVC relationship for "small business" loans that are managed as retail obligations, are complications that, while not necessarily consistent with best-practice industry views, do not do gross injustice to best-practices. Therefore,

[5] Empirical evidence, moreover, exists to support this view. See, for example, Jose Lopez, "The Empirical Relationship Between Average Asset Correlation, Firm Probability of Default and Asset Size," Federal Reserve Bank of San Francisco, June 2002.

[6] See various RMA papers dealing with best-practice EC estimation for commercial lending, at www.rmahq.com.

regulators might address the size/AVC issue more fully within the next iteration of Basel II.

Nevertheless, the size-AVC relationship within commercial lending is generally accepted by practitioners, and we would prefer treating the issue sooner rather than later. There are several options: First, regulators could replace the SME adjustment with a continuous size-based determination of AVC after consultation with the industry. Second, regulators might institute a simple 3-tiered system for small, medium, and large size corporate borrowers. This system would have lower AVCs for the medium size firms versus large firms, and lower AVCs for small firms versus medium size firms. Reasonable cut-off points for the 3 size buckets might consist of annual sales # $10mm (for the "small" firm bucket), sales # $500mm (for the "medium" firm bucket), and sales greater than $500mm for the "large" firm bucket. Within each of these 3 buckets, AVC could be made a decreasing function of PD insofar as regulators adhere to the argument described above with regard to a possible PD-AVC relationship. A third option is simply to increase the boundary of the SME adjustment from $50mm in revenues to, say, $100mm.

10. *The Agencies invite comment on ways to deal with cyclicality in LGDs. How can risk sensitivity be achieved without creating undue burden? (P. 34)*

As indicated in our paper attached as Attachment B, we do not believe that cyclicality in minimum regulatory capital requirements is a problem, so long as minimum regulatory capital is somewhat below best-practice economic capital. Banks will have to maintain a cushion over regulatory minimum capital, and so long as this cushion is not eliminated by too-high regulatory capital, the cushion can decline during recessions and increase during booms.

However, regulators have expressed a desire for stable regulatory capital estimates and, in particular, for the use of a single LGD estimate, not point-in-time-varying LGD estimates. We agree, but must point out that, a default-weighted LGD is much preferable to a recession-only LGD (since the latter would guarantee that regulatory capital is too high during the non-recession portion of the cycle). Conversely, as indicated elsewhere, if regulators insist on a recession-only LGD, then this should be accompanied by the use of a lower confidence interval (one reflecting the higher default probabilities observed in a recession). The combination of a recessionary-LGD coupled with a high confidence interval, however, would result in regulatory capital that is far too conservative (and significantly above the results shown in QIS 3).

11. *The Agencies invite comment on the merits of the SSC approach in the United States. The Agencies also invite comment on the specific slotting criteria and associated risk weights that should be used by organizations to map their internal rating grades to supervisory rating grades if the SSC approach were to be adopted in the United States. (P. 34)*

The SSC approach is at odds with the general philosophy of the AIRB approach, which calls for banks to make best-practice estimates of PD and LGD for use within a regulatory loss distribution model. We can understand the desire for regulators to impose

relatively high capital requirements in cases where a bank does not have a good estimate of PD, etc. However, the capital allocations assigned to the Supervisory Slots are very high relative to those assigned internally[7] or to those associated with the Basel AIRB capital model, and they appear to be arbitrary. Therefore, if regulators decide to keep the SSC approach, they should use particular regulatory assumptions with regard to PD and LGD for each of the "slots." This would result in greater transparency with regard to how the regulatory risk weights are chosen for each slot – and, we believe the resulting dialogue would result in reduced capital charges for each slot (albeit still higher than those associated with the AIRB capital model in the case where the bank *does* have good PD and LGD estimates). As a practical matter, however, we would expect few if any of the RMA Capital Working Group banks to use the SSC approach.

12. *The Agencies invite the submission of empirical evidence regarding the (relative or absolute) asset correlations characterizing portfolios of ADC loans, as well as comments regarding the circumstances under which such loans would appropriately be categorized as HVCRE.*

The Agencies also invite comment on the appropriateness of exempting from the high-asset-correlation category ADC loans with substantial equity or that are pre-sold or sufficiently pre-leased. The Agencies invite comment on what standard should be used in determining whether a property is sufficiently pre-leased when prevailing occupancy rates are unusually low.

The Agencies invite comment on whether high-asset-correlation treatment for one- to four-family residential construction loans is appropriate, or whether they should be included in the low-asset-correlation category. In cases where loans finance the construction of a subdivision or other group of houses, some of which are pre-sold while others are not, the Agencies invite comment regarding how the "pre-sold" exception should be interpreted.

The Agencies invite comment on the competitive impact of treating defined classes of CRE differently. What are commenters' views on an alternative approach where there is only one risk weight function for all CRE? If a single risk weight function for all CRE is considered, what would be the appropriate asset correlation to employ? (P. 36)

As indicated in our recent survey of best practices with regard to SL, banks tend to assign higher AVCs to SL activities of all types vis a vis ordinary commercial loans.[8] To some extent this is due to the implicit assumption of correlation between PDs and LGDs, which in the ASRF model can be treated simply as requiring higher AVCs for SL activities. ADC loans might attract higher AVCs than other SL activities, but research into the implied AVCs associated with such loans is in its infancy. Indeed, our recent study of SL activities was not able to identify differences in AVCs between and among various types of SL activities. Thus, as matters now stand, there is little or no empirical evidence that supports AVC differentiation among types of SL activities – and even the assumption of higher AVCs for CRE than for "ordinary" commercial loans can be

[7] See RMA paper, "Measuring Credit Risk and Economic Capital in Specialized Lending Activities – Best Practices," March 2003.
[8] Op cit., p. 12

questioned.[9] Therefore, regulators should proceed cautiously in choosing AVCs for SL activities.

An appropriate approach might be to make distinctions between CRE loans that are in the construction/absorption stages versus "stabilized" loans that are sufficiently rented up or sold out. The qualitative argument for applying higher AVCs to such loans is that renters' or buyers' decisions to occupy *brand-new* facilities, which generally are more expensive than older facilities, may be more affected by macro or regional economic prospects than are decisions to change locations between one mature property and another such property. However, on simple cost-efficiency grounds, we would want to guard against installing a regulatory-capital bucketing process that differs from internal risk management distinctions. For internal purposes, banks might look at variables such as the number of months the debt-service coverage ratio exceeds some threshold (such as a DSCR of 1 or more), or whether the loan qualifies for take-out financing. Unfortunately, these distinctions vary considerably across banks, whereas we need to find a "high-volatility" distinction, for regulatory purposes, which is easy to implement. The simplest such distinction might be simply to define as HVCRE any loan that is bucketed into the "Real Estate Construction Lending" line on the Call Report. While such a broad distinction will surely be an oversimplification, we should remember that the HVCRE asset-value-correlations chosen by Basel are not dramatically different from the C&I AVCs. Thus, the difference in calculated regulatory capital will not be extremely large except for the most specialized of lenders. Once the construction/development loan has stabilized to the point where it is no longer a "construction" loan, the C&I AVCs would apply.

The regulators might also consider treating permanent multi-family loans on "stabilized" properties with lower AVCs than under the C&I model. Once a multi-family property is sufficiently rented up or sold out, the performance of the loan is likely to be more influenced by idiosyncratic conditions rather than broad regional or macro conditions. For example, the move of an employer to another town might affect rental rates in a property close to the original location of the employer. It is also likely to be the case that the average size of multi-family-loans is smaller than other CRE – and common wisdom is that the smaller the size of the "obligor" the lower is the AVC. For these reasons, at least until further industry research is conducted on the level of implied AVCs for multi-family loans, regulators might assign stabilized MFL to the SFR AVC category instead of the C&I category.

13. *The Agencies are seeking comment on the wholesale A-IRB capital formulas and the resulting capital requirements. Would this approach provide a meaningful and appropriate increase in risk sensitivity in the sense that the results are consistent with alternative assessments of the credit risks associated with such exposures or the capital*

[9] See FRB paper on CRE credit risk, Loss Characteristics of Commercial Real Estate Loan Portfolios, Bradford Case, June 2003. In questioning the conclusions of recent empirical research utilizing time series data on portfolio performance, Mr. Case states that "More generally, (the conflicting results) suggest a need for caution regarding the interpretation of asset-correlation estimates that are based on the historical performance of portfolios whose composition and risk characteristics vary substantially over time."

needed to support them? If not, where are there material inconsistencies?

Does the proposed A-IRB maturity adjustment appropriately address the risk differences between loans with differing maturities?(P.37)

a) The proposed formulae result in a reasonable representation of the relative risk of positions with varying PDs and LGDs and, further, the resulting absolute capital requirements are more in line with internal best-practice than are the retail capital requirements. Other issues, such as the EL/UL treatment and the issue of varying AVCs according to firm size versus PD, have been treated above.

b) The proposed adjustments for maturity are generally in line with best practice except for the treatment of very short-term maturities under one year. As indicated in our response to CP3:

"There are two broad analytical issues associated with short-dated facilities. First, if an obligor has a given probability of default over, say, the next quarter, the cumulative probability of default over 4 quarters, even assuming no credit quality deterioration, must be higher than the one-quarter probability of default. Unexpected loss (capital) therefore must be less for the short-dated facility. Implicit in this conclusion, of course, is the requirement that the bank have the unquestioned right not to renew the facility at the end of the current term. Also implicit in this conclusion is that a real credit review takes place on or before the time of deciding whether to renew the facility. If such a right exists, and if the credit review suggests that a deterioration in credit quality has taken place, then the bank can simply close out the facility and reinvest the proceeds in, say, another short-dated facility with the same credit quality as was originally the case.

Second, economic loss in a short-dated facility is associated generally with default, not with credit migration. That is, if the rating on a short facility declines, the bank clearly can wait a few days or weeks to close out the facility at par, rather than sell the loan at a discount, as would be the case with a longer maturity. Economic Capital refers to a loss distribution over a specific, chosen horizon. Therefore, so long as the bank can close out the facility without default before the horizon, no economic loss occurs if the credit's rating falls significantly. The M factor in the Basel II commercial loan equation exists largely to accommodate the possibility of mark-to-market (MTM) losses that occur at the chosen horizon. If the remaining maturity exceeds the horizon of one year, default might be avoided at the horizon, but credit risk migration might have taken place and the MTM value of the credit may have declined at the horizon.

The majority of our banks believes that, for these two reasons, the proper treatment of all short-dated facilities – including short facilities with original maturities of any length – is to reduce the effective PD from the one-year PD, down to very near zero for one-day facilities. These reduced PDs would be measured relative to the estimated one-year PD – but the M factor in the capital equation should remain at unity. That is, the capital equation itself would have no maturity adjustment, just a downward adjustment for the lower effective default probability. We believe that a downward (below a year) maturity adjustment would be "double-counting" in that there should be no greater "mark-to-market" benefit than elimination of the maturity effect. Put another way, facilities less than a year, when coupled with a one-year horizon, can suffer only default-related losses but do not somehow gain additional "benefit" from not being exposed to MTM losses."

For these reasons, we believe that a PD adjustment for all maturities under one year is appropriate, and that the specific form of the adjustment is best and most easily made by employing the equation suggested in our response to CP3:

(1) $PD_t = 1 - \exp(\ln[1-PD_1]t)$,

Where t = maturity of the short-dated facility expressed in years, and PD_1 is the one-year horizon PD estimated by the bank for the obligor.

14. *The Agencies are interested in comment on whether the proposed $1 million threshold provides the appropriate dividing line between those SME exposures that banking organizations should be allowed to treat on a pooled basis under the retail A-IRB framework and those SME exposures that should be rated individually and treated under the wholesale A-IRB framework. (P. 38)*

As indicated above, there are several possible treatments of firm size that would be consistent with the diversity of best practice. A specific size-related AVC function for all business loans would therefore be preferable to the 3-part treatment of business size within the ANPR. In any event, the choice of AVC should not be related to how the bank "manages" its portfolio of small versus large business loans (i.e., AVCs should not be related to whether the bank manages a small business loan portfolio in a manner that is similar to retail loans).

If, however, regulators wish to retain the "small-business-as-retail" category, the demarcation line between SME exposures treated as retail and those treated as wholesale could reasonably be certified under Pillar 2. rather than hard-wired under Pillar 1. Each bank would be required to show whether and how it manages certain SME exposures as relatively homogeneous "retail" assets. A hard-wired rule such as $1million may become quickly outmoded, either due to inflation or due to the way in which risk management and measurement is carried out at individual best-practice banks. For example, a particular bank may manage "retail" SME exposures up to, say, $2.5 million by rigorously applying scoring methods and estimating implied AVCs for this managed portfolio of loans – AVCs that differ from those used in its wholesale business. As risk measurement and management methods improve over time, the cut-off might increase as "retail-like" risk measurement and management practices become applied to ever-larger exposures.

15. *The Agencies are interested in comments and specific proposals concerning methods for incorporating undrawn credit card lines that are consistent with the risk characteristics and loss and default histories of this line of business.*

The Agencies are interested in further information on market practices in this regard, in particular the extent to which banking organizations remain exposed to risks associated with such accounts. More broadly, the Agencies recognize that undrawn credit card lines are significant in both of the contexts discussed above, and are particularly interested in views on the appropriate retail A-IRB treatment of such exposures. (P. 41)

We agree that there is some credit risk exposure associated with undrawn retail lines of credit. The most used and straightforward method for dealing with such risk is to estimate exposure-at-default (EAD) from historical data, then apply one of the acceptable credit risk modeling techniques to estimate the loss distribution to be applied to that

EAD. This is the approach chosen by Basel, in that PDs and LGDs are estimated separately for each defined segment of the retail portfolio, then regulatory capital is assigned based on regulatory-chosen AVCs and bank-estimated EADs.

We recognize, however, that some practitioners use an EL approach to estimating credit risk of such accounts, including undrawn lines. The new Accord should be flexible enough to allow such practices to continue, especially as it regards *internal* EC estimation. The necessary tools for estimating the PDs, LGDs, and EADs that are required as inputs into the regulatory ASRF model can be derived from EL approaches, but not without additional costs that, from the bank's perspective, serve no business purpose. Therefore, regulators should be flexible and liberal in the manner in which, from a supervisory guidance point of view, internal processes for estimating PD, LGD, and EAD are approved for use in the Basel models.

16. *For the QRE sub-category of retail exposures only, the Agencies are seeking comment on whether or not to allow banking organizations to offset a portion of the AIRB capital requirement relating to EL by demonstrating that their anticipated FMI for this sub-category is likely to more than sufficiently cover EL over the next year.*

The Agencies are seeking comment on the proposed definitions of the retail AIRB exposure category and sub-categories. Do the proposed categories provide a reasonable balance between the need for differential treatment to achieve risk-sensitivity and the desire to avoid excessive complexity in the retail A-IRB framework? What are views on the proposed approach to inclusion of SMEs in the other retail category?

The Agencies are also seeking views on the proposed approach to defining the risk inputs for the retail A-IRB framework. Is the proposed degree of flexibility in their calculation, including the application of specific floors, appropriate? What are views on the issues associated with undrawn retail lines of credit described here and on the proposed incorporation of FMI in the QRE capital determination process?

The Agencies are seeking comment on the minimum time requirements for data history and experience with portfolio segmentation and risk management systems: Are these time requirements appropriate during the transition period? Describe any reasons for not being able to meet the time requirements. (P. 42)

a) As indicated above, *expected* margins must at least cover *expected* credit and operating losses for all forms of credit, not just qualifying revolving retail credits. If this is not so, the bank is engaging in an inappropriate pricing strategy. Thus, capital should cover only UL, not EL plus UL. We have addressed this issue at length in the attachment to this response. As shown in that document, <u>actual realized</u> margins, even during a 99.9% loss event, tend to cover not only expected losses but a significant portion of unexpected losses as well. But that is not the point. Rather, the ANPR as now written, <u>requires</u> banks to have expected future margins cover all of EL plus a portion of UL – then capital must also cover <u>all</u> of UL. This is a form of double counting (with regard to the "coverage" of UL) that is arbitrary. Moreover, this FMI test is, as now written, to apply only to revolving retail credits. Capital should cover UL, not UL plus EL, for *all* credit products. Then,

within the Pillar 2 process, supervisors can satisfy themselves that the bank's pricing policies are appropriate (i.e., that Shareholder-Value-Added equations are being appropriately utilized). There should be no FMI test within Pillar 1 at all.

If accounting policy requires that reserves also cover EL, then the current proposal in the ANPR amounts to *triple* coverage of EL – margins cover at least EL, reserves cover EL, and capital covers EL (except for QRE). We recognize that the accounting treatment of reserves in the U.S. might change, but whether or not it changes, we believe that required capital should be measured to exclude EL, while actual capital (Tier 1) should be redefined to include at least the general portion of reserves. See attached issues paper (Attachment B).

b) We agree generally with proposed definitions of the retail sub-categories, but wish to note that, in future iterations of the U.S. regulatory policy, capital for HELOCs and other home equity loans should not be the same as capital for residential mortgages. In particular, we believe that the AVCs for home equity loans should be more in line with other retail or cards, and should be afforded a separate category. Moreover, the regulatory AVCs used for mortgages were set high, to a significant extent, to account for the long maturities of such instruments. Home equity loans typically have much shorter maturities. The industry is continuing to engage in research on this AVC issue. However, we are not asking that the implementation of Basel II be slowed down to accommodate this research; rather, regulators should be willing to review any new evidence as it becomes available.

c) In general, the AVCs chosen by Basel for the 3 categories of retail credits are too high – significantly higher than the median implied AVCs used within industry best-practice EC models.[10]

d) As indicated above, the definition of default used within retail categories should align with reporting practices of banks. Thus, the FFIEC standard should be used without embellishment. Moreover, any arbitrarily more stringent definition of default will be confusing and costly, and will result in somewhat lower regulatory capital minimums (see footnote 1 above).

e) The proposed approach to estimating the inputs to the regulatory retail capital models is generally appropriate. However, no floors should be placed on any estimated parameter input. For example, for single-family residential loans (SFRs), high quality loans with low loan-to-property-values (LTVs) and/or private mortgage insurance (PMI) may have estimated LGDs that are essentially zero. The proposed 10% floor on LGDs is simply another example of arbitrary and cumulatively conservative rules that serve to negate the usefulness of the economic capital framework. Rather, the appropriateness of PD, LGD, and EAD estimates is strictly a Pillar 2 issue. That is, the supervisors retain the ability under Pillar 2 to require any AIRB bank to use a higher PD or LGD input into the regulatory capital models than the bank would use in the absence of supervision. Arbitrariness in such bank-by-bank

[10] See "Retail Credit Economic Capital Estimation – Best Practices," RMA, February 2003.

requirements is no more supportable than arbitrariness applied to *all* banks within Pillar 1.

We also wish to point out that actual implementation by banks of some of the data gathering aspects of risk measurement for retail products cannot begin in earnest until the regulators release their supervisory guidance document regarding retail credits. In particular, finalization of plans to install new, costly MIS procedures cannot take place, until more specifics are provided. For this reason we urge U.S. regulators to complete the retail supervisory guidance proposals as soon as practicable.

f) The minimum historical requirements for loss data are reasonable. However, we wish to remind regulators that current practice and portfolio composition may negate the usefulness of historical data as the length of the historically observed period increases. While recession versus boom loss data, for example, are quite useful and should be included in the process of estimating the required inputs, it is possible that the experience of any boom or recession in the far past is irrelevant to today's underwriting, grading, and portfolio management practices. A good example is found in the very dramatic differences in tax law and individual bank underwriting practices as they pertain to commercial real estate lending in the late 1980's versus today. Recession loss rates experienced in the late 1980's were not repeated in the recent recession, and are highly unlikely to be repeated in future recessions. In the same vein, the shape of the tail of the loss distribution for the current portfolio may be quite different from that of past portfolios. In particular, historical volatilities in loss rates for past portfolios <u>are highly unlikely to be repeated in current portfolios</u> – volatility may be higher or lower due to changes in portfolio mix, changes in the true underlying AVCs, or for other reasons. It is therefore likely that future best practice, for certain product areas, will be to completely ignore experience in the far distant past. The Pillar 2 process should be cognizant of this issue.

The requirement for 3 years worth of experience with the segmentation and risk management systems are too stringent, especially since the agencies have not yet published supervisory guidance for retail credit risk. We recommend that this requirement be softened.

17. *The Agencies seek comment on the competitive implications of allowing PMI recognition for banking organizations using the A-IRB approach but not allowing such recognition for general banks. In addition, the Agencies are interested in data on the relationship between PMI and LGD to help assess whether it may be appropriate to exclude residential mortgages covered by PMI from the proposed 10 percent LGD floor. The Agencies request comment on whether or the extent to which it might be appropriate to recognize PMI in LGD estimates.*

More broadly, the Agencies are interested in information regarding the risks of each major type of residential mortgage exposure, including prime first mortgages, subprime mortgages, home equity term loans, and home equity lines of credit. The Agencies are aware of various views on the resulting capital requirements for several of

these product areas, and wish to ensure that all appropriate evidence and views are considered in evaluating the A-IRB treatment of these important exposures.

The risk-based capital requirements for credit risk of prime mortgages could well be less than one percent of their face value under this proposal. The Agencies are interested in evidence on the capital required by private market participants to hold mortgages outside of the federally insured institution and GSE environment. The Agencies also are interested in views on whether the reductions in mortgage capital requirements on mortgage loans contemplated here would unduly extend the federal safety net and risk contributing to a credit-induced bubble in housing prices. In addition, the Agencies are also interested in views on whether there has been any shortage of mortgage credit under the general risk-based capital rules that would be alleviated by the proposed changes. (P. 44)

a) PMI is not the issue in itself, but rather the appropriateness of the estimated LGD. For example, a mortgage with no PMI but with a 50% LTV may have a lower LGD than a mortgage with a small amount of PMI but with a 95% LTV. No mortgage – indeed no loan of any type – should have an arbitrary LGD floor. Rather, the Pillar 2 process should check to see that the LGD estimation process is reasonable within the individual bank. Generally, a well-founded LGD estimation process for SFRs should take account of PMI *and* LTV, as well as several other independent variables. Hardwired rules within Pillar 1 only serve to obscure the underlying risk parameter estimation process.

b) As indicated earlier, we believe that the regulatory AVCs should be adjusted downward for SFRs and home equity loans – but this concern is no less pressing than getting the fundamentals right, including the treatment of EL/UL. As more research is conducted on implied AVCs, regulators and/or the industry may be persuaded to change their current views. No one is suggesting that the AVCs being proposed by Basel are beyond all reason. Nor is complete consensus on the level of these AVCs ever likely to be achieved. Indeed, evidence of a healthy research environment is found in a continual diversity of views – so long as such views are not based on arbitrary notions of risk.

c) We believe that economic capital for prime mortgages is quite a bit below the old Accord and, probably, somewhat below the current proposal. In the past, this discrepancy was one of the drivers of private mortgage securitization activities that served to act as a form of "good" regulatory capital arbitrage – arbitrage meant to evade arbitrarily high capital requirements. As a practical matter, arbitrage possibilities had served to assure that the old Accord was not "binding". Thus, there was no shortage of mortgage capital as the result of the old Accord. There couldn't be – the old Accord, while arbitrary, had no teeth for the banks that could use securitization to engage in avoidance.

   Today, however, U.S. banks are subject to new securitization capital rules that diminish the ability of mortgage lenders to engage in the avoidance of arbitrarily high capital rules. It is therefore critical that price setters (e.g., large complex banks) not be saddled with binding capital requirements that result in them having to reduce their supply of mortgage funds. Making sure that real

capital requirements are not above internal EC requirements is sufficient to eliminate this danger. Further, the notion that reductions in minimum capital requirements would somehow "extend the federal safety net" or contribute to a credit-induced bubble in housing prices are – like the concerns over the possible procyclicality of capital rules – misplaced, so long as the regulatory capital minimums are not binding within the pricing equations of price leaders. Regulatory capital that is set too low only results in a minimum soundness requirement that is too low. Does anyone believe that, in the absence of *any* regulatory capital minimum, bankers would set spreads on prime mortgages, or on any other loan type, at zero? In the presence of the safety net, the cost of bank liabilities is undeniably lower than in the absence of the net. But the opportunity cost of mortgage lending is unaffected by bank deposit costs and therefore unaffected by the safety net – and it is the opportunity cost of mortgage funds that is appropriately used within asset pricing equations.

Conversely, regulatory capital that is set so high as to be above best-practice economic capital – in the absence of viable regulatory capital arbitrage opportunities – raises loan prices because bankers subject to the rule must factor in the too-high capital level in their pricing (shareholder-value-added) equations. Banking business decisions should not be affected by bank capital rules. The rules should be there only to assure that a maximum insolvency probability is being met – an insolvency probability that is higher than that desired by the bank or its stakeholders. These issues are discussed at length in the attachment to this response.

18. *The Agencies are interested in views on whether partial recognition of FMI should be permitted in cases where the amount of eligible FMI fails to meet the required minimum. The Agencies also are interested in views on the level of portfolio segmentation at which it would be appropriate to perform the FMI calculation. Would a requirement that FMI eligibility calculations be performed separately for each portfolio segment effectively allow FMI to offset EL capital requirements for QREs? (P. 46)*

As indicated in the attachment, we believe that Pillar 2 should be used to see whether pricing policy appropriately results in expected margins covering expected losses. The "FMI test" as proposed makes no sense – since it results in a conflict between the measured historical loss volatility (never a very good measure of current portfolio risk) and the required return to economic capital (see footnote 3 in the attached paper). The bank is either pricing appropriately or it is not. Moreover, to require expected margins to cover EL plus a portion of UL, then to require capital to cover all of UL, would be a form of arbitrary double-counting with respect to the coverage of UL. To require margins to cover EL, to require capital to cover EL (for other than QREs), and to require reserves to also cover EL is then triple-counting with respect to EL coverage.[11]

Supervisors might check to see if SVA is positive, using a low targeted return to capital. If it is, expected margins must *at least* cover EL. While supervisors have

[11] See footnote 2, above, with regard to the October 11 press release of the Basel Committee concerning a "compromise" treatment of EL.

heretofore not reviewed bank pricing policies, the SVA test would provide a reasonable such review. The proposed FMI test would not. Moreover, the SVA test can be reviewed for all bank loan products not just QREs. If the AIRB bank meets the test, capital should cover only UL, because expected margins more than cover EL. Having only a partial reduction in the "EL charge", for only one kind of loan product, is arbitrary and inconsistent with known risk theory and practice – and it results in regulatory capital being above best-practice EC, even when there is agreement over the level of AVCs.

19. *The Agencies are seeking comment on the retail A-IRB capital formulas and the resulting capital requirements, including the specific issues mentioned. Are there particular retail product lines or retail activities for which the resulting A-IRB capital requirements would not be appropriate, either because of a misalignment with underlying risks or because of other potential consequences? (P. 48)*

As indicated above, the capital formulas for retail products generally are higher than used in best practice banks -- we find the AVCs to be significantly too high for residential mortgages and HELOCs, and modestly high for the other retail products.[12] We again emphasize that additional research can be brought to bear on this issue and that, in the meantime, implementation of Basel II can proceed, so long as regulators remain receptive to empirical evidence proving that changes in the AVCs are needed.

At the same time, there are legitimate differences of opinion regarding whether AVC for retail products should be inversely related to PD, and research in this arena is notably lacking.[13] We therefore have no recommendation regarding the PD-AVC relationship within retail products.

20. *The Agencies recognize the existence of various issues in regard to the proposed treatment of ALLL amounts in excess of the 1.25 percent limit and are interested in views on these subjects, as well as related issues concerning the incorporation of expected losses in the A-IRB framework and the treatment of the ALLL generally. Specifically, the Agencies invite comment on the domestic competitive impact of the potential difference in the treatment of reserves described above.*

The Agencies seek views on this issue, including whether the proposed U.S. treatment has significant competitive implications. Feedback also is sought on whether there is an inconsistency in the treatment of general specific provisions (all of which may be used as an offset against the EL portion of the A-IRB capital requirement) in comparison to the treatment of the ALLL (for which only those amounts of general reserves exceeding the 1.25 percent limit may be used to offset the EL capital charge). (P. 49)

Our response to these questions is contained in the attachment at Attachment B, which deals with the basic definitional and fundamental policy issues surrounding the measurement of *required* capital versus the measurement of *actual* capital. In summary,

---

[12] Op. cit., footnote 7 above.

[13] The recent RMA paper on retail credit EC estimation, shows that the median implied AVCs for a given retail product do not vary significantly with PD. However, these medians tend to be an expression of the individual banks that do not employ an inverse relationship between PD and AVC. We know that some individual survey respondents do in fact utilize such an inverse relationship.

economic capital theory indicates that required capital be measured as UL; actual "real" capital on the books is best approximated by including at least the general portion of reserves within the Tier 1 ratio; and differences across countries in the treatment of specific reserves require that, for simple fairness, all of the ALLL be included within Tier 1. At the same time we believe the Tier 1 required capital level should be increased from a level equal to an arbitrary one-half of loss-at-the-confidence-interval up to a level consistent with a confidence interval that reflects at least a low investment grade rating. All of this is explained in our attachment. In any event, even if our recommendations were rejected, there is no reason to limit the amount of the ALLL that can be included within Tier 2 capital, since the ALLL fulfills the primary purpose of capital – to absorb losses.

21. *The Agencies seek comment on the proposed methods for calculating credit risk capital charges for purchased receivables. Are the proposals reasonable and practicable?*

For committed revolving purchase facilities, is the assumption of a fixed 75 percent conversion factor for undrawn lines reasonable? Do banking organizations have the ability (including relevant data) to develop their own estimate of EADs for such facilities? Should banking organizations be permitted to employ their own estimated. EADs, subject to supervisory approval? (P. 52)

a) The agencies should clarify whether the purchased receivables approach applies to all credit exposures purchased from third parties or a more limited set of transactions of trade receivables.
b) We applaud the flexibility to apply top down methods for purchased exposures. The agencies should include guidance on the calculation methods to ensure comparability across banks.
c) The approach in CP3 applies dollar for dollar capital reduction for the purchase discount. The U.S. agencies are not comfortable with this approach because it would result in a zero capital charge for assets where the discount is equal to or greater than the estimated LGD. In the ANPR, the AIRB formula is applied to the cost basis of the exposures using either bottom-up or top down estimates of the parameters. As a result, the dollar capital charge is reduced only by the amount of the discount times the capital ratio.

   We believe this approach is too conservative and not sufficiently risk sensitive. A better approach would be to scale the LGD in relation to the discount. We recommend a floor of 25% on the scaling factor be set to assure non-zero capital assignments. The following formula could be applied:

   - LGD* = LGD x Max[1 – Discount/LGD, 0.25], where LGD* is the adjusted LGD applied against the cost basis (and LGD on the right-hand side of the function is the estimated LGD for the notional amount of the receivables).

d) If the top-down approach applies to portfolio acquisitions, mergers, whole loan purchases, and secondary market transactions, the qualifying criteria for

this approach are too stringent. In particular, the requirement that the receivables be limited to maturities less than one year, unless fully collateralized, would exclude most retail assets.

e) With regard to estimated EADs, there is no logical reason for separate treatment of committed revolving purchase facilities (i.e., an arbitrary 75% "conversion" factor for undrawn lines). The Pillar 2 supervision process should govern acceptable EAD estimates made by individual AIRB banks, as is the case for the other risk parameters (PD and LGD). Only if supervisors find the internal process unacceptable should the internal EAD estimate be replaced with a supervisory requirement for EAD.

22. *The Agencies seek comment on the proposed methods for calculating dilution risk capital requirements. Does this methodology produce capital charges for dilution risk that seem reasonable in light of available historical evidence? Is the wholesale A-IRB capital formula appropriate for computing capital charges for dilution risk?*

In particular, is it reasonable to attribute the same asset correlations to dilution risk as are used in quantifying the credit risks of wholesale exposures within the A-IRB framework? Are there alternative method(s) for determining capital charges for dilution risk that would be superior to that set forth above? (P. 53)

No specific comment.

23. *The Agencies seek comment on the appropriate eligibility requirements for using the top-down method. Are the proposed eligibility requirements, including the $1 million limit for any single obligor, reasonable and sufficient?*

The Agencies seek comment on the appropriate requirements for estimating expected dilution losses. Is the guidance set forth in the New Accord reasonable and sufficient? (P. 54)

No specific comment.

24. *The Agencies seek comments on the methods set forth above for determining EAD, as well as on the proposed backtesting regime and possible alternatives banking organizations might find more consistent with their internal risk management processes for these transactions. The Agencies also request comment on whether banking organizations should be permitted to use the standard supervisory haircuts or own estimates haircuts methodologies that are proposed in the New Accord. (P. 57)*

We greatly appreciate the broadened recognition of collateral in the new Accord. This revised treatment of collateral will better align industry and regulatory practice for this critical credit risk mitigation tool.

We support the use of collateral haircuts that are determined internally. Large, highly rated banks tend to be net collateral receivers, and as such, their incentives to use fiscally sound haircuts are aligned with those of the supervisors. Conversely, it would be difficult for such best-practice banks to change collateral arrangements that are already in place, especially since the majority of counterparties will not be Basel II compliant entities.

The ANPR does not reiterate all of the collateral details specified in CP3. It is not clear if this means U.S. supervisors have yet to map out that level of detail, or if U.S. supervisors are adopting a more flexible approach. For the record, we would like to point out certain requirements in CP3 that are not in line with large, complex banks' internal collateral policies.

- Paragraph 125 of CP3 implies that non-investment grade or unrated corporate bonds would not be eligible collateral, even for banks that qualify to use their own haircuts. At the same time, Paragraph 129 of CP3, requires banks using their own haircuts to take into account the liquidity of lower quality assets – an issue that is a key consideration in the assignment of our internal haircuts. Thus, the exclusion of non-investment grade corporate debt altogether (as opposed to the use of a larger haircut) is unduly harsh in light of standard haircut practice.

- CP3 requires a separate assessment for foreign exchange risk even for banks under the AIRB that will be setting their own haircuts. The separate assessment of foreign exchange risk presents problems from an implementation standpoint given that most large, complex banks apply a *portfolio view* to collateral. It appears that the CP3 proposal essentially requires banks to look at each transaction separately to determine whether there is a currency mismatch. For large portfolios with large counterparties involving multiple positions, this approach may involve thousands of transactions -- which would make such an approach both impractical and not best-practice from a portfolio management standpoint. Typical practice is to agree with a large counterparty on a schedule of eligible collateral assets and applicable haircuts. Eligible collateral can include US dollar cash and securities and certain non-US dollar cash and securities. Most non-US dollar collateral positions are in euros, yen, and pounds, where there is generally low volatility over the short period of the exposure. The counterparty can cover its collateral requirements for its net exposure by delivering any of the eligible assets. For a portfolio of such low-volatility currency, short duration positions, currency risk is negligible and is often not measured for this reason (and if it were to be measured it would be done on a portfolio basis).

- CP3 requires banks to use a 99% confidence level in setting their own collateral haircuts. U.S. regulators should be aware that some banks do not use such a high confidence level in setting internal haircuts. To do so would imply an exceedingly low joint probability that the obligor will default and the collateral value will decline to insufficient levels. Given the cumulatively conservative prescriptions elsewhere in the new Accord, including the overall confidence interval for capital purposes, we believe that the confidence interval for internal haircuts should be a Pillar 2 (supervisory guidance) issue.

- We believe that there should be significant conformity in the capital calculations for products that exhibit similar economic risks, notably repo transactions and OTC derivatives. Paragraph 149 of CP3 appears to restrict use of the VaR

approach to repo-style transactions. It is not clear from a theoretical or empirical perspective why supervisors would impose such a restriction. We also see no reason why repos would be allowed to adjust EAD in order to reduce exposure for collateral, while derivatives are required to adjust LGD. Internal practice at some banks is simply to adjust EAD for both products.

- In addition, any modifications to the current approach should properly recognize the risk-reducing effects of *collateral support agreements*, which require the delivery of collateral upon the breach of pre-agreed thresholds, thereby reducing potential future exposure.

- Finally, supervisors should permit VaR modelling for all transactions, not just repo transactions, that are marked to market and remargined daily, and meet high standards of legal enforceability (i.e. transactions that comply with paragraphs 88 and 89 of CP3).

25. *Industry comment is sought on whether a more uniform method of adjusting PD or LGD estimates should be adopted for various types of guarantees to minimize inconsistencies in treatment across institutions and, if so, views on what methods would best reflect industry practices. In this regard, the Agencies would be particularly interested in information on how banking organizations are currently treating various forms of guarantees within their economic capital allocation systems and the methods used to adjust PD, LGD, EAD, and any combination thereof. (P. 58-59)*

a) The substitution approach does not adequately recognize the lower risk of joint default or the benefit of double recovery associated with guarantees. The substitution approach therefore is inconsistent with the stated objective of the new Accord – to promote better risk management practices and more closely align regulatory capital with risk. We are concerned that the substitution approach would send inappropriate signals to banks about the use of guarantees and credit derivatives -- financial instruments that have provided enormous value in the active management of portfolio credit risk.

As one illustration of the proposal's inadequacy, consider the case of hedging an AA rated entity with another unrelated AA entity (or having one AA entity guarantee the loan to another AA entity). Using the substitution approach there would be no capital benefit. Moreover, in the case of the credit derivative, the bank would have to add a capital charge for the counterparty exposure associated with the hedge provider. In effect the bank would be required to hold more capital than if it had not hedged at all. The substitution approach discourages the dissemination of credit risk among institutions participating in credit derivatives market, acting to further concentrate credit exposure into a handful of the most highly rated financial institutions.

Nor should the benefits of a guarantee or credit derivative be limited to a reduction in the effective PD, since in many hedged transactions, the true LGD will also be reduced either through the benefits of double-recovery or because the LGD associated with the guaranteed loan is clearly lower than for the underlying facility. The current proposal would limit the benefits of the guarantee *either* to PD *or* to LGD. Yet, best-

practice banks take into consideration all three aspects of a guarantee or credit derivative – joint default probability, joint recovery, and the potential for wrong-way effects of the transaction.

We see only two possibilities in the short term for eliminating the seriously counter-productive aspects of the current proposal's substitution approach. First, banks could be permitted to use their own internal modeling process (generally, some form of Monte Carlo simulation) to take account of the capital effects of the derivative. For example, the internal ratio of hedged EC to unhedged EC could be applied to the regulatory capital requirement for the underlying position. This would require a significant Pillar 2 effort on the part of supervisors to determine the level of acceptability across diverse internal approaches -- but given the importance of the issue for the very largest banks, such an effort would be well worthwhile.

Second, regulators could use some form of the modified ASRF approach suggested in the recent Federal Reserve paper on guarantees and credit derivatives.[14] Under this approach, for example, regulators could (at least initially) ignore the benefit of double recovery, and assign the necessary 3 "types" of AVC in conservative fashion (e.g., obligor and guarantor AVCs according to the Basel AVC-PD equation for commercial credits, and a "wrong-way" correlation parameter of, say, 50%).[15] [footnote 14 was written before "track changes" was turned on; also, we have lowered the "wrong-way" correlation parameter to 50% in anticipation of "negotiation"] This would produce significant reductions in the regulatory capital charges for a hedged (or guaranteed) transaction – albeit not typically as much a reduction as via internal EC models. In addition, the implementation of the modified ASRF approach would be relatively simple, in effect requiring only that the agencies provide a program implementing equation 3) in the appendix to the Federal Reserve paper.

b) Regarding the operational requirements applicable to credit default swaps under a Master Agreement, the RMA Capital Working Group supports the suggestions in ISDA's CP3 comment letter.

26. *The Agencies invite comment on this issue, as well as consideration of an alternative approach whereby the notional amount of a credit derivative that does not include restructuring as a credit event would be discounted. Comment is sought on the appropriate level of discount and whether the level of discount should vary on the basis of, for example, whether the underlying obligor has publicly outstanding rated debt or whether the underlying obligor is an entity whose obligations have a relatively high likelihood of restructuring relative to default (for example, a sovereign or PSE). Another alternative that commenters may wish to discuss is elimination of the restructuring requirement for credit derivatives with a maturity that is considerably longer -- for example, two years -- than that of the hedged obligation. (P. 60)*

[14] See "Treatment of Double-Default and Double-Recovery Effects for Hedged Exposures under Pillar 1 of the Proposed New Capital Accord," Erik Heitfield and Norah Barger, Board of Governors, Federal Reserve System, June 2003.

[15] In this context, the "wrong-way correlation parameter" being referred to is P in the Appendix to the Barger-Heitfield paper.

a) The RMA group agrees with the position in CP3 that restructuring does not need to be included as a credit event in a credit derivative contract, provided the bank has control over the decision to restructure. At the same time, a contract with restructuring can provide greater credit risk coverage than one without it. Thus, the restructuring discount approach could be an attractive option. However, no restructuring discount should be implemented until a reasonable amount of credit protection has been recognized by the new Accord in the first place. Placing a discount on top of the meager benefit granted by the substitution approach would effectively eliminate the benefit of the credit hedge altogether.
b) The RMA group supports ISDA's proposed methodology for determining the discount factor.

27. [This question deals with the recognition of credit protection from total return swaps where the bank records net payments received as income, but does not record offsetting deterioration in the underlying either through reduction in fair value or by an addition to reserves.] *Comment is sought on this matter, as well as on the possible alternative treatment of recognizing the hedge in these two cases for regulatory capital purposes but requiring that mark-to-market gains on the credit derivative that have been taken into income be deducted from Tier 1 capital. (P. 61)*

Supervisors are worried that banks may recognize too much regulatory capital as a result of the inconsistent treatment for a loan with accrual accounting versus its credit default swap (CDS) hedge with MTM accounting. We acknowledge the existence of an accounting asymmetry. However, we do not believe that regulators should attempt to solve what is essentially a FAS133 problem within the Basel II framework. Indeed, there are other significant instances in which GAAP policy differs from or is not based on best-practice risk measurement. Further, even if GAAP were to move to a purely MTM framework, such a framework would still not be always appropriate from a risk measurement perspective. For example, for a loan whose spread is risk related, a decline in credit quality (increase in risk rating) may result in little or no decline in market value (due to the contractual increase in margin), but additional economic capital should be assigned to the credit. In the case of MTM hedges coupled with accrual accounting loans, the right approach is to fix U.S. general accounting principals.

If Basel were to enact this proposal then virtually no capital benefit could be given to credit hedging utilizing CDS transactions, and the regulatory rule would be sending a very inappropriate signal to bank risk managers. Further, strictly from a safety and soundness perspective we do not believe that there is a significant regulatory capital advantage being granted by the accounting asymmetry. That is, suppose the alternative U.S. proposal (embodied in the question on P. 61 of the ANPR) is <u>not</u> enacted. Then, when hedging a loan in the banking book with a CDS transaction in the trading account, additional regulatory capital may be needed for market risk, plus counterparty risk, in the trading book -- acting to offset the reduction in capital for the loan in the banking book. It is quite possible that the result will be higher regulatory capital than before the hedge (even though internal EC will uniformly decrease with a properly structured hedge). For example, if the reference name is high yield, the bank may be required to hold market risk

capital equal to a 100% risk-weight on the notional amount of the CDS. This market risk capital requirement, plus the counterparty risk capital requirement, might easily outweigh the capital reduction for the banking book loan.

For higher quality reference names, in which a VaR model may be used to estimate market risk capital, the initial saving on the regulatory capital against the underlying loan will not be fully offset by the increase in market risk and counterparty risk capital – which is as it should be, since the hedged loan is safer than the unhedged loan. After booking the hedge, if the credit quality of the reference name decreases, there will be a MTM gain in the trading book (and a corresponding gain in Tier 1 capital) – but this gain will be offset by a) an increase in counterparty risk capital since the CDS is more in-the-money, b) an increase in market risk capital due to an increase in VaR, and c) a possible increase in the ALLL due to a reassessment of the underlying credit's quality (even if there is no change in specific reserves, a lower risk rating would imply a higher estimated EL and thus an addition to the ALLL under current accounting practices). Thus, the alternative U.S. proposal – which would subtract the MTM gains on the derivative from Tier 1 capital – should not be implemented. Any regulatory capital asymmetries (which, in any event, are not matched by internal EC asymmetries) would best be eliminated through a MTM accounting treatment of the loan-cum-hedge.

28. [treatment of maturity mismatch in hedge.] *The Agencies have concerns that the proposed formulation does not appropriately reflect distinctions between bullet and amortizing underlying obligations. Comment is sought on the best way of making such a distinction, as well as more generally on alternative methods for dealing with the reduced credit risk coverage that results from a maturity mismatch. (P. 61)*

The essential problem with the Agencies view with regard to credit risk mitigation is that it is not portfolio-oriented as are the procedures of best-practice banks. At these banks, hedges are not crafted on a transaction-by-transaction basis. In the case of maturity mismatches, the bank might handle the analytical problem by creating a credit exposure profile over time for each name, with netting of all exposures to this name across the bank. Thus, the hedge profiles would be netted against the profiles of the underlying exposures, with any residual exposures converted into bullet loan equivalents and charged for internal EC. Additional EC would be assigned for credit derivatives that do not function as explicit guarantees (i.e., credit derivatives involving basis risk).

Under the ANPR proposal, it appears that banks would have to match each hedge to a particular underlying transaction. Thus, two completely offsetting (but individually mismatched) hedge-cum-underlying transactions – rather than having a net capital allocation of zero – would have positive capital assigned to each hedge-cum-underlying. Furthermore, maturity mismatches would be treated on a transaction-by-transaction basis. Even worse, under the proposal a three-year hedge of a 5-year loan would receive only 60% of the benefit of a five-year hedge and, in the next year, the two-year hedge of the (remaining) 4-year loan would receive only 50% of the benefit of a matched maturity hedge. There would be no capital saving at all for a one-year remaining life hedge. This treatment is far more conservative than implied by the maturity adjustments embedded in the regulatory ASRF model itself.

This arbitrary treatment should be replaced by simply accounting for maturity mismatches as the difference between AIRB capital on the underlying (given its maturity) and the AIRB capital on the hedge (given its maturity). The bank would also have to hold capital for the counterparty exposure associated with the hedge provider.

29. *The Agencies are seeking industry views on the PFE add-ons proposed above and their applicability. Comment is also sought on whether different add-ons should apply for different remaining maturity buckets for credit derivatives and, if so, views on the appropriate percentage amounts for the add-ons in each bucket. (P. 62)*

See ISDA paper (reference??) recently submitted to the Basel Committee.

30. [Regarding equity exposures]. *Comment is sought on whether the materiality thresholds set forth above are appropriate. (P. 64)*

The proposed materiality threshold is 10% of Tier 1 plus Tier 2 capital. At a 10% Total Capital level, this is equivalent to a 1% of assets test. This seems like a very low materiality threshold – perhaps 3% or 5% of total assets might be more reasonable.

31. [Additional questions regarding equity exposures]. *(P. 65-68)*

No specific comment.

32. [Regarding U.S. Supervisory Review]. *(PP. 69- 72)*

See attached paper (Attachment A) dealing with the U.S. supervisory guidance document.

33. [Regarding Securitization Activities]. *(PP. 73-91)*

a) We are grateful that the U.S. has explicitly stated a maximum capital charge for securitizations aimed at treating securitized positions equivalently to non-securitized assets (p. 76). However, we do not believe this maximum charge is completely equitable. In particular, in cases where a securitization results in a "gain on sale" that is not exactly equal to the booked interest-only (or "equity") strip, the maximum capital charge should equal a deduction of capital associated with the gain-on-sale (i.e., the increase in capital resulting from the securitization) plus the AIRB capital on the underlying as if the assets were <u>not</u> securitized. As it stands in the ANPR, the maximum capital charge is set at the AIRB capital on the underlying assets plus any required deductions (which could be greater than the gain on sale). These additional deductions, unlike the gain on sale deduction, are to be taken 50% from Tier 1 capital and 50% from Tier 2 capital. So, the securitizing bank may be subject to a "real" capital charge over and above the bank that doesn't securitize its assets, with this real additional capital charge equal to an arbitrary 50% of any amount by which the interest-only strip exceeds the gain on sale.

b) Other. The RMA Capital Working Group defers to the comments provided by ISDA and the Multi-Seller Group.

34. [Regarding Operational Risk Capital]. *(PP. 91-97)*

See the paper provided under separate cover containing the response of the RMA Working Group on Operational Risk Regulation.

35. [Regarding Disclosure Requirements]. *(P. 102)*

The Agencies seek comment on the feasibility of such an approach to the disclosure of pertinent information and also whether commenters have any other suggestions regarding how best to present the required disclosures.

We support the Agencies' position on the importance of market discipline and believe that disclosure has an important role to play in the effective implementation of the proposed capital rules. However, the current level of proposed disclosure is excessive and counterproductive to the Agencies' objectives. Further, some of the disclosed information would not be of use to even the most sophisticated user.

Unfortunately, the risk of misinterpretation of the proposed information to be disclosed far outweighs any benefit that could be derived from the additional information. Disclosure of detailed realized default frequencies and realized LGD information on a quarterly basis is certain to lead to misinterpretation by the public. Quarterly actual realized loss data, with normal variation around the mean, will almost always differ from *a priori* estimates based on long run averages. Without a fairly sophisticated level of understanding of statistics, the public is likely to view positive or negative deviations from best-practice estimates of expected default frequencies and expected LGDs as meaningful, without any basis in fact. This may contribute to an increase in systemic risk.

Furthermore, although we prefer a principles-based approach rather than more prescription, the approach outlined will not achieve the intent of the Proposed Rule. The intent is to promote market discipline through transparency and the ability of the public to compare results across institutions. Without standardization of certain items of information, such as the number of rating bands, there will be no ability to compare across institutions or, worse, non-comparable data may lead to incorrect inferences. The current wide diversity in the manner in which internal risk measurement data are segmented contributes to this problem of standardization. Such diversity is emblematic of a healthy, continual evolution in practice. Yet, standardization is needed to draw proper inferences about cross-bank data. It may simply be too soon to require such standardization for disclosure purposes that, at best, may involve considerable additional expenses and, at worst, may lead to the codification of a less-than-best-practice data system.

Comments are requested on whether the Agencies' description of the required formal disclosure policy is adequate, or whether additional guidance would be useful.

A principles- based approach is preferred, in which some latitude is preserved. Accordingly, additional guidance on the formal disclosure policy is not desirable.

Comments are requested regarding whether any of the information sought by the agencies to be disclosed raises any particular concerns regarding the disclosure of proprietary or confidential information. If a commenter believes certain of the required

information would be proprietary or confidential, the Agencies seek comment on why that is so and alternatives that would meet the objectives of the required disclosure.

The amount of quantitative information required to be disclosed goes far beyond what any reader would want or be able to use effectively. For example, most large institutions will have hundreds of retail pools, based on a combination of risk rating, product type, delinquency status, and perhaps geography. Without knowing the composition and basis of segmentation for the various retail pools, detailed quantitative information on those individual pools would have very little meaning for even a well-informed reader. However, a competitor targeting a particular line of business would, with a few simple assumptions, be able to deduce a significant amount of valuable and heretofore confidential information about the bank's business.

The Agencies also seek comment regarding the most efficient means for institutions to meet the disclosure requirements. Specifically, the Agencies are interested in comments about the feasibility of requiring institutions to provide all requested information in one location and also whether commenters have suggestions on how to ensure that the requested information is readily available to market participants.

We believe it should be left to management to determine the means of disclosure, and do not believe the agencies should prescribe one single location or method for that disclosure. Institutions differ in their communication strategies, and we do not believe this to be an appropriate area for supervisory prescription.

Appendix

Institutions in the RMA Capital Working Group

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

Staff participating in drafting or reviewing this response to the ANPR

Bank of America: John S. Walter, Senior Vice President, Risk Capital & Portfolio Analysis
Bank One: James Colton, Vice President; David Nunn, Vice President, Treasury
Comerica: Stefanie Kimball, Senior Vice President, Credit Risk Management; Blair Osborn, Senior Vice President, Portfolio Analytics, Reporting, and Credit Policy; Michael Earl, Vice President, Credit Policy.
FleetBoston Financial: Ranga Rangarajan, Managing Director-Mgt. Sciences, Corporate Strategy Group; James Papadonis, Executive Credit Officer, Corporate Consumer-Risk Management; Sumit Agarwal, Corporate Consumer-Risk Manager; Thomas Loeffler, Basel II Project Leader; William Schomburg III, Director of Economic Methodologies
JPMorganChase & Co: Michel Araten, Managing Director; Bradford Pollock, Vice President; Adam Gilbert, Managing Director
KeyCorp: Ashish K. Dev, Executive Vice President, Enterprise-Wide Risk Solutions, Robert Kula, Senior Vice President, Director of Economic Capital; Michael Pykhtin, Vice President, Risk Management
PNC Financial Services Group: Shaheen Dil, Senior Vice President, Portfolio Development Group; Terry Jewell, Vice President & Manager, RAROC and Profitability
Providian Financial: Wei Shi, Vice President, Treasury; Scott Schulz, Director, Treasury
Royal Bank of Canada: Lyn McGowan, Senior Manager, Basel Accord Implementation; Chitra Muralikrishnan, Senior Manager, Financial Policy and Economic Capital.
Union Bank of California: Paul C. Ross, Senior Vice President, Portfolio Risk Management; Desta G. Medhin-Huff, Vice President, Portfolio Risk Management.
Wachovia: Gary Wilhite, Senior Vice President, Risk Management, Portfolio Management Group; James Cypert, Asst. Vice President, Risk Management, Portfolio Management Group
Washington Mutual Bank: Alexander Kipkalov, First Vice President, Economic Capital Group; John Stewart, Vice President, Economic Capital Group
Wells Fargo: George Wick, Senior Vice President, Portfolio Strategies; Jouni Korhonen, Senior Vice President, Credit Risk Architecture
RMA - The Risk Management Association: Pamela Martin, Director of Regulatory Relations & Communications; Charles Taylor, Director of Operational Risk
Mingo & Co.: John Mingo, Managing Director

ATTACHMENT A

Response to Draft Supervisory Guidance Regarding AIRB Systems for Corporate Credit

RMA – The Risk Management Association

November 2003

This paper represents the response of the RMA Capital Working Group[1] to the draft supervisory guidance document published in the Federal Register, August 4, 2003. This response deals only with the supervisory implementation of the AIRB approach for corporate credit. A separate paper provides RMA views on the draft supervisory guidance regarding operational risk measurement and management.

To begin, we agree with the intent of the draft supervisory guidance to employ "supervisory standards that are principle-based to enable institutions to implement the framework flexibly." While we understand the need to be somewhat prescriptive in certain instances, for example, when the needs of comparability and acceptability are paramount, we have concerns about the specificity of certain definitions and methodologies. Our responses therefore focus on those areas where an alternative statement of principle, or an alternative prescription, may serve the purposes of supervision well, while reducing compliance costs or better aligning supervisory guidance with our view of best-practice risk measurement and management. We certainly appreciate this opportunity to engage in constructive dialogue, and we expect that the Pillar 2 process, like the capital regulations themselves, will follow the more or less continual evolution of best practices in the discipline of risk management.

Our responses are grouped according to the "supervisory standards" highlighted in bold in the draft guidance and designated by the prefix "S." We number these standards to correspond with the guidance document and show each standard's page number. Also, as in the draft guidance itself, the standards are printed in bold, followed by our discussion in regular type.

P. 10; I.D.**S1 An IRB system must be operating fully at least one year prior to the institution's intended start date for the advanced approach.**

Some clarification would be useful. We assume that the "one year prior" refers to the start of the Parallel Calculation Year. As noted in our response to the ANPR, if there is significant slippage in the finalization of the Accord and in the finalization of supervisory guidance for retail, corporate, and operational risk, the beginning of 2006 for the Parallel Calculation Year may present problems for individual institutions or for certain business lines. In some cases, the finalization of changes to banks' MIS, including the negotiation of outside vendor contracts, cannot reasonably proceed until final regulations and supervisory guidance are issued. Also, as discussed under **S52** below, certain banks and certain business lines may require transition arrangements, which, we presume, would not be covered by the phrase "operating fully" in **S1**.

P. 13; II.C.**S2 IRB risk rating systems must have two rating dimensions – obligor and loss severity ratings. S3. IRB obligor and loss severity ratings must be**

[1] The Capital Working Group of RMA consists of senior risk management officers at large banking organizations responsible for the measurement of risk and the determination of Economic Capital. The names of the institutions represented on the Capital Working group, along with staff members contributing to the preparation of this paper, are shown in an Appendix. Individual banking organizations that are members of the Group may be responding separately to the Draft Supervisory Guidance and may hold opinions regarding the new Accord and its implementation that differ from those expressed in this paper.

calibrated to values of the probability of default (PD) and the loss given default (LGD), respectively.

We believe that the supervisory guidance is not intended to require banks that use an EL approach for their facility ratings to change their practice. Rather, we understand this guidance to mean simply that obligor ratings should be associated with PDs while the bank may use a variety of methods to estimate LGDs (and may associate an individual estimated LGD with each individual facility). In practice, a bank using an EL method for "rating" the facility, may simply divide that estimated EL by the obligor's PD to arrive at a facility LGD for purposes of calculating an input into the Accord's capital model. We note here that the supervisory guidance states that LGDs may be assigned at the individual facility level. We wonder why this may not also be permitted for obligors' PDs. In other words, we believe that fully continuous PDs and LGDs should be permissible.

We also wish to note that for certain types of commercial real estate lending and asset-based lending, there is, from an economic point of view, no effective obligor PD. Rather, the loans are transaction oriented, with economic recourse, as a practical matter, solely to the income producing property. Facilities are carefully crafted to reflect this reality and, therefore, for all practical purposes, PDs and LGDs pertain to facilities, not to "obligors."

P. 13; II.C.**S4** **Banks must record obligor defaults in accordance with the IRB definition of default.**

We wish to point out that the proposed AIRB definition of default in the ANPR does not comport with past accounting or risk measurement practice. For this reason, it is likely that this standard could only be met on a going-forward basis. More importantly, we do not believe that best-practice should involve any significant difference between the definition of default for, on the one hand, accounting and bank reporting purposes, and, on the other hand, measuring PDs and LGDs. Indeed, the more "stringent" is the supervisor's definition of default for capital purposes, the higher will be measured PDs and the lower will be measured LGDs. The net effect, although slight, will be in the direction of lowering measured regulatory capital. Meanwhile, the bank would have to put in place a completely separate set of "capital-only" accounting procedures, which would be costly and, ultimately, would have very little effect on measured soundness.

Thus, the AIRB definition of default should be consistent with current practice, not a definition unto itself. See the discussion with regard to Question 8 in the RMA response to the ANPR.

Pp. 14-15; II.C.**S5** **Banks must assign discrete obligor grades. S6 The obligor-rating system must result in a ranking of obligors by likelihood of default.**

While current practice typically is to use obligor ratings within risk management procedures and in order to provide PD inputs into capital models, **S5** may act to hinder the evolution of risk measurement and management practices. In particular, banks may someday use continuous PD and LGD measurements when categorizing commercial credits, obviating the need for obligor PD "bands" or facility LGD "bands" expressed as ratings. Supervisors should be sufficiently flexible to permit such an evolution,

especially when management "use tests" for such continuous risk measurements are satisfied. Similarly, the assignment of a continuous PD would also satisfy the ranking requirement of **S6**.

P. 15; II.C.**S7 Separate exposures to the same obligor must be assigned to the same obligor-rating grade.**

First, there is the issue of whether this guidance refers to the named obligor or, in the case of a corporation with subsidiaries, the "top holder." In practice, the bank might assign differing obligor ratings and PDs to various subsidiaries of a corporation, due to the inability legally to "pierce the corporate veil." Since different subsidiaries may have very differing risk characteristics, including differing leverage ratios and business prospects, the rating should pertain to the subsidiary not the top holder.

Second, as discussed earlier, certain types of commercial real estate credits involve an underwriting process and/or a contractual process that pertains to the facility and its underlying income producing property, not the "obligor." In certain states having a "one action" law, the lender can, in the event of non-payment, go after either the obligor or the property but not both. In practice, this usually means the property. For this and other business reasons, underwriting takes place with regard to the property's value and income producing prospects. In economic substance, PDs may vary across several such facilities associated with the same named obligor.

Another instance of best-practice underwriting resulting in different PDs for different facilities is the case of country transfer risk – the currency denomination of each facility may differ across facilities. In still another case, some facilities may involve guarantees, some may not. Clearly, even with the "substitution approach" taken within the ANPR (with which we disagree), different facilities of the same obligor should be assigned different obligor ratings. Thus, **S7** should be deleted in its entirety or, at a minimum, qualified to *not* pertain to facilities in which "in economic substance, default probability (and therefore "obligor rating") is largely driven by facility characteristics or collateral or guarantee characteristics, not obligor characteristics."

The supervisory guidance also states that once an obligor is in default with regard to any facility, it should be considered in default with regard to all facilities (p. 15). This requirement is at odds with contractual language and economic substance. In many commercial real estate loans, for example, the property is the key determinant of loss. Some properties of an obligor may be performing, with loan payments made on time, while other loans on other properties are in default. The economics of this type of transaction place relatively less emphasis on obligor characteristics and relatively more emphasis on debt-service-coverage-ratios, loan-to-values, and other characteristics of the property. In fact, if a series of commercial real estate loans were structured as individual loans, each to an individual subsidiary of a corporation, supervisors would not question the application of separate PDs (obligor ratings) to each subsidiary. But if those same loans are structured as separate facilities to the same subsidiary, the supervisory guidance would appear to require that the same "obligor rating" and PD be applied to each loan, despite widely differing property loan-to-values, DSC ratios, etc. Not only would the resulting one-size-fits-all PD be inappropriate for use in capital models, but also the one-

size-fits-all obligor rating would have no practical use in the discipline of risk management.

P. 15; II.C.**S8 In assigning an obligor to a rating category, the bank must assess the risk of obligor default over a period of at least one year.**

No comment.

P.15; II.C.**S9 Obligor ratings must reflect the impact of financial distress.**

We interpret this guidance to be consistent with most current practices for measuring PDs and assigning ratings. Best-practices in this arena typically take account of "financial distress" but do not involve application of a subjective "stress test" – a term of art most often reserved for validating the output of economic capital models.

Financial distress might be incorporated in the rating/PD process in several ways. A bank might, for example, employ a Merton model to estimate default frequency. In such models, the distribution of obligor asset values is estimated, so that "tail" asset value declines act to effect the expected default frequency. At other banks, internal research is used to, first, determine which obligor and/or facility characteristics are important determinants of loan performance. A modeled PD may also be calculated. The typical rating process then takes into account all of the financial and non-financial information regarding the borrower, as well as the PD flowing from the PD-estimation model. In order for an obligor to achieve a particular rating, certain observed characteristics must fall within acceptable ranges (according to the internal rules of the rating handbook). For example, to achieve a rating of say, grade 2, the borrower's leverage must be no greater than x, the modeled PD must be no greater than y, the debt-service-coverage-ratio must be no greater than z, etc. Generally, these variable ranges are set so that the higher the rating the more likely that the obligor's financial characteristics (e.g., the stability of its earnings flow or the degree to which earnings currently cover debt service costs) will act to preserve equity in a period of financial distress. Also, in most cases, expert judgment is a key component of the rating assignment. Some rating agencies do apply subjective "stress tests" when assigning ratings but we believe these processes result in generally less accurate ratings and PDs than the process typically used by large, complex banks, as described above.

P. 16; II.C.**S10. Banks must adopt a ratings philosophy. Policy guidelines should describe the ratings philosophy, particularly how quickly ratings are expected to migrate in response to economic cycles. S11. A bank's capital management policy must be consistent with its ratings philosophy in order to avoid capital shortfalls in times of systematic economic stress.**

No issue with **S10**. However, **S11** may be inconsistent with best-practice internal capital adequacy determination. In particular, a bank might adopt a rating philosophy that is Point-in-Time ("PIT") or Through-the-Cycle ("TTC"), yet best-practice internal capital adequacy management might use neither of these ratings approaches. Rather, a bank might estimate more than one form of economic capital ("EC") – a PIT EC for use in pricing models and RAROC calculation, a TTC EC for certain strategic decisions including business line planning, and a "stressed" TTC EC that might help determine the

degree of cushion over and above the regulatory capital minimums. In particular, the bank would not likely have as much capital as called for by its PIT EC calculation *during a recession* – for to do so would mean the bank would be significantly overcapitalized during all of the rest of the cycle. Moreover, the bank has several other options for maintaining a targeted insolvency probability during recessions besides raising capital – it can cut back on the level of its risk positions, including selling earning assets, it can cut back on expenses and raise credit spreads, it can purchase credit protection, it can even cut back on dividends if necessary.

Thus, we ask that supervisors be cognizant that ratings are simply one input into a bank's capital management strategy. As such, capital management policy may not always refer directly to risk ratings. Capital policy should be consistent with the ratings philosophy to the extent that ratings drive internal economic capital estimates.

P. 17; II.C.**S12 An institution must have at least seven obligor grades that contain only nondefaulted borrowers and at least one grade to which only defaulted borrowers are assigned.**

We see no reason why it should be necessary to create a risk rating bucket that, by design, has a 100% PD, so long as a bank would always be able to identify what the actual default rate is for each of its rating buckets. While it is highly likely that defaulting borrowers would congregate at the lower end of a rating scale, we do not think that a unilateral default rating construct should be prescribed. Rather, common bank practice is to continue to bucket defaulted loans within whatever rating category applied prior to default. Moreover, the mandate for a single default bucket becomes a potentially more important issue when added to the fact that we disagree with the proposed definition of default in the first place. Without some change in the default definition, banks would be faced with the unnecessary cost of actually creating parallel risk rating methodologies – one for internal risk assessment and a second for regulatory capital purposes, with no value added to the risk management process, and, indeed, the potential to create confusion among those responsible for identifying and managing risk in the portfolio. Moreover, the more "stringent" default definition appearing in the ANPR actually results in somewhat *lower* regulatory capital requirements. See the discussion regarding Question 8 in the RMA response to the ANPR.

P. 17; II.C.**S13 An institution must justify the number of obligor grades used in its rating system and the distribution of obligors across those grades.**

We have two concerns. First, we are concerned about the requirement in the following language:

"*A risk rating modified with a plus, minus or other indicator does not constitute a separate grade unless the bank has developed a distinct rating definition and criteria for the modified grade. In the absence of such distinctions, grades such as 5, 5+, and 5- are viewed as a single grade for regulatory capital purposes regardless of the existence of the modifiers.*"

Some large, complex banks use such modifiers, largely because of the manner in which their rating systems have evolved over time. While we have no problem with requiring such banks to have specific criteria associated with the modifiers (to our

knowledge all such banks do), it appears as if these banks are being singled out. There really is no issue here: any grade, whether designated as a whole number or letter, or by any other designation such as a (+) or (-), must have meaningful distinguishing criteria associated with the grade. Language similar to the previous sentence should replace the language quoted in the text of the supervisory guidance document.

Second, we are also apprehensive that the language of the Supervisory Guidance may be interpreted by banking supervisors in such a way that certain concentration limits may be imposed on the fraction of a portfolio that can be present in any one risk rating classification (without regard to the nature of the business being conducted). The language on p. 17 of the supervisory guidance describes some of the tests that banks must conduct in order to justify the number of obligor grades used in its rating system, clearly leaving banks open to supervisory criticism on the issue. Our view is that "concentration" within a rating category should not be the subject of capital regulation or supervision. Day-to-day risk management, depending on the business line, may well be best served by placing a high percentage of the portfolio within a single rating category. For capital purposes, however, obligor rating systems should be tasked solely with rank-ordering default frequency in the portfolio and providing the basis for valid estimates of PD and LGD that can be used in the construction of a risk-based capital requirement.

P. 18; II.C.**S14** **Banks must rank facilities by the expected severity of the loss upon default.**

Language in the text of the supervisory guidance indicates that expected LGDs may be assigned at the facility level rather than through use of a severity rating system. This represents progress toward a time when, for risk measurement purposes, all PDs and LGDs are assigned in continuous fashion. We do note, however, that **S14** uses the language "expected" severity rather than the "stressed LGDs" called for in CP3 or the language in the ANPR that calls for stress *years* to be included in the measurement of expected LGD. As indicated in our response to the ANPR and CP3, we believe that regulatory capital minimums should be calculated using either through-the-cycle LGDs or recessionary LGDs coupled with a lower confidence interval to reflect the fact of generally higher default rates during recessions. The use of recessionary LGDs coupled with the current Basel-chosen confidence interval would result in very significantly higher regulatory capital measurements than shown in QIS 3. The ANPR appears to soften the language that appears in CP3 regarding the calculation of LGDs, by suggesting that several years surrounding a recession would be appropriate for measuring expected LGD, leaving to the bank the exact manner in which the years are chosen and the LGD calculated. This is a reasonable approach that would permit flexibility especially with regard to likely differences in the timing of a "recession" depending on the particular product line in question. Nevertheless, the resulting LGDs would still be higher than the default-weighted TTC LGDs used within QIS 3 and, thus, actual regulatory capital would still be higher than shown in QIS 3 – suggesting that a decrease in the chosen confidence interval still would be appropriate.

P. 18; II.C.**S15 Banks must have empirical support for LGD rating systems regardless of whether they use an LGD grading system or directly assign LGD estimates.**

We interpret this guidance to mean that empirical support for LGD estimation is necessary but "expert judgment" may also be used, as is currently the case in almost all best-practice internal systems. We also wish to point out that expert judgment is likely to be more important in the determination of expected LGDs than in the determination of PDs. First, LGDs are by their nature associated with the specifics of the facility, and facility characteristics are extremely diverse. The degree and type of collateralization, which are just two such characteristics, can importantly determine the outcome of loss in the event of default. Second, realized LGDs, within any given facility-rating category are quite diverse – in other words, the goodness of fit of LGD models generally is lower than the fit of PD models. When the risk manager is faced with lower predictive power in a model, expert judgment *should* play a more important role.

P. 18; II.C.**S16 Loss severity ratings must reflect losses expected during periods with a relatively high number of defaults.**

See our response to **S14**. Current best-practice is to use so-called TTC LGD estimates by application of a "default-weighted" method. That is, greater number of defaults are observed during recessions. Therefore, calculating the loss severity rate on each defaulted loan and taking the average of these severity rates will result in an expected LGD that is weighted toward the experience during recessions. A recession-only LGD would be significantly higher than the TTC LGD, and would result in correspondingly higher capital charges. As a practical matter, these higher capital charges would be appropriate only in or near a recession and would likely be considerably higher than point-in-time EC estimates during all the rest of the cycle.

P. 19; II.C.**S17 Banks must have a sufficiently fine loss severity grading system or prediction model to avoid grouping facilities with widely varying LGDs together.**

In actual practice, there is a good deal of idiosyncrasy associated with realized loss rates on defaulted loans. LGD models and expert judgment can lead to reasonable measurement of <u>expected</u> LGDs, but realized LGDs within any particular severity rating grade can cover a wide range. Assuming the bank is using a severity rating system (as opposed to assigning continuous expected LGDs to individual loans), there would need to be some limitation to the range of expected LGDs for a given severity rating grade (otherwise there is no rating system). However, there should be no expectations on the part of supervisors as to how wide such a range should be. Only management experience with expected LGDs versus realized LGDs can help shape the boundaries of severity rating grades.

P. 19; II.C.**S18 All risk ratings must be updated whenever new relevant information is received, but must be updated at least annually.**

The phrase "whenever new relevant information is received" is far too prescriptive and, if literally interpreted, would be prohibitively costly if applied to all commercial credits. Best-practice involves making choices on how to spend scarce credit

management resources. At large, complex banks, the frequency of updating the rating is determined by the size of the credit and the rating of the credit – larger credits and lower-rated credits are reviewed more frequently. Further, certain types of smaller, more homogeneous credits, may be reviewed by sampling or in the sense of a portfolio rather than loan by loan. Some small and highly rated firms may provide quarterly balance sheet data – yet it would be uneconomic to re-rate these small, safe companies more than once a year simply because of the existence of more frequent information. Rather, the supervisor should check to see that the AIRB bank has in place an acceptable process for updating ratings, with the frequency of the rating based not only on the availability of information but also on the size, type, and quality of the credit, or other factors deemed important by bank management.

P. 20; II.C.**S19 Banks reflecting the risk-mitigating effect of guarantees must do so by either adjusting PDs or LGDs, but not both. S20. To recognize the risk-mitigating effects of guarantees, institutions must ensure that the written guarantee is evidenced by an unconditional and legally enforceable commitment to pay that remains in force until the debt is satisfied in full.**

Capital regulations should reflect the effects of guarantees on both PDs and LGDs. More broadly, we remain convinced that implementation of the "substitution approach", coupled with no capital benefit associated with mis-matched maturities of guarantees/derivatives versus the underlying loan, will act to severely limit the incentives for, and benefits of, portfolio credit risk mitigation. In their effort to be "conservative", supervisors will be placing an almost insurmountable barrier to best-practice credit risk management. We have examined this issue at length in the RMA response to the ANPR. The supervisory guidance on this issue simply reflects the choices of the regulators within the ANPR. The ANPR must be changed in our view, or regulators will be doing far more harm than good in their efforts to have banks maintain minimum soundness standards. Further, we believe that this extremely important issue can be handled with relatively little additional effort on the part of either the AIRB bank or the supervisor reviewing internal practices at such banks. Please refer to the discussion of Question 25 in our response to the ANPR.

Pp. 20-24; II.C. **S21 IRB rating system architecture must be designed to ensure rating system accuracy. S22. Banks must have ongoing validation processes that include the review of developmental evidence, ongoing monitoring, and the comparison of predicted parameter values to actual outcomes (back-testing). S23. Banks must benchmark their internal ratings against internal, market and other third-party ratings. S24. Banks must develop statistical tests to back-test their IRB rating systems. S25. Banks must establish internal tolerance limits for differences between expected and actual outcomes. S26. Banks must have a policy that requires remedial actions be taken when policy tolerances are exceeded**.

Viewed as a whole, supervisory guidance numbered **S21** through **S26** are reasonable and reflective of best-practice. We are concerned, however, about the setting of "tolerance limits." In practice, a large, complex bank more or less continuously reviews its rating procedures and its PD and LGD estimation processes. Even day-to-day

usage of the estimation process helps to reveal strengths and weaknesses. At any moment in time, the estimation "model" with approximately the best fit to historical data is being used. If testing indicates that, by changing the model, only a slightly better KS statistic can be achieved, it may not be economic to institute such a change now. Later, as more historical data are gathered and more experience is gained, changes to the model can be expected. If the model were mechanically re-estimated with each new year's performance data, the goodness of fit statistics could go up or down. Judgment is required to decide when a "new" model should replace the "old" model in everyday practice. In general, there should be a continuing effort to improve the model – but no absolute tolerance limits would be appropriate – you don't stop using your best-fit model because it doesn't meet some arbitrary R^2 test. Rather, you continuously strive to be better, subject to cost and implementation concerns.

Therefore, we strongly advise that **S25** and **S26** be modified to simply require ongoing review of performance with a view toward improvement. Indeed, the benchmarking and back-testing requirements in **S23** and **S24** should be sufficient to this task.

P. 27; III.C. **S27. IRB institutions must have a fully specified process covering all aspects of quantification (reference data, estimation, mapping, and application). The quantification process, including the role and scope of expert judgment, must be fully documented and updated periodically. S28. Parameter estimates and related documentation must be updated regularly.**

No comment.

P. 28; III.C.**S29 A bank must subject all aspects of the quantification process, including design and implementation, to an appropriate degree of independent review and validation.**

We agree, but the devil is in the details. What do supervisors have in mind besides having independent *internal* review of the quantification process? When coupled with the supervisory process, we think such internal review is quite sufficient.

P. 28; III.C.**S30 Judgmental adjustments may be an appropriate part of the quantification process, but must not be biased toward lower estimates of risk.**

Neither should judgments be biased toward higher estimates of risk. The backtesting requirement is there to assure that, over time, the rating process is best-practice. But, when expert judgment is used, there should be no constraint on the direction of movement in the rating from the result of the mechanical "rating model." Only over the long term will bias, in either direction, be detectable. Moreover, from a prudential safety point of view, the bank that habitually *overestimates* risk will lose high-SVA business to competitors. This, in turn, will reduce retained earnings – a component of capital – while driving down share price, thus, increasing the cost of equity capital. Put another way, the bank that can measure risk the best will be able to generate the highest earnings cushions over and above the market-required return to economic capital. Such a bank can choose to pay all such excess gains out to shareholders, or it can retain the excess gains in order to decrease its insolvency probability, or it can do some of both.

Accurate risk measurement serves both masters – the shareholders and the supervisors. Inaccurate risk measurement, in either direction, serves neither master.

We are concerned that this guidance reflects a supervisory bias against expert judgment. Not only are such judgments necessary in our view, and in either direction, but also empirical proof of their utility may be extremely difficult to observe. Nevertheless, expert judgment is and should continue to be an important part of the rating and risk management process. Banks, therefore, should be free to implement such judgmental adjustments, provided that they are made within a clearly-defined framework, so as not to breed inconsistency in application.

P. 28; III.C.**S31** **Parameter estimates must incorporate a degree of conservatism that is appropriate for the overall robustness of the quantification process.**

Our response to **S30** also pertains to **S31**. At the same time, expert judgment should always play a role in the choice of risk parameter estimate. But such judgment should not play more or less of a role depending on the R^2 of the parameter estimating equation. Rather, the bank should estimate the best model it can (while continually researching possible improvements), then adjust the outcome in light of management experience. Over the longer term, the validation and back-testing procedures will determine whether the expert judgment was helpful. Further, any detected bias, whether up or down, should be eliminated in future iterations of the quantification process. Arbitrary "conservatism" does not constitute best-practice. A good credit manager, on the other hand, may very well say, "I am not comfortable with the outcome of the statistical model. It does not take into account the following issues. Therefore, I think it prudent to assign a somewhat higher PD (or LGD)." This type of conservatism has served the industry well, but it is unrelated to any statistical test of robustness.

P. 29; III.C.**S32** **The sample for the reference data must be at least five years, and must include periods of economic stress during which default rates were relatively high.**

We interpret this guidance to mean that we may continue the common best-practice of measuring PDs as the default-weighted PD over the cycle – that is, over as many years as are in our databases. In cases where the particular business line in question has historical data that do not cover "periods of economic stress", common practice is to rely on aggregate industry data to push upward the bank's own non-recessionary estimated PD (in the proportion implied by the ratio of industry "stressed" PDs to industry "non-stressed" PDs). As indicated elsewhere in this response, some business lines may be problematic in that 5 years of historical data may not be available at the start of Basel II. We therefore recommend that the "start-date" for achieving the minimum historical data requirement be the date on which the final capital rules and supervisory guidance are published. Assuming this occurs, for example, at year-end 2004, core banks would be required to have at least 2 years of historical data by the beginning of Basel II (January 2007). Some business lines, of course, would fulfill the 5-years requirement on or before January 2007, but some lines would not meet the requirement until year-end 2009. This "phase-in" is necessary from a practical point of view for some lines.

P. 30; III.C.**S33** **The definition of default within the reference data must be reasonably consistent with the IRB definition of default.**

As indicated in our response to the ANPR, we believe the AIRB definition of default must be changed to reflect GAAP. To do otherwise would lead to dual accounting systems – one for general bank purposes and one for regulatory capital purposes – without having much impact at all on the measurement of required regulatory capital. Furthermore, the more "stringent" AIRB definition of default would lead to slightly higher estimated PDs and slightly lower estimated LGDs, the net effect of which (when these parameters are plugged into the Accord's ASRF capital model) would be to slightly lower regulatory capital. Only by continuing to rely on GAAP measures of default will regulators avoid the aforementioned result and, more importantly, there would be a greater likelihood that the conditions of **S33** would be met – the reference historical data are likely to have followed the GAAP definition of default.

P. 31; III.C.**S34** **Estimates of default rates must be empirically based and must represent a long-run average.**

We interpret this requirement to mean that current best-practice is acceptable. For example, many banks use a "default-weighted" procedure to estimate TTC PDs. In this procedure, a default ratio is based on the number of loans that default over a one-year horizon as a percentage of all loans in the segment (i.e., all loans in the rating grade) at the beginning of the period. This calculation can be carried out for all years or even for all quarters (by measuring the number of loans at the beginning of each quarter and then the number of loans that default by the end of the next 4 quarters). The mean default rate for the segment is then the average of these observed default ratios over the number of years (or quarters) of observation. Since recessionary periods will experience higher numbers of defaults, this "default-weighted" process produces PDs that are naturally weighted toward such recessionary periods.

P. 32; III.C.**S35** **Judgmental adjustments may play an appropriate role in PD estimation, but must not be biased toward lower estimates.**

See our response to **S30**, above.

P. 34-36; III.C.**S36** **The mapping must be based on a robust comparison of available data elements that are common to the portfolio and the reference data. S37. A mapping process must be established for each reference data set and for each estimation model. S38. The mapping must be updated and independently validated regularly.**

Mapping the reference data set to the current portfolio may be especially difficult in the case of the data underlying a vended PD or LGD model. The outside database, for example, may have employed a different definition of default than the bank, or a different segmentation process. Industry duplication of effort, moreover, would occur if all clients of the vendor had to conduct the mapping separately. It may be most efficient for the vendor to provide a series of detailed descriptors concerning the reference data, then each bank can assess the difference between those descriptors and the bank's internal risk characteristics.

Mapping, either with regard to an external or internal reference data set, can be quite problematic when banks have changed their segmenting and/or grading procedures over time. In some instances, going back in time and "re-rating" old credits to match today's rating procedures, for example, may not be possible (because important data regarding the obligor and/or facility have not been saved). Furthermore, a change in rating procedures often is accompanied by a change in underwriting standards, so that historical default frequencies or realized LGDs associated with the old ratings are now not relevant. Because risk parameters might therefore have to be developed from more recent loan performance data, it might not be possible, for some business lines, to meet the 5 year (or 7 year) historical data requirement by the proposed start date of Basel II. Moreover, in some product segments, even if 5 years of data existed by the start date, there may not yet have been enough defaults, under the more recent underwriting standards and rating procedures, to produce robust estimates of PD and LGD.

Also, practical considerations of the sort noted above suggest that supervisors should be quite flexible in administering the historical data requirements. In the RMA response to the ANPR we suggest that a) the minimum data requirement be set at 5 years for both PD and LGD, and for all product types; b) the start time for the 5 years should be no sooner than the issuance of the final capital regulations and, more importantly, the final supervisory guidance documents for commercial *and* retail credits. If, for example, these final rules are issued at the end of 2004, then at the start of the parallel calculation period (beginning 2006), some business lines may contain only 1 year of historical performance data. At the implement date (beginning 2007), only 2 years of data may be available for some lines, and so forth. These data requirement issues may, in and of themselves, argue for a slight push-back in the start of the parallel calculation period. At a minimum, though, significant flexibility will be required since, at any individual core bank, some business lines will have many years of historical data (mapped appropriately to the current portfolio) at the start of the parallel calculation period – while other business lines will not meet the 5 year standard for at least another few years.

P. 37; III.C.**S39 IRB institutions that aggregate the default probabilities of individual portfolio obligors when calculating PD estimates for internal grades must have a clear policy governing the aggregation process. S40. IRB institutions that combine estimates from multiple sets of reference data must have a clear policy governing the combination process, and must examine the sensitivity of** the results to alternative combinations.

No comment.

P. 38; III.C.**S41 The sample period for the reference data must be at least seven years, and must include periods of economic stress during which defaults were relatively high.**

As indicated earlier, due to possible implementation difficulties, and because the further back in the past we go the greater the chance that the historical loss performance is

not relevant for today's underwriting practices and today's segment construction, we believe that a minimum of 5 years should be used *both* for PD and for LGD estimation purposes. Moreover, with respect to the LGD estimation process, the supervisory guidance says that the "LGD for each type of exposure must be the loss per default…..expected during periods when default rates are relatively high." For cases in which loss rates are not volatile over the cycle, the long-run default-weighted average LGD may be used instead of the "stress-condition" LGD. (P. 41). Are we correct in interpreting these sentences to mean that, if the LGD *is* cyclically volatile for a particular product, the bank must use some *subset* of years (rather than the full 7 years or more of data in the reference data set) that constitute periods of "stress-conditions?" The supervisory guidance appears to leave it up to the bank, with supervisory review, regarding the selection of such a subset of the reference data years.

P. 39; III.C.**S42 The definition of default within the reference data must be reasonably consistent with the IRB definition of default.**

See our comment on **S4**. Also, please refer to our discussion on the definition of default, regarding Question 8, in the RMA response to the ANPR.

P. 40; III.C.**S43 The estimates of loss severity must be empirically based and must reflect the concept of "economic loss."**

We agree with this principle. In the text of the supervisory guidance (p. 40) there is the requirement that:

"The discount rate must be no less than the contract interest rate on new originations of a type similar to the transaction in question, for the lowest-quality grade in which a bank originates such transactions. Where possible, the rate should reflect the fixed rate on newly originated exposures with term corresponding to the average resolution period of defaulting assets."

These sentences represent perhaps somewhat more prescription than is necessary. Greater flexibility, given the principle expressed in **S43** would be desirable, especially when calculating the present value of historical recoveries within the reference data set. In some instances, coupon information will not be available historically, especially if there have been underwriting and rating system changes that make historical grades not comparable to current grades. In such a circumstance, the bank must use a discount rate that, while reasonably attentive to the principal expressed in the supervisory guidance, will be somewhat subjective.

P. 42; III.C.**S44 Judgmental adjustments may play an appropriate role in LGD estimation, but must not be biased toward lower estimates.**

See our response to **S30** above.

P. 43; III.C.**S45 A bank must conduct a robust comparison of available common elements in the reference data and the portfolio. S46. S. A mapping process must be established for each reference data set and for each estimation model.**

See our response to **S36** through **S38**.

P. 44; III.C.**S47 IRB institutions that aggregate LGD estimates for severity grades from individual exposures within those grades must have a clear policy governing the aggregation process. S48. An IRB institution must have a policy describing how it combines multiple sets of reference data.**

No issue, except that, as indicated above, we believe that the flexibility afforded to the LGD process – which permits banks to assign LGDs at the individual loan level rather than via a severity grading process – should be permitted as well for PDs.

P. 49; III.C.**S49 A validation process must cover all aspects of IRB quantification.**

No comment.

P. 50; III.C.**S50 A bank must comprehensively validate parameter estimates at least annually, must document the results, and must report these results to senior management.**

We agree with the need to validate the risk parameter estimates annually (i.e., the PD and LGD estimates). Internal practice, for example, might be to see that a PD model is being applied appropriately within the ratings process. We do not take **S50** to mean that each PD or LGD *model* must be re-estimated and re-validated annually, for to do so would involve considerable costs and provide little benefit to risk measurement. In particular, having one more year's worth of internal data is not likely to change the coefficients of a model very much. Moreover, the number of PD and LGD models at a large bank could easily number several dozens. Common practice, rather, is to review the models annually and to update them as necessary – for example, when independent research suggests that there is a better-practice way of specifying the model, or when retrieval of more historical years' worth of internal data suggest that some coefficients of the model should be higher or lower than within the current specification of the model.

P. 50; III.C.**S51 The validation policy must outline appropriate remedial responses to the results of parameter validation.**

No issue with this supervisory guidance. However, on p. 53, the supervisory document reiterates the requirement that an estimated LGD cannot be zero (must be positive). We find this to be overly conservative. LGD stands for *expected* loss-given-default. If the statistical analysis shows that expected LGD is negative, for example, then it is already "conservative" to increase this LGD to zero. A loan with cash collateral in excess of 100%, sufficient to cover all economic loss (including workout expenses), for example, should incur no capital charge. Thus, to be conservative,, the supervisory guidance could say that the LGD must not be negative.

P. 54; IV.B.**S52 Institutions must collect, maintain, and analyze essential data for obligors and facilities throughout the life and disposition of the credit exposure.**

We agree broadly with this guidance. It is important, however, for supervisors to permit wide flexibility in both the type of data to be maintained as well as the length of the maintenance horizon. Several points should be kept in mind. First, a large, complex bank may have millions of individual exposures, each of which generates performance data each month. Keeping all such data over many months of an exposure, for all

exposures – and keeping the data over very long reference data periods – can involve significant hardware and software problems, even with today's massive storage capabilities. Second, as indicated above, at some point, historical loan performance data become largely irrelevant to today's segment construction, today's underwriting procedures, and today's risk management policies. Not only do the coefficients of a PD or LGD model change over time, underlying market AVCs may change. Therefore, supervisory guidance in this arena should avoid prescription. Risk measurement and management needs to be a constantly evolving process, and so should the supervisory process and, indeed, the parameterization of the Basel capital models.

Finally, due to significant differences across banks with regard to the materiality of some business lines, and with regard to the state of the industry's practices in maintaining performance data, supervisors should permit great flexibility in any AIRB bank's data transition plans. It is not reasonable to expect all AIRB banks, at the start of Basel II, to have all systems in place for all business lines and for all possible types of data that may be useful for each business line.

P.56; IV.B.**S53** **Institutions must capture all significant quantitative and qualitative factors used to assign the obligor and loss severity rating.**

See response to **S52** above.

P. 58; IV.B.**S54** **Data elements must be of sufficient depth, scope, and reliability to:**
_ Validate IRB system processes,
_ Validate parameters,
_ Refine the IRB system,
_ Develop internal parameter estimates,
_ Apply improvements historically,
_ Calculate capital ratios,
_ Produce internal and public reports, and
_ Support risk management.

No comment.

P. 62; IV.D.**S55** **Institutions must document the process for delivering, retaining and updating inputs to the data warehouse and ensuring data integrity.**

No comment.

P. 62; IV.D.**S56** **Institutions must develop comprehensive definitions for the data elements used within each credit group or business line (a "data dictionary").**

No comment.

P. 62; IV.D.**S57** **Institutions must store data in electronic format to allow timely retrieval for analysis, validation of risk rating systems, and required disclosures.**

This requirement could be quite costly if interpreted to mean that everything should be stored electronically, even non-quantitative information, and all in one place. Many best-practice banks have a grading system that includes a significant subjective component. Although some of the grading information is quantitative, such as financial

ratios, the combining and weighting of the risk factors going into the grading decision may not be predetermined (as in the coefficients of a PD model). The actual grade outcome will vary according to the specifics of the borrower and the experience of the underwriter. Indeed, no bank of which we are aware grades solely based on the outcome of a model.

Consequently, a database alone will not permit an observer such as a supervisor to arrive at the assigned grade. One must also understand how the information led to the rating, a process described in broad terms in the ratings manual, but not knowable from the database alone. Thus, "retrospective grading" will be quite problematic and must involve significant judgment.

Further, a large, complex bank will have many different loan products or business lines for which the risk drivers are quite diverse. Designing a single database to cover these diverse product lines is neither practical nor best practice. For example, if there were only a single database, researchers and underwriters would have to wade through many questions (data input cells) that are irrelevant for the decision at hand.

Best-practice banks are always interested in improving their risk assessment processes. The evolution of the database(s) underlying these processes should be permitted to continue as driven by technology and risk management needs. Thus, supervisors should not rush to develop a "world-view" of what is appropriate in the arena of data maintenance. Best-practice, for many years to come, will involve some non-electronic formats, multiple electronic-based files, and considerable judgment in the process of designing retrieval systems. Supervisors' primary function in this regard should be to act as a disseminator of best-practice. Over time, supervisors will develop a sense for which data maintenance practices are acceptable versus which practices are not.

We are apprehensive that supervisors' current concerns with data storage constitute a precursor to some future rule that non-quantitative information and subjectivity must be removed from the ratings process. While credit-scoring models for commercial products may be useful tools, no bank of which we are aware relies solely on such tools to arrive at ratings. In our view, expert judgment will always be important in commercial lending and the supervisory examination process should guard against any bias away from expert judgment toward automation based on statistical models.

The Supervisory Guidance with regard to **S57** also interacts with the guidance with regard to **S53** (the capture of all significant quantitative and qualitative factors). This language should be re-worded such that the data maintenance standards contained in pages 56-58 are not interpreted as a universal requirement of the Accord, but rather as a principle to be followed by banks wishing to investigate credit-scoring models as "challengers" to the rating systems that they currently have in place.

P. 65; V.B.**S58** **Ratings must be subject to independent approval or review.**

In many best-practice banks, relationship officers assign and "own" the rating, and are responsible for keeping the rating current. A separate credit approval committee may be required for final approval if the credit exceeds a certain size. And, finally, an independent review function reviews the ratings and the ratings process. It should be stated clearly that a reasonable application of this type of risk management structure meets the requirement in **S58** that there be an independent review process with final

authority over the ratings. We are concerned that our banking supervisors may require someone besides the lending officer to sign-off on *every* rating decision made by the lending officer. This idea is not only impractical from a cost/benefit standpoint, but it would also, over time, have a significant adverse impact on a bank's credit culture -- that is, the notion that lending officers own the risk ratings. The Supervisory Guidance should be re-worded so that it does not permit such an interpretation of its design.

All large, complex banks of which we are aware have spent considerable time and effort in structuring a risk management system for wholesale credits that takes into account each of the principles expressed in the supervisory document. All such banks have had these systems reviewed by examiners and subjected to continual internal scrutiny. The supervisory guidance document should provide for wide flexibility of choice, within a range of best-practices. Overall credit risk in the banking system is reduced as a result of banks' ability to make these choices.

P. 67-68; V.C. and V.D. **S59 IRB institutions must have a transparent rating system. S60. Rating criteria must be clear and specific and must include qualitative and quantitative factors. S61. Polices must identify the parties responsible for rating accuracy and rating system performance. S62. Individuals must be held accountable for complying with rating system policies and for assigning accurate ratings, and their performance and compensation must be linked to well-defined measurable performance standards.**

We are also apprehensive that the language of the Supervisory Guidance may be interpreted by banking supervisors in such a way that a particular specification of risk rating definitions is prescribed to banks. Although Basel II allows for an expert judgment system, the paragraphs under **S59** of the Supervisory Guidance appear to require banks to identify and track specific criteria that are to be considered in a rating decision. By dictating such a requirement, the banking supervisors will, in effect, have eliminated expert judgment systems as a risk rating practice and imposed constrained judgment systems in their place. We note that the U.S. banking supervisors, themselves, have not followed these prescriptions when articulating the risk rating scale on which their Shared National Credit examinations will be conducted in the future.
Thus, the Supervisory Guidance language on pp. 67-68 should be re-worded to exclude the possibility of such supervisory interpretations of the guidance.

P. 68; V.D.**S63 Ratings used for regulatory capital must be the same ratings used to guide day-today credit risk management activities.**

No comment.

P. 69; V.F.**S64 Banks that use parameter estimates for risk management that are different from those used for regulatory capital must provide a well-documented rationale for the differences.**

We applaud this supervisory guidance, which recognizes that best-practice internal economic capital procedures may use different inputs than those required for regulatory capital purposes. Nonetheless, we hope that regulatory and supervisory standards over time will continue to evolve toward industry best-practices.

P. 69; V.F.**S65 Banks must have a comprehensive, coordinated, independent review process to ensure that ratings are accurate and that the rating system is performing as intended.**

We agree and appreciate the expression of this supervisory guidance in principle form rather than narrow prescription.

P. 70; V.F.**S66 Rating system review must report significant findings to senior management and the board quarterly. S67. An independent internal audit function must determine whether rating system controls function as intended. S68. Internal audit must evaluate annually whether the bank is in compliance with the risk-based capital regulation and supervisory guidance.**

No comment.

P. 71; V.H.**S69 The full board or a committee of the board must approve key elements of the IRB system. S70. Senior management must ensure that all components of the IRB system, including controls, are functioning as intended and comply with the risk-based capital regulation and supervisory guidance.**

No comment.

Appendix

Institutions in the RMA Capital Working Group

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

Staff participating in drafting or reviewing this response to the supervisory guidance document

Bank of America: John S. Walter, Senior Vice President, Risk Capital & Portfolio Analysis
Bank One: James Colton, Vice President; David Nunn, Vice President, Treasury
Comerica: Stefanie Kimball, Senior Vice President, Credit Risk Management; Blair Osborn, Senior Vice President, Portfolio Analytics, Reporting, and Credit Policy; Michael Earl, Vice President, Credit Policy.
FleetBoston Financial: Ranga Rangarajan, Managing Director-Mgt. Sciences, Corporate Strategy Group; James Papadonis, Executive Credit Officer, Corporate Consumer-Risk Management; Sumit Agarwal, Corporate Consumer-Risk Manager; Thomas Loeffler, Basel II Project Leader; William Schomburg III, Director of Economic Methodologies
JPMorganChase & Co: Michel Araten, Managing Director; Bradford Pollock, Vice President; Adam Gilbert, Managing Director
KeyCorp: Ashish K. Dev, Executive Vice President, Enterprise-Wide Risk Solutions, Robert Kula, Senior Vice President, Director of Economic Capital; Michael Pykhtin, Vice President, Risk Management
PNC Financial Services Group: Shaheen Dil, Senior Vice President, Portfolio Development Group; Terry Jewell, Vice President & Manager, RAROC and Profitability
Providian Financial: Wei Shi, Vice President, Treasury; Scott Schulz, Director, Treasury
Royal Bank of Canada: Lyn McGowan, Senior Manager, Basel Accord Implementation; Chitra Muralikrishnan, Senior Manager, Financial Policy and Economic Capital.
Union Bank of California: Paul C. Ross, Senior Vice President, Portfolio Risk Management; Desta G. Medhin-Huff, Vice President, Portfolio Risk Management.
Wachovia: Gary Wilhite, Senior Vice President, Risk Management, Portfolio Management Group; James Cypert, Asst. Vice President, Risk Management, Portfolio Management Group
Washington Mutual Bank: Alexander Kipkalov, First Vice President, Economic Capital Group; John Stewart, Vice President, Economic Capital Group
Wells Fargo: George Wick, Senior Vice President, Portfolio Strategies; Jouni Korhonen, Senior Vice President, Credit Risk Architecture
RMA - The Risk Management Association: Pamela Martin, Director of Regulatory Relations & Communications; Charles Taylor, Director of Operational Risk
Mingo & Co.: John Mingo, Managing Director

ATTACHMENT B

The Measurement of Required Capital versus Actual Capital, the Treatment of Expected Losses and the Loan Loss Reserve, and the Appropriate Soundness Standard Driving Regulatory Capital Minimums

RMA – The Risk Management Association

September 2003

I. Executive Summary.

The RMA Capital Working Group[1] believes that CP3 represents a significant step forward in reaching a fully articulated treatment of regulatory soundness policy, consistent with best risk measurement practices. We have separately responded to CP3 with regard to several major concerns -- however, the CP3 response was not the appropriate venue for discussing several very broad, "definitional" issues concerning prudential regulation and supervision. We believe these basic issues should be treated now, to forestall future problems with the implementation of Basel II. As usual, the discussion below refers to AIRB banks, which represent the core of our Group's membership.

In our view, Basel should continue to focus on minimum bank "soundness" as its main objective. We further agree that the definition of soundness should be "insolvency probability", which is the definition used by risk practitioners and by the authors of CP3. Basel should strive to have major, internationally active banks subject to a maximum insolvency probability that is the equivalent of, at least, a low investment grade rating (Baa3 using Moody's nomenclature). The level of capital ratios is not the important issue (and may in fact be quite misleading) -- only the level of insolvency probability is important. Critically, the current Basel II proposals, as embodied within CP3, subject major (AIRB) banks to excessively high Total Capital requirements, without assuring that any such bank meets a true, minimum soundness standard. This is directly the result of Basel using "Total Capital" as its preferred capital definition, while confusing the measurement of *required* capital with the measurement of *actual* capital.

The measurement of required capital should involve regulatory estimation of "loss distributions" facing AIRB banks. Such loss distribution estimates are the only commonly accepted measurement of risk for complex institutions. Basel II accomplishes this risk estimation process quite well (subject to specific criticisms in our CP3 response, some of which are repeated below). Once the regulatory loss distribution is estimated, however, Basel "drops the ball."

To begin, Basel requires the AIRB bank to use stressed, or recessionary, LGDs in estimating the regulatory loss distribution (for credit risk loss distributions). Then, Basel applies a 99.9% confidence interval to the resulting loss distribution. Required Total Capital is then set as the Loss at the Confidence Interval (LCI). This Confidence Interval is used both for credit risk capital and operational risk capital. This treatment within CP3 presents several major difficulties.

1) In measuring *required* capital (which, for the banks, is called Economic Capital -- really a measurement of risk at the bank), expected losses must be subtracted from LCI. This is because, even in extreme loss events, margins on performing assets

[1] The Capital Working Group of The Risk Management Association consists of senior risk management officers at large banking organizations responsible for the measurement of risk and the determination of Economic Capital. The names of the institutions represented on the Capital Working group, along with staff members contributing to the preparation of this paper, are shown in an Appendix. Individual banking organizations that are members of the Group may hold opinions regarding regulatory capital that differ from those expressed in this paper.

more than cover EL – capital is needed to cover only unexpected losses. This treatment of EL has nothing whatsoever to do with the Allowance for Lease and Loan Losses ("ALLL"). So long as banks price their services to include EL, plus a return to capital, capital is not needed to cover EL. There is, however, the separate issue of whether the ALLL should be included as part of *actual* capital.

2) In choosing to set a high confidence interval, coupled with a recessionary LGD within its credit loss distributions, Basel's Loss at the Confidence Interval is almost equivalent to requiring a bank to hold enough capital to meet a 0.1% insolvency probability *during a recession*. If this insolvency probability (0.1%) were applied on average throughout the cycle, it would be roughly equivalent to requiring banks to be at least A-rated. But requiring a 0.1% insolvency probability during a recession implies an even higher soundness standard than a grade A rating for the bank. And this is before, in some Basel countries such as the U.S., additional "well-capitalized" requirements are levied. Critically, the use of recessionary LGDs would result in Basel capital requirements being well above the results of the QIS 3 exercise.
3) While the Total Capital standards are extremely high, it is also the case that banks can meet the Total Capital standard at least partially with subordinated debt – which is not "real" capital. Additional subordinated debt, for any given asset level and composition, does not serve to reduce insolvency probability. It is Basel's Tier 1 requirement – set arbitrarily at one-half the Total Capital requirement – that most importantly determines insolvency probability. An example in the text shows that a bank with a risky portfolio can meet Basel's Tier 1 standard (as well as the U.S. well-capitalized standard) without meeting a Baa3 insolvency standard – the bank could be a "junk bond" bank in terms of its own soundness. Meanwhile, another bank, with a much less risky portfolio, would be subjected to a higher effective confidence interval (lower maximum insolvency probability) in terms of its Tier 1 requirements.

Thus, CP3 serves to require very high Total Capital levels but does not necessarily impose a true minimum soundness standard. Moreover, the AIRB banks with the riskiest operations are the ones to which the lowest true confidence interval (highest true insolvency probability) may be applied (in terms of the "real" capital standard). Additionally, there would be potentially severe differences across Basel countries in the manner in which the soundness standards are applied. Banks in countries with ALLL accounting procedures that are accommodating would be allowed to evade the inappropriate "EL charge" (paragraphs 347 and 348 of CP3), while other countries' banks would not. Banks, such as those in the U.S., with significant and arbitrary "well-capitalized" standards, would have to hold higher capital than other countries' banks. Further, the arbitrary multiplicative effect of the U.S. well-capitalized requirements (e.g., 1.5 times the Basel Tier 1 requirement) would serve to reinforce the arbitrary Basel Tier 1 requirement equal to one-half the LCI. In effect, U.S. AIRB banks would be subject to higher true confidence intervals than other Basel countries' banks, while each individual AIRB bank in the Basel countries would have applied to it a different true confidence interval (true insolvency probability standard) than any other Basel bank.

It would be a fairly simple matter to correct these severe inequities, while retaining essentially all of the current CP3 framework for AIRB banks. The RMA Capital Working Group recommends the following:

a) Remove the inappropriate EL charge for all bank services and products. Required capital (for both credit and operational risk) should be measured net of EL. The Pillar 2 process can easily confirm that bank pricing policies take account of EL, including a budgeted return on capital.
b) Require average through-the-cycle LGDs for use in the Basel credit risk loss functions, not recessionary LGDs. Alternatively, allow point-in-time LGDs to be used, recognizing that Basel minimum capital requirements would be more volatile over the cycle. We do not worry about such volatility so long as the Basel requirements are not so high (in the absence of banks' ability to engage in regulatory capital arbitrage) as to be the necessary input into banks' pricing models. Regulators should be extremely careful at what level they set the regulatory minimums (which, essentially, are the "well-capitalized" minimums) so as not to hinder AIRB banks' pricing prerogatives.
c) Redefine Tier 1 *actual* capital to include all of the ALLL – because this is the only equitable way to accommodate the great diversity in ALLL accounting procedures across Basel countries. We believe that tangible equity plus the ALLL is much closer to actual mark-to-market equity for most AIRB banks than is the current definition of Tier 1 capital.
d) Remove the arbitrary one-half-to-one relationship that currently exists between Tier 1 capital and Total Capital, and replace this relationship with two separate confidence intervals, which would apply uniformly to all banks. We recommend:
    - Tier 1 minimum capital equal to LCI less EL using a 99.5% confidence interval. This is equivalent to a Baa3 minimum soundness standard.
    - Minimum Total Capital equal to LCI less EL using a 99.7% confidence interval. The Total Capital standard cannot be translated into a minimum soundness standard (maximum insolvency probability) because total capital contains subordinated debt.
e) Basel should set the Well-Capitalized standards rather than leave this important issue to the individual countries. Moreover, the Well-Capitalized standards should not be arbitrary multiples of the minimum standards – this greatly distorts the true confidence intervals facing each bank. We recommend:
    - Well-Capitalized Tier 1 capital equal to LCI less EL using a 99.8% confidence interval. This is equivalent to a Baa1 well-capitalized soundness standard.
    - Well-Capitalized Total Capital equal to LCI less EL using a 99.9% confidence interval. Again, the Well-Capitalized Total Capital confidence interval cannot be translated into an insolvency probability.

The cumulative effects of these proposals would be to raise significantly the Tier 1 minimum capital requirements over and above the results of the QIS 3 exercise for

AIRB banks with risky portfolios. Such risky banks would also have their U.S. "well-capitalized" Tier 1 requirements rise above the previously proposed levels. Banks with less risky portfolios would have their Tier 1 minimum and well-capitalized requirements approximately unchanged from the QIS 3 exercise. All AIRB banks would have their minimum Total Capital requirements reduced from that of the QIS 3 exercise, while U.S. banks would have their "well-capitalized" Total Capital requirements reduced to a level approximately equal to the minimum Total Capital requirements proposed in the QIS 3 exercise. We believe the trade-off between increased Tier 1 requirements versus reduced Total Capital requirements is in the best interests of prudential regulation – and results in a much more equitable way of assessing capital charges that reflect true underlying risk.

Finally, our proposals could be implemented with little additional difficulty by AIRB banks – essentially requiring only that a new set of confidence intervals be used within the Basel credit risk models (and within the AIRB banks' own internal operational risk models).

II. Introduction and Overview.

This paper represents an attempt to establish a cohesive view of appropriate regulatory prudential ("soundness") policy. Such a view has not been consistently articulated within the various Basel II consultative papers, including the most recent Consultative Paper number 3 ("CP3"). The RMA Capital Working Group has commented on essentially all of Basel's releases, and in so doing we have espoused various components of our own view on appropriate capital regulation – a view based on best-practice Economic Capital ("EC") processes. Nevertheless, our "EC view" of capital has heretofore not been comprehensively described. We remain concerned that regulators, in their desire to implement a practical Basel II, and risk practitioners, in their desire to adhere to perceived best-practices, have not yet fully documented and analyzed the differences in underlying philosophies that drive the differences of opinion over specific aspects of the New Accord.

It is our further understanding that many banking institutions in the Basel countries have specifically complained about basic elements of the New Accord, such as the inclusion of an "EL charge" within the Basel minimum capital requirements, the choice of a high (99.9%) confidence interval, the requirement for estimating stressed or recession-only LGDs, rather than through-the-cycle LGDs, etc. We believe that these basic issues are inter-related and that Basel's treatment of any one of them cannot be considered in isolation. For this reason, we attempt to specify a cohesive view of "soundness regulation" that would result in a somewhat different approach to capital regulation than taken within CP3, albeit an approach that would not necessarily result in substantially different aggregate minimum capital requirements than those measured within the recent QIS3 exercise. Although the QIS3 exercise has shown that the sum of credit risk capital and operational risk capital is not too different from the requirements of the Old Accord, it is clear to us that, especially as implementation details emerge, the actual minimum capital requirements could be significantly higher than the results of QIS3. Furthermore, it is also clear, that the specific manner in which Basel measures required capital, and defines actually-held capital, could lead to too high Total Capital requirements for many banks, while at the same time allowing some banks to hold Tier 1

capital that would be the equivalent of a very low (i.e., "junk bond") soundness standard. This "no-win" situation is directly the result of the attempt by Basel to implement new, highly risk-sensitive measures of required capital, without redesigning capital definitions to reflect the realities of risk-measurement practice, and without adhering consistently to a stated soundness standard. These "definitional" issues, we have been told in the past, are to be considered in "Basel III." It is clear to us, however, that now is the time to consider these issues, before much more time has elapsed struggling with the critical implementation details.

Our discussion, as usual, is aimed at the regulatory capital requirements for AIRB banks, which represent the core of our membership. To begin, we believe that a set of basic objectives for the New Accord, expressed in an unambiguous manner, should be agreed upon. Before such objectives can even be enunciated, however, Basel and the regulated industry should agree on a definition of "soundness." It has long been recognized that capital, in and of itself, is not the matter at issue. Rather, regulators are (or should be) trying to establish minimum "soundness" levels for regulated banking institutions. The definition of soundness implicitly employed within CP3 and previous Consultative Papers is the "probability of the bank becoming insolvent within a specified future horizon." We agree that this definition of "soundness" is useful, since it is precisely the definition used by banks when determining the adequacy of their capital levels utilizing best-practice risk measurement techniques. It is important to note that such a soundness standard is measured by observing two things – the level of risk in the bank's activities, and the level of capital actually held by the bank. Higher capital levels are needed by banks with riskier portfolios in order to meet any given target insolvency probability. It matters not what the level of capital is, only the level of insolvency probability. As we shall see below, implementation of the current CP3 proposals could result in a bank having a very high level of capital but, given the bank's very risky portfolio, the bank may not be meeting the same insolvency probability standard as other banks with much lower capital levels.

Critically, in order for regulators to accurately measure "risk" in the bank's portfolio of activities, the regulator must use a best-practice risk metric. To do otherwise would invite substantial differences between the bank's (and the market's) view of bank soundness vis a vis the view of the regulator. That is why Basel has spent such effort in aligning as closely as possible the measurements of risk implicit in the AIRB approach with best-practice measurements of risk. In practice, this effort translates into measuring "loss distributions" in much the same way as the industry estimates such distributions. Banks with "thicker-tailed" loss distributions are more risky than other banks, and thus need more capital than other banks to meet any targeted insolvency probability. This use of loss distribution measurements is critical to the discussion, because no other widely accepted measurement of risk exists. As we shall see, however, measuring risk the same way as a best-practice bank is not quite the same thing as measuring required capital (to meet a particular soundness standard) in the same way as the bank.

With these cautions in mind, it is our view that the basic objectives of prudential regulation and supervision should be as follows:

- Regulatory soundness requirements should be, as in the past, *minimums*, not <u>targets</u>.

- As a generality, Pillar 1 capital requirements should be lower than Pillar 2 requirements (to the extent supervisors require additional minimum capital for an individual bank due to its individual circumstances), which in turn should be lower than market (Pillar 3) requirements. That is, regulation should dictate minimum capital, but the market should dictate target capital. To put a finer point on this objective, note that almost all publicly-traded, large and complex banking institutions maintain senior debt ratings in a wide range from Baa to Aa (with almost no banks being rated Aaa). To require that *all* large banks, as a matter of regulation, maintain sufficient capital significantly above the Baa level would be tantamount to narrowing this range of observed soundness levels to that of the very best-rated banks. This would represent a significant and unhealthy departure from past regulatory practice.
- Consistent with the objective immediately above – that the market should, in most circumstances, dictate *target* capital – the *minimum* capital requirements should reflect a soundness standard equivalent to approximately a Baa3 rating (the lowest "investment grade" rating). That is, based on historical default frequencies of rated corporate debt, banks should be required to hold enough capital to reduce to approximately 50 basis points the probability of becoming insolvent over the next one year.[2]
- Regulatory minimum capital requirements need not be completely stable over the cycle, since we do not believe that the "procyclicality" issue is of major significance. Rather, regulatory capital requirements should be *below* best-practice estimates of capital. If this is so, procyclicality then becomes a separate issue having nothing to do with regulatory capital minimums. Rather, procyclicality has to do with the pricing policy of banks that use point-in-time EC estimates in their pricing models. We discuss this issue below.
- To maintain a level playing field, Basel should not leave to individual countries the establishment of "well-capitalized" capital requirements; moreover, such requirements should not be arbitrary (e.g., 1.5 times the Basel minimum). Rather, "well-capitalized" soundness standards should be set in terms of an insolvency probability, to mirror the setting of minimum capital requirements. Thus, if the minimum capital requirement is aimed at establishing an insolvency probability of no more than 50 basis points, the "well-capitalized" standard should aim at establishing an insolvency probability of no more than, say, 20 basis points. In any event, Basel must recognize that "well-capitalized" standards tend to become de facto "minimum" standards. For example, in the U.S., all the large, publicly-rated banks (having bond ratings at Baa3 and above) currently meet "well-capitalized" capital standards.

These objectives may seem straightforward, and at times various Basel documents have espoused some of these objectives. Yet, the actual implementation of Basel II is structured so that it is not possible to meet all, or even most, of these objectives. Most critically, Basel II definitely does not meet the objective of having all banks adhere to a

[2] The translation of a bond rating into an insolvency probability depends on the particular rating agency database being used and the particular historical time period over which the expected default frequencies are being measured (see Table 2).

minimum soundness standard equivalent to the lowest investment grade rating. The discussion below attempts to assess Basel II's success in meeting appropriate soundness objectives by comparing Basel's treatment of capital with risk practitioners' treatment of capital. The discussion is organized as follows. Section III looks at Basel's measurement of *required* capital versus the market's measurement of *required* capital. This section specifically discusses the "EL issue" and the "ALLL issue." Section IV looks at Basel's measurement of *actual* capital versus the market's measurement of *actual* capital. Section V analyzes how Basel II's capital requirements, given Basel's definition(s) of actually-held capital, may fail to meet a reasonable soundness standard while simultaneously requiring banks to hold too much Total Capital. Section VI discusses the procyclicality issue. In Section VII we propose a specific set of regulatory capital requirements that would meet all of the objectives outlined above, and that could be implemented in a practical manner utilizing Basel II's current analytical framework.

III. Required Capital.

Basel focuses on establishing a minimum amount of Total Capital, which is defined to include the Allowance for Loan and Lease Losses ("ALLL"), up to a limit, plus qualifying subordinated debt. Because of this choice of definition of capital, and because some supervisors have viewed the ALLL as "covering" Expected Losses, Basel has chosen to measure required capital as inclusive of EL. That is, Basel attempts to estimate the loss probability distribution in a fashion similar to the best-practice bank, then Basel defines required capital as the loss at the chosen confidence interval (Basel chooses 99.9% as its confidence interval). Risk practitioners, however, tend to separate the measurement of *required* capital from the measurement of *actual* capital. Required capital is measured as Economic Capital -- the Loss at the Confidence Interval less EL (also known as "unexpected losses") -- while actual capital is measured as a rough approximation of mark to market net asset value (mark to market assets minus mark to market liabilities).

Best-practice banks measure required capital (EC) as the loss-at-the-confidence-interval ("LCI") less EL because *expected* net interest margins (net of net-non-interest-expenses) must cover *expected* credit losses plus a return to Economic Capital. This *ex ante* relationship governing spreads has been employed by bankers since before the advent of EC. For a banking business line to be profitable, in the economic sense, margins must be set to cover expected expenses, including expected losses, and must generate an expected minimum return to capital. Notice that this treatment of EL has nothing whatsoever to do with the ALLL. The ALLL enters the picture only insofar as it may (or may not) be considered a part of mark-to-market capital actually held by the bank. This essential pricing relationship today is known as the Shareholder-Value-Added ("SVA") equation, and every best-practice bank attempts to have each product line generate positive SVA.[3]

[3] SVA = NIM – NNIE – EL – r EC, where NIM is net interest margin, NNIE is net non-interest expense, EL is expected losses, r is the required return to capital, and EC is Economic Capital. Note that CP3's treatment of Future Margin Income ("FMI"), for qualifying revolving retail credits, is inherently inconsistent with the SVA relationship. CP3 requires that the bank demonstrate that FMI covers EL plus 2 standard deviations of annualized loss rate on the product. SVA says that FMI must cover EL plus rEC.

While pure theory treats the SVA relationship as an *ex ante* test, in practice many banks measure SVA on an *ex post* basis, using actually realized margins. These measurements confirm that margins generate significant positive SVA. SVA is positive when Future Margin Income ("FMI"), defined as net interest margin minus net non-interest expenses, exceeds EL plus the required return to capital. In fact, actual margin income on non-defaulted loans usually exceeds EL even under the condition of a realized extreme (99.9%) loss event. As an example, assume that a best-practice bank uses an EC model that is equivalent to the Basel model for "other retail" credits. Table 1 below shows the relevant relationships, assuming the Asset Value Correlation ("AVC") is at the level used by Basel and Net Non-Interest Expense is 1%. In the example, realized ("tail event") margins on non-defaulted loans, net of non-interest expense, exceed EL by almost 50%.

Thus, appropriate pricing may not meet the arbitrary requirement in CP3 – that is, rEC may not be as high as 2 SD. For example, if the required rate of return on EC is 15%, and if EC equals 10 standard deviations of loss rate, then rEC equals 1.5 standard deviations and the arbitrary CP3 requirement is not met. Whether the SVA relationship meets the CP3 standard depends solely on the shape of the loss distribution and the chosen confidence interval. In general, the thicker the tail of the loss distribution or the higher the chosen confidence interval the more likely the CP3 requirement will be met. If Basel were to have any test at all, it should be the SVA test. In such a case, the supervisory process would very quickly determine that, yes, the SVA test is routinely being met.

Table 1

PD = 2%
LGD = 100%
EL = 2%
LCI = 12.3%
EC = 10.3%
NNIE = 1%
r = 15%
NIM ∃ 1% + 2% + 15%(10.3%) = 4.55%
Defaulted loans at 99.9% confidence interval = 12.3% of total
Non-defaulted loans at confidence interval = 87.7% of total
NIM on non-defaulted loans = 4.55%(87.7%) = 3.99%
FMI on non-defaulted at 99.9% confidence interval = 3.99% - 1% = 2.99%[4]
Realized FMI on non-defaulted loans , EL

In summary, EL should not be "covered" by capital, nor does the level of the ALLL have anything to do with "covering" EL, at least from the perspective of risk measurement and capital adequacy analysis. For all risk products, as long as the bank is pricing credits appropriately, *required* capital should equal LCI minus EL. For any given confidence interval (insolvency probability) chosen by the regulator (or the bank), capital at this level will assure that the soundness standard is being met.

In order for the best-practice bank to be deemed adequately capitalized by its own (or the market's) standard, actual capital should equal or exceed required capital. Required capital is measured at a chosen confidence interval designed to reflect the bank's desired bond rating. For most banks in our group, when using a one-year horizon, the chosen confidence interval is 99.9% or higher, reflecting a desire to achieve at least an A3 rating. To see how confidence intervals are related to desired bond ratings, note that each public rating category can be associated with an historically observed average default rate over a one-year horizon. As shown in Table 2 below, a default probability of 0.1% is approximately the dividing line between A3 and Baa1 (using Moody's nomenclature). The appropriate confidence interval is simply one minus the targeted default rate. The bank, in effect, expresses its "soundness standard" as 1 minus its chosen probability of becoming insolvent over the next year. The measurement of historical default frequencies for a given bond rating depends to some extent on which database is being used (e.g., Moody's or Standard and Poors) and on which historical time period is being used. Table 2 below shows these average default rates for the Moody's default database, for two different time horizons – 1-year and 5-years – using default data for the years 1983 through 2002.

[4] Unexpected losses (EC) as well as EL should be measured as loss of principal and interest.

Table 2 Default Frequencies by Rating Grade*

Rating (sub-grade)	1-year horizon	5-year horizon[5]
Aaa	0.00%	0.17%
Aa1	0.00%	0.17%
Aa2	0.00%	0.33%
Aa3	0.05%	0.29%
A1	0.00%	0.47%
A2	0.03%	0.68%
A3	0.04%	0.62%
Baa1	0.21%	1.80%
Baa2	0.15%	2.24%
Baa3	0.50%	4.23%

***** Note: Moody's designation Baa1 is equivalent to S&P's BBB+, etc.

Note that the one-year default frequencies shown in Table 2 are not "monotonic" in that, in a couple of places, the observed average default frequency for a particular sub-grade may be lower than that of the next higher sub-grade. For example, the Baa2 PD is 0.15%, whereas the Baa1 default frequency is 0.21%. In the discussion below we tend to speak of these default frequencies as if they were "smoothed." Thus, for practical purposes, all Aa/A subgrades have the same PD (on the order of 4 or 5 basis points); the AAA default frequency is essentially zero; the Baa2 default frequency is between 20 and 50 basis points.

It is also important to note that the measured default frequencies for rated corporate bonds shown in Table 2 consist of *through-the-cycle* default rates – the average percentage of corporations of a given rating in existence at the beginning of any year that actually defaulted prior to the end of that year, measured over one or more economic cycles. Basel employs a 99.9% confidence interval for Total Capital that translates into a *much lower* through-the-cycle default probability than 0.1% (a much higher effective confidence interval)-- because Basel employs inputs into its credit risk model (LGDs and EADs) that are measured during recessions rather than through-the-cycle and because, for retail credits, Basel uses AVCs that are higher than those used by the industry.[6] Thus, we conclude that Basel's Total Capital requirements are simply too high (see discussion below).

[5] Since default rates are always higher the longer the chosen horizon, the longer horizon is associated with a lower confidence interval. In effect, lengthening the horizon results in a thicker tail of the loss distribution, but this is offset, partially or completely, by using a lower confidence interval.

[6] PD is also to be set at a level above its through-the-cycle measurement, because CP3 requires a "margin of conservatism" when estimating PDs.

A best-practice bank may measure two different types of required EC. One type of EC is measured in a "through-the-cycle" manner so that it does not change much (as a percent of business size), if at all, over the cycle. This "TTC" EC typically will be measured using TTC PD's, TTC LGD's, and TTC EAD's (although there is little evidence and no theory that suggests EAD's vary across the cycle). The TTC EC may be used to measure business line performance, since line managers must have a fairly stable EC measurement to calculate each year's SVA, to plan for expansions and staffing levels, etc. Also, on a bank-wide level, the bank will compare its actual capital with this required capital level and generally will hold a "cushion" of actual capital above TTC EC. The cushion is necessary in order to weather contingencies while still maintaining a market view of adequate capitalization. Additionally, the bond ratings process, which consists mainly of applying capital rules of thumb to bank business lines, is conservative relative to internal EC processes. Thus, even if the bank measures EC at the 99.95% confidence level (consistent with an Aa or better default probability), it will need a cushion over and above TTC EC to actually achieve an Aa rating.

A second type of required EC measurement is often used within asset pricing models. This EC is "point-in-time" ("PIT") in the sense that inputs into the credit risk model are measured relative to the stage of the cycle – PDs, LGDs, and EADs are estimated given the current economic outlook Thus, when the economy heads into a downturn, the tail of the portfolio loss distribution thickens (because estimated PDs and LGDs increase), measured EC rises, and pricing models appropriately adjust required credit spreads upward to reflect the actual increase in risk.

The best-practice bank simply cannot afford to hold actual capital at all points in the cycle equal to the level of point-in-time capital required during a recession when using the same confidence interval as used during the rest of the cycle. To do so would imply a higher true soundness level than associated with any given bond rating – and Shareholder-Value-Added would suffer. Put another way, if the bank held at all points in the cycle enough actual capital to meet, say, a 0.1% default probability during a recession, its through-the-cycle default probability would be *substantially less* than 0.1%. Such high soundness levels clearly are not what the market wants (or every major bank would have an Aa rating). Nor are such high soundness levels what the macro economy needs if banks are to fulfill their role as intermediaries.

Basel has chosen to measure required regulatory capital in a manner that would result in a fairly stable relationship between required capital and size of business over the cycle. This choice is largely driven, as we understand it, by the desire to avoid having the regulatory capital requirement be "procyclical." We do not disagree with this approach – except to note that Basel has a choice between two alternatives, each of which would result in a stable EC measurement over the cycle. First, Basel could impose a *stable*, required capital measurement that reflects a <u>through-the-cycle</u> measurement of EC; alternatively Basel could impose an alternative *stable*, required capital measurement that reflects <u>point-in-time</u> EC during a recession. If Basel were to implement this latter requirement, in the context of a very high (99.9%) confidence interval, the Committee would be imposing Total Capital requirements that are equivalent to Aa bond ratings. Because CP3 uses recession-only LGDs and higher AVCs than the industry, the resulting capital requirement is more akin to a bank's point-in-time EC during a recession than a

bank's EC on a through-the-cycle basis. Indeed, as indicated in our formal response to CP3, using recession-only LGDs and EADs could result in required capital for credit risk rising on the order of 45% higher than the results of the QIS3 exercise (in which reporting banks employed through-the-cycle LGD and EAD estimates).[7] To be sure, the result would not be "procyclical" in that the Basel requirement would be stable over the cycle. But the result would severely limit bank's intermediation function *during all points of the cycle,* due to the dramatic increase in required regulatory capital over current levels.[8]

To summarize, the best-practice bank measures *required* capital in two fundamentally different ways than Basel has proposed within CP3:

- The bank subtracts EL from LCI when measuring required capital. Basel proposes to employ a "back-door" elimination of its "EL charge" by allowing some banks in some countries to use the accounting ALLL to decrease or eliminate the EL charge (Paragraphs 347 and 348 of CP3).
- The bank uses a <u>through-the-cycle</u> measurement of EC for purposes of establishing the required capital it must hold to meet its own soundness standard. Basel uses a measurement of loss-at-the-confidence interval that is more akin to banks' internal "point-in-time" estimates of LCI measured during a recession.[9] In both cases – the bank's TTC EC and Basel's recessionary EC -- the measurement of required capital is insensitive to the cycle, but Basel's measurement of required capital is significantly higher than the bank's and, if our measurements are correct, significantly higher than the Old Accord's Total Capital requirements, and perhaps higher even than market capital requirements.

A solution to the first issue – the so-called "EL charge" – should <u>not</u> involve the ALLL (as is proposed in paragraphs 347 and 348 of CP3). Different regimes account for the ALLL in a quite diverse manner. In the U.S., for example, emerging accounting

---

[7] See RMA, "Response to Basel's Third Consultative Paper on the New Capital Accord," July, 2003, p. 14.

[8] We recognize that the way in which the Basel ASRF model works essentially "requires" that expected LGD be that which is observed in recessions. This is because, for a given confidence interval, loss-at-the-confidence interval within the ASRF model is equal to the conditional PD (conditioned on a bad "draw" of the macro risk factor) times expected LGD (again, conditioned on a bad draw of the macro risk factor). An alternative way of building the model would be to include a stochastic LGD process in which there is some specific degree of correlation between PD and LGD (both reacting to draws of the macro risk factor). We do not advocate replacing the ASRF model with such a complex model, but we would agree that the main issue is the level of resulting regulatory capital. Thus, the ASRF model populated with a recessionary LGD input, we believe, should be used with a lower confidence interval – a confidence interval implied by observed default rates during recessions. That is, if Basel is going to use a recessionary LGD, it should first choose a bond rating (we believe Baa3 is appropriate) and then use the observed default rate on Baa3 bonds during recessions. Conversely, Basel could use the lower default rate observed as an average of Baa3 default rates over the cycle (implying a higher confidence interval), coupled with an "unstressed" expected LGD (i.e., the average LGD observed over the cycle). In the text, we discuss why the latter approach is more practical.

[9] The PIT EC is measured using PDs, LGDs, and EADs within estimation functions that include current macro variables. Basel uses TTC PDs (adjusted downward for a "degree of conservatism"), plus recessionary LGDs and EADs. Thus, Basel's loss-at-the-confidence-interval is somewhat higher than the bank's TTC EC but not so high as the bank's PIT loss-at-the-confidence-interval during a recession.

practice likely will not permit the ALLL to reflect "expected losses." A recent Exposure Draft from the U.S. accounting profession indicates that, for pools of homogeneous credits, such as retail credits, the ALLL should not reflect EL but rather should reflect losses on assets where it is "probable" the bank will be unable to collect all amounts due and where these losses can "reasonably be estimated."[10] Thus, in the U.S. the exact manner in which the ALLL is calculated in the future may change (although it is unclear to what extent the level of the ALLL will change). Moreover, at least one U.S. regulator has stated that, in the U.S., the ALLL should not be used to reduce Basel's "EL charge" (as proposed in Paragraph 347 of CP3), primarily because in the U.S. "portfolio-specific" general reserves are not used.[11] In the risk practitioner's view, this accounting question is beside the point; the level of the ALLL is a completely separate issue from the level of measured *required* capital. No matter the particulars of a country's accounting rules, required capital is a measurement only of unexpected losses, so long as bank asset pricing practices continue to be rational. A separate question is whether or to what extent the ALLL should be considered part of actual capital (see below).

A solution to the second problem – that of Basel proposing to use stressed LGDs and EADs -- is simply to remove the proposal, or to lower the chosen confidence interval, or lower the AVCs, or all three. As we have indicated, requiring banks to maintain a 0.1% insolvency probability even during a recession is simply not practical – it would be the equivalent of requiring all AIRB banks to maintain an Aa rating. Another QIS exercise, in which recession-only LGDs are used by reporting banks, would provide Basel with empirical evidence of our claim, but we see little need to prove this straightforward point. It should also be noted that historical default rates on all rating categories go up during recessions. Thus, another possible solution to the problem is to lower the Basel confidence interval to a level reflecting default probabilities during recessions for Basel's desired bond rating (to reflect higher bond default rates for all grades during recessions). This solution would be somewhat less practical (than simply using the lower TTC LGDs and the higher TTC confidence intervals) because it would be difficult empirically to establish exactly how much the confidence interval should decline. For example, at the A3/Baa1 implied rating level (associated with a 0.1% through-the-cycle default frequency, see Table 2), there are very few recorded defaults even during recessions. Moreover, using a "modern" period of default data (e.g., the last 20 years used in Table 2) entails only two recessions – in effect, we would have only two observations for establishing a "recession" confidence interval. What's more, "recessions" for some credit products (such as commercial loans) may have occurred at different times than recessions for other credit products (such as residential mortgages). There are also likely to be cross-border differences regarding the timing of recessions with respect to any given credit product.

---

[10] See AICPA, "Proposed Statement of Position – Allowance for Credit Losses," draft August 20, 2002. In a footnote beginning on p. 26, the Exposure Draft refers to a "loss emergence period" as the number of periods it takes for losses that have occurred to be recognized, or "emerge". This number of periods, in conjunction with historical charge off rates (applicable to the current period), can be used to compute an historical charge-off component to the reserve.

[11] American Banker, June 17, 2003, referring to a memorandum from Chairman Powell (FDIC) to Vice-Chairman Ferguson (FRB) and Comptroller Hawke (OCC).

In short, we believe that, when measuring required capital, the practical solution is for Basel to

- Set its soundness standard using the average TTC default rate for a given, target bond rating for the bank (this would result in a TTC confidence interval)
- Use TTC PDs, TTC LGDs, and TTC EADs
- Subtract EL from Loss-at-the-Confidence Interval to reflect the pricing policies of banks

IV. What is *actual* capital?

Once the analyst arrives at the level of required capital, the next question is: how much capital does the bank actually have? For the risk practitioner, this question is restated as: how much mark-to-market capital does the bank have? In some risk measurement systems, Economic Capital is measured off of a loss distribution that specifically entails the possibility that, although a loan may not default, the loan may lose value over the horizon (e.g., the loan may continue to perform but may be downgraded). Thus, for some best-practice banks, internal EC is measured using so-called mark-to-model or mark-to-market valuation procedures.[12] The question of capital adequacy then comes down to the question of how much MTM equity the bank now has versus the decline in MTM equity that would occur at the chosen confidence interval. If the stressed loss – decline in MTM equity over the next year, at the 99.9% confidence interval -- is at least "covered" by current MTM equity, the bank is meeting its own soundness standard. There is only a 0.1% chance that MTM equity will turn negative.

The problem for bankers, and for Basel, is that no simple aggregation of accounting balance sheet items can represent an accurate assessment of MTM net asset value (equity). It is also the case that Basel's definition of Total Capital, which includes subordinated debt, does not remotely approximate MTM equity and is almost certainly well above MTM equity. Looking at the issue in more traditional terms, subordinated debt cannot be used to "absorb" losses. No matter how much subordinated debt the bank has, once "real equity" such as retained earnings are wiped out, the terms of subordinated debt contracts define the bank to be in default, and insolvency cannot be avoided. Subordinated debt does serve to "cushion" the loss (in the event of default) to the deposit insurance agency. Also, the public ratings on subordinated debt act as a useful signaling device to supervisors and other stakeholders. But subordinated debt does not serve to stave off insolvency – and it is the "probability of insolvency" that is Basel's (and the industry's) definition of a soundness standard.

Tier 1 capital is much closer to the industry's own (very crude) balance sheet analogue to MTM equity. However, most Advanced banks also include the "general" portion of the ALLL (not "specific" reserves), along with tangible equity (Tier 1), as a crude approximation of MTM equity. That is, the bank defines actual capital as tangible equity plus general reserves, then compares this amount to required capital (i.e., EC). Tangible equity plus general reserves is essentially "primary capital" as used by U.S. regulators during the 1980's prior to the 1988 Accord. In practical terms, the risk

[12] Basel's credit risk model – the ASRF model – is a "default mode" model which nevertheless takes into account the possibility of economic loss short of default by employing a maturity correction for commercial assets. In this sense it is somewhat akin to a MTM credit risk model.

practitioner is saying that performing assets, as a rule, can be sold at market for their carrying values *before* deducting general reserves. Conversely, troubled assets can be sold for market values close to their carrying values *net* of specific reserves.

While the risk practitioners' definition of actual capital is very different from Total Capital, and somewhat different from Tier 1 capital, it is still quite crude. First, the balance sheet does not account for so-called Fallen Angels – assets that are still performing but have been downgraded and therefore have lost market value. Interestingly, by including a maturity adjustment in its own AIRB credit risk model, Basel has created a reasonable approximation of the effect of downgrades on *required* capital, but Basel has no practical way of accounting for the effect of Fallen Angels on *actual* capital. Second, certain unrecorded assets with significant value exist for the bank, even in the event of insolvency. Foremost is the value of the deposit franchise. In the U.S., in the years prior to Prompt Corrective Action, when it was difficult for regulators to shut down a bank while it still had positive book equity (let alone positive MTM equity), the insolvent bank's deposit franchise could be sold for a "premium" that offset the mark-to-market "hole" that otherwise existed in terms of MTM assets having less value than liabilities. All banks have such a franchise, but there is no accounting methodology for carrying such an asset on the books[13], nor are we suggesting that there should be. Another type of "premium" is associated with certain retail portfolios for which origination costs are high. Such portfolios can usually be sold for more than their carrying values. Thus, it is clear that there could be many adjustments to balance sheet equity, in either direction, that arguably are needed to arrive at MTM equity. Estimating MTM equity will continue to be a difficult process, and, in any event, only fairly complicated internal valuation models can do the job, not balance sheet components. In the absence of incorporating these valuation models into the accounting process (something we would definitely not recommend due to its complexity), the best-practice bank has little choice but to use tangible equity plus the general reserve as its approximation of MTM equity.

Basel, for better or worse, must work with current accounting categories. It is clear that subordinated debt should not be one of these "equity" categories – it simply cannot absorb losses. Tier 1 capital is closest to most observers' view of "real capital." However, we believe that including <u>all of the ALLL</u>, even specific reserves, in Tier 1 is preferable to the current definition. One reason for doing so is that all of the ALLL clearly serves the purpose of absorbing losses – a primary function of capital. Second, we recognize that there is a considerable diversity of practice across Basel countries with regard to how the ALLL is accounted for. In some countries, the ALLL may include a very large "general" segment of reserves that has nothing to do with impaired assets. In some countries, the "specific" portion of the ALLL may be quite conservative (reflecting a supervisory concern that troubled assets be treated accurately). In other countries, neither "specific" nor "general" reserves may amount to a fraction of the ALLL that exists in "conservative ALLL" countries. In all accounting systems of which we are aware, however, the ALLL is created by a series of charges to income (provisioning). Therefore, banks in a "conservative" ALLL country, which require high provisioning each year, will have correspondingly lower retained earnings levels, other things equal (including tax and

[13] Except in the event of a bank acquisition of another bank's deposit base.

dividend policies). Similarly, banks in "liberal" ALLL countries will have correspondingly higher retained earnings. Thus, a level playing field is more likely to be created by defining real capital to be inclusive of *both* retained earnings and the ALLL – Tier 1 *actual* capital should be redefined to include all of the ALLL.

V. Is CP3 meeting a reasonable soundness standard?

We have already discussed why Total Capital requirements are too high, so long as a 99.9% confidence interval is used in the context of recession-only LGD inputs and high AVCs. But best-practice banks can meet this too-high standard by issuing significant amounts of subordinated debt. Such debt is not cheap by any means, nor are all banks on an equal footing in terms of their ability to issue such debt. Historically, large banks hold Tier 1 capital (the more "real" of the two Basel capital definitions) which is on the order of 70% of Total Capital,[14] but there is wide diversity in this ratio. If Total Capital is set way too high, holding Tier 1 capital even at the level of 70% of Total Capital could entail higher true soundness levels than should realistically be associated with regulatory "minimum" capital requirements. More to the point, even if 70% of Total Capital represents a reasonable true soundness requirement, the additional subordinated debt that must be issued to meet the Total Capital requirement serves little purpose and can be quite expensive. As a signaling device, only a small amount of rated senior debt would suffice. As for the protection of the insurance agency, early closure rules (before accounting equity declines to zero) can substitute for subordinated debt. Moreover, it is clear from the U.S. experience in the late 1980's, when insurance premiums for non-defaulted banks *quadrupled*, that a properly structured deposit insurance agency consists of nothing more than a call on the equity value of all solvent banks – the insurance fund need not consist of a government guarantee of deposits. Thus, the extremely high Total Capital requirements can impose heavy costs on AIRB banks without necessarily invoking a reasonable minimum soundness standard.

It is "real" capital, not Total Capital, that actually determines the insolvency probability of the bank – and under CP3 such real capital can be so low that a bank barely meeting the Basel standard could be a "junk bond" bank. The essential problem is that minimum *required* capital level for Tier 1 capital is defined arbitrarily as one-half of the Total Capital requirement. Put another way, Tier 1 capital set equal to one-half of the Total Capital requirement (measured at the 99.9% confidence interval) could be equivalent to significantly less than the capital required to maintain, say, a Ba3 level of soundness. To see this, Table 3 provides a specific example of two banks, with very different portfolios. In this table, we treat the actual Tier 1 requirement as being approximately equal to our preferred Tier 1 definition. We compute Basel Total Capital at the 99.9% confidence interval on each of the two banks' portfolios (including the "EL charge" which we wish to eliminate). The computation is made using Basel's AVCs, which, for retail, we believe are too high. Correspondingly, Tier 1 capital is then set equal to one-half of Total Capital. We then take this level of Tier 1 capital – the capital definition that is closest to "real" capital – and "solve backwards" for the implied

[14] See RMA, "Response to the Basel Committee's Consultative Paper on a New Capital Accord", May 31, 2001,Table 4, p. 23 (the ratio of Total to Tier1 capital is approximately 68% for 10 large RMA Capital Working Group banks).

confidence interval associated with this level of Tier 1 capital (i.e., the confidence interval that, if applied to the underlying loss distribution for the bank, would yield a Loss-at-the-Confidence Interval equal to the amount of required Tier 1 capital).

Table 3
Implied Confidence Intervals for Basel Minimum Tier 1 Capital
Corporate exposures with 1 year maturity

INPUTS		
	Bank A	Bank B
Original Confidence Level	**99.90%**	**99.90%**
Probability of Default	2.00%	0.10%
Expected LGD	50%	50%
OUTPUTS		
Asset Correlation	16.4%	23.4%
Basel Total Capital	9.51%	1.71%
Basel Tier 1 Capital (0.5x)	4.76%	0.85%
Implied Confidence Level	**98.27%**	**99.47%**

We chose the two hypothetical portfolios to be in sharp contrast to one another. Bank A's portfolio consists of essentially corporate loans that would be junk bond rated, if the loans were indeed rated. Bank B's loans are in the highest two grades of most banks' commercial loan grading system. Given Basel's way of computing required Tier 1 capital, the Bank with the bad portfolio must hold minimum Tier 1 capital that, in terms of its implied confidence interval, would not even permit the bank to reach Ba status,[15] let alone Baa3 status (the lowest investment grade rating). Meanwhile, the bank with the good portfolio must hold minimum Tier 1 capital that would almost have it meet low investment grade status. Thus, while the industry correctly complains about Total Capital being too high, Tier 1 capital can be, depending on the circumstances of the individual bank, too low. Put another way, Basel's arbitrary choice of a Tier 1 standard means that even banks with modestly risky portfolios are not being subjected to a sufficient minimum soundness standard.

What about so-called "well-capitalized" capital standards?

Basel has stated that individual countries should impose, in addition to the Basel minimum capital requirements, a so-called "well-capitalized" standard. However, it is left up to individual Basel countries to come up with such a standard. Currently, not all Basel countries have such a standard.. In the U.S., the "well-capitalized" standard was set in the early 1990's when regulators and bankers were under the impression that higher capital ratios always meant more "soundness." Now, of course, we fully recognize that a high capital ratio could be indicative of high risk, so that a bank with 12% capital is not

[15] Using the same Moody's defaulted bond database as in Table 2, the TTC default probability for Ba rated bonds (for a one-year horizon) is 1.28%, implying a confidence interval of 98.72%.

only not safer than a bank with 6% capital, but could even have a higher insolvency probability. In the early 1990's, therefore, it made sense to simply set the "well-capitalized" standard in the U.S. at an arbitrary 1.5 times the Basel minimum Tier 1 requirement (and 1.25 times the Basel minimum Total Capital requirement).

To show how such arbitrary rules achieve very little, Table 4 repeats the same experiment as in Table 3, by setting up two hypothetical banks with dramatically different portfolios. As before, Bank A holds a portfolio of high risk commercial loans, while Bank B holds a portfolio of high quality commercial loans. For comparison, the Basel Tier 1 and Total Capital requirements are repeated from Table 3, and the U.S. "well-capitalized" standards are added.

Table 4
Implied Confidence Intervals for Basel Minimum Capital vs.
U.S. "Well-Capitalized" Standards

Corporate exposures with 1 year maturity

INPUTS	Bank A	Bank B
(1) Original Confidence Level	**99.90%**	**99.90%**
(2) Probability of Default	2.00%	0.10%
(3) Expected LGD	50%	50%
OUTPUTS		
(4) Asset Correlation	16.4%	23.4%
(5) Basel Total Capital (x)	9.51%	1.71%
(6) Basel Tier 1 Capital (0.5x)	4.76%	0.85%
(7) Implied Confidence Level	**98.27%**	**99.47%**
(8) US Well-capitalized Total Capital (1.25x)	11.89%	2.14%
(9) Implied Confidence Level	**99.97%**	**99.95%**
(10) US Well-capitalized Tier 1 Capital (0.75x)	7.13%	1.28%
(11) Implied Confidence Level	**99.61%**	**99.79%**

Look at the last line in the table. This shows the implied confidence interval for the two banks, in terms of the U.S. "well-capitalized" Tier 1 standard – the Basel definition of actual capital that is closest to the risk practitioner's notion of real capital. Bank A clearly does not meet the Baa1 level of soundness as shown in Table 2, and Bank B just barely meets the standard (a 21 basis point insolvency probability). If regulators wanted "well-capitalized" banks to be, say, at least two sub-grades above the lowest investment grade, then the U.S. "well-capitalized" Tier 1 standard has not achieved this objective for the bank with the risky portfolio.

How much higher quality than "adequately capitalized" should "well-capitalized" banks be? Basel, not the individual countries should work this out. To do otherwise, would invite "real" capital standards to be too diverse across the many countries of the Accord. In our view, Baa1 should constitute the upper bound of the regulators' reach on this subject – or about a 99.8% confidence level for Tier 1 capital. To achieve a tougher standard of, say, 0.1% insolvency probability, with regard to real capital, would imply that the regulators wanted "well-capitalized" banks to have closer to an A3/Aa effective rating. This would represent, in our view, too great a narrowing of soundness levels

compared with the observed diversity among large international banks. The regulator would be overreaching and might adversely affect the intermediation function of such internationally important institutions.

Now look at line (10) in the table. These capital ratios represents the actual Tier 1 leverage ratios for the two banks if they were exactly meeting the U.S. well-capitalized Tier 1 "risk-based" ratio standards. Note that Bank A's leverage ratio is almost 6 times that of Bank B. Also, Bank B does not come close to meeting the minimum U.S. "well-capitalized" leverage ratio of 5%. Yet, in terms of true underlying risk, Bank B meets a higher soundness standard than Bank A --Bank B has the lower insolvency probability. This simple example provides evidence that the U.S. leverage ratio requirement is worse than having no soundness requirement at all. The leverage ratio makes it appear as if Bank A is much more sound than Bank B, when in fact the reverse is true. The U.S., and Basel, should avoid all such leverage requirements.[16]

What about the U.S. "well-capitalized" Total Capital rule? Line (9) of Table 4 shows that the implied confidence interval for "well-capitalized" Total Capital is 99.95% or higher for each bank. Since Total Capital does not all consist of real capital, this implied confidence interval cannot be directly translated into an insolvency probability. But the very high implied confidence interval provides evidence, so long as Basel continues to use a 99.9% confidence interval for minimum Total Capital, that any small amount of additional Total Capital imposed for "well-capitalized" purposes would drive Total Capital to unreasonably high levels. Perhaps "well-capitalized" Total Capital might consist of economic capital at the 99.9% level – but that is where Basel now sets its *minimum* Total Capital standard.

VI. Procyclicality and the Appropriate Level of Regulatory Capital

We do not believe that the issue of procyclicality is central to the setting of regulatory minimum capital requirements. An Economic Capital calculation is a basic input into pricing models. When macro conditions decline, estimated PDs and LGDs rise, and point-in-time ("PIT") EC rises – leading to an increase in credit spreads during recessions in order to generate positive SVA. It is this pricing process that transmits the effect of volatile EC measurements to the macro economy (the increase in credit spreads makes credit more expensive, contributing to the degree of the downturn). A regulatory capital requirement should have no impact whatsoever on credit spreads, so long as the regulatory capital requirement is a true minimum and is therefore significantly below the best-practice PIT EC estimate at all points in the cycle. The capital standards under CP3 clearly are in danger of being higher than best-practice EC and it is only for this reason that Basel feels it must address the issue of the procyclicality effect of its rules.

A recent paper confirms that banks, left to their own devices, would indeed use point-in-time PDs (and therefore point-in-time ECs). The authors advocate that banks be

[16] In practical application of the leverage requirement, Bank B would be forced to securitize the bulk of its loans with full recourse. Under Basel II's best-practice-based securitization rules, Bank B would then hold exactly the same amount of absolute Tier 1 capital as if the securitization had not taken place, but would then meet the leverage requirement (because balance sheet assets would be lower). All the leverage requirement does is add to bank costs (the costs of securitization) without changing true soundness. The leverage rule simply penalizes banks with low-risk portfolios, without accomplishing anything with regard to a minimum soundness standard.

given incentives to "adopt more stable rating schemes" (i.e., more stable PDs) to reduce procyclicality, and point out that this consideration has been reflected in the Basel II proposals.[17] Basel II, of course, requires that PD inputs into the Basel credit risk model be estimated as TTC PDs. However, this requirement does not guarantee, nor should it guarantee, that *internal* ECs be stable over the cycle. Moreover, stable ECs would reduce procyclicality only if the banks were required to use their TTC EC estimates (or their AIRB capital requirements) *in their pricing models*. In effect, some authors seem to draw no distinction between Basel capital requirements and the capital measurements used in pricing models. The discussion of procyclicality seems to presume that the Basel requirements will be binding (higher than internal EC) and that this measurement of capital will be used in pricing models in order to generate stable credit-spreads. In practice, such a rule would simply result in regulated banks growing relative to non-regulated lenders during recessions (while generating low or negative SVA for the banks in the process, because the banks' credit spreads would be too low), while, during booms, the banks would shrink in size relative to the non-bank lenders (while again generating insufficient absolute SVA because too high credit spreads would reduce the size of the bank business). Price controls don't work and have never worked. And it is the loan pricing mechanism that transmits the effect of a volatile EC estimate to the macro economy.

Our view adheres to the underlying principles of best practices. Pricing models should continue to use PIT EC, with such EC estimates varying over the cycle. Spreads should be the province of the lender, driven by the demands of the market and the lenders' desire to add to Shareholder Value. The Basel minimum should be a true minimum – lower than *best-practice* PIT EC at each point in the cycle, but based on the same best-practice estimates of risk (the same loss distributional estimates) as used internally by advanced banks. To be higher than PIT EC at any point, the Basel capital minimum would then affect pricing decisions (assuming that regulatory capital arbitrage is effectively eliminated or its price driven very high). If Basel wants minimum regulatory capital (as a percentage of business size) to be relatively stable over the cycle (for whatever policy reason), then the Committee should choose a rule that produces somewhat less regulatory capital (in the sense of "real" capital) than the bank's PIT EC *during a boom*. That way, the Basel minimum would be non-binding as well during a recession. CP3 does almost the complete opposite, requiring minimum regulatory capital that is closer to PIT EC during a recession than it is to TTC EC. This increases the likelihood that Basel minimums will be above best-practice PIT EC during the rest of the cycle.

We agree with the view that volatile EC measurements, rather than being a "bad" thing, serve a valuable signaling purpose.[18] Indeed, internal EC calculations, both in absolute terms and as a percentage of business size are the best way to "collapse" the tail of the estimated loss distribution into a single metric. When EC rises, this means portfolio risk has risen. We therefore have no problem with the bank disclosing its own

[17] E. Catarineu-Rabell, P. Jackson, and D. Tsomocos, 2002, "Procyclicality and the new Basel Accord – banks' choice of a loan rating system," Working Paper no. 181, Bank of England.
[18] Michael Gordy, "Procyclicality in Basel II", presentation before the Credit Risk Summit, October 8, 2002.

PIT EC measurements (on an aggregated basis or even by broad business line – but definitely not by product line because of concerns over the proprietary nature of such product-level ECs). We would also have no problem with allowing regulatory capital requirement to be volatile and to publish these AIRB requirements each quarter. Since the AIRB requirements are produced using a common model with a common set of AVCs, the bank-to-bank AIRB comparisons might be more useful than bank-to-bank internal EC comparisons. But to suggest that the Basel AIRB requirements are better indicators of risk at any given bank than the internal EC estimates strikes us almost as hubris.

The growing literature on the subject of the potential procyclicality of Basel is quite troublesome. As in the example above, authors generally seem to assume that the Basel requirements will be the actual capital levels of banks, that these capital levels will determine pricing behavior, and that therefore Basel should be careful not make their capital requirements too volatile. These papers generally have not dealt with any of the following real-world considerations. First, supervisors historically have never questioned bank asset-pricing policies, only the level of capital and soundness given those pricing policies. In a world in which Basel capital is above best-practice internal EC (and banks cannot engage in capital arbitrage as was done to avoid the old "one-size-fits-all" rule), regulators will be determining pricing practices, not banks. Do regulators really want to begin affecting such pricing policies? Second, real world alternatives exist to receiving credit from regulated banks or using regulated banks as intermediaries. This is why deposit rate regulation did not succeed in the U.S. and why credit spread regulation could not succeed, even if an argument could be made to invoke such price regulation. Third, history has shown repeatedly that it is the market pricing mechanism that is most useful in transmitting new technologies. If Basel capital, not best-practice EC, is driving asset allocation decisions, how quickly will Basel be able to react to new research that suggests that the Basel capital requirement is significantly overstating the risk of a particular product (or a new product)?

For these reasons, we believe that the Basel minimums should be deliberately set to be more liberal than best-practice capital – while continuing to use the same type of best-practice loss distribution estimates as advanced banks (albeit with somewhat more conservative AVC assumptions). We further believe that a reduction in the volatility of credit spreads is neither possible (because of the existence of unregulated intermediaries) nor desirable (because sound banks are those that use sound pricing policies). A stable Basel minimum might seem desirable, but it is not necessary. So long as the Basel standard is a true minimum, banks will continue to have to manage their actual capital through the cycle in a way that copes with the inevitability of volatile PIT EC. Presumably, banks will continue to do so by maintaining actual capital cushions over PIT EC, with those cushions becoming thinner during recessions and thicker during booms. All of this would take place in the absence of any capital regulation, and variable capital cushions would also exist if Basel simply were to adhere to the basic principle of being a true minimum. Indeed, Basel should not tamper with or otherwise constrict the variability of the capital buffer banks use (i.e., the buffer over and above required capital), for to do so would obliterate the notion that the regulatory standard is a minimum rather than a target.

In our view, prudential regulation should address 2 kinds of "problem" banks, plus serve as a signaling function:

- The Accord should serve to rein in the bank that does not appropriately understand the financial risk of its businesses (the bank has not spent sufficient time or money to estimate its own loss distributions in appropriate fashion). It is not clear that any such bank should be allowed to use the AIRB approach, in which case, the bank would be subject to the "few sizes fit all" effect of the Standardized or Foundation approaches.
- The Accord should stop the well-informed bank from choosing real confidence intervals that are too low (real insolvency probabilities that are too high). There is nothing more dangerous to bank safety than a bank executive that, while understanding the nature of the risks facing the bank, nevertheless decides to "bet the bank".
- The Accord should serve as a signaling device that provides the market with a consistent measurement of portfolio risk expressed in a consistently measured "capital" metric that reflects best-practices.

But the Basel capital metric should not replace a well-designed internal EC process by being in excess of internal EC.

VII. The RMA Proposal.[19]

Our proposal is simple. We would continue to use the very same credit loss distributions implied by Basel II's own AVC equations and Basel II's own ASRF model. We would like to have only one capital definition – "real capital" – represented by tangible equity plus the ALLL. We understand, however, the political reality of needing a Total Capital definition that includes subordinated debt. We also understand the need to have another minimum capital requirement termed the "well-capitalized" standard – so that Prompt Corrective Action legislation could support remedial actions or early closures of troubled banks. Therefore, we would measure 4 types of *required* capital, consistent with the 4 types of required capital now used in the U.S. and other countries that have "well-capitalized" standards: a minimum Tier 1 requirement; a "well-capitalized" Tier 1 standard; a minimum Total Capital standard; a "well-capitalized" Total Capital standard. Each of the 4 types of required capital would be measured off of the Basel loss distributions but each standard would have a *different confidence interval* than the other standards.

The confidence intervals, which are most critical in the case of Tier 1 capital ("real" capital), would be set to achieve a minimum (or "adequate") soundness standard for AIRB banks consistent with a Baa3 insolvency probability. The "well-capitalized" Tier 1 standard would be set to be consistent with a Baa1 insolvency probability. Total Capital standards would be appropriately higher (and perhaps higher than the banks own internal EC standard, in the case of the "well-capitalized" Total Capital standard) because banks can meet this standard, to a limited extent, by using less expensive subordinated debt.

[19] Elements of this proposal have appeared in several previous RMA papers. This paper represents the first place in which these elements have been pulled together in a cohesive manner.

1) Minimum Tier 1 Capital would be set as the Loss-at-the-Confidence Interval minus EL using a 99.5% confidence interval.
2) Well-Capitalized Tier 1 Capital would be set as the LCI minus EL using a 99.8% confidence interval.
3) Minimum Total Capital would be set as the LCI minus EL using a 99.7% confidence interval.
4) Well-Capitalized Total Capital would be set as the LCI minus EL using a 99.9% confidence interval.

PD inputs would be measured as the through-the-cycle best estimate. If Basel desired to have stable capital requirements, LGDs and EADs would be measured as the through-the-cycle best estimates. Otherwise, LGDs and EADs would vary over the cycle, as would the Basel capital requirements, but the chosen confidence interval would vary over the cycle to reflect varying observed default rates for a bond of a given rating. The AVCs would remain at their current levels which, for retail products, are above industry median AVCs. Further research would serve to confirm, if such research can confirm, that these AVCs are too high – in the absence of such research, Basel would continue to use these conservative AVCs.

Banks would continue to measure PIT ECs that are volatile for pricing purposes and banks would continue to hold real capital cushions above their own TTC ECs. As is the current case in the U.S. and other countries with "well-capitalized" standards, best-practice banks would continue to hold actual real capital which is above the "well-capitalized" requirements.

Assuming that Basel chose to have a stable regulatory requirement, the proposals above would generate requirements that would differ from those measured in QIS 3, depending on the overall credit quality of the bank's portfolio. Banks with low-quality portfolios (loss distributions with thick tails) would have minimum Tier 1 and "well-capitalized" Tier 1 requirements, under our proposal, that would be *substantially above* the requirements measured in QIS3. See this by referring to Table 4. Under the QIS 3 proposal (which used TTC LGDs), Bank A (the one with the risky portfolio) would have to hold Tier 1 *minimum* capital equivalent to a 98.27% confidence interval. Our proposal would require the bank to meet a 99.5% CI. Also note that the risky bank, under the CP3 proposal combined with the U.S. measurement of required "well-capitalized" Tier 1 capital, would hold enough capital to meet a 99.61% CI. Our proposal would require Bank A to meet a 99.8% CI to be deemed "well-capitalized." Under our proposal, "real capital" requirements for the risky bank would rise above the Basel CP3 proposals and above the U.S. "well-capitalized" standards.

The bank with the low-risk portfolio (Bank B) would, under our proposal, meet about the same minimum and well-capitalized Tier 1 standards as under the Basel proposals (with TTC LGDs) – 99.5% CI and 99.8% CI, respectively.

Both banks would, under our proposal, have to meet minimum and well-capitalized *Total Capital* requirements that are significantly <u>below</u> the CP3/U.S. requirements (as shown in QIS 3) – a 99.7% CI under our proposal for minimum Total Capital versus 99.9% under CP3; a 99.9% CI under our proposal for well-capitalized Total Capital versus a 99.95%-99.97% CI underCP3. We believe that prudential regulation requires the aforementioned increase in Tier 1 capital for high-risk banks.

Meanwhile, a 99.95% Confidence Interval for a "well-capitalized" Total Capital requirement – as shown in Table 4 – is, in our view, beyond all reasonableness.

Our proposals, as a whole, would meet each of the objectives listed in Section II above. The proposals would be simple to implement – requiring the AIRB bank only to insert somewhat different confidence intervals into the relevant Basel capital equations. Additionally, for the first time, a true minimum soundness standard for both low-risk and high-risk banks would be met. Also, bank to bank consistency in capital regulation would be achieved in that a consistent confidence interval would be applied with regard to "real" capital requirements. From a reporting perspective, banks that held more capital than the regulatory minimums could "translate" their actual capital levels into effectively higher confidence intervals than called for by the minimum and well-capitalized standards. Under the current Accord, a bank discloses its Tier 1 ratio in relation to the arbitrary minimum standard of 4% (or well-capitalized standard of 6%). Thus, the bank with an 8% Tier 1 ratio claims to have "one-third more capital than needed to be well-capitalized." While this is literally true it is also useless information, since two banks, both with 8% Tier 1 ratios could be meeting significantly different confidence intervals. For example, while the two banks both may have the same Tier 1 ratio in excess of the well-capitalized minimum, one bank might be meeting a 99.85% CI while the other bank might be meeting a 99.95% confidence interval. In this new world of risk metrics it is insolvency probability that matters, not the level of some defined capital ratio.

Under our proposals, loan pricing would remain unaffected by regulatory policy – as it was in the days of the Old Accord when best-practice banks used capital arbitrage techniques to evade arbitrary, too-high capital requirements for certain products. This last point cannot be over-emphasized. If the New Accord is effective in eliminating capital arbitrage, as we believe it is, then the managers of the New Accord must be extremely careful not to set their minimum requirements so high as to become the necessary input into pricing models. This issue does not arise in the context of Standardized and Foundation banks that are price-followers, not price-leaders.. Because loan pricing is, and should be, the province of AIRB banks and their large non-bank competitors, regulators must continually guard against choosing prudential capital regulations that make moot for these institutions their own best-practice estimates of internal Economic Capital.

We appreciate this opportunity to offer our views. Please contact Pam Martin (pmartin@rmahq.org) or John Mingo (john@johnmingo.com), or any of the staff listed in the Appendix, with questions.

Appendix

Institutions in the RMA Capital Working Group

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

Staff participating in drafting or reviewing this paper

Bank of America: John S. Walter, Senior Vice President, Risk Capital & Portfolio Analysis
Bank One: James Colton, Vice President; David Nunn, Vice President, Treasury
FleetBoston Financial: Ranga Rangarajan, Managing Director-Mgt. Sciences, Corporate Strategy Group; James Papadonis, Executive Credit Officer, Corporate Consumer-Risk Management; Sumit Agarwal, Corporate Consumer-Risk Manager; Thomas Loeffler, Basel II Project Leader; William Schomburg III, Director of Economic Methodologies
JPMorganChase & Co: Michel Araten, Managing Director; Bradford Pollock, Vice President; Adam Gilbert, Managing Director
KeyCorp: Ashish K. Dev, Executive Vice President, Enterprise-Wide Risk Solutions, Robert Kula, Senior Vice President, Director of Economic Capital; Michael Pykhtin, Vice President, Risk Management
PNC Financial Services Group: Shaheen Dil, Senior Vice President, Portfolio Development Group; Terry Jewell, Vice President & Manager, RAROC and Profitability
Providian Financial: Chris Ballinger, Senior Vice President, Treasury; Wei Shi, Vice President, Treasury; Scott Schulz, Director, Treasury
Royal Bank of Canada: Lyn McGowan, Senior Manager, Basel Accord Implementation; Chitra Muralikrishnan, Senior Manager, Financial Policy and Economic Capital.
Union Bank of California: Paul C. Ross, Senior Vice President, Portfolio Risk Management; Desta G. Medhin-Huff, Vice President, Portfolio Risk Management
Wachovia: Gary Wilhite, Senior Vice President, Risk Management, Portfolio Management Group; James Cypert, Asst. Vice President, Risk Management, Portfolio Management Group
Washington Mutual Bank: Alexander Kipkalov, First Vice President, Economic Capital Group; John Stewart, Vice President, Economic Capital Group
Wells Fargo: George Wick, Senior Vice President, Portfolio Strategies
RMA - The Risk Management Association: Pamela Martin, Director of Regulatory Relations & Communications; Charles Taylor, Director of Operational Risk
Mingo & Co.: John Mingo, Managing Director