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May 29, 2007

Ms. Jennifer J. Johnson,
Secretary
Board of Governors of the Federal Reserve System
20th Street and Constitution Avenue, N.W.
Washington, D.C. 20551

Re: Docket No. Op-1277

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

Re: Basel II Supervisory Guidance

Office of the Comptroller of the Currency
250 E Street, S.W.
Mail Stop 1-5
Washington, DC 20219

Re: Docket Number 2007-0004

Regulation Comments
Chief Supervision
Office of Thrift Supervision
1700 G Street, N.W.
Washington, DC 20552
Attention: No. 2006-33

Re: No. 2007-06

Dear Sir or Madam:

Citigroup appreciates the opportunity to comment on the proposed supervisory guidance that was published for comment by the Federal banking agencies on February 28, 2007.[1] The development of this guidance evidences a major commitment of time and effort by the staff of each of the agencies, and the publication of the draft guidance for comment provides the banking industry with a valuable opportunity to further inform this process.

We note that the draft guidance was issued after the proposed regulation to implement the Basel II Accord was published, but prior to the close of the comment period on that regulation. The draft guidance therefore does not address any of the comments that the agencies received with respect to the Basel II regulatory proposal.[2] We hereby request that the agencies review and incorporate Citigroup's comment letters submitted with respect to the Basel II implementing regulation as part of this request for comments on the draft supervisory guidance.

As we noted in the prior comment letters, Citigroup is very supportive of the objectives of Basel II. However, we believe that the draft guidance needs to be modified in certain aspects to further these goals and to permit U.S. banking organizations to comply with the Basel II framework in the most efficient and least burdensome manner. While we are providing more detailed suggestions in this regard as an appendix to this letter, we would like to note some of our more significant concerns here.

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[1] 72 Federal Register 9084 (2007).

[2] Id. at 9085.

Concerns with the Draft Guidance

The draft Guidance contains 140 detailed standards, of which more than 60 percent are prescriptive in that banks are required to comply exactly with the standard as published by the agencies. While the clarity of precise requirements is often viewed as a benefit by regulated entities, in the context of the Basel II framework it becomes a burden by mandating requirements and procedures that will not be the "best practice" for all of the Basel II banks. US banks will be required to develop detailed processes and documentation of their methods that will have to be incorporated into policy, before the banks know whether these policies are acceptable each bank's supervisory Agency. Moreover, the emphasis on detailed documentation together with the checks and balances which accompany such processes will hinder continuing development of state-of-the-art risk models.

The extensive degree of prescription leads to other unfortunate consequences. For instance, there is an apparent conflict between the general requirements in Chapter 2 and the specific requirements of subsequent chapters. Chapter 2 provides that the ratings that banks use must be accurate and reliably differentiate degrees of credit risk. This is broadly consistent with current practices and therefore in line with the requirement that banks uses the Basel II methodologies for determining internal capital allocations. However, many of the more specific requirements elsewhere in the draft Guidance require conservatism in parameter estimation that may result in higher minimum capital requirements for certain low risk business lines due to the fact that there is less default data for these assets. As a result, higher regulatory capital may be required to be held against historically low risk businesses than against higher riskier businesses where more data permits more robust quantitative measurement. Thus the Guidance, by placing more reliance on pure quantitative measurement but ignoring the long-accepted standards of successful credit risk management, may actually make the Basel II standard less risk sensitive.

Another important concern is that the draft Guidance requires substantial, detailed documentation and analysis for many intermediate steps of the implementation process. This imposes a substantial bureaucratic burden on banks which again is prescriptive in nature. Banks will thus have a heavy burden of documentation of policy formulation together with documentation of all interim stages of the analysis regarding the Basel II risk assessments. On the other hand, little burden seems to be shouldered by the regulators. There are no tests prescribed that the agencies would establish in determining their success regarding a bank's Basel II implementation. Without such tests or standards for the regulators there is a risk that the regulators may engage in micro management of the policies adopted by the banks which it turn increases the risk that these policies may not be applied consistently across the different banks. The lack of regulatory clarity regarding such tests is inconsistent with the requirements being placed on the banks and could also lead to inconsistent regulatory assessments between banks.
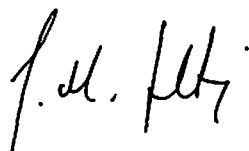
Recommendation

We encourage the Agencies to move towards a more principles based approach in the Guidance. This approach has been applied in the section on Pillar 2 and is thoroughly welcomed. Such an approach should be of even greater appeal to the Agencies given the large number of well qualified supervisory staff who are familiar with the institutions for which they have particular oversight responsibility.

Conclusion

We welcome the prompt implementation of Basel II in the US based on rules that are harmonized with the International Basel II Framework. Citigroup is concerned, however, that the draft Guidance may inadvertently stifle cutting edge development of risk management methodologies and impose undue conservatism in model development. The draft Guidance also imposes unnecessary regulatory burden and mandates excessive documentation requirements. It could easily lead to micro-management by the regulators and inconsistent requirements dependent on the primary supervisor's judgment.

We have commented in detail about a number of the standards in the Guidance in the Annex to this letter. We believe that the Basel II rules should be supported by principles based guidance rather than the currently proposed standards which are too prescriptive. A principles based approach would, in our view, provide banks greater flexibility to improve their risk management practices in a manner that is most appropriate to their own institution.

Yours sincerely,

Citi's Detailed Comments On The Proposed Supervisory Guidance For Internal Ratings-Based Systems For Credit Risk, Advanced Measurement Approaches For Operational Risk, And The Supervisory Review Process (Pillar 2) Related To Basel II Implementation.

Note: These comments refer to the supervisory guidance only; in a substantial number of cases, this guidance is related to the actual NPR rules on which we have commented in detail and on which we have a number of concerns. These concerns are not re-iterated here, but where necessary we refer to our response to the NPR itself and quote it where necessary.

Comments on Chapter 1 - Advanced Systems for Credit Risk

S 1-1 An IRB system must have five interdependent components that enable an accurate measurement of credit risk and risk-based capital requirements.

We consider that an IRB system should only have four interdependent components not five. There should not be a requirement to keep LGD and ELGD as separate parameters. The existence of two such similar parameters will lead to confusion as to which to use in which circumstance, will increase the cost of maintenance for little benefit, will mean that one or other of the parameters is likely to fail the use test and leads to unnecessary duplication. As set out in our comments on the NPR we consider that, in many cases, there is little difference between LGD and ELGD and even if the regulators insisted on some adjustment we would prefer to maintain just one useful parameter within the system, using Pillar 2 if necessary for supervisory adjustment.

S 1-2 Senior management must ensure that all of the components of the bank's advanced systems for credit risk function effectively and comply with the qualification requirements in the NPR.

The scope of the specified risk management reports are too prescriptive, and will lead to too much detail being reported to senior management. The result would be to submerge management in excessive information and would risk undermining the purpose of this standard. For example, the request to require reports on "migration across ratings and segments with emphasis on unexpected results" would be better achieved by reporting on cases of default where losses are likely to be incurred and where the internal ratings did not evidence a reasonable probability of default; the report on "Validation results" should again be an exception report identifying only where the results of validation produced changes to the original model; or "control process assessment" should only be reported where there are significant weaknesses discovered. In general reporting would be more useful if it was exception-based rather than all encompassing as inferred by the Guidance.

S 1-3 The board of directors or its designated committee must at least annually evaluate the effectiveness of, and approve, the bank's advanced systems.

The expression "advanced systems" is not defined in the Guidance and could imply the information technology components used to support the Basel II implementation. In fact it is assumed that the main focus should be on the risk models and the parameter estimation. The definition of 'advanced systems' should be provided. However, while the focus on models is of greater relevance to the Board, the Board are only likely to be interested in a high level summary of the key aspects of the relevance of risk models and should be expected to delegate much of the detailed work to sub-committees and senior management.

S 1-4 Each bank (including each depository institution) must ensure that the risk parameters and reference data used to determine its risk-based capital requirements are representative of its own credit risk.

The requirement that data should be representative of the bank's own credit risk, should not exclude the use of external data to supplement the bank's own estimates of parameters such as PD and EAD. There can be a scarcity of data available for some parameters and this requirement should not be so restricted as to disallow the use of external data even if, for instance, the bank did not have an exposure to a defaulting counterparty at the time it defaulted from the use of that default in a relevant rating model.

S 1-6 A bank's advanced systems should be transparent.

Certain of the rating models which a bank uses are commercially sensitive and have significant commercial value to the bank that has developed them. For example, if information came into the public domain about the structure of certain consumer application models this could result in applicants using this information to inappropriately ensure that they gained acceptance. Therefore, while these models are documented, the availability of the documentation may well be strictly limited, even to banking regulators.

Comments on Chapter 2 - Wholesale Risk Rating Systems

III. Definition of Default

S 2-1 Banks must identify obligor defaults in accordance with the IRB definition of default. As noted in our response to the NPR Rule, the U.S. definition of default deviates in an important way from the international framework, creating a requirement for banks operating across jurisdictions to maintain multiple data sets, rating and quantification models and parameter estimations. Second, the NPR definition is generally more restrictive than those long used in the industry, effectively eliminating the usefulness of many external sources of data with extensive history given the onerous requirements around validating reference data sets.

Third, the definition related to asset sales is, by itself, too aggressive compared to standard business practice and could, discourage the use of asset sales to mitigate risk. However, it is unclear if Section 15 applies to asset sales:

> "15. Partial charge-offs or write-downs for reasons not related to the distressed financial condition of the obligor do not trigger the default definition. For example, taking a write-down or charge-off to reflect forgiveness of a minor fee for relationship purposes unrelated to financial distress does not trigger the default definition."

We request further clarification to understand if Section 15 applies to the third category of default.

Fourth, despite comments to the contrary in Chapter 4 under LGD estimation[1], the NPR definition does shift the estimation of the ELGD and LGD toward the concept of "loss given loss" by eliminating obligor defaults where the quality of collateral, support or other mitigation will not result in placing the exposure on non-accrual. This has three critical consequences:

1.   ELGD will be estimated on a data set that does not accurately reflect the credit risk of the portfolio (as required at the beginning of this chapter, Part III, Section 22(b) (1)) because certain types of obligor defaults are disallowed. That is, the approach over-weights both loss severity and likelihood relative to realized losses.

2.   ELGD will be overestimated, particularly for highly mitigated exposures (e.g., cash collateral meeting certain standards). Given the disproportionate weight of ELGD/LGD in the risk weight calculation relative to PD, this will require U.S. banks to hold higher levels of capital than justified by current internal risk models at the Consolidated level or than held by non-US banks.

3.   The elimination of obligor default events from the estimation data sets will further constrain the bank's ability to estimate ELGD, much less LGD, particularly for these low-risk-of-loss exposures. As a consequence, these segments will be subject to

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[1] "For ELGD estimation, a bank includes in its default database only exposures that actually experience a loss and excludes exposures for which no loss was recorded (effectively applying a "loss given loss" concept). This practice is not consistent with the NPR because the bank's default definition is narrower than the IRB definition", Chapter 4 III A. 99, Example 1.

conservative estimations, and, perversely, may be assigned ELGDs higher than those for higher risk exposures where there are many instances of loss.

4.　　Combined with the restrictions around qualifying for use of own LGD estimates (i.e., need to qualify across all of Wholesale or Wholesale excluding HVCRE) and restrictions around aggregating exposures of different characteristics for estimation, the NPR Definition of Default is one of several rules that effectively eliminate the possibility of a diversified bank from qualifying to use their own LGD estimates. As such, the entire Wholesale portfolio could be subject to the NPR LGD function.

In general, the NPR definition of default will result in risk parameters that do not reflect actual default and loss experience and will not be comparable to those calculated in other jurisdictions.

S 2-6 Banks must assign an obligor to only one rating grade.

The NPR and Guidance require that separate facilities to the same obligor receive the same obligor grade and PD estimate. As we have discussed in our response to the NPR, the economics of certain private banking and other well secured exposures is that the default probability of the loan depends on the details of the collateral including the revenue generated from that collateral. Additionally, so-called "single-action" state laws, as a practical matter, require the bank to go after either the obligor or the collateral, not both – and cost considerations generally point to going after the collateral in the event of default. The practical consequence of these laws, contractual language, and economics both in the US and internationally is that separate facilities of this type are likely to be assigned separate PDs (and, of course, separate LGDs), for internal risk measurement purposes. As we have commented in our response to the NPR and re-iterate here, there should be specific consideration given to this type of lending.

V. IRB Risk Rating System Architecture

Ratings Philosophy and Expected Ratings Migration
S 2-8 In assigning an obligor to a rating grade, a bank should assess the risk of obligor default over a period of at least one year taking into account the possibility of adverse economic conditions.
We request clarification on S 2-8 as it is unclear if this is a requirement to assign ratings in line with adverse economic conditions, regardless of actual expectations, i.e., a "Stressed PD". Without consideration of a bank's specific rating philosophy, definitions and practices, this comment may be inappropriate (e.g., in the case where rating methodologies already represent a 'through the cycle' view, or are 'cycle neutral').

Recognition of Implied Support
S 2-11　Banks may recognize implied support as a rating criterion subject to specific supervisory considerations; however, banks should not rely upon the possibility of U.S. government financial assistance, except for the financial assistance that the U.S. government has legally committed to provide.
While the addition of recognizing implied, or "less than guarantee" support, is generally welcomed by Citi, some of the conditions for recognizing that support undermine widely-

accepted practices, while others will require extensive investments for unknown benefit in terms of capturing actual risk. Importantly, some of the requirements would appear to undermine the key objective of the AIRB approach, by shifting measurement of risk away from internal due diligence toward use of external ratings. It is our position that the supervisory role should focus more on the empirical evidence and the standards and procedures that a bank uses in accepting "implied" or "non-guarantee" support, than in imposing additional onerous conditions.

35. Supervisors will assess the appropriateness of a bank's usage of implied support as a ratings criterion. A bank should recognize implied support only if the following are true:

- **The implied support provider is rated investment grade by an NRSRO;**
  This requirement seems inconsistent with the basic premise of the AIRB, which is reliance on internal ratings and promotion of sound internal risk management practices. Since relatively few bank customers are rated by NRSROs, this condition will penalize many borrowers with support from high quality providers simply because they have not paid an NRSRO for a rating. The situation is even more extreme for support providers in non-US jurisdictions.

  Such a restriction could ultimately result in disparities in spreads based simply on the existence of a rating from an NRSRO and not underlying differences in credit quality between obligors. Aside from providing an effective subsidy to the NRSROs and potentially limiting access to appropriately priced bank facilities to a small number of obligors, this condition also ignores differences in rating methodologies, default definitions, and differences in actual ratings for an individual obligor among NRSROs. (Large discrepancies in ratings are infrequent but plausible.)

  We strongly recommend the elimination of this requirement, particularly given the due diligence requirement in the 5th condition.[2] A restriction on credit quality of the support provider should be based on the bank's internal risk rating of the support provider, as well as other standards commonly imposed on related entity support.

- **The implied support is a factor only in assigning an obligor rating, not a loss severity rating;**
  Whether or not the implied support is used to assign an obligor rating or a loss severity rating should reflect the nature of that support. If the support, usually in the case of subsidiaries or public sector entities, is general to the obligor and is expected to reduce the risk of default, then it should be applied to the obligor rating. If, however, that support, which is often in the form of conditional guarantees, letters of comfort, etc; is against a

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[2] "The bank has considered the magnitude of the rating benefit accorded from the recognition of implied support and the bank has performed and documented comprehensive due diligence to assess the parent corporation or sovereign's willingness and capacity to support the obligor. To assess the willingness to support the obligor, a bank may consider prior situations where the support provider has supported the obligor or other obligors under similar circumstances, extended credit to the obligor at beneficial rates, or made large-scale investments of cash or resources in the obligor. To assess capacity, a bank should conduct a thorough analysis of the financial position of the support provider and its ability to provide support including during periods of financial stress; "

specific exposure, meaning it is meant to mitigate the loss, this support should be recognized as a loss mitigant. It is unclear why the US regulators would be comfortable with non-guarantee support at the obligor level but not the exposure level. Again, this is not in line with longstanding industry practice.

- **There is broad market recognition of the implied support. This can be evidenced through a number of market indicators including situations where the external ratings of the parent and subsidiary are closely linked or the ratings of the parent or sovereign.**
  This is similar to the comment under the NRSRO rating requirement above. First, other than having external ratings, which is even rarer for subsidiaries than for parent corporates, it is unclear what is meant by "broad market recognition of the implied support." So this is a severely limiting restriction. As above, this will penalize strong support provides and support recipients irrespective of their actual credit quality simply because they are private companies or do not have external ratings. We strongly recommend that this condition be removed.

- **The bank has established a stand-alone rating for the obligor and continues to monitor the stand-alone rating throughout the term of the exposure;**
  This condition is exceedingly onerous for the banks. And the benefit of maintaining stand-alone ratings on entities that benefit from support is unclear, particularly if a bank can demonstrate that non-guarantee support is effective in reducing the default risk of these entities.

  1. Note that the NPR states that "in determining an obligor rating, a bank should consider key obligor attributes, including both quantitative and qualitative factors that could affect the obligor's default risk." We would argue that parent support, meeting certain standards, is a critical factor in determining the default of subsidiaries in particular.
  2. It is not clear what purpose the stand-alone ratings serve given that they are based on a hypothetical situation that might not materialize (e.g., as if implied support did not have a mitigating effect or as if the subsidiary were an independent legal entity unrelated to the parent corporation).
  3. This requirement assumes that banks can readily estimate stand-alone default risk of subsidiaries. However, given that the default rates and financial profiles of supported entities tend to vary from those of stand-alone companies, banks would be required to build specialized models or methodologies for rating subsidiaries to avoid misleading ratings. Given that the financial structures of subsidiaries often reflect local investment and tax considerations, this would mean building multiple models or methodologies to rate subsidiaries of the bank's multinational clients. Building and maintaining consistency in these methodologies and ratings will be onerous for banks with large multinational clients with many subsidiaries in a large number of jurisdictions.
  4. There is limited data for building robust methodologies for estimating the default risk of subsidiaries given empirical evidence indicating very low default rates for this subset, irrespective of form or support.

5. Since the actual default risk of these entities is reflected in the rating inclusive of support, banks would have to maintain a second rating for supported entities solely for the purpose of this requirement.

We strongly recommend that this requirement be removed for banks that can empirically demonstrate the mitigating impact of non-guarantee support.

Loss Severity Ratings
As noted in our response to the NPR, the change in terminology relative to the Basel II framework, standard practice and academic literature only serves to create confusion, particularly where banks are implementing in non-US jurisdictions that use the term LGD to indicate expected loss given default. At a minimum, we recommend that the ELGD be renamed "LGD" and, if there is to be continued use of a stressed LGD that it be identified more transparently as such (e.g., SLGD).

B. Other Considerations

<u>Rating Criteria</u>
S2-15, para 41. Each obligor and loss severity rating (including ratings with modifiers such as + or -) should be defined. The definitions should describe all significant quantitative and qualitative ratings criteria used to promote consistent application of risk ratings...
While we agree that the rating system should be sufficiently granular and clearly defined, it is important that the supervisors recognize that a bank may define its ratings consistently across all portfolios by a consistent metric (e.g., by default probability or loss given default), with descriptions of significant quantitative and qualitative criteria more appropriate at the level of the methodology used to derive the ratings for a specific set of obligors. This may be true regardless of the nature of the system (e.g., expert judgment or model based).

Comments on Chapter 3 - Retail Segmentation Systems

S 3-3 A retail segmentation system must produce segments that accurately and reliably differentiate risk and produce accurate and reliable estimates of the risk parameters.

With a substantial international portfolio of consumer businesses the risk characteristics may well vary from country to country. However, we place considerable importance for management reporting and comparability reasons to having a broadly consistent approach across our businesses. This may mean that a specific portfolio may not use the optimum risk drivers, but the drivers are consistently applied internationally. This is an area where the Guidance appears to be too prescriptive without allowing for good business practice.

General: In our cover letter we mentioned our concern that the Guidance is overly prescriptive and excessively burdensome in its documentation requirements. It also seems to strike a balance towards unwarranted conservatism.

Examples include:

1) The standards require default to be assessed over a one-year horizon, whereas the corresponding capital formula is based on a default event existing at precisely the 12-month point.
2) The standards require that we include collection costs in our EAD estimates but provide no capital benefit for their expenditure. EAD is bounded below by 100% despite the fact that substantial collections do occur (esp. between non-accrual and default for credit cards) as is evidenced by the fact that banks continue to spend substantial money on collections costs.
3) The standards require parameter estimates based on five year historical averages, not optimal forecasts. This is inconsistent with our need to demonstrate the accurate calibration of our parameter estimates through time.

In addition, the abundance of conservatism built into many steps of the process distorts the true economic risks and may lead to inefficient risk assessment and decision-making. Though this is addressed with reference to top-level adjustments, this is inconsistent with the detailed requirements regarding precision, review, and analytic justification.

Comments on Chapter 4 - Quantification

Part III, Section 22c6: The bank's PD, ELGD, LGD, and EAD estimates must be based on the definition of default (in the NPR).

As noted in the response to Chapter 2, the definition of default in the NPR is in conflict with that in the Basel II Accord. The impact on risk measurement is detailed in the specific sections below.

Part III, Section 22(c)(3): The bank's risk parameter quantification process must produce conservative risk parameter estimates where the bank has limited relevant data, and any adjustments that are part of the quantification process must not result in a pattern of bias toward lower risk parameter estimates.

There is no concrete guidance around the repeated requirements for use of conservatism in this Chapter. Note that the "additive" conservatism (applied to PD, LGD and EAD) required for portfolios where there are few default observations for estimation may result in significant overestimation of the risk associated with certain portfolios, particularly given the relationship between the concept of default and LGD. In addition, the Guidance would appear to require additive conservatism on some portfolios where the lack of default-related observations is actually an accurate reflection of the risk of the portfolio. This is in contrast to portfolios that may be risky but where the data set of default observations is due to the small size of the portfolio (e.g., sovereigns) or for new types of portfolios or structures with limited history. We would request clarification on the degree of conservatism and whether or not the same standards will apply to identified low risk portfolios (e.g., securities lending) as well as portfolios where data limits the ability to assess the risk.

Part III, Section 22 c8: The bank must at least annually conduct a comprehensive review and analysis of reference data to determine relevance of reference data to bank exposures, quality of reference data to support PD, ELGD, LGD, and EAD estimates, and consistency of reference data to the definition of default contained (in the NPR).

In the absence of any recognition of materiality and significance, this is an unattainable requirement.

I. Overview

The section on quantification is often difficult to interpret in terms of whether the intention is to address the actual quantification of the risk parameters (particularly with respect to the PDs) or the rating assignment. For instance, while the Guidance states that, "Quantification is the process of assigning numerical values to the key risk parameters that are used as inputs to the IRB risk-based capital formulas", multiple sections in the chapter address issues related to development of default risk models, which is more appropriately addressed in Chapter 2. Many of the sections in Chapter 4 would appear to impose duplicative processes related to reference data sets, estimation of default or loss risk based on drivers, etc. For instance, for banks with consistent and specific ratings definitions across portfolios, the drivers of risk in a particular segment are considered in the rating methodology. Quantification of the PD, for instance, would be based on the

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performance of the ratings at predicting defaults. Addressing specific drivers at the stage of quantification of PDs would be duplicative. The same situation is applicable to banks using ELGD ratings, where the assignment captures the key drivers (type of collateral, seniority, jurisdiction, etc). If the requirement is to quantify the PDs at the level of the specific portfolio, this would appear to be appropriate only for banks that have multiple rating systems. In addition, this would require significant adjustments to the estimation process given the unlikely case that most portfolios with specific drivers will have sufficient data to support robust estimation.

B. General Standards for Sound Quantification
S 4-2 Risk parameter estimates must be based on the IRB definition of default…. For any internal or external historical data that are not fully consistent with the IRB definition of default, a bank must still ensure that the derived risk parameter estimates are based on the IRB definition of default. This will likely entail making conservative adjustments to reflect data discrepancies; larger discrepancies require greater conservatism.
The recent change in the definition of default in the NPR (compared to the global Accord) makes it unreasonable to require full adherence to the definition for data gathered to meet the 5 and 7-year requirements (see S-49). And in the absence of the historical data, it is not appropriate to require conservatism without considering the nature of the discrepancies or impact of the omissions on parameter estimation. For instance, while excluding certain types of default per the NPR may lower the PDs for the portfolio, there may be an offsetting increase in LGDs or EADs, which by the nature of the capital calculation could more than offset the lower PDs.

S 4-3 Banks must separately quantify wholesale risk parameter estimates before adjusting the estimates for the impact of eligible guarantees and eligible credit derivatives

We view the two-step process for wholesale guarantees as burdensome and unnecessary from the point of view of risk measurement and management. The grading of the obligor contains no useful information in circumstances where the guarantor acts to guarantee several facilities of multiple obligors (such as might be the case for a parent and several subsidiaries). Similarly, when the loan contract calls for the guarantor to make good on scheduled loan payments, there is no "default" condition that attaches to the actual obligor, but rather to the guarantor. Such contracts occur, for example, when the lead partner of a small or middle-market business guarantees the business loan. In such cases, typically banks would not seek such a guarantee unless the rating grade of the guarantor was higher than that of the obligor. A very cursory review of the obligor and guarantor can suffice to make such a determination. If it turns out that the reverse is true – the credit quality of the obligor is higher than that of the guarantor – then the bank will have estimated a conservative PD for use in the Basel II credit risk function.

It seems as though S4-3 is intended to give the supervisor some overall sense of the credit-enhancing effect of guarantees, measured in terms of the impact of the guarantee on regulatory capital. This is especially the case with regard to the proposed FFIEC Schedules that require AIRB banks to report the impact on the risk-weighted asset calculation of "before" and "after-guarantee" PDs. However, we believe that, other than for some arcane academic interest, the PD of the obligor (in the context of a PD-substitution treatment), is either not useful or misleading. A wide (narrow) gap between the obligor PD and the guarantor PD is not indicative of shortcomings

(strengths) in the bank's PD measurement system, its success (failure) in risk management and mitigation policies, or its particular type of lending business. Such data should not be collected by regulators and, most importantly, the bank should not be burdened with estimating the obligor PD at the point of origination or over time. This burden is especially critical in the context of small business and middle-market lending, in which the seeking of guarantors is common practice.

S 4-7 34. A bank should incorporate relevant external data for quantifying risk parameters if internal data are insufficient to produce accurate and appropriate estimates. For example, the use of external data may be necessary when internal data do not provide adequate coverage of economic downturns or when there are significant data gaps, either for periods of time or for the types of exposures in the bank's existing portfolio. Banks should demonstrate that all data used to quantify risk parameters are relevant.

Even more so than for internal data, it is highly unlikely that external data will be compliant with the NPR definition of default except for bank consortia that can collect adherent data retroactively. Note that data sets that cover the longest history of credit quality in some markets (mainly from NRSROs) do not adhere to the NPR definition. In particular, external data on sovereign events and bond defaults are not in line with the NPR definition. The regulators need to recognize that, as in the case of sovereigns, aligning the reference data set with the NPR definition will eliminate many of the default events, resulting in less robust estimation.

S 4-7 35. A bank should have a process for vetting potential reference data, whether the data are internal or external. The vetting should assess whether the data are sufficiently accurate, sufficiently complete, sufficiently representative, and sufficiently informative of the banks' existing exposures.

While a bank's ability to meet this standard for external data would appear to hinge on the supervisory judgment of "sufficiently", it should be recognized that the use of external data is often undertaken in the absence of any internal source (e.g., historical bond defaults). Other than checking the actual source material used by the data vendors or data consortia (e.g., a contributing bank's credit files in the case of consortia). It is unclear to what level of sufficiency a bank can assess the completeness and accuracy of the data

S 4-9 The reference data must include periods of economic downturn conditions, or the parameter estimates must be adjusted to compensate for the lack of data from such periods.

Again, we request guidance as to the degree of conservatism that will be required.

S 4-12 Risk parameter estimates should incorporate a degree of conservatism that is appropriate for the overall rigor of the quantification process.
45. Estimated values of the risk parameters should be as precise and accurate as possible. However, estimates are inherently subject to uncertainty and potential error. Aspects of the quantification process that are apt to induce uncertainty and error include differences in default definition, errors in judgment and data deficiencies. A general principle of the IRB framework is that the assumptions and adjustments embedded in the

quantification process should reflect the degree of uncertainty or potential error inherent in the process.

While we agree that, within reason, estimation should account for a reasonable level of uncertainty, the standards that will be applied as part of the supervisory process are not described in the guidance. However, to the degree that conservatism was already incorporated during the rating assignment process, applying additional conservatism during quantification may likely overestimate risk. It is also important to avoid considerable overestimation of the risk inherent in portfolios with limited default observations due to the nature of the portfolio (i.e., 'the absence of evidence' can be taken as 'evidence of absence'). Note that the purpose of using historical data on default events is simply to help us in forming a reasonable and sound judgment of the likelihood and severity of future events in situations where we do not have complete information. Over-conservatism due to limited or sparse data should not override all other contextual information that might suggest less biased parameter estimates. More importantly, additive conservatism (applied to all the parameters via the economic downturn requirements) is likely to produce estimations that do not reflect the actual risk and may create perverse incentives. For instance, a low risk portfolio against which there are few default observations would, per the guidance, have to be assigned PDs, ELGDs, and EADs under the conservatism requirements, as well as potentially become subject to the LGD function. The end result may be that such portfolios could be assigned parameters indicating that they are of higher risk than portfolios with considerably more default observations and risk, but for which the data allows more robust estimation (see more under LGD).

S 4-18 Effects of seasoning, when material, must be considered in the PD estimates for retail portfolios.

The NPR's treatment of seasoning is further refined within the Supervisory Guidance. This specific treatment stands in contrast to the Framework, in which banks are simply cautioned to consider seasoning within the process for segmentation and/or estimation of risk parameters. The U.S. Supervisory Guidance provides some factors that should be considered when determining whether age or seasoning is material (paragraph 70, Chapter 4). This is quite helpful. Paragraph 71, however, then goes on to suggest that seasoning is material if a simple single-variable analysis is performed (in which, for a segment, the average of one-year PDs for the segment (over the number of years of available data) is found to be lower than the annualized cumulative default rate observed for the segment. This may be too simplistic and the analysis should vary from institution to institution.

II. Probability of Default (PD)

As noted above, much of this section is more appropriate to the ratings assignment methodologies, which should consider the drivers to default risk specific to a given portfolio. This applies to the sections on Data, Estimation and Mapping. For instance, several sections refer to requirements around default modeling, which is generally interpreted as being separate from PD Quantification except for the most homogeneous portfolios. Note section S4-18 78 states "Key drivers of default should be factored directly into the obligor rating or segmentation process". If the implication of this section is that PD Quantification should occur at the level of the specific portfolio (obligor type, geography, industry), the Guidance must make this explicit. As noted

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above, this could significantly reduce the robustness of the estimates and is only appropriate where a bank is relying upon multiple rating systems. Otherwise the below requirements are duplicative.

89. The bank must ensure that the PD applied in the determination of risk-based capital requirements for each wholesale exposure or retail segment is not less than the regulatory floor of 0.03 percent, except for exposures to or directly and unconditionally guaranteed by a sovereign entity, the Bank for International Settlements, the International Monetary Fund, the European Commission, the European Central Bank, or a multi-lateral development bank, to which the bank assigns a rating grade associated with a PD of less than 0.03 percent.

We note that this requirement imposes an additional measure of conservatism in spite of what has been empirically observed. It is unclear how the 0.03% was established. Note that data from NRSROs indicates that for a variety of high quality obligors rated A or better (corporates, financial institutions, US municipalities, and other types of non-sovereign obligors) the long-run average PDs (based on over 25 years of data) are much lower than the proposed 0.03% threshold. Given the typical number of high quality obligors followed by the NRSROs over the last two decades, if 0.03% were a sound estimate of the probability of default for this segment, there would be a significant probability (over 50%) of observing at least one default event in that period.

III. Expected Loss Given Default (ELGD) and Loss Given Default (LGD)

91. ….. Accordingly, ELGD estimates incorporate a mix of economic conditions (including economic downturn conditions) while LGD estimates reflect losses that would occur during economic downturn conditions (i.e., conditions in which aggregate default rates are significantly higher than average). LGD estimates cannot be less than ELGD estimates for a particular wholesale exposure or retail segment.

This section presupposes the existence of cyclicality in ELGD, regardless of a bank's empirical evidence. Although there are published papers indicating cyclicality, few are relevant to bank products nor are the losses in the most widely published studies measured in a manner consistent with the NPR requirements. Any estimation of ELGD based on market prices during periods of high default will reflect significant supply and demand influences as opposed to ultimate recovery. Note that some research indicates that, when the market-based calculations are compared against actual ELGD, measured more consistently with the NPR requirements, the results do not support the initial market-based estimation, except for banks that actually sell the exposures during those periods (and this would be appropriately captured through the Asset Sale definition).

The presupposition also would appear to dismiss the fact that the workout periods for defaults on bank exposures often extend beyond one year and the losses may be mitigated by the economic environment in the post-default period (e.g., collateral values may rise, improving recoveries). This requirement also presupposes that banker behavior does not adapt to the economic/default

environment (through more stringent covenants, higher collateral requirements at origination, etc).

101. ... In most cases, it will not be acceptable to calculate ELGD as the average annual loss rates (where loss severity for each year receives equal weight). Years with a relatively large number of defaults generally provide richer data for measuring loss severity compared to years when there are relatively few defaults. Thus, in general years with a relatively large number of defaults contribute more information and should be appropriately weighted when estimating ELGD. In addition, if years of relatively low default rates typically have relatively low loss severity rates, then using the annual loss rates will tend to understate ELGD.

Given that ELGD is already weighted toward higher default years based simply on the increased number of observations resulting from those years, this requirement adds yet another layer of conservatism to estimation of ELGD, effectively moving the ELGD closer to any estimation of LGD. This "double counting" of the downturn ELGDs and therefore overestimation of the ELGD would appear to be in conflict with the basic premise around accuracy of ratings expressed in Chapter 2: "(a) bank must have an internal risk rating and segmentation system that accurately and reliably differentiates among degrees of credit risk for the bank's wholesale and retail exposures."

Importantly, supervisors should consider the interdependency among sections of the Guidance as below:

1. The NPR definition of default eliminates the recognition of obligor defaults that are quickly cured through bankruptcy remote collateral, the underlying goods in trade transactions, and/or guarantees. Effectively, there will not be any reference data for these types of exposures since the obligor defaults cannot produce any ELGD observations, except where there are problems ("loss in event of loss" definition, which is explicitly noted as inappropriate in Section 99). Given this restriction on low-loss defaults, the prohibition in **D.131** on zero percent LGDs is essentially unnecessary.

2. Even for portfolios with more default/loss observations, the data required to establish or disprove cyclicality will significantly reduce the robustness of LGD estimation by dissecting what is already scarce data for many types of exposures and, most particularly for low default portfolios and for banks that operate in multiple countries (varying high default periods), primarily through large corporate lending where default observations may be rare within a particular country. Note the requirement in **S4-22 121**, that for purposes of calculating LGD, separate countries must be treated separately. As such, additional conservatism will be required per this section, with potential consequence of subjecting the lower risk portfolios to the most punitive adjustments.

3. As a consequence of the data sample size issues, an incentive is being set to aggregate ELGD data at the highest possible levels, across different collateral types, jurisdictions and exposure types, giving rise to trade offs between accuracy of estimation and robustness.

4. The above considerations around data availability may have a significant impact on a bank's ability to qualify to use internal estimates of LGD. Per the requirement in **S4-21 113**, banks may only apply internal estimates if they can qualify to use them across all

wholesale credit or HVCRE and wholesale credit. For banks with material low default portfolios, limited non-downturn default observations required to establish internal estimates of LGD, and/or operations in multiple countries, this requirement may prove unattainable, again depending on the level of aggregation. Per **S4-21 114**, banks that cannot qualify at the level of wholesale or the two sub sectors must implement the LGD function. Consequently, banks with diverse portfolios may be penalized relative to banks with more homogenous portfolios (by country, segment and product), even if there is more risk inherent in undiversified portfolios.

In general, the LGD requirement undermines the stated objective of calculating regulatory capital at the 99% confidence level by assuming that the LGD is the correct measure of loss across all exposures across all cycles. That is, the 99% confidence level calculation would correspond to losses under a scenario whose likelihood is over-represented. It is unclear how the stressed function was derived and what data was referenced in establishing this equation. By definition, LGD, where a bank is required to default to the simplistic LGD function, is not the most accurate estimate of losses across cycles – it is a worse case scenario more in line with the concept of "loss given loss". LGD should not be incorporated into the RWA calculations except where internal estimates indicate that it is relevant.

IV. Exposure at Default (EAD)

Typically, the accounting and economics of post-default extensions to the obligor point toward treatment of such extensions as an increase in cost of recovery (affecting LGD), not an extension of credit (affecting EAD). Such extensions would generally take place within the context of a wholesale exposure. This extension would not be made unless the bank concluded that recoveries, net of the added expense associated with making the loan, are significantly improved. Also, such extensions are often made on special terms, for instance being given priority over pre-default loans and are usually accounted for as a recovery-related expense.

Specific consideration should therefore be given to cash "extensions" in the context of recovery management. In this context, such cash payments would not be "credit" extensions and should not affect measured LGD, rather measured EAD. Since EAD and LGD both enter the Basel II credit risk model in linear fashion, there should be a neutral result on calculated regulatory capital – but a significant cost-of-compliance saving for the AIRB bank.

V. Maturity – no material comments

VI. Special Cases and Applications

B. *Multiple Legal Entities*

162. Some banks have various portfolios that are centrally managed, even though the exposures are held by multiple legal entities. Certain activities, including ratings activities, segmentation and quantification, can be conducted across multiple legal entities. However, each bank member of the consolidated group must separately ensure that risk parameters

assigned to its credit exposures are appropriate on a standalone basis. For example, if a particular bank within the banking group holds exposures with characteristics not representative of the broader consolidated organization (such as credit card loans originated through a specific marketing channel or mortgage loans in a certain location), the bank must ensure the quantification process produces PDs, ELGDs, LGDs, and EADs that reflect the risk associated with the exposures within that legal entity.

163. Each bank (including each depository institution) within a banking group that has centrally managed quantification processes should perform periodic evaluations to confirm that its risk-based capital requirements accurately reflect its risk profile.

The conservatism to be imposed on portfolios/countries/etc where there is little data places too much focus on quantitative analysis and could actually result in very perverse results - e.g., holding more capital against low risk portfolios than medium risk (where we have sufficient data).

Comments on Chapter 5 - Wholesale Credit Risk Protection

S 5-1 Risk-based capital benefits are only recognized for credit protection that transfers credit risk to third parties.

See also our response to 4-3.

S 5-2 Banks must ensure that credit protection for which risk-based capital benefits are claimed represents unconditional and legally binding commitments to pay on the part of the guarantors or counterparties.
As specified in the NPR, forms of written third-party support that are conditional or are not legally binding are not recognized as credit risk mitigation. Refer to Standard 2-11 in the Wholesale Risk Rating Systems chapter of this guidance regarding the use of implied support as a rating criterion.

Where a bank cannot prove unconditional and legally binding commitments at the facility level as opposed to implied support at the ORR level, we consider that we should be allowed to adjust LGD where there is sufficient historical data to demonstrate that letters of comfort, and other forms of mitigation do reduce the LGD.

Comments on Chapter 6 - Data Management and Maintenance

Below are those items, from our perspective, that are either poorly defined, too open-ended or not feasible. It can be exceedingly cumbersome for the same volumes of data to be stored within multiple systems throughout the bank. What is important is that an exposure can be traced from start to finish, no matter how an "exposure" is defined. That tracing need not be within one or two systems and the speed and readiness of data extraction should be in accordance with the business use for that data. This will mean that certain data used in Basel II models may be archived and slow to retrieve but it should, nevertheless, be regarded as meeting these data standards.

Banks should err on the side of collecting not only data that they are currently using but also data that may potentially be useful to their IRB models or validation processes.

It is difficult to determine what this statement means, as there are countless data elements that someday could be needed. Rather, we have taken the approach that, as further data is needed and defined, it will be incorporated within the various feeds and transmitted to our Repositories.

S6-4/15: Banks should gather and retain disposition data, including recovery data on defaulted exposures (e.g., date and dollar value of recoveries and collection expenses) sufficient to develop ELGD, LGD, and EAD estimates for retail exposures. For many banks, information related to recoveries and collection expenses currently exists only at an aggregate level. These banks should develop interim solutions and a plan to improve exposure-level data availability.

This paragraph proposes that collection and recovery cost should be collected at exposure level. This is expensive, inconsistent with retail requirements, and currently not available as some of these functions are outsourced. The additional value add of a more granular level collection and management is not obvious, especially with the increased for collecting and maintaining such information.

S6-5: Banks should ensure that outsourced activities performed by third parties are supported by sufficient data to meet IRB requirements.

Some outsourced portfolios do not have the same level of information readily available as internally services portfolios. The businesses collect only crucial data elements for portfolio management purposes. This (outsourced managed loans) represents a small amount of the exposures Citi has on books. In other areas (like collections), outsourcing is more common. The overall additional cost associated to a more detailed data collection might not justify any potential benefits. It is also questionable whether additional material insights are achieved with these additional data collections. The Guidance should have some recognition of materiality in respect of these types of data requirements.

S6-6: Banks should maintain data to allow for a thorough review of asset sale transactions.

The current implementation and requirement associated with asset sales can be very demanding and require complex calculations especially for retail portfolio sales. There is a risk that the requirements as drafted could add extra conservatism and require substantial and disproportionate documentation and analysis. Again the materiality needs to be assessed to estimate an impact on the estimates.

S 6-7 Banks should develop policies and controls around the integrity of the data maintained both internally and through third parties.

Qualitative risk-rating variables will have subjective elements and will be open to interpretation. If and where appropriate, procedures in place within the operating businesses, assignment of qualitative risk-rating variables within a Repository will not be manually entered on a one-off basis. Rather, assignment will be based on a rule driven engine. Exposures will be acquired through mergers and purchases, but without an adequate and easily retrievable institutional rating history. If and when that occurs, the results will need to be reviewed and rationalized.

Data Applications - Applying IRB System Improvements historically. The ability to apply changes historically may well be an issue, as the purpose of this system is to capture data at a point in time and report on it. To apply changes historically would be to alter past-reported results.

S 6-8 Banks should document the process for delivering, retaining, and updating inputs to the data warehouse and ensuring data integrity

Our processes are documented, however, we feel that there should be more explicit thresholds regarding materiality for ensuring data integrity.

S 6-9 Banks must maintain detailed documentation of changes to the data elements supporting the IRB system.

The notes to this section state that when changes are made to the IRB system and the supporting data elements, the source of any **significant** changes in the risk-based capital requirements should be documented. As with the above comments, we feel that "significant changes" is more appropriate as per 27 above, rather than the general comment to document all changes as set out in standard S 6-9 above.

$21: "Moreover, banks are encouraged to retain data beyond the minimum requirements because they should have robust historical databases containing key risk drivers and performance components over as long a historical period and as many variables as possible to facilitate the development and validation of better models and methods. "

This requires that changes / improvements made to the system and segmentation be applied historically. This might not be feasible and can be very expensive, as several systems do not have 5 years of historical data readily available. Going back into tapes and archives to apply new

improvements can be extremely costly. The work required should be proportionate to the benefits and materiality.

Para 24: The information that can be gleaned from more extensive data collection will support a broad range of risk management activities. Risk management functions will rely on accurate and timely data to track credit quality, make informed portfolio risk mitigation decisions, and perform portfolio stress tests. Obligor and loss severity risk rating and segmentation data will be used to support such operations as internal capital allocation models, pricing models, ALLL calculations, and performance management measures. Summaries of these are included in reports to banks' boards of directors, regulators, and in public disclosures.

The guidance should distinguish between policies and procedures. At several points, the Guidance refers to risk management procedures as policies, and would require initial and periodic review of such "policies" by the board of directors (or its designate). However, it is inconsistent with the practices of most institutions to have the board go so deeply into the details of the models or the policies surrounding them. The lines of responsibility of the board and management should be established by the board, not by regulators.

Comments on Chapter 7 - Controls and Validation

S7- 4: Validation activities must be conducted independently of the advanced systems' development, implementation, and operation, or subjected to an independent assessment of their adequacy and effectiveness.

Citi agrees that the developmental evidence supporting risk rating and segmentation systems' design and quantification should be subject to an ongoing substantive independent assessment by qualified staff. Further, Citi agrees that this independent review should be conducted at the time of system development and then updated whenever significant changes in methodology, data, or implementation occur. However, we do not agree that when regular benchmarking or backtesting is performed by the developers of those models that this process is subject to the same substantive independent validation. As long as the developers are independent from the users, backtesting is best carried out by those responsible for the model development. The original model builders are best placed to understand the technical features of the model, can carry out the backtesting most efficiently, and can learn useful information about the model from carrying out this work themselves; thereby leading them to change recommendations as necessary. While this work should be subject to appropriate reporting and periodic review of the ongoing applicability of the model by an independent group and a periodic review of the process by internal audit, Citi does not agree that it be carried out by a team independent from those who built the model.

S7- 6: Internal audit must, at least annually, assess the effectiveness of the controls supporting the IRB system and report its findings to the board of directors (or a committee thereof).

An annual review by internal audit of the effectiveness of the controls surrounding the IRB system is dependent on a number of factors. Internal audit uses a risk-based approach to determine the timing of cycled reviews. The frequency of the review is based on the entity's overall composite risk rating, along with the control rating from the prior cycled review.. For example, if the overall composite risk rating of the entity is "Medium" and the prior audit resulted in a "Satisfactory" control rating, the frequency of the review will be within 24 months.. This allows internal audit to focus resources on riskier areas. Internal audit, being an independent body to all components of the IRB system, should be trusted to make these professional assessments based on their knowledge of the businesses.

S7 – 8: Validation must assess the accuracy of the risk rating and segmentation systems and the quantification process.

The guidance suggests that validation should assess the accuracy of the quantification process and goes on to include within this quantification, with specific reference to retail portfolios, the LGD being the economic loss rates during actual economic downturns. Unless there are economic downturns these parameters cannot be assessed. As recognized in paragraph 23, the guidance should make it clear here that there is no expectation to assess LGD other than when an economic downturn occurs and is thus available in the data set.

Also, it is important to make clear that "observed outcomes" refers to observed long-run averages. The imposition of long-run averages is not equivalently comparable to one-year outcomes.

S7 – 9: Validation processes for risk rating and segmentation systems, and the quantification process must include the evaluation of conceptual soundness, ongoing monitoring, and outcomes analysis.

It is not practical to expect banks to describe in its model documentation the reasons why every rating or segmentation system were rejected to perform the function the ultimate model was selected to perform. It should be sufficient to document at a high-level the reasons why serious contenders were reject, however few that number may be. We also do not believe that the bank needs to, within its validation documentation, explain why every "model" attempt -- other than the finally accepted one -- was rejected. Research into risk parameterization is an iterative process, and only the rejection of the serious contenders should be documented. Documentation is inherently a very expensive process and needs to be focused on only the major, and more widely accepted, possibilities in comparison to the chosen approach.

S7 – 10: Banks must evaluate the developmental evidence supporting the risk rating and segmentation systems and the quantification process.

Regulators should remove the requirement for quantification of alternatives. This is irrelevant as to whether or not the implemented solution is sufficient and is best left as a benchmarking approach if it is found that the chosen methodology and various alternatives are sufficiently comparable.

S7 – 12: Banks must benchmark their risk rating and segmentation systems, and their risk parameter estimates.

The guidance should not have any benchmarking requirement when the bank is able to demonstrate adequate out-of-sample performance of its approach. Additionally, in order for benchmarking to be reliable, it must make use of consistent data and methods between the systems being compared. This compatibility is extremely difficult to ascertain. Citi relies on internal data to drive a significant portion of its risk rating and segmentation systems. Additionally, much of the methodologies used are proprietary. As such, it is difficult to find any meaning behind differences as we are uncertain if they are caused by differences in data or whether they are caused by the methodology itself. Having said that, Citi does perform benchmarking where it is deemed appropriate by both the developers and the validators.

S7 - 14: Banks should establish ranges around the estimated values of risk parameter estimates and model results in which actual outcomes are expected to fall and have a validation policy that requires them to assess the reasons for differences and that outlines the timing and type of remedial actions taken when results fall outside expected ranges.

The guidance should only require that observed outcomes be compared to the distributions implied by the Basel II framework. Additional criteria are inconsistent with Basel II and

consequently should not be required. Moreover, differences should be assessed only between changes in long-run average estimates as per the Basel II framework. It is not acceptable to require comparison of a mandated estimation technique based on a 5+ year average to be compared against a 1-year outcome. The bank need only develop a set of remedial actions when results fall outside expected ranges.

S7-15: Each of the three activities in the validation process should be conducted often enough to ensure the ongoing integrity, reliability, and accuracy of the IRB risk rating and segmentation systems, and the quantification process.

Backtesting is a component of validation that is likely to occur more frequently than benchmarking or the independent validation of the models design, implementation, and use. Validation and benchmarking are more likely to be carried out, and are more relevant, when a new model is developed and when there is a substantial revision to the model. Some interim, or less than full, validation can also be expected in order to review the ongoing applicability of the model and its assumptions. Backtesting and associated actionable results, however, should be expected more regularly than the other two components.

Comments on Chapter 8 - Stress Testing of Risk-Based Capital Requirements

Minimum Requirements for Stress Testing:

There are stress testing requirements set out in both this section and in the Pillar 2 section of the Guidance. The references would appear to imply that the stress requirements under Chapter 8 are different from those under Pillar 2. Indeed in Chapter 8 it states that the stress test performed "may be less severe than those used for other purposes, such as testing a bank's solvency". In the section on Pillar 2 the fundamental objectives of a sound ICAAP include a "systematic assessment of all risks and their implications for capital adequacy". We are concerned that the different wording of these two requirements may mean tow different stress testing exercises, one in relation to Pillar 1 type risks and one in relation to capital. This seems an expensive and unnecessary requirement. The stress testing requirements should be consolidated by using language similar to that set out in the Pillar 2 section. This would allow us to use more relevant information of interest to our Board and Management.

S 1 - Banks must conduct and document stress testing of their advanced systems as part of managing risk-based capital.

Citi is concerned that the wording within this section demonstrates an expectation of accuracy from stress tests by the Agencies for which is unlikely to be met in practice; the reason for this conclusion is outlined in the three examples set out below. Citi considers that stress tests are most useful when they approximate the impact of recessions and other severe stress events and identify a reasonable range of impacts and results. From this range of information it is important to obtain Senior Management attention on the results, their commentary on the proposed mitigating steps and any strategic implications than it is to try and produce numbers that give a false sense of accuracy.

In addition, this section does not cover concentrations of exposures to individual counterparties or to sectors or geographies. In Citi's experience these concentrations cause the potentially largest stress risk and it appears odd to have omitted reference to such aspects of a bank's portfolio and how to consider the risks associated with concentrations.

Examples of expectations of potentially more accurate stress testing results than are likely to be achieved in practice include:

1   As part of the description of the rationale for stress testing, paragraph 3 states that "A bank that is able to accurately estimate risk-based capital levels during a downturn can be more confident of appropriately managing risk-based capital." However, by the very nature of stress testing it is unlikely that an accurate estimate of the risk based capital levels will be possible. At best it is expected that a potential range of outcomes may be assessed and a very approximate impact of risk-based capital levels measured. Indeed, it is considered that an estimated range of results would be more useful as the more important element is likely to be the management's preparation for mitigating

the impact of the downturn rather than putting effort into deriving a particularly accurate number.

2   "As part of this analysis, the bank should ensure that the rating philosophy (as revealed by rating migration patterns) of the rating agency, or any other source of ratings, associated with the recession transition matrix is consistent with the bank's rating system, or appropriate adjustments should be made for differences in rating philosophy." While in theory it may be appropriate to adjust a ratings transition matrix for modest differences in ratings philosophies, in practice the lack of data and the approximation that a historic transition matrix can predict future stresses is a much larger assumption than the difference in ratings methodologies.

3   Double Default: This chapter twice refers to concerns about ensuring the assumptions about double default are covered by the stress testing. In stress testing the most likely starting point is the default of obligors and then to assess the impact of offsets such a purchased default protection. In addition, given the NPR's very conservative treatment of double default we would suggest that this is an issue that will actually move towards reducing more risk than that measured by the NPR, than it will be a cause of additional stress.

Comments on Chapter 9 - Counterparty Credit Risk

S 9-1 All transactions with a counterparty subject to a qualifying master netting agreement constitute a netting set and may be treated as a single exposure, otherwise each transaction shall have its risk-based capital requirement calculated on a standalone basis.

Our only comment is the same issue we raised in our response to enumerated Question 39 of the September 2006 NPR for Credit and Operational Risk ("The NPR")- repeated below for reference:
"We do not think that there is a good basis for specifying that Effective EPE must be calculated at the netting set level. Effective EPE can logically and coherently be measured at the counterparty party level across all transactions with the counterparty, including a) transactions not covered by any netting agreement and b) the set of transactions covered by each separate netting agreement entered into with the counterparty."

NPR Question 39: The Agencies request comment on all aspect of the effective EPE approach to counterparty credit risk, and in particular on the appropriateness of the monotonically increasing effective EE function, the alpha constant of 1.4, and the floor on internal estimates of alpha of 1.2.

We have several comments to make on the effective EPE approach.

Level of Calculation of EPE and Effective EPE

We do not think that there is a good basis for specifying that Effective EPE must be calculated at the netting set level. Effective EPE can logically and coherently be measured at the counterparty party level across all transactions with the counterparty, including a) transactions not covered by any netting agreement and b) the set of transactions covered by each separate netting agreement entered into with the counterparty. The logic for doing this has been presented to the Basel Committee and has been published[3]. The method of simulating an exposure profile at the counterparty level fully recognizes that only transactions covered by a netting agreement can be netted together. However a robust simulation method will take into account that for any simulated state of the market, at any future date, not every netting set has exposure – i.e. there are portfolio effects across netting sets.

There are two reasons for allowing banks to measure Effective EPE at the counterparty level a) it is the correct method of measuring Effective EPE, and b) it is consistent with the methods and processes banks invented and implemented years ago. Banks do not typically simulate exposure profiles at the netting set level (i.e. for each transaction on a standalone basis) when there is no netting agreement. Requiring each bank to calculate exposure profiles at the netting set level when there is no netting agreement would materially add to processing costs and the numbers that would be calculated would solely be used for regulatory report, not internal risk management.

Banks have a strong incentive to enter into netting agreements with their counterparties. However, as per our answer to question 38, above, the legally enforceability of a netting agreement is dependent on several factors including, a) the form of the contract, b) the specific product, c) the type of counterparty, d) the applicable laws

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[3] Evan Picoult, (2005) Calculating and Hedging Exposure, Credit Value Adjustment and Economic Capital for Counterparty Credit Risk, Chapter in *Counterparty Credit Risk Modeling: Pricing, Risk Management and Regulation* edited by Michael Pykhtin, London, Risk Books; Evan Picoult and David Lamb (2004) Economic Capital for Counterparty Credit Risk, Chapter in Economic *Capital: A Practitioner Guide*, London, Risk Books

of potentially several legal jurisdictions. For this reason, in spite of its best efforts, a bank may have derivative transactions that are not covered by a legally enforceable netting agreement.

The incremental processing costs of calculating Effective EPE at the netting set level will be very high. As a fall back position, if the regulators insist on requiring banks to calculate Effective EPE at the netting set level, they should allow banks to use a simple scaling factor to transform Effective EPE calculated at the counterparty level to Effective EPE calculated at the netting set level.

Floor on Internal Estimate of alpha of 1.2

We do not think that a floor, equal to 1.2, should be set on the internal estimate of alpha. As the US regulators know, the origin of a floor on alpha equal to 1.2 is as follows:

> The joint industry associations (ISDA/LIBA/TBMA) did an initial study when it first proposed the use of alpha and found that alpha would have a value of about 1.1, given the characteristics of a typical, large derivative trading business. At the request of the Basel/IOSCO Working Group, a further study was done that took "general wrong way" risk into account. Alpha was then found to equal approximately 1.2

The actual alpha applicable to a given firm can be less than 1.2 and should be based on the appropriate empirical study by that firm.

For example, a firm might structurally have "general right way" risk rather than the "general wrong way" risk. That could occur, as one example, if a bank tended a) to transact interest rate swaps with corporate end-users for which the bank paid fixed and received floating and b) to hedge market risk by entering into offsetting swaps in the interbank market. Counterparties in the interbank market tend to enter into bilateral margin agreement, whereas corporate end users tend not to enter into margin agreements. As a result of this structural arrangement, the bank would tend to have "right way" risk with its corporate end users (exposures will increase when interest rates rise and the systematic component of default tends to decrease) whereas there will be negligible exposure with the interbank customers in a falling rate environment because of margin.

Floors of any kind tend to distort the measurement of risk. This is an example of where that distortion would occur.

S 9-5 Banks that use the VaR model approach for single product netting sets of repo-style transactions or eligible margin loans must conduct rigorous and regular backtesting to validate its model.

This is indicating more testing than currently required for a market risk VaR engine backtest because the testing might need to be carried out down to a counterparty level. We would maintain that the level of backtesting required should be akin to that required for a market risk VaR model and not at a more detailed level.

S 9-7 Banks that use the internal models methodology for counterparty credit risk transactions must establish initial model validation and ongoing model review procedures. The model review should consider whether the inputs and risk factors as well as the model outputs are appropriate. The review of outputs should include a backtesting regime that compares the model's output with realized exposures.

We have two comments:

1) As we stated in our response to the NPR:

"We do not think that a floor, equal to 1.2, should be set on the internal estimate of alpha".

Please see our answer to Question 39 of the NPR for more details (quoted above).

2) Paragraph 74 of this section states:

> 74. Banks may apply the PD substitution approach, the LGD adjustment approach, or (if applicable) the double default treatment to a CCR exposure hedged by an eligible guarantee or eligible credit derivative.

We are pleased that there is recognition that counterparty credit exposure can be hedged with an appropriate credit derivative or guarantee. Our only comment is to note the importance of including Contingent Credit Default Swaps (CCDS) as an eligible form of credit derivative for reducing the EAD arising from counterparty credit risk.

Starting on page 59 of Annex 1 of our response to the NPR, in the section titled "Mitigation using CDS and CCDS Contracts", we presented an extensive description of this new form of credit derivative, which has been designed to hedge the market varying exposure of counterparty credit risk. Please see that section of our NPR response for further details on this issue.

Para 52. Banks must have procedures to identify, monitor, and control specific wrong way risk throughout the life of an exposure. Wrong way risk in this context is the risk that future exposure to a counterparty will be high when the counterparty's probability of default is also high.

Wrong way risk "throughout the life" is a strong requirement and may be too rigorous. EPE itself is measured over a one-year time horizon. It should be adequate to consider wrong way risk over the next year. The rapid turnover of derivative positions makes looking much further into the future increasingly nebulous.

Definitions:
Paragraph 6. "Credit exposures that do not qualify for the EAD adjustment approach as discussed in this section must follow the IRB approach described elsewhere in this guidance. For those transactions,
(i) the LGD for each individual transaction can be adjusted, based on the collateral for the transaction; and
(ii) except for the current exposure methodology for OTC derivatives, netting cannot be considered in determining either EAD or PD.

The implies that if you apply an LGD reduction to a transaction you must calculate an EAD for that trade on its own, irrespective of any netting agreements and other offsets. This would seem to be unnecessarily restrictive. For example, one could envisage taking the LGD term of the RWA function and applying it to each transaction's simulated exposure within the simulation and revaluation engine. In this way you could capture netting and natural offsets as well as transaction specific adjusted LGDs. In fact, there is no reason why you could not take the entire RWA function inside of the simulation and potentially use "per-transaction" PD, LGD and M.

Paragraph 25: " The VaR model must estimate the PFE as the bank's empirically-based, best estimate of the 99th percentile, one-tailed confidence interval for an increase in the value of the net collateralized exposure ($\S E - \S C$) over a 5-business-day holding period for repo-style transactions or over a 10-business-day holding period for eligible margin loans using a minimum one-year historical observation period of price data on the instruments that the bank has lent, sold subject to repurchase, posted as collateral, borrowed, purchased

subject to resale, or taken as collateral. In cases where the underlying collateral is less liquid, a longer time period may be appropriate.

The advice that " In cases where the underlying collateral is more/less liquid, a shorter/longer time period may be appropriate." is hinting at a solution that may not make much sense in a VaR context. It would make more sense to give the 5 and 10 day periods as the expected period but also allow banks to justify a departure from these estimates where this can to shown to be appropriate.

Comments on Chapter 10 - Risk-Weighted Assets for Equity Exposures

Grandfathering of Equity Exposures:
The Guidance does not mention the possible grandfathering of equity investments, as we discussed in our response to the NPR. In particular, there is a provision in the Accord that Basel countries may grandfather certain exposures for up to 10 years. We would be grateful for clarification that grandfathering will still be permitted under the simpler approaches for calculating the RWA of equity exposures.

Use and Validation of internal models for equity exposures (Chapter 10 section V, S10-3 and paragraph 22).
The Guidance requires comparison of an internal model to the output of a VaR model (based on historical price results over a time horizon of one quarter for a benchmark portfolio). Since an actual VaR model may well not be possible in the case of a portfolio of non-listed equities, we would be grateful for guidance on whether it is reasonable to use a "benchmark" public portfolio that has characteristics of the private portfolio. In addition, if it is not practical to use, to benchmark or to develop a model for a particular set of unlisted equities, this could result in non-use of the IMA approach because the IMA approach has to be used for all parts of the portfolio. This is a strong disincentive to develop IMA models and we would suggest that the IMA approach should be allowed for parts of the portfolio on the basis that there is a credible plan for development of other IMA models, that the plan is not designed specifically to minimize capital requirements and that, if necessary, adjustments can be made under Pillar 2.

Comments on Chapter 11 - Securitizations

S11-1 ...The Bank must use the securitization framework for any exposures that involved tranching of credit risk (with the exception of a tranched guarantee that applies only to an individual retail exposure).

The NPR and the Guidance indicates that Securitization framework represents the fallback treatment and trumps the other treatments under AIRB. Our concern is that the NPR and Guidance apply securitization to any tranching of credit risk, with the exception of a single retail exposure. For example, there may be structured financing (for single assets) within wholesale lending where there is tranching but affect only LGD not PD, therefore they should be treated as secured financings under the wholesale credit framework. More broadly, the Guidance should clarify that if the transaction involves recourse to the seller / originator not just to the underlying assets that support the structure, then these transactions should be treated under the wholesale credit framework, irrespective of credit tranching characteristics.

Similarly, securitization is the fallback treatment for any guarantee that is not clearly otherwise defined within the NPR's section on guarantees. In the case of tranched guarantees of pools of retail credits, use of the securitization framework result in excessive capital treatment and is not warranted by the economic substance of the transaction. Guidance should permit partial guarantees, which create tranched cover, to be used as an adjustment to LGD and ELGD, and not viewed as separate tranches in a synthetic securitization.

Partial tranche cover, if viewed as securitization exposures, would result in the use of SFA since these exposures would not be rated tranches (nor could ratings be inferred). SFA is costly to apply and would result in deduction method, if all SFA inputs are not available. This additional cost would serve to reduce the incentive to seek guarantees on retail pools.

S11-2 – Section II. Scope of Application

Paragraph 7..... Examples of securitization exposures...

The Guidance excludes certain examples of securitization exposures that were specifically identified in the NPR – namely, interest rate swaps and other non-credit derivatives with Securitization SPE as counterparty. Given the questions raised in the NPR responses regarding the appropriateness of treating these exposures under the securitization framework, are we to infer that these IRS swaps with Securitization SPEs are excluded from the Guidance by design as a final decision on their treatment has not been made by the Agencies?

S11-3 Securitization transactions must transfer credit risk to at least one third party to qualify for treatment under the securitization framework

Paragraph 10 ....For an exposure to qualify for treatment under the securitization framework, the transaction must meet the requirements outlined in Statement of Financial Accounting Standards No. 140...

The Guidance identifies adherence to GAAP Accounting principles (i.e. *FAS 140: Accounting for Transfer and Servicing of Financial Assets*) as a qualifying criteria for securitization; specifically, that securitization transactions must meet FAS 140 sale accounting and risk transference requirements.

While alignment between regulatory and GAAP accounting is usually a helpful approach to reporting institutions; in this case, it may result in unintended risk and cost. FASB has issued an Exposure Draft in late 2005 that amends FAS 140. Adoption of this Exposure Draft is presently under review and consideration by Financial Accounting Standards Board. This exposure draft, if adopted in its current form, would result in a number of current transactions, which currently receive securitization framework treatment, not to qualify as securitization structures under U.S. rules. This would result in an increase the number of assets that remain on the originators balance sheet, even though they have been sold or otherwise transferred. This would undermine the economic value of these transactions and other transactions of this type in the future given the punitive capital costs involved.

S11-13 Section A. Supervisory Formula Approach

Paragraphs 65 - 67 Calculation of KIRB...

The Guidance mentions that the calculation of KIRB under the Supervisory Formula requires detailed knowledge of the underlying exposures to calculate the necessary KIRB inputs – PD, LGD, M and EAD. However, the Guidance fails to mention on whether these inputs must be developed from a "bottom up" approach or whether a "top down" approach may be taken to derive the pool level risk parameter estimates, using for example, proxy data from external agency studies for underlying asset pools with similar characteristics when no loss history is available internally. The examples provides in the Guidance document covers only the bottom-up calculation of pool level KIRB inputs from each individual exposure in the pool

Only in the case of Purchase Receivables, does the NPR cover the use of "top down" methodology.

Comments on Guidance on Advanced Measurement approaches for Operational Risk

S 3. The bank must maintain effective internal controls supporting its AMA System.

Comment: The supporting text requires that internal audit assess the effectiveness of internal controls annually.

Citi's ARR (internal audit) review schedule is risk based and may occur more or less frequently than annually, as appropriate to the risk. We recommend that "annually" be replaced by "periodically, as appropriate" (See also item 7-6).

S 5. The board of directors and management should ensure that the bank's operational risk management, data and assessment, and quantification processes are appropriately integrated into the bank's existing risk management and decision-making processes and that there are adequate resources to support these processes throughout the bank.

Comment: The supporting text states: "the board of directors must at least annually evaluate the effectiveness of, and approve, the bank's AMA System." We recommend replacing annually with a risk sensitive schedule, as appropriate.

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S 10. The board of directors and senior management must receive reports on operational risk exposure, operational risk loss events, and other relevant operational risk information. The reports should include information regarding firm-wide and business line risk profiles, loss experience, and relevant business environment and internal control factor assessments. These reports should be received quarterly.

Comment: The supporting text states: Comprehensive management reporting, geared toward the firm-wide operational risk management function and line of business management, should include,…changes in factors signaling an increased risk of future losses and ….operational risk causal factors.

In many instances operational risk factors that led to a particular event cannot be uniquely determined retrospectively let alone signaling an increase in future losses. This requirement cannot be met at this point in time or in the near future. Management relies on a series of diverse information such as RCSA and audit results, KRI, past loss experience, external events or scenario analysis to arrive at a judgment on the level of and change in risk. A change in the level of risk may signal future loss or it may signal a change in the frequency and severity of future losses. A direct relationship between a change in risk and future losses cannot be shown except for highly predictable routine losses where the amount of available and relevant data supports such a relationship.

We recommend that these two bullet points be combined and replaced by "where possible, changes in factors signaling an increased risk of future losses (for example, changes in causal factors)".

S 11. The bank must have a systematic process for incorporating internal loss event data, external loss event data, scenario analyses, and assessments of its business environment and internal controls factors to support both its operational risk management and measurement framework, as well as its calculation of the bank's operational risk component of its risk-based capital requirement.

Comment: The supporting text states: The bank should demonstrate that the four elements jointly cover all significant operational risks to which it is exposed.

Given the state of maturity of operational risk measurement and management, demonstration is not achievable at this time or in the near future. To demonstrate would call for proving and providing clear and certain evidence. Operational risk measurement and management is still evolving and the best that can be reasonably achieved at this time is well reasoned, thoughtful and well documented consideration, instead of demonstration.

We recommend replacing the sentence with: The bank should consider and document the manner in which the four elements are resonantly expected to jointly cover all significant operational risks to which it is exposed

S 13. The bank must have a historical observation period of at least five years for internal operational loss event data. A shorter period may be approved by the primary Federal supervisor to address transitional situations, such as integrating a new business line. Internal data should be captured across all business lines, corporate functions, events, product types, and geographic locations. The bank must have a systematic process for capturing and using internal operational loss event data in its operational risk data and assessment systems.

Comment: Clarification is needed on what is meant by "historical observation period", and to what process the historical observation period is intended to apply.

We believe that each bank should have the flexibility to select the appropriate time period for using internal data in its AMA System that reflects the relevance of the historical loss data to the particular process within the AMA system. Depending on the process, the appropriate period may vary. For example, the appropriate period for frequency may be much shorter than the appropriate period for severity.

S 16. The bank may establish appropriate internal operational loss event data thresholds and, if so, must demonstrate the appropriateness of such thresholds.

Comment: We believe that the availability of data makes demonstration in most cases impossible, at this time. We recommend replacing demonstrate with explain.

S 17. The bank should have a clear policy that allows for the consistent treatment of loss event classifications (for example, credit, market, or operational loss events) across the organization.

Comment: The supporting text states: The bank's operational loss policies and procedures should consider the effect and treatment of operational loss events that are recovered within a short period of time.

This sentence should be removed from the Guidance. It may be inconsistent with the definition of "operational loss" on page 202 of the Guidance. Citi has policies and procedures that support capturing operational risk losses in its database after a charge has been taken in the financial statements to record the loss or establish a reserve. Certain errors which may be reversed within a short period of time, with very little risk, for which there is no charge under GAAP to record a loss in the financial statements are and should remain outside of the definition of reportable operational risk loss events.

S 20. The bank must have a systematic process for determining how scenario analysis will be incorporated into its operational risk data and assessment systems.

Comment: The supporting text states: Scenario analysis allows the bank to incorporate forward-looking elements into its operational risk data and assessment systems. More specifically, scenario analysis is a systematic process of obtaining expert opinions from business and risk managers to derive reasoned assessments of the likelihood and loss impact of plausible high-severity operational losses that may occur at a bank.

We recommend that: "additional or" be added after "incorporate" in the first sentence and that "or relative likelihood" be added after likelihood, in the second sentence.

The new text should read: Scenario analysis allows the bank to incorporate additional or forward-looking elements into its operational risk data and assessment systems. More specifically, scenario analysis is a systematic process of obtaining expert opinions from business and risk managers to derive reasoned assessments of the likelihood or relative likelihood and loss impact of plausible high-severity operational losses that may occur at a bank.

S 22. The bank must periodically compare the results of its business environment and internal control factor assessments against the bank's actual operational risk loss experience.

Comment: The supporting text states: Business environment and internal control factors are indicators of the bank's operational risk profile that reflect the underlying business risk factors, an assessment of the current internal control environment, and a forward-looking assessment of the bank's control environment.

We recommend deletion of forward looking. Assessments generally reflect the state at the time of the assessment and it is not generally possible to assess the future state of controls.

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S 25. The bank must review and update its operational risk quantification system whenever it becomes aware of information that may have a material effect on the bank's estimate of operational risk exposure or risk-based capital requirement for operational risk, but no less frequently than annually. A complete review and recalculation of the bank's quantification system, including all modeling inputs and assumptions, must be done at least annually.

Comment: The supporting text states: Banks should be able to demonstrate (see Standard 30) the effect of each element on the operational risk exposure estimate.

Demonstration is not generally possible. As Standard 30 requires, it should be sufficient to document, a reasoned and thoughtful consideration of the effects.

S 27. The bank must employ a unit of measure that is appropriate for the bank's range of business activities and the variety of operational loss events to which it is exposed, and that does not combine business activities or operational loss events with different risk profiles within the same loss distribution.

Comment: Citi will interpret "appropriate" to be "well reasoned given current data availability".

S 28. The bank may use internal estimates of dependence among operational losses within and across business lines and operational loss events if the bank can demonstrate to the satisfaction of its primary Federal supervisor that the bank's process for estimating dependence is sound, robust to a variety of scenarios, and implemented with integrity, and allows for uncertainty surrounding the estimates. If the bank has not made such a demonstration, it must sum operational risk exposure estimates across units of measures to calculate its total operational risk exposure.

Comment: Given the level of maturity of operational risk measurement and management we believe that demonstration may not be achievable at this time.

We recommend replacing the standard with the following:

The bank may use internal estimates of dependence among operational losses within and across business lines and operational loss events if the bank can explain to the satisfaction of its primary Federal supervisor that the bank has a well reasoned approach to considering dependence and that the approach is considered robust to a variety of scenarios, implemented with integrity, and allows for uncertainty surrounding the estimates. If the bank's reasoning is not satisfactory to the primary Federal supervisor, then it must sum operational risk exposure estimates across units of measures to calculate its total operational risk exposure

S 32. The bank must validate, on an ongoing basis, its AMA system. The bank's validation process must be independent of the AMA System's development, implementation, and

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operation, or the validation process must be subject to an independent review of its adequacy and effectiveness.

Comment: We recommend that: "ongoing" should be replaced with "periodic and as appropriate." Citi policy requires that the AMA system be validated at least annually or when there is a material change. We believe that there is no value in re-validating when there has been no change or in the absence of change, more frequently than annually. We also recommend the addition of "as appropriate" to the sentence beginning "The validation process should address…". For example, given lack of data, robust out of sample testing many not be meaningful in most situations and therefore may not be appropriate under those circumstances. Additionally, we recommend removing the requirement that stress testing include consideration of economic cycles. The maturity of operational risk management and measurement, even within industry leaders, does not enable this requirement to be implemented at this time.

Comments on The Supervisory Review Process (Pillar 2)

We welcome the principles based nature of the guidance set out within this section that we believe reflects a more appropriate exposition of the way in which Guidance should operate. The nature of the Guidance in this section means that it can be appropriately tailored to the circumstances of each bank.

The supervisory assessment of capital adequacy. The discussion in the Guidance regarding the supervisory assessment of capital adequacy says "On an ongoing basis, the supervisory assessment process determines whether a bank's overall capital remains adequate as underlying conditions change. Changes in a bank's risk profile or in relevant capital measures are areas of particular focus that are effectively addressed through the supervisory review process. Generally, material increases in risk that are not otherwise mitigated should be accompanied by commensurate increases in capital."

We agree that increases in a bank's risk profile (in terms of the inherent risk content of its mix of business) should cause the bank to hold commensurately more capital. However, this Guidance does not appear to deal with an economic downturn across the banking sector. At a time of cyclical downturn banks across the sector should not be required to hold more capital. Rather the adjustments in Pillar 2 should be used to accommodate the general change across the sector. Thus the ICAAP requirement should include the provision that a bank should assess its ability to remain appropriately capitalized during adverse conditions. Thus, stress testing and other devices should be used to estimate the amount by which actual bank capital should a) exceed regulatory minimum capital as a generality, and b) constitute a cushion during good times that can be used to absorb losses and increased systemic risk that occur during bad times. The capital cushion during good times could not serve its purpose if it were maintained during bad times. Indeed, most observers view a decline in this capital cushion (which should still remain above the well-capitalized minimum requirements and/or above the bank's internal capital requirements) as the first line of defense in a recession.

Detailed comments:

ICAAP: Paragraph 15 requires a thorough identification of al material risks, measurement of those that can be reliably quantified and systematic assessment of all risks and their implications for capital adequacy.

Certain risks, such as reputation risk, exist whatever the level of capital adequacy and therefore the assessment of the implication for capital adequacy seems inappropriate; in addition, risks such as liquidity are better covered by a liquidity plan and liquidity backstops, rather than maintenance of capital. Thus the assessment of the implications for capital adequacy should only be "where appropriate".

Stress Testing paragraph 24:

While losses from a single event would probably affect several risks, such as credit market and operational risk, these losses are likely to happen in different time horizons. Aggregating these across time is difficult and may well be of limited value given the assumptions which may have to

be made to assess the combined impact on several risk types. As noted this poses substantial challenges and at this stage seems likely to be a future expectation rather than a current solution. We believe there are more important stresses to be examined than trying to aggregate across risk types. In addition, this section n stress testing should be aligned with that in Chapter 8 (see our comments on that Chapter).

Sensitivity to historic assumptions – paragraph 28: To measure the sensitivity to historic assumptions requires data outside the sample used to establish the original model. Given that there is often a shortage of data on which to build a model, predicting how the past data changes is very difficult and initially is unlikely to be possible. We suggest his should be a longer-term goal, but should not be expected during the initial period in which Basel II is introduced.