



Ms. Jennifer J. Johnston  
Docket No. OP-1215  
Secretary, Board of Governors of the Federal Reserve System  
20<sup>th</sup> Street and Constitution Avenue, NW  
Washington, DC 20551

Office of the Comptroller of the Currency  
Docket No. 04-22  
Public Information Room, Mail Stop 1-5  
250 E Street, SW  
Washington, DC 20219

Robert E. Feldman  
Attention: Comments/Legal ESS  
Executive Secretary, Federal Deposit Insurance Corporation  
550 17<sup>th</sup> Street, NW  
Washington, DC 20429

Regulation Comments  
Docket 2004-48  
Chief Counsel's Office, Office of Thrift Supervision  
1700 G Street, NW  
Washington, DC 20552

**Re: Internal Ratings-Based Systems for Retail Credit Risk for Regulatory Capital**

Dear Ladies and Gentlemen:

Bank of America Corporation (Bank of America) appreciates the opportunity to comment on the Notice entitled "Internal Ratings-Based Systems for Retail Credit Risk for Regulatory Capital" (referred to as the Retail Guidance or RG). Bank of America and its banking subsidiaries, with \$1.1 trillion in assets, have full-service consumer and commercial operations in 29 states and the District of Columbia. Bank of America provides retail banking, investing, corporate and investment banking services and financial products to individuals and businesses across the United States of America and around the world.

As the banking industry has evolved and the complexity of transactions has increased, the limitations of the existing Capital Accord have become apparent, highlighting the need for regulatory capital requirements that better reflect the risk profiles of individual banks and the industry as a whole. The Basel Committee on Banking Supervision issued its third consultative paper, "The New Basel Capital Accord" (the Proposed Accord), to address these limitations. The Agencies issued the Advance Notice of Proposed Rulemaking entitled "Risk-Based Capital Guidelines; Implementation of the New Basel Capital Accord" (the ANPR) to outline the US implementation of the Proposed Accord. We commented on the ANPR in a letter dated November 3, 2003. Many of the comments in that letter also pertain to the Retail Guidance and, where applicable, have been repeated in this letter.

We strongly support the three-pillar paradigm of minimum capital requirements, supervisory review and market discipline as part of a comprehensive risk-based capital approach. We support the efforts to better

align regulatory capital requirements to underlying economic risks, to encourage better risk measurement processes and to promote international consistency in regulatory standards. The consultative dialogue the Agencies have maintained with the industry has been mutually beneficial and has improved the transparency of the decision process. The specific requests for comments within the RG indicate that the Agencies value this feedback and will provide it due consideration. We hope the Agencies will find our response useful to that end.

We generally support the approach outlined in the RG but remain concerned by the following aspects:

- Prescriptive Language
- Risk Parameter Update Frequency
- Seasoning Effects on Default Probabilities
- Treatment of Defaulted Assets
- Criteria for QRE Treatment
- Definition of Default Issues
- Loss Given Default Estimation
- Calibration Issues
- Retail Categorization Criteria

Bank of America is a member of the Risk Management Association (RMA) and has participated in the preparation of the comment letter of that organization as well as other groups. With some minor differences, we endorse the RMA comment letter. Therefore, we have limited repetition of many of the more technical comments common to Bank of America and the RMA.

### **Prescriptive Language**

We commend the Agencies for adopting a principles-based approach in crafting the RG. As noted in our previous comment letters, we believe only a principles-based approach will be flexible enough to accommodate the continuing evolution of risk management and the development of new financial products. Limiting regulations to core principles and strong guidance rather than complex rules is a significant step in this direction. We appreciate the emphasis within the RG that institutions must have credit risk management practices consistent with the substance and spirit of the standards. We agree with the principle that the RG should neither dictate the precise manner in which institutions should meet supervisory expectations nor provide technical guidance on how to develop a risk management framework.

We are concerned that the benefits of the principles-based approach may be negated by the prescriptive text following each supervisory standard in the RG. In several cases, the supporting text contradicts the Agencies' intention of establishing a principles-based approach. The supporting text should be modified to ensure a focus on the substance and spirit of the standard rather than the detailed text of the guidance.

The particular topics that would benefit from a less prescriptive approach include the following:

- The organization of the RG artificially separates the segmentation and quantification processes (RS-1 to RS-10). As a result, the RG contains two sets of requirements for policies, documentation and validation. Segmentation and quantification are part of a seamless process at

most large institutions. The risk drivers and model specifications are selected within the quantification process based on statistical significance and predictive power. Separate policies, documentation and validation requirements for segmentation are redundant.

- The RG states that a separate probability of default (PD), loss given default (LGD) and exposure at default (EAD) will be associated with each segment (RS-1). The segmentation for PD estimation purposes, which focuses primarily on borrower characteristics, typically differs from the segmentation for LGD purposes, which focuses on loan related characteristics. The ability of the segmentation to differentiate risk within its respective dimension is tested during the quantification process. The guidance requires the bank to demonstrate that there are no material differences in the value of a risk parameter across segments. We see no reason for this requirement to apply across the PD, LGD and EAD parameter dimensions (i.e., show that LGDs are constant across PD segmentation variables).
- The RG requires that the risk factors used IRB risk segmentation purposes be consistent with internal methods of assessing credit risk for retail exposures (RS-4). Because of the wide variety of models used to assess credit risk, any requirement for consistency in segmentation schemes can be satisfied only at a broad level. The design and segmentation of risk models used for economic capital, underwriting, account management, loan loss reserving and loss forecasting are a function of the specific objectives, constraints and definitions of the risk management processes they support. Their segmentation schemes reflect the need for point in time risk estimates, different definitions of credit loss, and specific requirements for granularity. It will not be cost effective for the bank to demonstrate correlation between the risk measures used in the regulatory capital model and those in each of these other applications. Instead, banks should be required to demonstrate general consistency in choice of risk drivers.
- The RG also requires that the risk parameter estimates must be consistent with those used to guide day-to-day risk management activities (RS-50). We maintain that day-to-day business decisions should be made using most likely estimates of risk parameters based on the current environment. Because the risk parameters for regulatory capital are conservatively biased and represent either long run or stressed conditions, the use test cannot be met in practice. For example, the PDs for all products and LGDs for mortgages used in the regulatory capital model are subject to floors of 3 bp and 10% respectively. While it remains questionable whether these floors are appropriate for regulatory capital, actual experience is the driver of internal risk management activities. Long run PDs and stressed LGDs would be inappropriate for loss forecasting or pricing models. These models should apply parameters that are appropriate for the economic cycle and market conditions rather than regulatory capital parameters.
- The RG requires that quantification must be based on the best available data for the accurate estimation of IRB risk parameters (RS-12). The supporting text states that banks are expected to regard internal data as the primary source of information. We do not agree that internal data is necessarily preferable to external data. An external data set may cover longer time horizons and provide a richer set of risk driver information for historical periods than existing internal sources. The preference of internal data over external data should be removed from the guidance.
- The RG requires empirically based estimates of PDs, which represent the average segment default frequencies on an account basis over time (RS-19). The supporting text specifies that, if the PDs are weighted in each year by the number of accounts, the bank is expected to empirically

demonstrate that such an approach provides a more accurate estimate of PD for its existing portfolio than an equal weighting of annual time periods. This requirement would be very difficult to satisfy for banks with loan level econometric models, as the data inputs to these models are individual loans rather than annual cohorts.

- The RG requires banks to collect and maintain sufficient data to support the IRB retail credit system (RS-35). The supporting text further requires banks to maintain historical databases at the individual loan level of account and borrower information that affect the origination and account management decisions, whether or not the information is directly used in the segmentation system. We believe it is too burdensome to establish such a broad scope for data collection. The data maintenance standards should only apply for segmentation data that is used within the IRB framework.
- Banks must also retain all significant data elements of the IRB retail credit risk system for at least five years (RS-36). The supporting text specifies that this five-year history must be maintained at the loan level for the entire portfolio. We believe that the data maintenance requirements should only apply to the reference portfolios used in the estimation process. The scope of the reference portfolios need not be the entire historical population. A random sample of the portfolio, with appropriate statistical support, can effectively support the quantification process and may be necessary in practice due to the sheer volume of loan level data.

### **Risk Parameter Update Frequency**

As a general principle, we agree that the quantification process should be updated regularly to incorporate new data and analytical techniques. However, the guidance associated with RS-11 sets a minimum of quarterly updates to risk parameters. If this statement applies to the estimation of PDs, EADs and LGDs of retail assets, it will be next to impossible to satisfy for an institution of the scale and scope of Bank of America. We would like to confirm that the statement refers to updates of the portfolio information and the mapping of exposures to segments based on attributes such as credit bureau score, delinquency status and loan to value ratio. Once the exposures are segmented into granular and risk-homogenous pools, there is no reason to believe there would be significant drift in the segment risk parameters on a quarterly basis. In a properly segmented model, changes in portfolio risk are reflected by the migration of exposures between segments rather than updates to the segment level risk parameters.

The wholesale framework requires annual updates for PDs, LGDs and EADs. We fail to see the logic of a more frequent update of retail parameters. A quarterly update cycle is unnecessary to meet the objective of the quantification process, which is to estimate long run probabilities of default and stressed levels of LGD and EAD and will not improve the accuracy of these estimates. Each quarterly update would have a marginal impact, contributing at most only 5% more observations to the data set. Because the reference portfolio is already segmented by risk characteristics, these marginal observations would not affect long-run PD estimates for each pool, and given the duration of default recovery, would not provide any timely information to the estimate of stressed LGD.

Most financial firms update risk parameters for retail portfolios annually. The quantification process is a significant amount of work effort due the volume of data and the number of models, requiring several months to complete. Credit risk databases for retail portfolios are often decentralized, covering individual

business segments. The extraction and reconciliation of these data are very time-consuming even in the best circumstances.

The estimation of risk parameters is not an automated procedure. The analyst must validate the input data, test alternative specifications, conduct sensitivity analyses, review results and investigate differences from prior estimates. Each step in this process requires careful study and judgment. After the estimation process is complete, it must then be fully documented, validated, approved by senior management and promulgated to affected parties. It would simply not be feasible to repeat this process on a quarterly basis across every risk parameter in the capital model. A requirement for more frequent updates will turn this analytic process into a purely mechanical exercise.

### **Seasoning Effects on Default Probabilities**

The guidance requires consideration of seasoning in the quantification of probability of default. We maintain that our models already accomplish that goal through a dynamic segmentation process and do not require further adjustments. The specific adjustment for seasoning recommended within the RG has several problems. The most severe of these problems is a double counting of risk across periods and overstatement of capital over an exposure's life.

We agree with the importance of seasoning effects in models where the segmentation variables reflect risk characteristics at origination, such as application scores or original loan-to-value ratios. Seasoning and vintage are proxies for a combination of unspecified factors that are related to time, such as drift in credit quality, depreciation in the value of collateral, average returns on real estate investments and principal amortization. A better alternative is to construct a model using refreshed credit scores and current loan-to-value ratios where applicable. When exposures are segmented using this more dynamic approach, the explanatory power of age as an individual variable is significantly diminished. We believe that a model based on updated and dynamic segmentation data adequately captures the changes in the credit risk due to seasoning.

The RG requires regulatory capital for unseasoned loans to be computed using the annualized default probability over the expected life of the exposure rather than the one-year horizon. As a result, an unseasoned loan is assigned capital in the current period for risk outside the capitalization horizon. There are several problems with this approach. First, the approach is not risk sensitive. As mentioned above, a dynamic segmentation approach differentiates exposures on the basis of their actual risk to the portfolio over the capitalization horizon. The seasoning approach overstates the credit risk of the exposures in the first few years following origination. Second, it is inconsistent with the choice of a 99.9% confidence interval in the analytic model. The 99.9% confidence level is appropriate only for a one-year horizon. If default probabilities over a longer horizon are applied to unseasoned exposures, the confidence level should be reduced to maintain an equivalent standard of solvency in terms of public debt ratings. Third, applying a lifetime default probability to an unseasoned exposure and later switching to a one-year horizon default probability double-counts the risk of later periods. The following table illustrates this point for a hypothetical mortgage exposure:



**Overstatement of Capital Due to Seasoning Approach  
 Mortgage Exposures, LGD = .25**

Period	Default Probability Using:			Total Capital Requirement:		
	One Year Horizon	Remaining Life	Basel II Approach	One Year Horizon	Remaining Life	Basel II Approach
1	0.10%	0.31%	0.31%	0.48%	1.11%	1.11%
2	0.20%	0.33%	0.33%	0.80%	1.17%	1.17%
3	0.30%	0.35%	0.35%	1.08%	1.21%	1.21%
4	0.35%	0.36%	0.35%	1.21%	1.23%	1.21%
5	0.40%	0.36%	0.40%	1.33%	1.23%	1.33%
6	0.40%	0.35%	0.40%	1.33%	1.21%	1.33%
7	0.38%	0.34%	0.38%	1.27%	1.18%	1.27%
8	0.35%	0.33%	0.35%	1.21%	1.15%	1.21%
9	0.33%	0.31%	0.33%	1.15%	1.11%	1.15%
10	0.30%	0.30%	0.30%	1.08%	1.08%	1.08%
<b>Average over Life</b>	<b>0.31%</b>	<b>0.33%</b>	<b>0.35%</b>	<b>1.09%</b>	<b>1.17%</b>	<b>1.21%</b>

In the example above, the one-year horizon default probability increases in years 1-4, levels off in years 5-6 and thereafter gradually declines. The annualized default probability over the remaining life is shown in the next column. It is greater than the one-year horizon default probability in the first few periods but less once the loan is seasoned. The approach outlined in the RG would require banks to apply the higher value while the loan is unseasoned but does not grant the benefit of the lower default probability over the remaining life once the loan is seasoned. This double count is readily apparent in the summary results shown at the bottom of the table. The capital computed using the approach outlined in the RG for this simple example is overstated by 10%.

Finally, the results of the approach are counter-intuitive when applied to portfolios with significant refinancing activity. For example, consider a borrower refinancing a mortgage to take advantage of a decline in interest rates. The risk of the exposure is most likely reduced since the new interest payment is lower and the borrower has better debt coverage after the refinancing than before. In the conservative case where the credit score and loan to value are unchanged, the capital should not increase. Yet, the approach outlined in the RG would increase the regulatory capital requirement because the refinanced exposure is unseasoned.

**Treatment of Defaulted Assets**

We agree that it is important to assign capital to defaulted assets to reflect uncertainty in the recovery process. However, we are concerned about the practical aspects of the proposed approach. The approach requires estimates of two additional parameters: a best estimate of expected loss (BEEL) and a potential loss given default (PLGD). The BEEL is an LGD factor which estimates the amount of loss on the defaulted exposure given current economic conditions and the unique circumstances of the exposure. It differs from the LGD used in the risk-weighted assets formula, as it is conditional on the current rather



than a stressed state of the economy. The PLGD factor includes an additional buffer for uncertainty. The capital requirement for defaulted assets is then the difference between the PLGD and the BEEL.

We agree with the principles behind this approach; however, we are concerned about the practical aspects of the calculation. First, it would be burdensome to calculate the BEEL factor as it is described given the broad definition of default in the regulatory capital framework. While cumulative chargeoffs and specific reserves are good indications of the net realizable value of certain assets, there is no equivalent process to estimate the BEEL for other exposures satisfying the broader definition of default. The volume of these exposures and the requirement that the calculations be based on their unique circumstances would make this calculation difficult or even impossible. The second parameter, PLGD, is not well defined. It is specified only as a buffer to reflect uncertainty in the recovery process. A clearer and more objective definition will be necessary before institutions will be able to consistently implement this approach.

The practical problems above could be avoided by calculating capital for defaulted assets using an analytic formula derived under the simplifying assumption that LGD follows a beta distribution. To provide the basis for further dialogue, a possible approach is presented below:

$$RWA = EAD * MIN(1 - LGD, \sqrt{LGD(1 - LGD)} / S * C * M) * 12.5$$

where

*RWA = Risk Weighted Assets*

*EAD = Exposure at Default*

*LGD = Loss Given Default*

*S = Beta Distribution Shape Parameter (recommended value 4)*

*C = Supervisory LGD Correlation (recommended value 20%)*

*M = Supervisory Multiplier (recommended value 4.5)*

This approach requires only an LGD parameter and would therefore be less burdensome to implement. Unlike the approach outlined in the RG, it does not require the estimation of BEEL and PLGD. Although technically the LGD parameter in the above equation should correspond to the long-run average LGD, the Agencies may require stressed LGDs to be used in order to avoid the introduction of an additional parameter. The Agencies could modify the values of either of the supervisory parameters to compensate accordingly. The following table provides a sensitivity analysis of the resulting regulatory capital requirement under the assumption of a shape parameter of 4 and a supervisory multiplier of 4.5.

**Alternative Defaulted Asset Treatment**  
**(S = 4, M = 4.5)**

<b>LGD</b>	<b>Total Capital Assuming Correlation of:</b>		
	<b>15%</b>	<b>20%</b>	<b>30%</b>
5%	7%	10%	15%
10%	10%	14%	20%
25%	15%	19%	29%
50%	17%	23%	34%
75%	15%	19%	25%
90%	10%	10%	10%

**Criteria for QRE Treatment**

We agree that supervisors should establish prudent criteria to determine whether low asset correlations are appropriate for a bank's qualifying revolving exposures. The RG establishes such a test based on the ratio of the loss rate volatility to the average loss rate, also known as the coefficient of variation (CV) for the portfolio. To be specific, the bank must demonstrate that its CV of loss rates is low in order to apply the lower correlation for QRE portfolios and be eligible for greater diversification effects.

A threshold test using a CV benchmark, without adjusting for credit quality, may not be appropriate. The coefficient of variation is influenced by both default probability and asset correlation. A single benchmark applied to portfolios of different credit quality would fail to consider this important relationship. Rather than compare realized loss volatility to a fixed benchmark, it would be more effective for individual banks to demonstrate in their ongoing validation that the CV of their loss rates is equal to or less than the CV implied by the 4% asset correlation assumption. These threshold CVs can be computed using the following mathematical formula, which is based on the assumptions of the regulatory capital model:

$$TCV = \frac{\sqrt{N_2(N^{-1}(PD), N^{-1}(PD), \rho_A) - PD^2}}{PD}$$

where,

- TCV = Threshold Coefficient of Variation*
- N<sub>2</sub> = Bivariate Normal Cumulative Distribution Function*
- N<sup>-1</sup> = Inverse Normal Distribution Function*
- PD = Probability of Default*
- ρ<sub>A</sub> = Asset Correlation (4% for QRE)*

To illustrate this concept, the following table provides threshold CVs that are consistent with various combinations of default probability and asset correlation. As shown in the table, a range of CV values is consistent with the 4% asset correlation assumption. Depending on the default probability of the specific





portfolio or segment, the expected coefficient of variation could vary from 28% to 79% even if the asset correlation is exactly 4%.

**QRE Loss Volatility Threshold  
 Coefficient of Variation Implied by Merton Model**

Probability of Default	Coefficient of Variation Given Asset Correlation of				
	4%	6%	8%	10%	15%
0.05%	79%	103%	125%	148%	208%
0.10%	74%	95%	115%	135%	187%
0.25%	67%	86%	103%	119%	161%
0.50%	62%	78%	93%	108%	143%
1.00%	56%	71%	84%	96%	126%
2.00%	50%	63%	74%	85%	109%
5.00%	42%	53%	62%	70%	88%
10.00%	36%	44%	51%	58%	72%
20.00%	28%	35%	40%	45%	56%

The realized CV values for a portfolio could be compared to the values in the above table at either the portfolio or segment level. If implemented at the segment level, the threshold CVs would clearly need to reflect the level of credit quality for the segment. The average loss rates, volatilities, mean loss rates and CVs over the last five years for the Bank of America retail portfolios are provided in the following table. For comparison, industry chargeoffs for the Top 100 Banks reported by the Federal Reserve are also reported.

**Consumer Loss Summary Statistics  
 First Quarter 2000 - Fourth Quarter 2004**

Descriptor	Statistic	Retail Portfolio			
		Reported Mortgage	Adjusted Mortgage	Credit Card	Other Retail
Bank of America	Average Loss Rate	0.20%	0.04%	4.60%	1.08%
	Std Dev of Loss Rate	0.52%	0.02%	0.86%	0.25%
	Coefficient of Variation	2.61%	0.45%	0.19%	0.23%
100 Largest Banks	Average Loss Rate	0.19%		5.05%	1.49%
	Std Dev of Loss Rate	0.11%		0.84%	0.26%
	Coefficient of Variation	0.59%		0.17%	0.18%

Notes: (1) Bank of America historical data excludes FleetBoston Financial.  
 (2) Adjusted Mortgage column excludes chargeoffs related to Consumer Finance Real Estate portfolio sold in Sept 2001.

As shown in the table, Bank of America's and the industry's realized CVs fall below the threshold levels for a 4% asset correlation assumption. The implied CV for a portfolio with a 4% asset correlation and a 5% default probability is 42%. In contrast, the realized CVs for the Bank of America and industry credit card portfolios are approximately 19% and 17%, respectively. This result should not be surprising, as the industry has long contended that the asset correlations for retail portfolios are too high.

There are a number of practical problems in comparing historical loss volatilities to a fixed benchmark that should be addressed by each institution. First, the use of historical data assumes the portfolio composition, and most importantly credit quality, are fixed over time. Applying the analysis to homogenous risk segments may mitigate this problem. Secondly, historical loss volatilities can be distorted by merger-related chargeoffs, bulk sales of assets, changes in chargeoff policies, and securitizations. The historical data should be adjusted to account for these situations before comparison to the benchmark. Finally and perhaps most challenging, the statistical significance of the difference between the realized CV and threshold CV should be tested. Given the institution-specific nature of this analysis and the need to adjust the threshold level for the credit quality of the portfolio, the most practical implementation would include this test as part of the validation by each institution rather than a strict Pillar I qualifying requirement.

### **Definition of Default Issues**

We agree, on a conceptual basis, with the definition of default based on any one of three loss recognition events: non-accrual, chargeoff, or the maximum number of days past due for loss recognition under the FFIEC Uniform Retail Credit Classification and Account Management Policy. Our concern regarding the definition of default is practical rather than theoretical. We maintain that the definition of default should correspond to the internal definitions used by the existing risk management and economic capital models of each institution.

Fine distinctions in the definition of default will require these models and their supporting infrastructure to be rebuilt but will not improve the accuracy of the capital calculation. Since the entire amount of economic loss is captured through the combination of PD and LGD, changes to broaden or narrow the definition have offsetting impacts on PD and LGD. Our analysis of the tradeoff between PD and LGD in the regulatory capital model indicates that a more narrow definition of default, such as chargeoff only, would result in a slightly more conservative estimate of capital as long as expected loss is constant. Because the bias is conservative, supervisors should allow individual banks to make this choice to avoid rebuilding historical databases and models or creating duplicative processes for compliance. Given the short time remaining before the final implementation date, resources should be directed to tasks with more value.

Finally, we note that the consistency achieved by including non-accrual in the definition of default for retail assets is largely superficial. There is no requirement in GAAP accounting or regulatory reporting to place retail assets on non-accrual; therefore practice across the industry is inconsistent. The non-accrual policy at Bank of America for example requires only mortgage assets to be placed on non-accrual when they are 90-days past due. Other institutions have non-accrual policies that extend to a broader pool of retail assets or use a different days past due criterion.

## Loss Given Default Estimation

The proposed retail IRB guidance states that a bank must estimate an LGD that reflects periods of high credit losses when the portfolio's loss severity exhibits significant cyclical variability. Because research within the industry on cyclicity of LGDs is at a nascent stage of development, we believe it would be premature to establish a prescriptive definition of "periods of high credit losses" at this time. Permitting each institution some flexibility to interpret the broad requirement within the context of its own models will allow best practice to further develop. We recommend this process conform to the principle of estimating LGDs that are conditional on stressed economic conditions and not be restricted by the level of credit losses or a range of dates.

Any choice of a particular time interval would be arbitrary, as the characteristics of recessions and their impacts on individual banks have differed. As noted in the RG, the most recent recession was characterized by increasing housing prices and low interest rates, while the previous recession was also characterized by low interest rates but decreasing housing prices. Because recessions have regional and sectoral characteristics, a fixed period would not be equally relevant across institutions. Limiting the estimation process to periods with high credit losses would also discard important data from less severe environments. Since default is a rare event, the smaller sample of exposures during the stress period may not be sufficient to estimate statistically significant LGD factors for high credit quality segments. More advanced modeling techniques, such as regression or simulation, can use data from the entire period to produce LGD estimates that are conditional on a stressed economic environment.

The Agencies have also requested comments regarding the appropriate level of business aggregation for determining periods of high credit loss. We maintain that regulatory capital requirements should be set to protect each banking institution as a whole from insolvency. The LGD adjustment for high credit losses should therefore be set for each bank's total portfolio and reflect its regional and sector composition. Since diversification effects reduce the possibility of LGDs reaching stress levels in all segments simultaneously, the stressed LGDs should be determined at the total portfolio level rather than for each segment individually.

The Agencies have requested comments on the methods that could be used to estimate LGDs appropriate for periods of high credit losses. Stressed LGDs could be estimated using a variety of approaches, including several alternatives that do not require specification of a particular time interval of high credit losses.

The simplest approach is to segment the data using a time interval representing the period of high credit losses for the institution in question. As noted above, this approach discards important data for less severe periods. The small sample during the stress period may not be sufficient to generate meaningful results for high quality portfolio segments. Periods of high credit losses are almost always followed by significant changes to underwriting standards or actions to divest underperforming segments. Because the analysis is historically based, its results may not be relevant because of the unique circumstances of the portfolio at the time, subsequent changes in underwriting standards or shifts in business mix.

Developing a predictive model of LGD is an alternative to the simple segmentation approach described above. For example, the LGD could be estimated using a regression model and a set of explanatory variables including facility attributes, borrower characteristics and economic variables at the time of default. In such a model, the stressed LGD could be determined by computing the predicted value of the regression model using economic variables that are consistent with stressed economic conditions.

A second alternative would be to develop a structural model that estimates LGDs based on projected collateral values, economic conditions and disposition expense. In a structural approach, historical data would be used to establish the relationship between economic conditions and collateral values. For a mortgage portfolio, regional time series data on housing prices could be an important variable in a structural LGD model. Because the LGD for the portfolio segment must reflect portfolio diversification effects across regions, Monte Carlo simulation would be required to compute a probability distribution of LGD and select a value appropriate for the 99.9% solvency standard of the regulatory capital framework.

### **Calibration Issues**

We have several concerns regarding the calibration of capital requirements for retail assets. Compared to the results of internal models and the industry study conducted by the RMA, the capital requirements for consumer assets under the proposed approach remain higher than justified by the level of risk. Our primary issues are the floors in the estimation of PDs, the floor on LGDs for mortgage portfolios and the levels of correlation for retail assets.

For high credit score ranges, the incidence of default is virtually zero and often results in PDs below the 3 bp floor mandated in RS-20. The low historical incidence of default reflects the high credit quality of consumers in this segment and the small size of the exposure relative to their assets and income.

The 10% floor on the LGD for mortgage portfolios mandated by RS-23 is arbitrary and should be eliminated. For exposures with low LTVs, this assumption is unreasonable. Supervisors should evaluate the appropriateness of LGD estimates in the context of Pillar 2. To the extent that low LGDs are supported by empirical data, banks should be allowed to use them to determine capital requirements.

The RMA study found that the levels of correlation set in the ANPR are generally higher than industry correlation estimates. For example, the correlation assumed for mortgages is approximately 150% of the median of values used by industry participants. We reiterate our request that these correlations be reviewed in light of industry evidence.

### **Retail Categorization Criteria**

The Agencies have requested comment on the criteria for assigning exposures to retail categories. We generally agree with the retail categorization scheme with a few exceptions. We do not believe it is appropriate to classify assets based on how the exposures are managed. The RG currently requires retail assets to be managed on a pooled basis in order to be conferred the benefit of lower correlation. Individually rated and managed residential real estate exposures and private banking exposures must be treated under the wholesale A-IRB framework. Because these exposures are to individuals rather than businesses and revenue or asset size is not relevant, the threshold test for SME treatment does not provide a mechanism for lower capital within the corporate framework.

We strongly object to this classification. The specific requirement that retail exposures be managed and rated on a pooled basis to be eligible for lower correlation should be dropped. Correlation is driven by borrower characteristics rather than internal management policies. Individual management of exposures does not increase their correlation. Individually rated mortgage exposures should have the same

correlations as other mortgage exposures. Other private banking exposures to individuals should be classified as other retail assets or retail business exposures. Private banking exposures that exceed the \$1 million threshold for the retail business exposure category should be treated conservatively within the SME category.

The Agencies should consider a separate category for home equity loans and lines of credit. The correlations used in the mortgage model have been inflated to account for the longer terms of the product. Since home equity products, which typically have shorter tenors than traditional mortgages, are included in the mortgage category, the current classification scheme will not be sufficiently risk sensitive. As an alternative to an additional category, it may be more appropriate to include home equity lines of credit in the other retail asset category rather than the mortgage category.

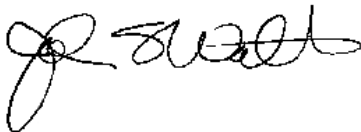
The treatment of multifamily residential real estate exposures also requires further consideration. Under the current classification scheme, these exposures would be treated as commercial real estate exposures unless the primary source of repayment is the general creditworthiness of the borrower. Multifamily lending differs from traditional commercial lending: the typical loan size is much smaller and the borrowers are often individuals. For correlation, it would be more appropriate to classify multifamily residential lending on stabilized properties as mortgage exposures in the retail asset category.

## Summary

We generally support the approach outlined in the RG but remain concerned by its prescriptive language, the feasibility of quarterly parameter updates, the treatment of seasoning effects, the complexity of the approach for defaulted assets, the criteria for QRE treatment, practical issues regarding the definition of default, the estimation process for stressed LGDs, the retail categorization criteria and overall calibration issues regarding floors on PDs, LGDs and the level of correlation assumed in the regulatory capital model.

We would like once again to thank the Agencies for their continued dialogue with the industry. We would be happy to discuss our views in greater detail, or to discuss any new ideas that the regulatory authorities wish to pursue. In that regard, please contact me at (415) 953-0243 or Randy Shearer, our Senior Vice President and Director of Accounting Policy, at (704) 388-8433.

Sincerely,



John S. Walter  
Senior Vice President  
Risk Capital & Portfolio Analysis