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

KeyCorp appreciates this opportunity to comment on U.S. Banking Agencies' Advance Notice of Proposed Rulemaking (ANPR) which concerns the implementation of the New Basel Accord in the United States. In this response, we follow the structure of the ANPR and answer specific questions posed by the regulators.

Expected Losses versus Unexpected Losses

What are the advantages and disadvantages of the A-IRB approach relative to alternatives, including those that would allow greater flexibility to use internal models and those that would be more cautious in incorporating statistical techniques (such as greater use of credit ratings by external rating agencies)?

When the Basel Committee issued its first version of the New Accord in June 1999, it decided not to allow banks to use the results of internal economic capital models in setting regulatory capital requirements. The Committee suggested, however, that it might reconsider the use of internal economic capital models in the future.[1]

KeyCorp supports the eventual recognition of internal models for the direct calculation of capital charges. Using internal models would help meet the New Accord's goal of aligning regulatory capital more closely with economic capital. We expect that in due course internal models will be accepted for calculation of credit risk arising from lending and other credit products as well.

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

The A-IRB approach embodies a definition of regulatory capital that is not consistent with banks' internal bank credit risk management practices. That is, capital in the A-IRB approach covers both expected loss (EL) and unexpected loss (UL), while banks typically assign economic capital only to UL.

Indeed, common practice is to have expected margins cover EL plus a return to capital (due to the need to generate positive Shareholder-Value-Added). Thus, capital is needed only to cover UL. If the regulators insist on a separate treatment of EL, it should be done under Pillar 2. The appropriate test would be a comparison of the A-IRB measurement of EL with the bank's loss provisions plus expected FMI.

[1] "A New Capital Adequacy Framework," June 1999, p. 41.

Wholesale Exposures: Definitions and Inputs

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

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

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

Wholesale Exposures: Formulas and Other Considerations

The Agencies are seeking comment on the wholesale A-IRB capital formulas and the resulting capital requirements. Would this approach provide a meaningful and appropriate increase in risk sensitivity in the sense that the results are consistent with alternative assessments of the credit risks associated with such exposures or the capital needed to support them? If not, where are there material inconsistencies?

The proposed formulas result in a reasonable representation of risk.

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

The proposed maturity adjustment appropriately addresses the risk differences between loans with different maturities, provided that these maturities are above one year. Basel maturity adjustment is a proxy for mark-to-market definition of capital where losses are defined via change of value at the one-year horizon. This change of value includes possibilities of both a default and a downgrade before or at the horizon. However, for exposures with remaining maturity shorter than one year (short-term maturity), downgrades will not produce economic loss at the horizon because, if there is no default, such an exposure simply will not exist at the horizon. Therefore, the proposed maturity adjustment can only be applied to loans with maturities above one year.

However, loans with short-term maturity have less time to default than one year. Therefore, capital requirements for short-term exposures are unjustifiably overestimated. We suggest that, for all loans with remaining maturity less than one year, one-year PD should be adjusted downwards to reflect the remaining maturity. Under certain assumptions, there is a

simple formula for this adjustment. Let us assume that, when we divide the one-year interval into an arbitrary number of smaller periods of equal length, conditionally on surviving up to the beginning of the period, probability of obligor defaulting during each period is the same. Then, probability of default over time T (maturity of short-term exposure in years) PD(T), and probability of default over one year (time horizon) PD(1) are related by this formula:

$$PD(T) = 1 - \exp(\ln[1-PD(1)] \, T) = 1 - [1-PD(1)]^T$$

This simple formula is very popular amongst practitioners and would be a sound choice for the PD term adjustment.

Retail Exposures: Definitions and Inputs

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

As indicated above, expected margins must at least cover expected credit and operating losses for all forms of credit, not just qualifying revolving retail credits. Therefore, for all credit exposures, capital should be redefined to cover only UL. If the regulators redefine capital and introduce a separate treatment of EL (as indicated in the Attachment to October 11, 2003 Basel Press Release), the EL treatment (same for all credit exposures, not just QRE) should be done under Pillar 2. As we mentioned above, the appropriate test would be a comparison of the A-IRB measurement of one-year EL with the bank's loss provisions plus expected FMI.

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

We agree generally with proposed definitions of the retail sub-categories, but wish to note that, in future iterations of the U.S. regulatory policy, capital for HELOCs and other home equity loans should not be the same as capital for residential mortgages. In particular, we believe that the asset correlations for home equity loans should be lower than the ones for residential mortgages (see explanation below). Ideally, home equity exposures should be put into a separate sub-category with its own correlation function. If this is not feasible, home equity loans and lines of credit could be treated under "other retail" sub-category.

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

The proposed approach to estimating the inputs to the regulatory retail capital models is generally appropriate. However, no floors should be placed on any estimated parameter input.

For example, for single-family residential loans (SFRs), high quality loans with low loan-to-values (LTVs) and/or private mortgage insurance (PMI) may have estimated LGDs that are close to zero. The proposed 10% floor on LGDs is not appropriate for such exposures and should be removed.

Retail Exposures: Formulas

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

As indicated above, we believe that Pillar 2 should be used to see whether expected margins plus current reserves cover expected losses. If the EL treatment is at all necessary (assuming that capital is defined to cover only UL), the FMI test should be done under the pillar 2 for all credit exposures (and not just QREs). Moreover, we do not agree with the current definition of the FMI test (FMI covering EL plus two standard deviations of the annualized loss). We believe that one-year FMI plus current reserves should cover one-year EL only. In this definition of the FMI test, portfolio segmentation is immaterial.

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

As we mentioned above, A-IRB capital formulas should be redefined so that the resulting capital would cover only UL. After such a redefinition, procyclicality of capital will be reduced, and the regulators might want to flatten asset correlations as functions of PD. We do believe that asset correlation for retail exposures should decrease with increasing PD, but Basel asset correlations for revolving exposures and other retail exposures are too steep.

In CP3 and ANPR, home equity loans and lines are treated under residential mortgages category. We believe that there are at least two conceptual arguments in favor of separate risk weight curve for home equity products.

One of the reasons why asset correlation for residential mortgages is set at such a high level is to take into account long-term nature of mortgage loans. Basel retail model does not have the maturity adjustment factor, and the effect of longer maturity on capital is incorporated into the model through higher asset correlation. Since typical maturity for home equity loans (10-15 years) is smaller than one for first mortgages (30 years) by at least a factor of two, the effective asset correlation for home equity loans should be lower than the one for first mortgages.

The majority of residential mortgages in the United States are conforming mortgages, i.e. mortgages insured by the U.S. government and not kept by banks in their books. The mortgages banks keep in their books are those that do not qualify for the government insurance (issued to

either consumers with poor credit quality or consumers who buy expensive houses). Home equity loans and lines of credit are based on all kinds of mortgages and thus have a much more diverse customer base than non-conforming first mortgages. Therefore, the asset correlation for home equity products should be lower than the one for first mortgages.

Credit Risk Mitigation Techniques

The Agencies are seeking comment on the proposed nonrecognition of double default effects...The Agencies also are interested in obtaining commenters' views on alternative methods for giving recognition to double default effects in a manner that is operationally feasible and consistent with safety and soundness. With regard to the latter, commenters are requested to bear in mind the concerns outlined in the double default white paper, particularly in connection with concentrations, wrong-way risk (especially in stress periods), and the potential for regulatory capital arbitrage. In this regard, information is solicited on how banking organizations consider double default effects on credit protection arrangements in their economic capital calculations and for which types of credit protection arrangements they consider these effects.

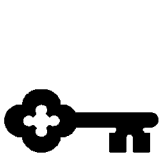
Within the banking book, guarantees can be used to reduce the regulatory capital charge only to the level associated with the guarantor, giving no benefit to either the double-default or double-recovery effect of guarantees. That is, in order for a loss to occur on a guaranteed credit, both the underlying obligor and the guarantor would have to fail. This probability is likely to be significantly lower than the probability of either one failing, therefore the economic capital allocation for the guaranteed credit should be considerably lower than for either a direct obligation of the guarantor or the actual underlying credit. Moreover, some credit guarantees are written in such a manner that the bank, in the unlikely event of double default, can seek recoveries from both the underlying obligor and the guarantor. ANPR recognizes neither of these two risk reduction benefits.

An excellent treatment of this subject can be found in a recent white paper produced by staff at the Federal Reserve Board.[2] The paper describes an appropriate analytical approach to the issue (in the context of the asymptotic single risk factor model currently being used by Basel's Advanced IRB approach) and lays out the important supervisory concerns over the use of guaranteed credits or credit derivatives that function as guarantees. We believe that these supervisory concerns can be appropriately treated within the Pillar 2 process, while the analytical framework can be implemented relatively quickly within Pillar 1.

The only parameter necessary for the framework implementation that is not already defined in CP3/ANPR is the measure of the wrong-way risk ψ (see the paper's Appendix). This parameter can be set conservatively at the level of 40%-50% until more research is done.

Securitizations: General Considerations

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



Should the Agencies require originators to hold dollar-for-dollar capital against all retained securitization exposures, even if this treatment would result in an aggregate amount of capital required of the originator that exceeded the pool's A-IRB capital charge plus any applicable deductions? Please provide the underlying rationale.

In absolute terms (i.e., in dollars), the risk of any tranche (or a set of tranches) cannot exceed the risk of the underlying pool. This statement is very general and holds under any definition of risk measure. Therefore, under no circumstances, the amount of capital required of an originator should exceed the pool's A-IRB capital charge.

Dollar-for-dollar capital (whether below or above K_{IRB}) is an arbitrary constraint. This constraint should not be introduced for exposures above K_{IRB} and should be removed from the treatment of originators for exposures below K_{IRB}. Capital for securitization exposures held by originators should be computed according to the modified SFA discussed below. Under this treatment, the total capital requirements for originators will always be below K_{IRB} (it will equal K_{IRB} when the originator holds all the tranches defined on a pool).

The Agencies seek comment on the proposed treatment of securitization exposures held by originators. In particular, the Agencies seek comment on whether originating banking organizations should be permitted to calculate A-IRB capital charges for securitizations exposures below the KIRB threshold based on an external or inferred rating, when available.

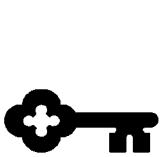
Under the proposed rules, both investors and originators are required to use the RBA whenever external ratings of a tranche are available. Only when no external rating available, originators are allowed to use the SFA. The SFA is based on Gordy/Jones model,[3] which provides reasonably accurate description of the risk underlying a given tranche. Apart from its dependence upon rating, this risk (represented by capital) depends on the underlying pool's granularity, credit quality and asset correlations, as well as tranche thickness. Therefore, the RBA, which is primarily ratings-based, is necessarily inferior to the SFA in terms of describing the risk underlying a securitization tranche. While the RBA is useful for investors, who typically do not have complete information on the underlying pool, the superior SFA should always be used by originators, who do have this information.

The Agencies seek comment on whether deduction should be required for all nonrated positions above KIRB. What are the advantages and disadvantages of the SFA approach versus the deduction approach?

Deduction is not conceptually justifiable for any tranche – whether it is below K_{IRB} or above. As we argued above, the SFA should always be used by originators regardless of the availability of rating. Moreover, as we suggest below, such supervisory constraints as the capital floor and dollar-for-dollar capital below K_{IRB} should be removed from the Supervisory Formula.

Securitizations: Capital Calculation Approaches

[3] Michael Gordy and David Jones, *Random Tranches*, Risk, March 2003, pages 78-83.



The Agencies seek comment on the proposed treatment of securitization exposures under the RBA. For rated securitization exposures, is it appropriate to differentiate risk weights based on tranche thickness and pool granularity?

Apart from its dependence upon rating, tranche capital depends on underlying pool's granularity, credit quality and asset correlations, as well as tranche thickness. Thus, the RBA is necessarily less accurate than the SFA. However, accuracy of the RBA can be improved if some of this dependence is taken into account. This is what was attempted in CP3 and ANPR via introduction of three separate capital factors for each rating. We believe that the regulators are on the right track here, but disagree on the calibration.

We have computed capital according to Gordy/Jones model for underlying pools of different granularity and considered tranches of different ratings. We used Moody's table that relates ratings to expected losses[4] and considered only infinitesimally thin tranches to remove the difference between the Moody's and S&P rating systems. Our calculations clearly show that granularity has much stronger effect on capital than RBA capital factors suggest, particularly for highly rated tranches. Another result of our calculations is that overall level of capital factors is way too high for high ratings (AAA, AA) and too low for low ratings (BBB and below).

The Agencies seek comment on the proposed SFA. How might it be simplified without sacrificing significant risk sensitivity? How useful are the alternative simplified computation methodologies for N and LGD

The SFA is based on the Gordy/Jones model with two added supervisory overrides: (i) dollar-for-dollar capital up to K_{IRB} and (ii) the floor which sets minimum capital of 0.56% for any tranche. Neither of the overrides can be justified conceptually and both of them lead to significant disparity between the capital charge and the underlying risk. We are particularly concerned with the floor because model-based capital for most senior and super-senior tranches is one or two orders of magnitude less than the floor. On the other hand, dollar-for-dollar capital up to K_{IRB} leads to overestimation of capital for narrow mezzanine tranches with credit enhancement levels in the vicinity of K_{IRB} roughly by a factor of two. Therefore, we believe that both supervisory overrides should be removed from the SFA. As an additional benefit, this removal would significantly simplify the Supervisory Formula.[5] If not removed completely, the floor should be reduced to a few basis points.

[4] See Table 2 in Moody's Special Report *The Lognormal Method Applied to ABS Analysis*, July 27, 2000.

[5] The capital for a tranche with credit enhancement level L and thickness T would be just $K(L+T) - K(L)$, where function K is defined in paragraph 590 on page 117.