November 3, 2003

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

RE: Docket No. 03-14
    Risk-Based Capital Guidelines; Implementation of New Basel Capital
    Accord

Dear Sir or Madam:

        The Mortgage Insurance Companies of America (MICA) is pleased
to comment on the advanced notice of proposed rulemaking (ANPR)
concerning implementation of the new Basel capital accord in the United
States. MICA is the trade association of the private mortgage insurance
(MI) industry[1]. Several of the comments noted below also were made in
our July 31, 2003 comments to the Basel Committee on the third
consultative paper (CP3). We note, however, that the comments we submit
today on the ANPR include new information concerning the severity of loss
associated with high loan-to-value (LTV) single-family residential
mortgage loans obtained from an analysis of loss-related data from several
large mortgage insurance companies. We believe that these new data
reinforce other analyses prepared by MICA for U.S. regulatory agencies on
the appropriate capital requirements for high-LTV residential mortgage
loans.

        At the outset, MICA would like to express its strong support for the
goals of the ANPR and CP3: improved alignment of regulatory and
economic capital. Under the current risk-based capital (RBC) standards
regulatory and economic capital are not very well aligned, thus creating few
incentives for effective credit risk management.

        The ANPR redresses part of this serious flaw through improved
recognition of proven forms of credit risk mitigation (CRM), and MICA
notes in particular the proposed treatment of mortgage insurance. The
proposed treatment of MI appropriately reflects the mortgage insurance
industry's record of reliably absorbing even catastrophic mortgage risk

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[1]Six private mortgage insurers comprise MICA's membership: GE Mortgage
Insurance, Mortgage Guaranty Insurance Corporation, PMI Mortgage Insurance Co.,
Republic Mortgage Insurance Company., Triad Guaranty Insurance Corporation and
United Guaranty Corporation.

under unusually adverse conditions such as those in the Oil Patch and South Central regions during the 1980s and California and the Northeast in the late 1980s and early 1990s. In part, this is due to the fact that MI companies – in sharp contrast to some other providers of CRM—are highly capitalized institutions with high credit ratings subject to ongoing and effective regulation. Additionally, the residential mortgage market has justifiably expected that MIs will pay their claims in full and on a timely basis. The MI industry understands the needs of the mortgage markets for this type of CRM and has been providing it for decades. Thus, the proposed recognition of MI without any haircut is appropriate. Further, MICA supports the suggested elimination of the 10% loss-given default (LGD) floor for loans backed by MI, as this would create precisely the appropriate incentive for use of reliable CRM intended by the agencies. Our views here are similar to those expressed by a wide array of major mortgage lenders.[2]

In response to your request for data regarding appropriate LGDs after the benefit of MI, MICA collected claims data for the period between 1990 and October of 2003. This data supports reducing the 10% LGD floor on loans covered by MI. We have provided this data along with our discussions in Section V of this letter.

MICA is concerned, however, about several aspects of the ANPR relating to the treatment of residential mortgage loans. We have compiled and analyzed new data concerning the performance of high LTV loans. Key points raised by this analysis and related research are:

- The five-year period used to develop internal models under the advanced internal ratings-based approach (A-IRB) is too short to cover the cyclical nature of the residential mortgage market, making it difficult for any modeling effort to succeed in estimating long-run average probability of default (PDs) or LGDs. In the absence of true long-run average PDs and LGDs, risk-based capital will likely fall short of long-run needs, requiring an increase in capital at a future point when access to capital may be more limited. This creates a procyclical effect by which the regulation could exacerbate economic cycles. Capital requirements for specific risk characteristics should not vary with market conditions, but rather serve as a stable long-term buffer for unexpected loss.

- The proposed 15% asset correlation factor for all residential mortgages under the A-IRB approach is insufficient for the higher risks associated with uninsured first-lien high-LTV mortgages and second lien mortgages with combined loan-to-

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[2] See, for example, CP3 comments of Bank of America, J.P.Morgan Chase, Citigroup and WAMU.

value ratios (CLTVs) over 80%. MICA in this letter recommends a way to ensure appropriate asset correlations for high-risk mortgages that does not adversely affect the proposed correlation for low-risk ones.  Making this change enhances the alignment between risk and regulatory capital sought in the ANPR.

- MICA analysis of second lien default performance  and estimates of second lien LGD  clearly shows a marked difference in second lien credit risk exposure by CLTV.  MICA strongly urges that second liens also be categorized into "prudently" and "non-prudently" underwritten loans according to CLTV, and that non-prudently underwritten second liens be held to a higher correlation factor.

Finally, MICA believes that the U.S. regulators should carefully evaluate the market implications of a bifurcated capital approach for financial institutions.  One of the key goals of the international Accord is to create a level competitive environment.  Establishing a regulatory framework that advantages or disadvantages large institutions over smaller institutions for certain asset classes may result in unintended consequences that could be detrimental to existing well functioning market segments.

I. Treatment of Mortgage Insurance

The economics of the residential mortgage market and of the secondary mortgage market, the self-interest of private mortgage insurers and the nature of residential mortgage defaults have resulted in a system in which private mortgage insurers pay all valid claims in full and on a timely basis. Since 1980, private MIs in the United States have paid over 550,000 claims. In 2001, the average claim payment was only $20,389. The economic incentive continues for insurers to pay all valid claims in full to facilitate the continued use of this form of proven CRM by all participants in the primary and secondary mortgage markets.

For this and other reasons, MI remains a sound and sure form of CRM. Subsequent purchasers of mortgages with MI can rely on the MI company to meet its obligations even though the holder of the mortgage is often not the originator of the loan nor did it negotiate the terms of the insurance coverage.  Moreover, the event that triggers the MI company's obligation to pay the holder of the mortgage is borrower default on the underlying mortgage -- an obligation that is clearly defined in all MI agreements and in courts of law as an obligation without legal ambiguity.  Thus, when a financial institution holding a mortgage with MI makes a claim, the mortgage insurer pays it except in the negligible number of cases of fraud.

There is none of the uncertainty associated with surety bonds or other forms of corporate CRM, nor any of the contractual uncertainties still associated with credit derivatives.

All mortgage insurance companies are AA-rated or better and all are subject to strict state insurance regulation that ensures full compliance with terms and conditions governing prompt payment of lender claims. MIs carry the highest capital of any type of insurance firm, and the rating agencies rate MIs using rigorous stress tests covering a ten-year period. Thus, there is little risk of default by an MI company on its obligation to pay the insured even under catastrophic risk scenarios – a contention demonstrated by the performance of the MI industry even under the extreme stress on housing finance during the mid-1980s.

Thus, MI has several factors that clearly distinguish it from other forms of CRM:

- the amount of protection is firmly established at the initiation of the insurance policy and it is not subject to renegotiation;

- full rights related to MI are transferred with the underlying asset without any subsequent contractual negotiations that could reduce the value of the CRM;

- the point at which MI may be terminated is based solely on the current loan-to-value ratio, not on extraneous risk factors. Thus, there is no risk that the MI will be cancelled or compromised if a borrower's risk profile increases due to new factors (e.g., unemployment);

- the event that triggers MI and the amount paid are not subject to after-the-fact negotiation, except in cases in which a lender may have engaged in fraud or under comparable circumstances, that do not undermine the value of this form of CRM. This is in sharp contrast to other CRM, where post-claim negotiations and non-payment are common; and

- by law, MIs are not allowed to invest premium revenues in single-family residential mortgage-related investments. Thus, during periods of significant house price deflation the ability of the MI to pay its claims in full is not compromised by a double exposure to the health of the residential mortgage market. This allows MIs to serve as CRM protecting the lender from double default

MICA also strongly supports the proposed recognition of the effects of MI in estimating LGD for individual portfolio segments , rather than requiring that recognition of the MI benefit be granted solely for individual loan policy coverages. The experience of the MI industry is that this treatment accurately reflects the way private mortgage insurance has operated in the past, including periods of severe economic stress and falling home prices, as well as the way in which it currently operates. Moreover, given the Basel Committee's recent proposal to limit risk consideration to unexpected loss, this treatment of private mortgage insurance is even more appropriate.

MICA believes that, for all of the above reasons, the proposed treatment of CRM benefit ascribed to the use of private mortgage insurance for purpose of risk management and reduction of mortgage credit risk exposure is fully justified. The proposed treatment appropriately reflects the mortgage insurance industry's record of reliably absorbing even catastrophic mortgage risk under unusually adverse conditions such as those in the Oil Patch and south Central regions during the 1980s and California and the Northeast in the late 1980s and early 1990s. Additionally, the residential mortgage market has justifiably expected that MIs will pay its claims in full and on a timely basis. The MI industry understands the needs of the mortgage markets for this type of CRM and has been providing it for decades. Thus, the proposed recognition of the benefits of MI in reducing LGD estimates without any hair-cut is appropriate.

Further, MI is clearly the type of CRM to which the pending favorable recognition of double-default protection applies. Unlike other forms of CRM, MIs are monoline insurers restricted by law from investing their premiums in mortgage-related assets, thus providing an added protection against double default. Even if the U.S. or Basel Committee ultimately decides not to adjust CRM treatment to reflect double-default protection for all forms of CRM, this should be applied to MI.

II. Five-Year History Inadequately Captures Mortgage Risk

The first version of Basel II required that the use of historical data include at least one economic downturn in order to reflect a full cycle average. In the A-IRB, the institution essentially establishes its own Probability of Default (PD) and Loss Given Default (LGD) through use of a five-year history for the performance of its proprietary mortgage book. The proposed minimum of a five-year period is very troubling. It is rare that one can view a full economic cycle in less than ten years -- let alone be assured of catching part of one in any consecutive five-year period. This is especially the case with mortgage defaults that have tended to be a lagging factor in economic cycles. More importantly, most of the world has enjoyed

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a rather steady and buoyant housing market over the past several years, making use of only the most recent five-year history particularly inappropriate.

The chart below (Figure 1) illustrates the extremity of the last half-decade with respect to US home price growth. Except for two brief periods, virtually no metropolitan area has experienced less than 1% growth in the OFHEO Home Price Index (HPI) over four quarters since 1995. The peak of the expansion came in 2001-2002, when 80% of the metro areas experienced greater than 5% annual growth in home prices. The extent to which home price growth has permeated all regions of the country, and the amount of time over which it has occurred, is without precedent in the period for which the HPI is available.

**Figure 1**

Distribution Of HPI Growth Across Metro Areas
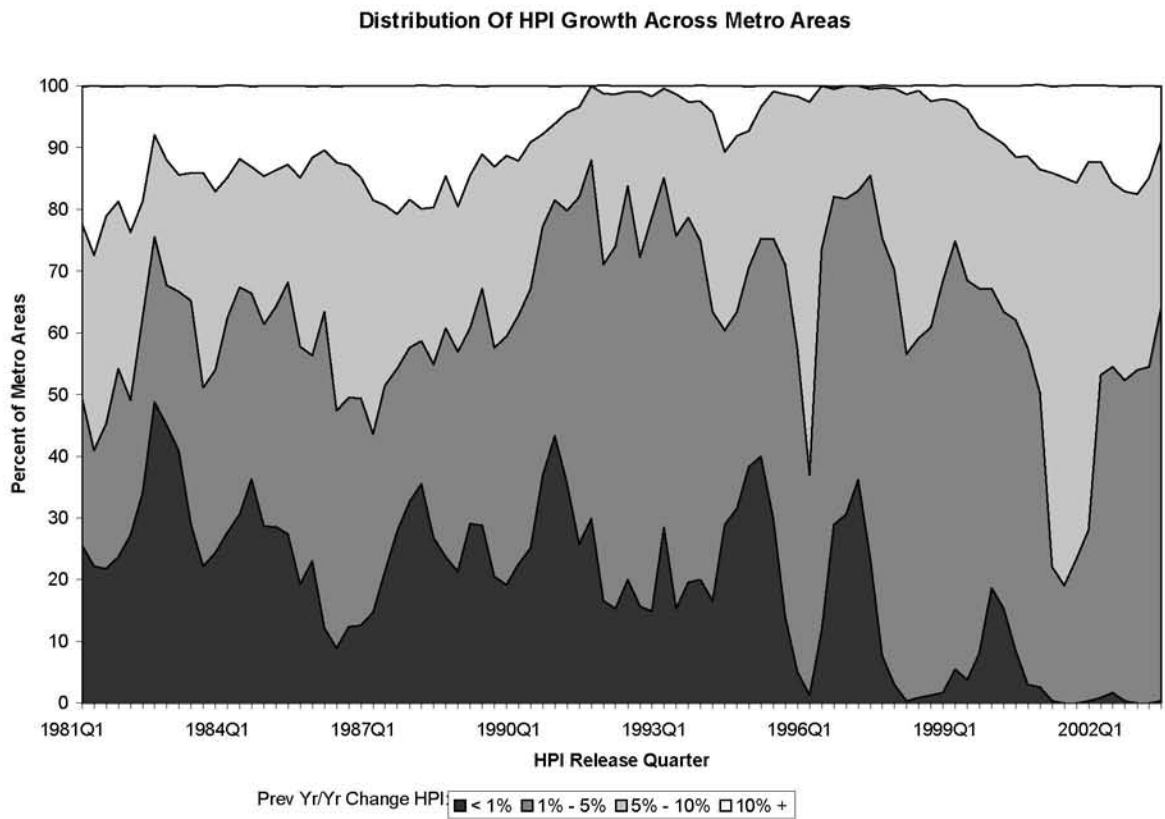


This sustained, broad appreciation in housing has had a significant positive impact on the performance of mortgages in terms of PD and LGD. This impact has been very evident in high LTV loan performance as reported by the private mortgage insurance industry. Formed in 1973, MICA members have represented the entire private mortgage insurance

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industry. As part of its ongoing operations in representing these companies, MICA has served as a central information collection point for the benefit of its members in order to improve their ability to assess and analyze mortgage credit risk. To this end, members have contributed loan level performance information to form a national high LTV data bank. This performance data set can provide US regulators with invaluable information on the true long-run average performance parameters required by the proposed Basel II Accord.

### Table 1

### Average Annual PD Rates Over a Ten Year Period for Fixed Rate Loans
### Grouped By Five Origination Years

|  | 90 LTV | 95 LTV |
|---|---|---|
| 1970-1999 | 0.54% | 1.02% |
| 1970-1974 | 0.21% | 0.56% |
| 1975-1979 | 0.27% | 0.54% |
| 1980-1984 | 1.03% | 2.95% |
| 1985-1989 | 0.69% | 0.90% |
| 1990-1994 | 0.59% | 0.70% |
| 1995-1999 | 0.30% | 0.63% |
| 1990-1999 | 0.44% | 0.67% |
| 1990-1999 as % 1970-1999 | 81.98% | 65.35% |
| 1995-1999 as % 1970-1999 | 54.97% | 62.26% |
| Worst 5 Books 1980-1984 | 1.03% | 2.95% |

PD Calculated As Cumulative Number Of Claims Over Ten Years
Divided By Sum Of Loans Outstanding at Beginning Of Each Period

Table 1 (above) shows average ten-year PD (default defined as existence of an MI Claim) rates for 90 LTV and 95 LTV fixed rate loans for five-year origination intervals. These data on all privately insured loans clearly show the impact of prolonged above-average home price appreciation on high LTV loan PDs during the 1990s. PD rates on high LTV loans for the 1990s

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have averaged well below the true long-run national average. Moreover, PDs for the last several years have been even further below the long-run average, running at 55% and 62% of 90 and 95 LTV long-run averages. As observed in models developed by the Federal Reserve[3], estimates of long-run averages using data pulled primarily from 1991 through 1999 yield PD estimates that are consistent with the average for the 1990s and fall short of true long-run averages by more than 20%. Unless institutions have more than ten years of data, they will most likely fall short of true long-run average PD estimates.

In order to study the impact of beneficial economic circumstances on LGD distributions, MICA members collected data representing over 240,000 loans that experienced a mortgage insurance claim after 1990. On each of these loans the insurer has an accurate assessment of unpaid principal and property value at the time of default. In many cases, the insurer has exact data regarding the net sale proceeds from disposition of the property. Thus, for each of these loans, MICA can determine a precise estimate of Loss Given Claim (LGC) and Loss Rate (loss amount divided by original loan amount).

It is important to distinguish between LGC and LGD, because the transition probabilities from default to claim vary substantially. The MI companies traditionally call the complement of this transition probability the cure rate. The most important driver of cure rate is LTV at the time of default. The relationship between LGC and LGD can be given as:

LGD = LGC * (1 - Cure Rate).

As Cure Rate approaches zero, LGD and LGC become equivalent. As Cure Rate approaches 100%, LGD approaches zero. The higher the Cure Rate, the lower is LGD relative to LGC.

In Table 2, we show LGC rates by default year, relative to the period 1990-1994, for three levels of original loan-to-value (LTV) ratio. For each LTV group, loss rates have declined significantly over the period in which home price appreciation has been so strong. Loans with LTV ratios from 71% to 80%, for example, had a median LGC in 2000-2003 that was 53% of the level experienced from 1990 to 1994. High LTV loans, which tend to have higher losses even in good economic times, experienced lower but still significant declines in observed LGC.

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[3] Paul S. Calem and James R. Follain, *The Asset Correlation Parameter in Basel II for Mortgages on Single Family Residences*, Board of Governors of the Federal Reserve System, October 15, 2003.
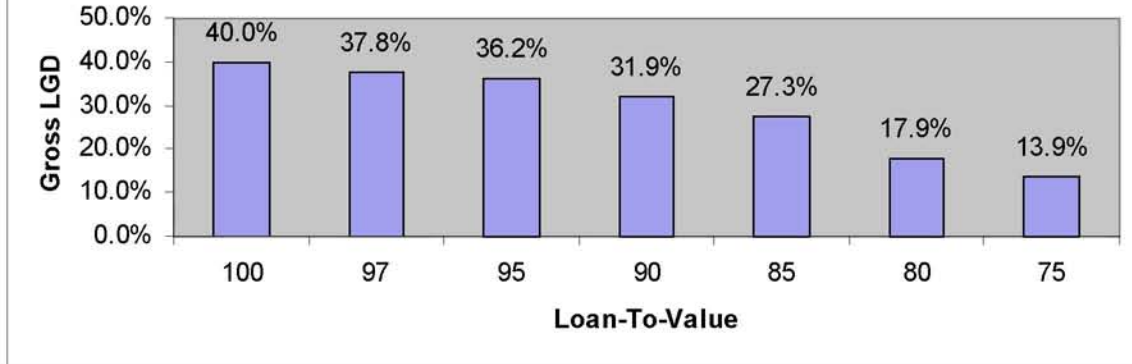
**Table 2**

**Average Loss Given Claim Rates**

| Orig LTV | Deflt Year | Relative LGC | |
| | | Median | Mean |
|---|---|---|---|
| 080 | 1990-1994 | 100% | 100% |
| | 1995-1999 | 80% | 81% |
| | 2000-2003 | 53% | 63% |
| | | | |
| 090 | 1990-1994 | 100% | 100% |
| | 1995-1999 | 90% | 88% |
| | 2000-2003 | 79% | 83% |
| | | | |
| 095 | 1990-1994 | 100% | 100% |
| | 1995-1999 | 76% | 71% |
| | 2000-2003 | 70% | 66% |

These data make clear the problem with using only five years' history to develop estimates of LGD for setting risk-based capital. As seen in Table 2, the choice of a different time period can easily reduce LGC estimates by 20% or more. The improved housing markets in the later time periods can be expected to increase the cure rates, as well, so the effect on relative LGD would be greater than on relative LGC. In our ongoing study, we will attempt to measure cure rates more precisely to quantify this impact. For now, assuming no change in cure rates, the relative LGD estimates would be identical to relative LGC. The effect of LGD on risk-based capital is virtually linear, so a 20% reduction in LGD results in a 20% reduction in risk-based capital. Thus, the use of 1995-1999 data for the estimation of LGD would result in capital levels at least 20% lower than using 1990-1994 data.

**Figure 2.
Estimates Of Gross Loss Given Default By Original LTV Groups**

| Loan-To-Value | Gross LGD |
|---|---|
| 100 | 40.0% |
| 97 | 37.8% |
| 95 | 36.2% |
| 90 | 31.9% |
| 85 | 27.3% |
| 80 | 17.9% |
| 75 | 13.9% |

In Figure 2 (above) we show LGD estimates for first lien high LTV fixed rate loans by original LTV. These LGD estimates are calculated using the long-run average distribution of net salvage ratios (net salvage value divided by home value at origination) taken from MICA foreclosures between 1990 and 2003. The estimates also assume a 7.5% mortgage coupon, three months delinquency prior to start of foreclosure, nine months to complete foreclosure, five percent foreclosure costs, and six months to sell the foreclosed property. Using the same distribution of net salvage for all other loans as well, we show that as the original LTV goes higher, so does the increase in the LGD. We also note that these LGD values closely correspond to those LGD values for the same LTV groups as estimated in the recent Federal Reserve working paper on asset correlation and residential mortgages[4] discussed in more detail below. We strongly suggest that US regulators make use of this information and other sources of data that can provide a longer-term perspective of LGD.

Implementing regulation for the A-IRB should place a heavy emphasis on the use of stress-scenario estimates of performance, rather than relying only on an institution's historical experience. If banks utilizing the A-IRB cannot provide historical PD and LGD performance during an economic downturn for each segment of their mortgage portfolio, then MICA recommends that the appropriate banking regulator, under Pillar 2, make appropriate adjustments to the PD and LGD factors based on the best available data.

To this end MICA is willing to provide access to its historical performance data base for high LTV lending as well as information regarding gross loss given default information on high LTV loans. MICA

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[4] Calem and Follain, Op. Cit.

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urges the US regulators to also make use of other national data bases such as Loan Performance Inc, and the GSEs in order to determine appropriate benchmarks for other loans of various risk profiles as part of its Pillar II ongoing operations.

III. 15% Correlation Factor Inadequate for High-LTV Mortgages

Data we have shared with Federal Reserve staff confirms that loans with initial LTVs above 80% perform very differently than lower-LTV loans and that the correlation factor appropriate for high LTV loans should be 20% or higher.

In the A-IRB, the risk-weight curve for residential mortgages is derived from a 15% asset correlation and one-year maturity. As we have noted in previous communications with the Federal Reserve Board staff, studies of MICA data have shown that the asset correlation for loans with LTVs of 80% or more within a geographically diversified portfolio should be above 20%. Prudent mortgage lenders, rating agencies and all insurers consider LTV segmentation as most appropriate since both PD and LGD are driven by LTV. The rationale given by Basel staff for their original assumption of 15% was the low level of average loss severity (i.e., LGD), assumed to be approximately 25%. Comparing the Federal Reserve model to results based on the current framework suggests that a better fit between the two could be obtained with correlation factors that started lower for low LTV loans and went higher as one moved up the LTV scale (see *The Asset-Correlation Parameter in Basel II for Mortgages on Single-Family Residences*, Paul S. Calem and James R. Follain, Board of Governors of the Federal Reserve System, October 15, 2003). A more detailed version of the data referenced in the most recent Federal Reserve paper is found in Attachment A to these comments. This chart also appeared as an attachment to an earlier Federal Reserve paper of January, 2003 entitled *Economic Capital for Residential Mortgages: Comparison of MICA and FRB Studies*, by Paul S. Calem. The movement from low to high correlation factor would be related directly to the LGD. Such adjustment is necessary because in the case of mortgage loans, unlike other types of loans, both the frequency of default *and loss severity* increase under stress. Therefore, stress losses increase exponentially for mortgage credit risk rather than linearly.

That LGD rises significantly in times of stress should be of particular concern to the setting of risk-based capital. The simulation model developed by the Federal Reserve generates a clear picture of the relationship between LGD and economic downturns, illustrated in the second accompanying chart to these comments (Attachment B). To create this graph, MICA analysts ran the Federal Reserve's simulation over 15,000 iterations, then ranked the iterations by the estimated loss rate and grouped

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them in bins of 150 observations. Each point represents the average LGD for the 150 observations in the bin, expressed relative to the LGD for the 50$^{th}$ percentile (median) loss bin. Not only does LGD increase with the severity of the scenario, but it also increases at an increasing rate. In the MICA simulations, LGD at the high-risk tail for a 90% LTV, 700 FICO loan rose to 175% of the median level. In other words, at the level of stress used for determining risk-based capital, LGD is 75% higher than at the stress level representing median loss.

Some commenters have cited certain studies in defense of low asset correlation factors for residential mortgages. One paper now being cited is an OFHEO Working Paper, Paper 03-1, *Subprime & Prime Mortgages: Loss Distributions* by Anthony Pennington-Cross. We note that data used for that study was limited to loans originated from 1995 through 1999. This five-year period happens to be one with very low foreclosure rates. An example of the distortions evident in selecting this particular five-year period is that MICA's data on loans that went to foreclosure, noted above, showed an average salvage rate for 1990-1994 that was 11% below the salvage rate for the period from 1995-1999.

In addition, MICA analysis of this particular five-year period shows that the usual drivers of losses – initial LTV, changes in property values and debt ratios – all had markedly lower impact on loss than during the previous period of 1990-1994. Only FICO score retains a relatively constant impact on loss during this five-year period, but the specification of a linear relationship in the hazard function does not match our experience and will lead to underestimation of losses as credit weakens. Selection of this five-year period also leads to other problems in modeling which, when combined with other technical concerns with the approach taken in the working paper lead, in our view, to serious underestimation of losses, especially in stress scenarios.

MICA also remains concerned over some aspects of the Federal Reserve model as set forth in the latest working paper[5] that has estimated lower stress foreclosure losses than suggested by using MI industry data. The economic capital amounts suggested by both the MICA data and that of the unidentified financial institution are 50% higher than that estimated by the recent model set forth in the latest Federal Reserve paper. MICA believes that a significant cause of these discrepancies is the use of a constant cure rate assumed for 180-day delinquency rates as observed under more average market conditions. However, this constant cure rate does not reflect what happens under stress conditions. A lower proportion of loans cure under stress conditions than under average market conditions. Consequently, we believe the approach taken in the latest Federal Reserve

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[5] Calem and Follain, op. cit.

paper underestimates true stress-related foreclosure rates and therefore underestimates the true economic capital requirements.

Also, there has been much discussion of expected losses versus unexpected losses. The difference between the two is labeled economic capital. In the original Basel II proposals and in the current ANPR, expected losses were included in the calibration of the capital requirements. The Basel Committee has recently proposed calibrating its capital requirements solely based on unexpected losses. The assumption is that expected losses are "priced" into product profitability projections. MICA has concerns over what should constitute expected loss for individual segments of prime mortgage portfolios. In addition, MICA is also concerned regarding the impact of calculating capital based solely on unexpected losses with regard to establishing appropriate correlation factors, which we believe are already too low for higher risk mortgage loans.

It is implicitly assumed both by the Basel Committee and in the latest Federal Reserve working paper that all assets are sufficiently priced to cover expected losses. However, when portfolios are divided into segments by risk characteristics that demonstrate different expected losses, we find that the prime market does not price by risk segment, but rather prices to average expected losses. Consequently, each of the higher risk segments is priced in a manner that does not cover expected loss for that segment. Other segments with lower than average risk profiles have expected losses that fall below market pricing targets. Portfolios of loans that have a higher risk profile, but carry market average pricing should carry more capital. The best way to ensure this is not to subtract the expected losses for that segment from that segment's stress level of losses, but rather to subtract the average expected loss embedded in the pricing. The use of this approach would suggest even higher economic capital requirements for loans with CLTV over 80, but it would also suggest lower economic capital for loans with substantially lower CLTVs than the market average. As a further consequence, this approach suggests that the appropriate correlation factor for high LTV loans may be even higher than suggested by the MICA data used in the Federal Reserve study, and that loans with lower risk profiles (prime loans with LTVs less than 70%, which are more typical in certain European markets) should be covered by a correlation factor that is less than 15%.

There may be several ways to remedy the undesirable effects of a fixed correlation factor as it applies to residential mortgages. MICA recommends that the 15% correlation factor be limited to prudently underwritten (i.e. low initial LTV or CLTV) mortgages. Loans outside of prudent underwriting criteria should use a different correlation factor at the discretion of the appropriate regulator, but no less than 15%. The applicable correlation factor would reflect the CLTV and lien position of the loan. MICA
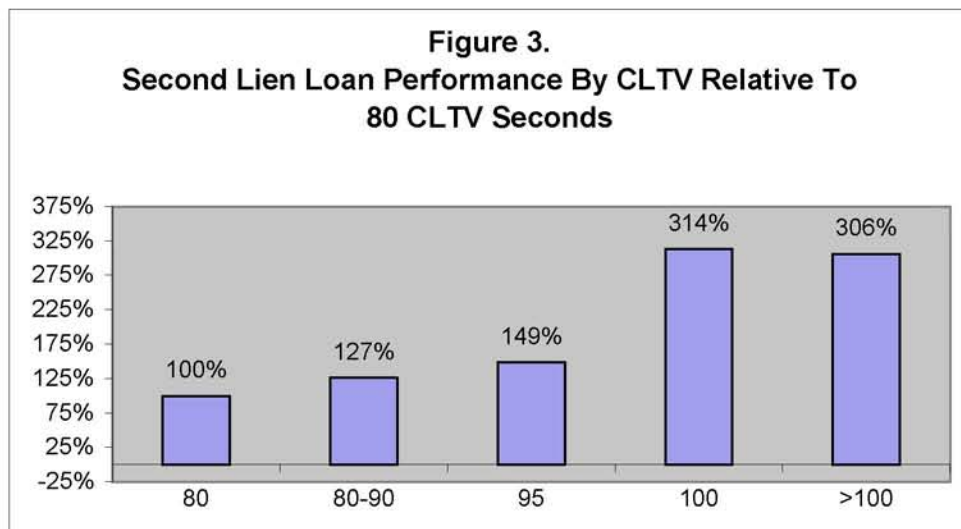
research suggests that correlation factors in the range of 25% to 30% would be appropriate for high LTV lending. The applicable correlation factors for all mortgages held by an institution should also be raised 5-10 percentage points to reflect a lack of geographic diversity in a mortgage portfolio.

MICA also recommends the application of ratings agency criteria to the Pillar 2 review of the stress test applied to a financial institution under the A-IRB. The stress test criteria applied by S&P, Moodys and Fitch reflect the realities of depression scenarios for residential mortgage risk as it varies by the initial LTV of the loan and other relevant factors.

## IV. Consistent Treatment of Second Lien Mortgages

The risk associated with holding high-LTV liens is not limited to first-liens MICA believes that second lien loans with CLTV greater than 80% possess risks that are inconsistent with prudent underwriting criteria and therefore deserve more conservative risk based capital treatment. To back up this belief, MICA analyzed loan performance histories of 456,114 second-lien loans sold into the secondary markets in asset-backed securities. Loan level performance data and characteristics were obtained from data assembled by Loan Performance Inc.

Controlling for FICO score, original term to maturity, and age of the loan, MICA found that second-lien loan performance varied significantly based on combined loan to value. Second lien loans with CLTVs between 81% and 90% performed 26.7% worse than second liens with CLTVs of 80% or less. As CLTVs went higher the relative performance worsened exponentially. (See Figure 3.)

**Figure 3.**
**Second Lien Loan Performance By CLTV Relative To 80 CLTV Seconds**

| CLTV | Performance |
|------|-------------|
| 80 | 100% |
| 80-90 | 127% |
| 95 | 149% |
| 100 | 314% |
| >100 | 306% |

Using MICA's net salvage distribution data (noted above) as a means of estimating LGDs between first and second liens with various CLTVs, we find that LGD does vary significantly with CLTV. Indeed second liens with CLTVs of 90 in the data set suffered LGDs that were more than twice that of second liens with CLTV of 80% while second liens with CLTVs over 100% or greater suffered LGDs that were more than three times that of 80% CLTV second lien loans. (See Table 3 below.)

### Table 3.
### Gross Loss Given Default Estimates
### For Second Lien Loans By CLTV

| CLTV | 100 | 97 | 95 | 90 | 85 | 80 | 75 |
|---|---|---|---|---|---|---|---|
| First Lien Size | 78.7% | 78.7% | 78.0% | 75.2% | 67.4% | 61.7% | 56.6% |
| Second Lien Size | 20.7% | 18.3% | 16.4% | 14.1% | 16.4% | 17.3% | 16.8% |
| Second Lien LGD | 95.2% | 92.9% | 89.8% | 75.3% | 46.7% | 28.6% | 7.7% |

Notes:  Average Second Lien Sizes By CLTV From ABS Study By MICA
LGD Estimates Derived Using MICA Net Salvage Distribution for 1990-2003
Assuming 7.5% Interest Rate and 18 Months Cost Of Carry.

Using historical performance taken from securitized second-lien mortgages, and utilizing relationships between recent high LTV loan performance and long-run average high LTV performance, MICA estimated long-run average life of loan PDs for second liens of various CLTVs. Employing the 15% correlation factor for all estimates, we find that the current Basel formula estimate of capital required for second liens with CLTV of 80% would be 2.72%, very close to the 2.8% required by the proposed standardized approach. However for loans of 85% CLTV and higher, the capital requirements were more than twice that of 80% CLTV seconds.  Seconds with CLTVs of 95% and higher reached four to five times the second lien CLTV 80% charge. Capital for second liens with CLTV of 80% or less would remain consistent with standard approach capital requirements.

MICA believes that, taken together, the Federal Reserve model and the Basel formula strongly suggest that second liens with CLTVs greater than 80% should require substantially more capital than the current 8% applied under Basel I. However, as we have noted in other correspondence, we believe the true economic capital associated with mortgages should vary by initial CLTV and CRM coverage.  MICA recommends that first- and second-lien mortgages be treated on the basis of combined LTV and, consistent with our previous recommendation, that loans with CLTV greater

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than 80% and portfolios lacking geographic diversification be given significantly higher correlation factors than the proposed 15%.


V.  10% LGD Floor as Proposed Response to Short-Term Focus

   The PDs and LGDs set by banks for retail mortgages as set forth on page 24 of the QIS3 results also demonstrate the problem with taking a short-term approach to LGD and PD histories. As noted in the published results, "Mortgage activity is highly cyclical with defaults and significant losses in the face of the defaults occurring only when house prices are falling and the economy is weak. Different estimates across banks may reflect the different historical experience in different countries and the extent to which banks were able to take into account stress conditions when setting the PDs and LGDs (as laid down in the IRB standards)." In fact, the QIS3 results showed a very wide distribution for retail mortgage LGDs and PDs that U.S. financial regulators must address when setting the parameters for determining LGDs and PDs for banks operating in the U.S. mortgage market. While differences in default trigger events may account for a small part of the wide discrepancy, it is imperative that a time period that reflects the long-term cyclical nature of mortgage risk be incorporated in the A-IRB approach.

   The Basel proposal attempted to deal with this short-term data problem by imposing a 10% LGD floor.  This strategy not only fails to adequately address the issue, but it also has the perverse effect of discouraging use of MI, which can bring the LGD down well below 10%. Thus, MICA strongly supports the elimination of the 10% LGD floor for loans backed by appropriate mortgage insurance.

   In Table 4 below MICA presents data, as requested, that estimates the average LGD after benefit of MI payments.  The data reflect the distributions of net salvage values incurred over the 1990-2003 period assuming standard MI coverage levels.  Except for 85% LTV loans that generally carry only 12% coverage, the average net LGD after MI ranged between 4.6% and 7.6%.

   The problem with proposing any LGD floor on MI loans is that it would discourage lenders from utilizing deeper MI coverage that is readily available in the market.  Deeper MI coverage could have the effect of bringing lender's net LGDs to zero.  The imposition of any LGD floor regardless of the degree of MI coverage would unnecessarily limit the capital relief benefit of a bank attempting to manage its mortgage credit risk exposures.

**Table 4**

**1990-2003 Estimates Of LGD Net Of Standard MI Benefits**

| LTV Group | 100 | 97 | 95 | 90 | 85 |
|---|---|---|---|---|---|
| **Actuarial Gross Loss** | 40.0% | 37.8% | 36.2% | 31.9% | 27.3% |
| **Basic MI Coverage %** | 35.0% | 35.0% | 30.0% | 25.0% | 12.0% |
| **Maximum Effective %** | 39.8% | 39.8% | 34.1% | 28.4% | 13.7% |
| **Actuarial MI Coverage** | 34.9% | 33.1% | 29.8% | 24.3% | 12.4% |
| **Net LGD** | **5.1%** | **4.6%** | **6.4%** | **7.6%** | **14.9%** |

Notes: Maximum MI Benefits Are Calculated As Coverage Percentage Times Sum Of
Unpaid Principal Balance Past Due Interest Through Claim Plus Foreclosure Costs

Actuarial Averages Based On Distribution of Net Salvage Values and 7.5% Coupon Rates
MI Actuarial Benefits Paid Reflect Long-Run Proportion of Loss Mitigation Opportunities

## VI. Carefully Evaluate the Implications of Proposed Bifurcation

The Agencies have asked for comments regarding the competitive
implications of allowing MI recognition for banking organizations using the
A-IRB approach but not allowing such recognition for general banks.
Under current regulatory rules, prudently underwritten residential mortgage
loans qualify for a 50% risk weight. US regulators have determined that
high LTV loans with adequate CRM, including MI, are prudently
underwritten. This regulatory capital benefit should remain in place for all
institutions that do not adopt the Basel II framework. This would
encourage the use of this proven form of CRM and better align capital with
the actual levels of risk.

Given the current configuration of the U.S. mortgage origination
market, if the proposed capital treatment of retained mortgages for even a
few of the largest mortgage originators is significantly more favorable than
the capital treatment applied to other originators, then a significant shift
could occur in the concentration of mortgage assets retained by U.S. banks
and thrifts. We recommend that U.S. regulators strongly consider mitigating

the gap between the capital treatment of mortgage assets in the A-IRB versus that applied to "general" institutions.

The U. S. residential mortgage origination market is a concentrated market where differences in the capital treatment of retained mortgages can have a profound market impact and could result in serious market distortions. Given the size and increased concentration of mortgage risk, regulatory capital changes, which increase concentration, could raise questions of systemic risk to the U.S. financial markets. Diversity of mortgage products – essential to under-served communities – could also be threatened if capital rules result in market realignment into fewer institutions.

VII. Other Questions Raised by Agencies Relating to Residential Mortgage Markets

A. Capital Required to Hold Mortgage Risk

The Agencies have requested evidence on the capital required by private market participants to hold mortgages outside of the federally insured institution and GSE environment. The MI industry provides an example of the capital required to hold credit risk on high-LTV loans. Additionally, because of the investment requirements set by the U.S. government-sponsored enterprises, each MI company has obtained a credit rating of AA or higher. These ratings are set by ratings agencies using a ten-year depression level stress test unique to the MI industry. It should be noted that this ten-year stress test is significantly longer than the one-year holding period used in the Basle IRB standard.

B. Shortages of Mortgage Credit

The Agencies have requested views on whether there has been any shortage of mortgage credit under the general risk-based capital rules that would be alleviated by the proposed changes. MICA member firms are not aware of any shortage of mortgage credit for prime mortgage loans under the general risk-based capital rules as these rules are currently being implemented for depository institutions. We do not, however, view the proposed changes to the risk-based capital rules as one needed to adjust capital flows. Rather, we see it as one needed to adjust regulatory capital to match economic risk.

The Agencies should be concerned with recent comments on CP3 by Standard & Poor's regarding their concerns of lowering regulatory capital levels too far. S&P does not agree with some of the metrics and resulting risk-weightings produced under Basel II. It has stated that if banks

substantially reduce their capital on the basis of the proposed Basel II rule they could be downgraded. S&P further states that required capital levels should be viewed as "supporting an ongoing lending operation capable of not only absorbing unexpected losses through the economic and credit cycles, but of providing a cushion to permit continued operations." Thus, an unintended consequence of banks lowering their capital levels too much could result in negative rating actions which could lead to shortages of mortgage credit. If the new capital rule under-estimates capital requirements for certain higher-risk asset classes (e.g. high LTV mortgages) the result could be the rating agencies become the effective regulator for those products, further adding to the complexity banks are faced with.

C. New Products

A separate approach for modeling new mortgage products is not included in the A-IRB approach. This will result in new products using the risk characteristics associated with earlier products. To the extent that high risk lending continues to expand and the A-IRB fails to adjust for the inherent higher risk associated with some new products, insufficient capital will be allocated to risky mortgage products.

The appropriate PD and LGD applied to new products should reflect not only the historic performance of the bank's prior portfolio, but also an appropriate multiple to both factors. This multiple should reflect the inherent higher risk associated with the new product and vary with the initial LTV and other relevant risk factors of the new product. It should be reduced or eliminated only as the historic performance of the new product becomes evident.
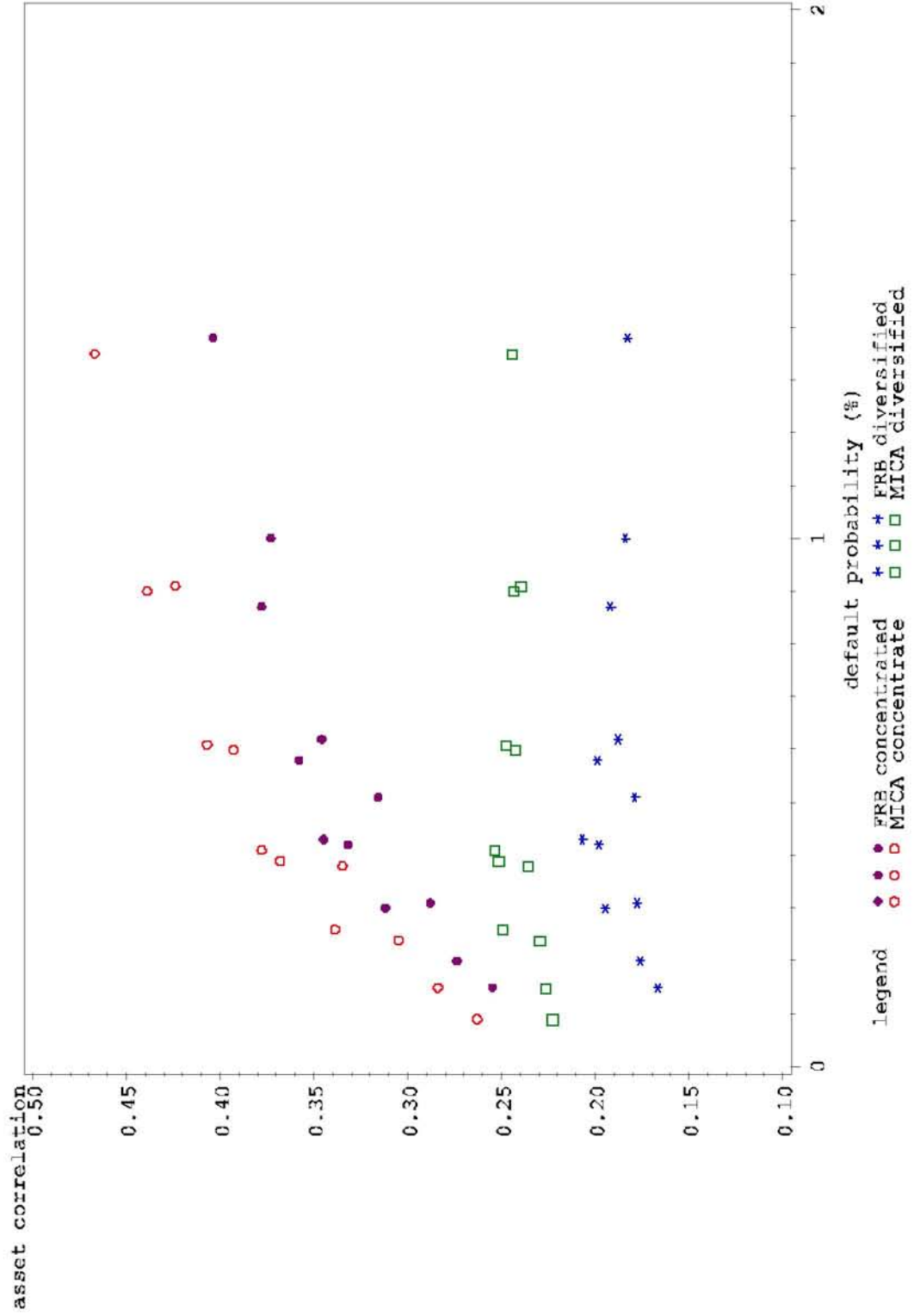

MICA would be pleased to discuss with any of the U.S. banking regulators the points raised in this comment letter at your convenience.
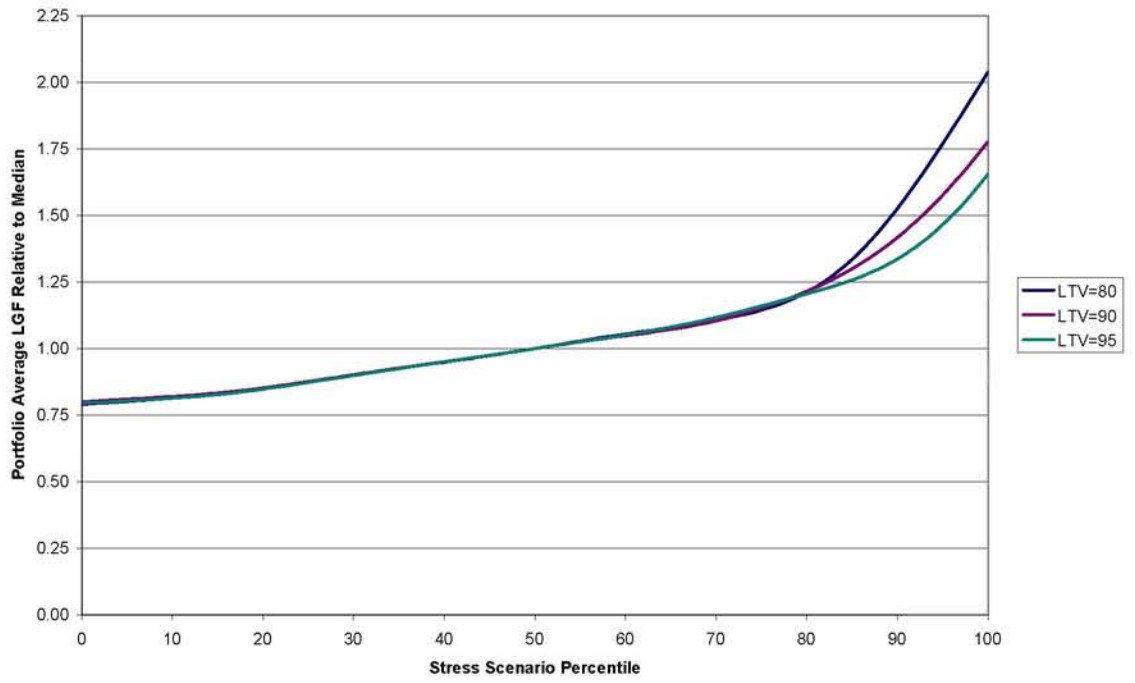


Sincerely,


Suzanne C. Hutchinson


Attachments

Figure 1: Implied Asset Correlations
BBB+ Insolvency standard

## Loss Given Foreclosure and Market Stress

A conference call was held on November 9, 2003 to discuss some questions related to Basel II. The participants included: Basil Petrou; Ted Durant; Mike Molesky; and Jim Follain. MICA is the Mortgage Insurance Companies of America. They have another set of public comments on the web site as well.

Here are the questions we put to them. Why should counterparty capital charge be lower than that assessed by OFHEO for the GSEs?
1.     Reconciling RBA vs. FRB vs. MICA results
2.     Implementation Pillar I vs. Pillar I.
3.     10 percent minimum for LGD.
4.     Should Basel II seek to attain a level playing field among the various types of insurance options open to a bank for second and home equity loans?

The document I passed along to you contains their formal responses to our request.
JIM

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**MICA RESPONSE TO ADDITIONAL QUESTIONS RAISED BY FEDERAL RESERVE STAFF CONCERNING ASSET CORRELATIONS AND MORTGAGE RISK**

In response to questions presented to MICA by Jim Follain of the Federal Reserve Board (FRB) staff, MICA is pleased to provide the following additional comments on the ANPR for revised capital standards. The points that we would like to address include:

- the relationship between Implied Asset Correlation (IAC) and Probability of Default (PD) is clarified when the effects of LTV and borrower credit are separated;
- clearer distinctions between Asset Value Correlation, Asset Correlation, and Loan Default Correlation will help resolve debates surrounding the appropriate asset correlation parameter for mortgages;
- the results of the FRB and MICA studies are best reconciled by closely examining the transition from default to foreclosure and its dependence on LTV at the time of default; and
- MICA analysis is based on the best available data for studying the performance of the riskiest segment of U.S. mortgages, and the results of that analysis can be relied upon to provide credible measurements of PD, LGD, and required capital under stressful economic circumstances.

MICA Analysis

The results from the Federal Reserve study show declining Implied Asset Correlations (IAC) with increasing PD. But these results must separate out the effects of credit and LTV in order to make a statement about the impact of borrower credit on IAC. Using data provided to MICA by the Federal Reserve we find that the relationships between PD and IAC are similar for both the MICA results and the Federal Reserve results. Further, we find that for loans with low initial LTVs (80% or less), IAC increases slightly as FICO declines -- showing a positive correlation between PD and asset correlation. For loans with high initial LTVs IAC decreases slightly as FICO scores declines. However, IAC increases as initial LTV increases – evidencing a positive correlation between PD and asset correlation –so that the difference between 80% LTV and 95% LTV loans is substantially greater than the difference between the performance of loans with 620 FICO scores and those with 740 FICO scores over any LTV range. Furthermore, for a geographically concentrated portfolio, implied asset correlation is always positively correlated with PD, regardless of initial LTV. These results underscore the importance of initial LTV to determining mortgage portfolio risk and the extent to which property value correlation will overshadow any other factors in times of stress.

Background: Asset Value Correlation and Residential Mortgage Risk

The asset value correlation (AVC) model that serves as the foundation for the Basle II proposed models for retail lending is, in turn, derived to a great extent from the capital asset pricing model that was created to value equity portfolios. In this model, the asset correlation defines the extent to which the market prices for equities failed to move

independently of each other. In extending this approach to the valuation of debt obligations, the value of the underlying assets (debt held by lenders) depends very much on the probability of default by the borrower. Underlying the model is the view of the borrower as a rational actor who defaults only if the net value of his assets falls below the net value of his liabilities. The Risk Management Association in its comment letter brought out this point when it noted, "the degree to which many obligors will default (in a portfolio of loans) will depend critically on the degree to which the obligor's asset values are correlated." That may well be true in the case of general debt obligations, but residential mortgage lending is different.

A specific asset, namely a residential real property, secures residential mortgage loans. While many states allow lenders to pursue defaulted borrowers for deficiencies when proceeds from the sale of the residential property fail to cover the outstanding loan balance, some states forbid it and, in practice, deficiency judgments are infrequent. Indeed, a decline in the value of the underlying property to a point sufficiently below the value of the mortgage loan associated with that property is the only necessary and sufficient condition to cause a borrower to default. A borrower who loses all income and other assets will not likely default if the property value is sufficiently higher than the loan amount so that he can realize his equity in the property within a reasonable period of time. Conversely, a borrower with sufficient income and significant other assets may still choose to default on his residential mortgage loan if the value of the property is sufficiently below the loan amount. As a result, the key asset in determining default likelihood is the value of the asset underlying the mortgage. Using the terminology of the Risk Management Association we might say that the degree to which defaults will occur within a portfolio of residential mortgages held by an institution will depend on the degree to which the home values underlying these mortgages are correlated.

But even this is not sufficient. The impact of home price correlations on defaults (i.e., the mapping of AVC to loan default correlation) is not the same for all borrowers. Clearly, if the LTV ratio (specifically, the ratio of the current loan balance to the current property value) is low enough, even relatively large declines in home prices will be insufficient to trigger defaults. On the other hard, loans with high LTV ratios will be quite sensitive to home price declines. Additionally, borrowers who consider default followed by foreclosure as a low cost option for discharging their debt obligation will exhibit a greater sensitivity to a drop in home values than other borrowers. The greater the cost of exercising the foreclosure option in terms of impaired personal credit and forfeiture of additional assets, the greater must be the decline in home value before the borrower will exercise this option.

Thus, one might expect that borrowers whose credit is already impaired – subprime borrowers – would assign a lower cost to foreclosure and would be more sensitive to falling home values. However, this does not mean that subprime borrowers should have a higher asset value correlation to other borrowers. The key is the difference between asset correlation, asset value correlation and loan default correlation. Asset correlation (AC) refers to the correlation of asset prices in a portfolio while the correlation of default probabilities among loans within a portfolio is termed the loan default correlation (LDC).

2

The correlation of obligor asset values underlying the loans in the portfolio is termed the asset value correlation (AVC). The hypothesis that subprime borrowers should display lower AVC than prime borrowers is based on the premise that they have a higher level of idiosyncratic risk and, therefore, a lower relative level of systemic risk. That is, it is assumed that the value of other assets rather than the value of the mortgage property itself play a significant role in the decision to default. As noted above, however, that is not the experience of the mortgage market. Rather, the value of the property is far more important than the value of any other obligor asset in determining whether a default will occur. Thus, AVC should be relatively invariant to borrower credit quality but depend on property location and other characteristics.

Response to Points

Question 1: *Why should counterparty capital charge be lower than that assessed by OFHEO for the GSEs?*

MICA has commented to OFHEO and others that the capital charges for private mortgage insurance in the stress test are inappropriate given the unique regulation and capitalization requirements of the private MI companies. OFHEO based its capital charges on the experience of corporate bond defaults having similar ratings, not on the default experience of the mortgage markets, much less the experience of lenders or the GSEs with credit enhancement by private MIs. The regulation and capitalization requirements of MIs are such that the companies must be able to withstand stresses more severe than those envisioned in either the OFHEO stress test or the test at the high-risk tail of loss distributions estimated for Basle II and the ANPR.

*Question 2: Reconciling RMA vs. FRB vs. MICA results.*

The keys to understanding differences between the various estimates of asset correlations are:

1. data population and sampling;
2. model structure;
3. different definitions of default, foreclosure, and the transition probabilities between them; and
4. the relationship between stress and LGD.

## 1. Data

MICA data covers virtually the entire universe of privately insured mortgages from 1989 to 1997 and every loan stays in the dataset from the beginning to the end of the analysis or until termination by prepayment or default. In contrast, RMA data is panel data, composed of aggregate portfolio results from several banks across a variety of time periods, but typically commencing no earlier than 1996. The LoanPerformance data that produces the multi-state transition model used by the FRB covers a similar time period as MICA Data, but it is a sample of the loan universe and is more heavily weighted to recent time periods. Additionally, the population of loans in the dataset varies each period.

## 2. Model Structure

The MICA model is a competing-hazard model built on life-of-loan data. The RMA study is not a model but rather an estimation of implied AVC from PD and LGD data derived from a panel study among a small number of lenders. The LoanPerformance model is a periodic state-transition model through default. The FRB model extends this to foreclosure using a single assumed cure rate that is applied across the period. Both the MICA and FRB model use the same regression equation, provided by OFHEO, to estimate LGD.

## 3. Outcome Definitions

The MICA model defines two terminal states, MI cancellation and MI claim. The MI claim event corresponds almost exactly to a lender loss event while MI cancellation corresponds closely to mortgage prepayment. The RMA study is unclear as to its definition of default and whether it was controlled among the participants. The LoanPerformance model implemented at the FRB uses a 90-day delinquency definition of default and a single transition probability for all loans from default to foreclosure. The critical difference between MICA and the Fed approaches lies in the transition from default to foreclosure. That transition has already occurred in the MICA model. As a result, the PDs generated from the Fed model can be expected to be higher relative to those generated by the MICA model, but the LGDs generated from the Fed model will be lower than those derived from the MICA model.

## 4. Stress and LGD

Assuming no correlation between default-to-foreclosure transition probability and the level of stress, the MICA and FRB results should produce similar capital results in spite of the different PD and LGD estimates. However, the transition probability from default to foreclosure is very highly correlated with LTV ratio at the time of default, which in turn is the most significant factor in the systemic risk faced by mortgages. By using an average transition probability, the FRB underestimates foreclosures in the stress scenarios and so underestimates unexpected losses.

*Question 4: 10% minimum for LGD*

Contrary to a suggestion in the earlier summary of our discussions, the analysis in Table 4 of MICA's comment letter does not assume basic MI coverage at a 35% level. Rather, the level of MI coverage depends on the initial LTV of the loan, with high LTV loans receiving deeper coverage levels. Only loans with initial LTVs of 97% to 100% LTV typically receive 35% MI coverage. As shown in confidential data previously provided to the FRB, during the first three quarters of 2003, 69% of loans with initial LTVs of 97% had MI coverage of 35% or higher; 71% of loans with initial LTVs of 95% had coverage levels of 30% or higher; and 72% of 90% LTV loans had MI coverage of 25% or higher. These are the coverage levels that are used in Table 4.

In response to the Fed request that we show results during a period of greater stress we focused on the 1990-1994 price change distributions. Under these stress conditions the net LGD numbers (net of MI payments) fell within the 9-12% range. These results assume current MI coverage levels as noted above. In the event the lender chose deeper MI coverage their LGDs would be that much lower. Consequently, our key concern about the 10% floor on LGD net of MI proceeds remains the same— the floor places an arbitrary limit on the extent to which lenders can use third party credit enhancement to mitigate their loss exposure. The fact that lenders currently are not choosing deeper coverage does not mean that they should be precluded from receiving benefits in the capital rules if they choose at a future date to avail themselves of this coverage. MI coverage that is "standard" today may prove insufficient in the future when lenders perception of default risk may change. In any event, placing disincentives on the use of credit risk mitigation through an arbitrary floor on LGD will not serve the interests of either the lender or the regulator.

February 10, 2004