FEDERAL HOUSING FINANCE AGENCY
Office of the Director

January 20, 2012

The Honorable Elijah E. Cummings
Ranking Member
Committee on Oversight and Government Reform
2235 Rayburn House Office Building
Washington, DC 20515

Dear Ranking Member Cummings:

In response to your request that the Federal Housing Finance Agency (FHFA) provide the Committee with the specific statutory provision that would prohibit the FHFA from allowing Fannie Mae and Freddie Mac (Enterprises) to reduce mortgage principal in all cases and analysis the agency conducted, including the data examined, demonstrating that principal reduction never serves the long-term interest of the taxpayer when compared to foreclosure, I am providing the following information and attachments.

Prior to a specific response, I would like to apologize for the delay in this response. At no time has there been any lack of respect or indifference to the request and I take full responsibility for the time it has taken to provide this response.

Statutory Requirements

As to statutory requirements, FHFA serves as conservator and regulator of the Enterprises under three principal mandates set forth by Congress that direct FHFA's activities and decisions. First, FHFA has a statutory responsibility as conservator to preserve and conserve the assets and property of the regulated entities. Second, the Enterprises have the same mission and obligations as they did prior to the conservatorship. Therefore, FHFA must ensure that Fannie Mae and Freddie Mac maintain liquidity in the housing market during this time of economic turbulence. Third, under the Emergency Economic Stabilization Act of 2008 (EESA), FHFA has a statutory responsibility to maximize assistance for homeowners to minimize foreclosures. Under EESA, FHFA must consider the net present value (NPV) of any action undertaken to prevent foreclosures.

These mandates guide every FHFA policy decision, including the decision not to allow Fannie Mae and Freddie Mac to engage in principal forgiveness at this time. FHFA did not conclude that "principal reduction never serves the long-term interest of the taxpayer when compared to foreclosure." In considering principal forgiveness, FHFA compared taxpayer losses from principal forgiveness versus principal forbearance, which is an alternate approach that the Enterprises currently undertake to fulfill their mission at a lower cost to the taxpayer. FHFA based its conclusion that principal forgiveness results in a lower net present value than principal forbearance on an analysis initially prepared in December 2010, which is attached, along with updated analyses produced in June and December 2011, which are also attached.

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FHFA Considerations

Putting this determination in context, as of June 30, 2011, the Enterprises had nearly three million first lien mortgages with outstanding balances estimated to be greater than the value of the home, as measured using FHFA's House Price Index. FHFA estimates that principal forgiveness for all of these mortgages would require funding of almost $100 billion to pay down mortgages to the value of the homes securing them. This would be in addition to the credit losses both Enterprises are currently experiencing.

Another factor to consider is that nearly 80 percent of Enterprise underwater borrowers were current on their mortgages as of June 30, 2011. (Even for more deeply underwater borrowers – those with mark-to-market loan-to-value ratios above 115 percent, 74 percent are current.) This trend contrasts with non-Enterprise loans, where many underwater borrowers are delinquent.

Given that any money spent on this endeavor would ultimately come from taxpayers and given that our analysis does not indicate a preservation of assets for Fannie Mae and Freddie Mac substantial enough to offset costs, an expenditure of this nature at this time would, in my judgment, require congressional action.

In considering a program of principal reduction for underwater borrowers, FHFA used the net present value model developed to implement the Home Affordable Modification Program (HAMP). Using the HAMP NPV model for borrowers with mark-to-market loan-to-value (LTV) ratios greater than 115 percent, FHFA compared projected losses to Fannie Mae and Freddie Mac from borrowers receiving principal forbearance modifications to borrowers receiving principal forgiveness modifications as allowed in the HAMP program. The model, and hence the analysis, takes into account the sustainability of the modifications and assumes that principal forgiveness reduces the rates of re-default on the loans to a greater extent than would forbearance. However, in the event of a successful modification, forbearance offers greater cash flows to the investor than forgiveness. The net result of the analysis is that forbearance achieves marginally lower losses for the taxpayer than forgiveness, although both forgiveness and forbearance reduce the borrower's payment to the same affordable level.

Additionally, there would be associated costs to upgrade technology, provide guidance and training to servicers, and change accounting and tracking systems in order to implement a principal forgiveness program. Unless there is an expectation that principal forgiveness will reduce losses, we cannot justify the expense of investing in major systems upgrades.

Fannie Mae and Freddie Mac already offer a loan modification option that reduces monthly payments to an affordable rate using principal forbearance– the same monthly payment that would be in place with forgiveness - and this is most consistent with FHFA obligations as conservator.

While it is not in the best interests of taxpayers for FHFA to require the Enterprises to offer principal forgiveness to high LTV borrowers, a principal forgiveness strategy might reduce losses for other loan holders. Indeed, in several of the examples cited, such as Ocwen and Wells Fargo, principal forgiveness is being offered to borrowers whose loans the investor or servicer purchased at a discount, which would likely change the analytics significantly. Also, because of Enterprise requirements for credit enhancement of high LTV loans, a high percentage of Enterprise loans have mortgage insurance or second liens. Consequently, a large share of the potential gains from principal forgiveness on Enterprise loans would go to unrelated beneficiaries than may be the case for forgiveness on non-Enterprise loans.

Additionally, less than ten percent of borrowers with Enterprise loans have negative equity in their homes (9.9 percent in June 2011), whereas loans backing private label securities were more than three times more likely to have negative equity (35.5 percent in June 2011).

FHFA remains committed to assisting homeowners to stay in their homes and will continue to update and improve our analysis. FHFA would reconsider its conclusions if other funds become available and if the availability of other funds is at a level that would change the analysis to indicate potential savings to the taxpayers. In addition, other factors to consider in implementing any such policy include whether the borrower had defaulted on a previous loan modification, how much equity the borrower had originally invested in the house and the amount of contribution being made by second lienholders and mortgage insurers.

In the meantime, FHFA continues to focus on improving loss mitigation and foreclosure alternatives through a variety of means. Through HAMP and the Standard Modification that are now available through the Servicing Alignment Initiative, delinquent borrowers or borrowers at risk of default will be reviewed for loan modifications that can include principal forbearance. Borrowers who remain current on their loan payments can take advantage of the recent changes to the Home Affordable Refinance Program (HARP), which now permit all current underwater borrowers to refinance into lower interest rate mortgages.

Please note that the attached document provides the analyses presented to me upon which I have based my decisions. The analyses contain internal FHFA and examination-derived information that would not ordinarily be disclosed. As you will see, our determination has been based on projected economic costs to taxpayers, not short-term accounting considerations. Nor have the analyses been affected by considerations of executive compensation.

If you have additional questions, please contact Peter Brereton, Associate Director for Congressional Affairs, on my staff at (202) 649-3022.

Yours truly,

Edward J. DeMarco

Edward J. DeMarco
Acting Director

xc: Darrell Issa, Chairman, Committee on Oversight and Government Reform

Attachment

**FHFA Analyses of Principal Forgiveness Loan Modifications**

***Analysis Provided to Acting Director DeMarco in December 2010***

You requested an independent evaluation of the use of principal reduction as a loss mitigation measure for loans guaranteed or held by Fannie Mae and Freddie Mac, to be offered in conjunction with loan modifications made under the Making Home Affordable program, proprietary modifications, or under the FHA Short Refi program. The results of the assessment show participation in these programs would cost the Enterprises more than the benefits derived. This memo sets forth a recommendation and summarizes the findings and approach taken to arrive at the conclusion.

Recommendation: Rather than engaging in principal reduction, Fannie Mae and Freddie Mac should more aggressively pursue: 1) proprietary loan modifications that reduce the interest rate, extend the mortgage term, and provide for substantial principal forbearance to help borrowers who are having difficulty affording their mortgage payments and 2) HARP refinance transactions for borrowers who remain current on their mortgages, but whose home equity has eroded as a result of declining home values and growing loan balances. These programs are a more appropriate and less costly means for the Enterprises to help families retain homeownership and to provide additional stability to the housing market.

Findings: The Enterprises collectively guarantee or hold approximately 30 million loans. Based on an analysis of data submitted to FHFA by the Enterprises, using the FHFA HPI to evaluate current market values, less than 2 million of those loans are secured by properties with values that are lower than the outstanding debt. Of loans with loan balances in excess of property values, more than half are performing, and another half of a million are severely delinquent or in foreclosure. The chart below shows the breakdown of the total combined book, by loan-to-value (LTV) ratios and performance status. The data clearly shows that high LTV loans represent a small proportion of the Enterprises' books and most of the loans are current or severely delinquent.

**MTM LTV Distribution June 30, 2010**

| | UPB $B | Total Loans (000s) | Per-Cent of UPB | Current (000s) | Per-Cent Current | DQ <= 90 Days (000s) | Per-Cent DQ <= 90 Days | SDQ or in Foreci (000s) | Per-Cent SDQ or in Foreci |
|---|---|---|---|---|---|---|---|---|---|
| LTV Missing | $ 27.5 | 346 | 1.1% | 315 | 91.0% | 20 | 5.7% | 12 | 3.3% |
| LTV <= 80% | $2,994.4 | 21,547 | 71.2% | 20,821 | 96.6% | 409 | 1.9% | 317 | 1.5% |
| 80 < LTV < 105 | $1,206.5 | 6,461 | 21.4% | 5,801 | 89.8% | 238 | 3.7% | 422 | 6.5% |
| 105 < LTV < 115 | $ 140.2 | 704 | 2.3% | 512 | 72.8% | 38 | 5.5% | 153 | 21.7% |
| 115 < LTV <= 150 | $ 235.9 | 1,069 | 3.5% | 804 | 75.2% | 55 | 5.2% | 210 | 19.7% |
| LTV > 150% | $ 29.6 | 135 | 0.4% | 43 | 31.8% | 8 | 5.6% | 85 | 62.6% |
| | | | | | | | | | |
| Total | $4,634.1 | 30,262 | 100.0% | 28,296 | | 767 | | 1,198 | |

Source: Historical Loan Performance dataset. Excludes modifications and foreclosure alternatives. LTVs updated using FHFA's Monthly Purchase Only House Price Index.

Approach: To ensure that the Agency was assessing the implementation of principal reduction from a variety of perspectives, the evaluation team was composed of senior staff from several offices, including Financial Analysis, Policy Analysis and Research, Credit Risk, Accounting, Capital Supervision, Enterprise Regulation, Conservatorship Operations, Housing and Community Investment, and Congressional Affairs and Communications. The list of staff involved is included at the end of this document. Interestingly, some key team members believed principal reduction would be effective, and approached the task from the perspective of how to demonstrate that such a measure would reduce losses at the GSEs and help to realign the outstanding mortgage debt and home values. The opinions of team members are relevant because they provided healthy skepticism of the findings at several key junctures, and, as a result, the data and findings were questioned and validated numerous times over the course of the evaluation.

The team began with a comprehensive review of information provided to the Agency by Fannie Mae and Freddie Mac, as well as discussions with the two Enterprises. Both have publicly stated their opposition to principal reduction, primarily because of operational difficulties and conjecture about borrower behavior. Fannie Mae and a mortgage servicer also separately provided analysis showing no significant correlation between a borrower's level of home equity and HAMP trial modification performance (see the attachment to this document). Still, the information gleaned in this phase of the project contributed only marginally to the final analysis.

Our independent analysis began with a full review of the state of the Enterprises' books of business today. FHFA's Historical Loan Performance database contains key loan-level variables that can be used for a variety of modeling and analytics, and the team pulled multiple versions of the data needed for this evaluation, to scope out the size and composition of the population to be served. The team reviewed data produced in a time series, data on delinquent borrowers at various stages of delinquency, data on borrowers residing the states that have sustained the largest home price declines, and numerous other permutations to fully comprehend the borrower pool from various perspectives.

In addition, the team pulled data from the commercial Loan Performance database, which contains information on non-conforming loans. This data set has been used by many researchers, including FHFA staff, to track and analyze the features and performance of subprime loans. This data was used to compare and contrast the GSEs' books with non-agency business. The concentration of MTMLTV loans > 115% LTV is more than five times greater for PLS than for the GSEs.

Using Version 4.01 of the Treasury HAMP NPV model, FHFA compared the economic effectiveness of forgiving principal down to 115 MTMLTV versus forbearing the same amount of principal for all loans with a MTMLTV > 115. The model suggested no better result from principal reduction than principal forbearance; it shows principal forbearance is slightly more effective at reducing Enterprise losses.

Finally, the team evaluated the accounting and operational implications of principal reduction, to consider the costs of implementing the program against the benefits to borrowers. The costs include the immediate losses to be realized as well as the costs of modifying technology,

providing guidance and training to servicers, and the opportunity cost of diverting attention away from other loss mitigation activities. The accounting staff confirmed that because Enterprises have reserved against potential losses, the extent to which principal reduction increases accounting losses depends on whether reserves are taken against largely performing pools or individual troubled loans. In the latter case, principal reduction amounts would most likely be less than reserve amounts, so there would be no incremental loss recognition. In the case of performing loans that are not reserved against on an individual loan basis, write-offs might create immediate realized losses in excess of reserve amounts. Principal forbearance, on the other hand, creates no additional accounting losses and offers the Enterprises the opportunity for ultimate recovery of some amount of principal, potentially reversing some losses recognized earlier.

Neither Enterprise can accommodate the new accounting and tracking of principal reduction without operationally challenging changes to the existing IT systems, which are outdated and inflexible. The team did not require the GSEs to provide FHFA with cost projections, but experience implementing the HAMP program suggests that each Enterprise would need substantial funds and would rely upon scarce personnel resources to make the necessary IT modifications.

Principal forbearance, in contrast, requires no systems changes and, frankly, is a common approach in government credit programs, including FHA. The borrower is offered changes to the loan term and rate as well as a deferral of principal, which has the same effect on the borrower's monthly payment as principal reduction, but provides the investor with potential recovery. The forborne principal is paid in full or part upon sale of the property or payoff of the loan. This traditional approach would minimize the Enterprise losses and treat GSE borrowers in a manner that is consistent with other government programs.

Given the large portion of the high LTV borrowers that are current on their mortgages, a principal reduction program for this segment, such as the FHA Short Refi program, simply transfers performing GSE borrowers over to FHA, at a cost to the GSEs. A less costly approach for the Enterprises to assist these borrowers is to provide a GSE refinance alternative, such as HARP. Clearly, the HARP program has been underutilized to date, suggesting that the program features should be revisited to remove barriers to entry wherever possible.

## Supporting Research

HAMP trial performance is not strongly related to current LTV:

| MTMLTV | Trial | | Official | All |
|---|---|---|---|---|
| | Active | Cancelled | | |
| Missing | 36% | 64% | 0% | 14 |
| <=0 | 29% | 68% | 3% | 2,384 |
| (0,90) | 39% | 30% | 31% | 194,150 |
| [90,100) | 36% | 33% | 30% | 55,833 |
| [100,110) | 36% | 44% | 20% | 74,005 |
| [110,120) | 37% | 37% | 26% | 37,724 |
| [120,130) | 36% | 38% | 25% | 25,649 |
| [130,140) | 35% | 40% | 25% | 17,054 |
| [140,150) | 37% | 39% | 24% | 11,193 |
| [150,160) | 37% | 41% | 22% | 7,686 |
| [160,170) | 38% | 39% | 23% | 5,448 |
| [170,180) | 38% | 39% | 23% | 4,082 |
| >=180 | 40% | 39% | 21% | 18,575 |
| All | 38% | 35% | 27% | 453,797 |

(Source: Fannie Mae. Data based on IR2 Reports at June 10, 2010)

Borrower performance on modified loans is a function of the amount of payment reduction, not current LTV:

| LTV (%) | Month 9 Redefault Rate |
|---|---|
| <100 | 19% |
| 100-124 | 19% |
| 125-149 | 19% |
| 150+ | 16% |
| Overall | 19% |

| Payment Reduction | Month 9 Redefault Rate |
|---|---|
| < 15% | 28% |
| 15 – 30% | 20% |
| 30% + | 15% |
| Overall | 19% |

(Source: GMAC Rescap, July, 2010)

*Analysis Provided to Acting Director DeMarco in June 2011*

The attached tables are a follow-up to the forbearance versus forgiveness modification analysis we delivered in December. We have augmented the analysis by adding two levels of servicer contribution to the forgiveness and by breaking out the results to show finer levels of detail. Additionally, all results are as of June 30, 2010 and monetary results are shown in millions of dollars.

**Table Descriptions:**

**Table 1:** Distribution of unpaid principal balance [UPB] of high LTV loans (> 115 mark-to-market loan-to-value [MTMLTV] by delinquency status and portfolio type. Note that more than 60% of the UPB is current.

**Table 2:** Analogous to Table 1, except in terms of loan count instead of UPB.

**Table 3:** Comparative analysis of losses to the Enterprises under four modification scenarios:

1. Principal forbearance to 115 MTMLTV.
2. Principal forgiveness to 115 MTMLTV.
3. Principal forgiveness to 115 MTMLTV with the servicer contributing 33% of the forgiven amount.
4. Principal forgiveness to 115 MTMLTV with the servicer contributing 50% of the forgiven amount.

The results for Scenarios 1 and 2 (Forbearance and Forgiveness) are identical to what we presented in December. Our conclusion was that while forbearance shows a slightly lower loss than forgiveness, the difference is negligible given the model risk. Three items of note in these results:

- The servicer contribution flows through the borrower to the Enterprises and reduces the Enterprises' losses on a dollar for dollar basis.
- The borrower is indifferent to who is paying for the forgiveness, so his/her behavior is the same across the three forgiveness scenarios.
- The two rows in the middle of the table show the results of giving the modification to: a) all borrowers regardless of whether or not they are NPV positive and b) only borrowers who are NPV positive. The difference in results between these two populations is negligible, suggesting that virtually all borrowers > 1.15 MTMLTV would benefit from forbearance or forgiveness to 115 MTMLTV. Therefore, if a) was implemented NPV tests and their associated costs/timelines would not be required.

**Table 4:** Percentage reduction in Enterprise losses of Scenario 1 (Forbearance) relative to the losses associated with not modifying the loans, by delinquency status and portfolio type. Overall, losses are reduced by 25%. Securitized loans that are fewer than 90 days delinquent have the greatest reduction in losses.

**Table 5:** Percentage reduction in Enterprise losses of Scenario 2 (Forgiveness) relative to the losses associated with not modifying the loans, by delinquency status and portfolio type.

Overall, losses are reduced by 21%. Securitized loans that are fewer than 90 days delinquent have the greatest reduction in losses.

Tables 4 and 5 are on the same page to facilitate a comparison between the percentage reduction in Enterprise losses from forbearance and forgiveness vis-à-vis not modifying the loans. Scenarios 1 and 2 on Table 3 showed that Enterprise losses were slightly lower with forbearance than with forgiveness. Therefore, the smaller loss from forbearance results in a larger percentage reduction in losses relative to not modifying the loans. The overall percentage reduction in Enterprise losses is 25% for forbearance and 21% for forgiveness relative to not modifying the loans, but the differences are magnified for securitized loans that are fewer than 90 days delinquent.

**Table 6:** Percentage reduction in Enterprise losses of Scenario 3 (Forgiveness with 33% servicer contribution) relative to the losses associated with not modifying the loans, by delinquency status and portfolio type. Overall, losses are reduced by 34%. Securitized loans that are fewer than 90 days delinquent have the greatest reduction in losses.

**Table 7:** Percentage reduction in Enterprise losses of Scenario 3 (Forgiveness with 50% servicer contribution) relative to the losses associated with not modifying the loans, by delinquency status and portfolio type. Overall, losses are reduced by 40%. Securitized loans that are fewer than 90 days delinquent and have an MTMLTV >= 125, have a greater than 50% reduction in losses vis-à-vis not modifying.

Table 4 (the better option between Tables 4 and 5) is repeated along with Tables 6 and 7 to facilitate a comparison between the percentage reduction in Enterprise losses from forbearance, forgiveness with 33% servicer contribution and forgiveness with 50% servicer contribution vis-à-vis not modifying the loans. For all of the options, the percentage reduction in Enterprise losses is greatest for securitized loans that are fewer than 90 days delinquent and maximized for loans that are current and >= 125 MTMLTV.

**Table 8:** Each of the prior tables showed that the percentage reduction in Enterprise losses relative to not modifying the loans was greatest for loans that are current and >= 125 MTMLTV. Table 8 shows the results of seven options for those loans. Forgiveness with 50% servicer contribution produces the largest percentage reduction in Enterprise losses vis-à-vis not modifying the loans, but of the options that do not require servicer contributions, forbearance again outperforms forgiveness.

**Table 9:** Distribution of UPB of loans with 115 < MTMLTV < 125, by delinquency status, portfolio type and 'price bucket', where price = NPV to the Enterprise divided by UPB, and represents the estimated number of cents on the dollar that could be recovered from note/loan sales.

**Table 10:** Analogous to Table 7, except for loans with MTMLTV >= 125.

**Table 11:** Analogous to Table 7, except in terms of loan counts instead of UPB.

**Table 12:** Analogous to Table 8, except in terms of loan counts instead of UPB.

**Assumptions/Caveats:**

1. Treasury's NPV Model v4.01 was used to calculate the loan net present values for this analysis. *The Treasury model was developed to support the President's Home Affordable Modification Program and there could be significant model error in using this model for this analysis.*
2. A major driver of the results is the sensitivity of the default equations to the change in MTMLTV given forgiveness. Due to a paucity of historical performance data on modifications (and very high LTV loans), the default equations in the NPV model rely heavily on the expert judgment of FRE, FNM, FDIC, Treasury and FHFA staff.
3. Data Sources: RBC/QRM loan-level data 6/30/2010. Delinquency, DTI and credit score data are from the HLP data.
4. Current credit scores and DTI ratios are not available. The values at origination were used instead. Missing credit scores were defaulted to 580.
5. HOA fees, insurance and escrow advances were all defaulted to zero. Real estate taxes were set to .002 x property value.
6. FHFA monthly purchase-only HPI was used to calculate the MTMLTV. If HPI is missing, typically due to PR, GU and VI or missing state in Geographic table of HLP data, the loans were deleted from the analysis.
7. Only loans with MTMLTV > 115 were used in the analysis.
8. Per Treasury's NPV Model, a discount rate of 4.57% (Freddie Mac PMMS on 7/1/2010) was used in this analysis.

**Table 1: Aggregate Enterprise Unpaid Principal Balance of High LTV Loans at 06/30/2010**
**by Portfolio Type and Delinquency Status**
**$ in Millions**

| | | Days Delinquent | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Current | 1 to 59 Days | 60 to 89 Days | 90 to 119 Days | 120 - 179 Days | 180 to 365 Days | 365+ Days | Total |
| 115 < MTMLTV < 1.25 | $ 72,575 | $ 4,275 | $ 2,510 | $ 1,823 | $ 3,266 | $ 6,548 | $ 11,415 | $ 102,412 |
| Retained | $ 7,899 | $ 1,130 | $ 669 | $ 549 | $ 2,241 | $ 6,484 | $ 11,330 | $ 30,303 |
| Sold | $ 64,676 | $ 3,145 | $ 1,841 | $ 1,274 | $ 1,025 | $ 64 | $ 85 | $ 72,109 |
| MTMLTV >= 1.25 | $ 85,760 | $ 6,174 | $ 3,812 | $ 2,948 | $ 5,404 | $ 12,342 | $ 27,624 | $ 144,065 |
| Retained | $ 15,206 | $ 2,086 | $ 1,220 | $ 948 | $ 3,738 | $ 12,242 | $ 27,438 | $ 62,878 |
| Sold | $ 70,554 | $ 4,088 | $ 2,592 | $ 2,000 | $ 1,667 | $ 100 | $ 186 | $ 81,187 |
| Total | $ 158,336 | $ 10,449 | $ 6,321 | $ 4,771 | $ 8,670 | $ 18,890 | $ 39,039 | $ 246,477 |

**Table 2: Aggregate Enterprise High LTV Loan Counts at 06/30/2010**
**by Portfolio Type and Delinquency Status**

| | | Days Delinquent | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Current | 1 to 59 Days | 60 to 89 Days | 90 to 119 Days | 120 - 179 Days | 180 to 365 Days | 365+ Days | Total |
| 115 < MTMLTV < 1.25 | 337,505 | 19,721 | 11,081 | 7,856 | 13,905 | 27,739 | 47,498 | 465,305 |
| Retained | 34,582 | 5,233 | 3,060 | 2,428 | 9,482 | 27,457 | 47,129 | 129,371 |
| Sold | 302,923 | 14,488 | 8,021 | 5,428 | 4,423 | 282 | 369 | 335,934 |
| MTMLTV >= 1.25 | 391,441 | 27,341 | 16,510 | 12,691 | 23,159 | 52,920 | 117,041 | 641,103 |
| Retained | 62,022 | 8,710 | 5,095 | 3,954 | 15,868 | 52,487 | 116,283 | 264,419 |
| Sold | 329,419 | 18,631 | 11,415 | 8,737 | 7,291 | 433 | 758 | 376,684 |
| Total | 728,946 | 47,062 | 27,591 | 20,547 | 37,064 | 80,659 | 164,539 | 1,106,408 |

| Table 3<br>Forbearance v. Forgiveness v. Forgiveness with 33% and 50% Servicer Contribution | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Data as of 6/30/2010 | | | | | | | | |
| $ in Millions | Forbearance | | Forgiveness | | Forgiveness, 33% Contribution | | Forgiveness, 50% Contribution | |
| ALL LOANS > 115 MTMLTV | Fannie Mae | Freddie Mac | Fannie Mae | Freddie Mac | Fannie Mae | Freddie Mac | Fannie Mae | Freddie Mac |
| Number of Loans | 687,814 | 418,595 | 687,814 | 418,595 | 687,814 | 418,595 | 687,814 | 418,595 |
| Outstanding Balance | $151,953 | $94,524 | $151,953 | $94,524 | $151,953 | $94,524 | $151,953 | $94,524 |
| | | | | | | | | |
| Principal Forgiveness/Forbearance Amount | $17,431 | $10,006 | $17,431 | $10,006 | $17,431 | $10,006 | $17,431 | $10,006 |
| | | | | | | | | |
| Loss if all borrowers get a Modification regardless of whether or not they are NPV Positive (Mod) | $32,876 | $20,762 | $34,783 | $21,767 | $28,973 | $18,432 | $26,068 | $16,764 |
| | | | | | | | | |
| Loss if only borrowers who are NPV Positive get a Modification (PosMod) | $32,698 | $20,733 | $34,202 | $21,612 | $28,875 | $18,423 | $26,017 | $16,759 |
| | | | | | | | | |
| Loss if nothing is done (borrowers do not get principal forgiveness/forbearance), NoMod | $43,316 | $28,133 | $43,316 | $28,133 | $43,316 | $28,133 | $43,316 | $28,133 |

NOTE: All loans are given forebearance/forgiveness down to 115 MTMLTV. The rate and term for fixed rate loans are not modified, ARMs are modified into fixed rate loans.

**Table 4: Percent Reduction in Enterprise Losses Relative to No Modification if Forbearance Only Modifications with No Servicer Subsidy are Performed for All Borrowers (regardless of NPV Positive/Negative)**

| | Current | 1 to 59 Days | 60 to 89 Days | 90 to 119 Days | 120 - 179 Days | 180 to 365 Days | 365+ Days | Grand Total |
|---|---|---|---|---|---|---|---|---|
| 115 < MTMLTV < 1.25 | 26% | 23% | 23% | 15% | 15% | 12% | 10% | 22% |
| Retained | 12% | 13% | 16% | 14% | 14% | 12% | 10% | 12% |
| ARM | 7% | 8% | 11% | 13% | 14% | 14% | 12% | 11% |
| FRM | 18% | 19% | 21% | 14% | 14% | 12% | 9% | 12% |
| Sold | 28% | 27% | 26% | 16% | 15% | 7% | 6% | 27% |
| ARM | 28% | 29% | 29% | 17% | 16% | 5% | 4% | 27% |
| FRM | 28% | 26% | 25% | 16% | 15% | 11% | 10% | 27% |
| MTMLTV >= 1.25 | 33% | 27% | 28% | 20% | 20% | 18% | 16% | 27% |
| Retained | 15% | 14% | 18% | 16% | 19% | 18% | 16% | 16% |
| ARM | 11% | 8% | 12% | 14% | 19% | 19% | 17% | 15% |
| FRM | 21% | 21% | 24% | 18% | 19% | 17% | 15% | 17% |
| Sold | 38% | 34% | 34% | 22% | 21% | 11% | 9% | 36% |
| ARM | 37% | 35% | 35% | 22% | 21% | 9% | 8% | 36% |
| FRM | 38% | 34% | 33% | 22% | 21% | 16% | 15% | 37% |
| Grand Total | 30% | 25% | 26% | 18% | 18% | 16% | 14% | 25% |

**Table 5: Percent Reduction in Enterprise Losses Relative to No Modification if Forgiveness Only Modifications with No Servicer Contribution are Performed for All Borrowers**

| | Current | 1 to 59 Days | 60 to 89 Days | 90 to 119 Days | 120 - 179 Days | 180 to 365 Days | 365+ Days | Total |
|---|---|---|---|---|---|---|---|---|
| 115 < MTMLTV < 1.25 | 25% | 22% | 23% | 16% | 15% | 13% | 11% | 22% |
| Retained | 11% | 12% | 16% | 14% | 14% | 13% | 11% | 12% |
| ARM | 6% | 6% | 9% | 13% | 15% | 14% | 13% | 10% |
| FRM | 18% | 19% | 20% | 15% | 14% | 12% | 10% | 13% |
| Sold | 27% | 26% | 25% | 17% | 16% | 7% | 6% | 27% |
| ARM | 27% | 28% | 28% | 17% | 16% | 5% | 4% | 27% |
| FRM | 27% | 26% | 24% | 16% | 16% | 12% | 10% | 27% |
| MTMLTV >= 1.25 | 24% | 18% | 19% | 18% | 18% | 16% | 14% | 20% |
| Retained | 8% | 6% | 9% | 14% | 17% | 16% | 14% | 13% |
| ARM | 2% | -1% | 3% | 12% | 17% | 18% | 16% | 12% |
| FRM | 15% | 14% | 16% | 16% | 17% | 15% | 12% | 14% |
| Sold | 28% | 25% | 24% | 20% | 20% | 9% | 7% | 27% |
| ARM | 31% | 29% | 28% | 21% | 21% | 7% | 6% | 30% |
| FRM | 27% | 23% | 21% | 20% | 19% | 14% | 13% | 26% |
| Total | 25% | 20% | 20% | 17% | 17% | 15% | 13% | 21% |

**Table 4: Percent Reduction in Enterprise Losses Relative to No Modification if Forbearance Only Modifications with No Servicer Subsidy are Performed for All Borrowers (regardless of NPV Positive/Negative)**

| | Current | 1 to 59 Days | 60 to 89 Days | 90 to 119 Days | 120 - 179 Days | 180 to 365 Days | 365+ Days | Grand Total |
|---|---|---|---|---|---|---|---|---|
| 115 < MTMLTV < 1.25 | 26% | 23% | 23% | 15% | 15% | 12% | 10% | 22% |
| Retained | 12% | 13% | 16% | 14% | 14% | 12% | 10% | 12% |
| ARM | 7% | 8% | 11% | 13% | 14% | 14% | 12% | 11% |
| FRM | 18% | 19% | 21% | 14% | 14% | 12% | 9% | 12% |
| Sold | 28% | 27% | 26% | 16% | 15% | 7% | 6% | 27% |
| ARM | 28% | 29% | 29% | 17% | 16% | 5% | 4% | 27% |
| FRM | 28% | 26% | 25% | 16% | 15% | 11% | 10% | 27% |
| MTMLTV >= 1.25 | 33% | 27% | 28% | 20% | 20% | 18% | 16% | 27% |
| Retained | 15% | 14% | 18% | 16% | 19% | 18% | 16% | 16% |
| ARM | 11% | 8% | 12% | 14% | 19% | 19% | 17% | 15% |
| FRM | 21% | 21% | 24% | 18% | 19% | 17% | 15% | 17% |
| Sold | 38% | 34% | 34% | 22% | 21% | 11% | 9% | 36% |
| ARM | 37% | 35% | 35% | 22% | 21% | 9% | 8% | 36% |
| FRM | 38% | 34% | 33% | 22% | 21% | 16% | 15% | 37% |
| Grand Total | 30% | 25% | 26% | 18% | 18% | 16% | 14% | 25% |

**Table 6: Percent Reduction in Enterprise Losses Relative to No Modification if Forgiveness Only Modifications with 33% Servicer Contribution are Performed for All Borrowers**

| | Current | 1 to 59 Days | 60 to 89 Days | 90 to 119 Days | 120 - 179 Days | 180 to 365 Days | 365+ Days | Total |
|---|---|---|---|---|---|---|---|---|
| 115 < MTMLTV < 1.25 | 31% | 28% | 28% | 20% | 19% | 17% | 15% | 27% |
| Retained | 16% | 17% | 21% | 18% | 19% | 17% | 15% | 17% |
| ARM | 11% | 11% | 15% | 17% | 19% | 19% | 17% | 15% |
| FRM | 22% | 24% | 26% | 19% | 19% | 17% | 15% | 17% |
| Sold | 33% | 32% | 31% | 21% | 20% | 11% | 10% | 32% |
| ARM | 32% | 33% | 33% | 22% | 20% | 9% | 8% | 32% |
| FRM | 33% | 31% | 30% | 21% | 20% | 17% | 15% | 32% |
| MTMLTV >= 1.25 | 42% | 37% | 38% | 34% | 33% | 32% | 31% | 38% |
| Retained | 26% | 24% | 29% | 31% | 33% | 32% | 31% | 30% |
| ARM | 21% | 18% | 22% | 28% | 31% | 32% | 31% | 27% |
| FRM | 32% | 33% | 35% | 33% | 34% | 33% | 32% | 32% |
| Sold | 46% | 44% | 43% | 35% | 35% | 24% | 22% | 45% |
| ARM | 45% | 44% | 43% | 34% | 34% | 21% | 20% | 44% |
| FRM | 47% | 44% | 43% | 36% | 36% | 32% | 30% | 46% |
| Total | 37% | 33% | 35% | 29% | 28% | 27% | 27% | 34% |

**Table 7: Percent Reduction in Enterprise Losses Relative to No Modification if Forgiveness Only Modifications with 50% Servicer Contribution are Performed for All Borrowers**

| | Current | 1 to 59 Days | 60 to 89 Days | 90 to 119 Days | 120 - 179 Days | 180 to 365 Days | 365+ Days | Total |
|---|---|---|---|---|---|---|---|---|
| 115 < MTMLTV < 1.25 | 33% | 30% | 31% | 22% | 21% | 19% | 18% | 29% |
| Retained | 19% | 20% | 24% | 20% | 21% | 19% | 18% | 19% |
| ARM | 13% | 14% | 17% | 19% | 21% | 21% | 20% | 17% |
| FRM | 25% | 26% | 28% | 21% | 21% | 19% | 17% | 20% |
| Sold | 35% | 34% | 34% | 23% | 22% | 14% | 13% | 35% |
| ARM | 35% | 36% | 36% | 24% | 22% | 11% | 10% | 34% |
| FRM | 35% | 34% | 33% | 23% | 22% | 20% | 18% | 35% |
| MTMLTV >= 1.25 | 51% | 46% | 48% | 41% | 41% | 40% | 40% | 47% |
| Retained | 34% | 34% | 38% | 39% | 41% | 41% | 40% | 38% |
| ARM | 30% | 28% | 32% | 35% | 38% | 39% | 38% | 35% |
| FRM | 40% | 42% | 45% | 41% | 42% | 42% | 41% | 41% |
| Sold | 55% | 53% | 53% | 43% | 42% | 31% | 29% | 54% |
| ARM | 53% | 51% | 51% | 40% | 40% | 29% | 27% | 52% |
| FRM | 56% | 54% | 54% | 45% | 44% | 41% | 38% | 56% |
| Total | 43% | 40% | 42% | 35% | 34% | 34% | 34% | 40% |

**Table 8: Loss Reduction Options: Current Loans MTMLTV >= 125**

| | Enterprise Losses No Modification $ Millions | Percentage Reduction in Losses | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | Forbearance to 115 MTMLTV | | Forgiveness to 115 MTMLTV, Maintain Rate & Term | | | Forgiveness to 125 MTMLTV | |
| | | Maintain Rate & Term | 5% Rate, 480 Term | No Servicer Contribution | 33% Servicer Contribution | 50% Servicer Contribution | Maintain Rate & Term | 5% Rate, 360 Term |
| MTMLTV >= 1.25 | $24,767 | 33% | 33% | 24% | 42% | 51% | 21% | 27% |
| Retained | $5,047 | 15% | 21% | 8% | 26% | 34% | 8% | 15% |
| ARM | $2,799 | 11% | 19% | 2% | 21% | 30% | 4% | 12% |
| FRM | $2,248 | 21% | 23% | 15% | 32% | 40% | 14% | 18% |
| Sold | $19,720 | 38% | 37% | 28% | 46% | 55% | 24% | 30% |
| ARM | $6,842 | 37% | 41% | 31% | 45% | 53% | 26% | 33% |
| FRM | $12,878 | 38% | 35% | 27% | 47% | 56% | 23% | 28% |

**Table 9: Aggregate Enterprise Unpaid Principal Balance by Loan Performance, Portfolio Type & 'NPV NO MOD Price' at 06/30/2010**
**for Loans with 115 > MTMLTV < 125**
**$ in Millions**

| | | | Days Delinquent | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Portfolio | NPV/UPB | Current | 1 to 59 Days | 60 to 89 Days | 90 to 119 Days | 120 to 179 Days | 180 to 365 Days | 365+ Days | Total |
| Retained | price >= 90% | $ 660 | $ 102 | $ 75 | $ 45 | $ 187 | $ 527 | $ 1,011 | $ 2,608 |
| | 80% - price - 90% | $ 1,056 | $ 190 | $ 95 | $ 55 | $ 191 | $ 502 | $ 876 | $ 2,965 |
| | 70% - price - 80% | $ 2,523 | $ 375 | $ 282 | $ 58 | $ 168 | $ 531 | $ 981 | $ 4,917 |
| | 60% - price - 70% | $ 3,152 | $ 395 | $ 186 | $ 286 | $ 1,302 | $ 3,877 | $ 6,904 | $ 16,102 |
| | 50% - price - 60% | $ 429 | $ 58 | $ 28 | $ 93 | $ 368 | $ 991 | $ 1,496 | $ 3,463 |
| | 40% - price - 50% | $ 62 | $ 7 | $ 3 | $ 9 | $ 19 | $ 49 | $ 56 | $ 206 |
| | 30% - price - 40% | $ 14 | $ 2 | $ 1 | $ 2 | $ 4 | $ 6 | $ 5 | $ 34 |
| | 20% - price - 30% | $ 3 | $ 0 | $ - | $ 1 | $ 1 | $ 2 | $ 1 | $ 8 |
| | 10% - price - 20% | $ 0 | $ 0 | $ - | $ 0 | $ 0 | $ 0 | $ 0 | $ 1 |
| | price < 10% | $ - | $ - | $ - | $ - | $ - | $ - | $ 0 | $ 0 |
| | **Subtotal** | **$ 7,899** | **$ 1,130** | **$ 669** | **$ 549** | **$ 2,241** | **$ 6,484** | **$ 11,330** | **$ 30,303** |
| Sold | price >= 90% | $ 5,107 | $ 302 | $ 180 | $ 85 | $ 60 | $ 8 | $ 9 | $ 5,752 |
| | 80% - price - 90% | $ 5,544 | $ 289 | $ 167 | $ 87 | $ 71 | $ 6 | $ 6 | $ 6,170 |
| | 70% - price - 80% | $ 37,962 | $ 1,662 | $ 1,037 | $ 72 | $ 60 | $ 4 | $ 6 | $ 40,804 |
| | 60% - price - 70% | $ 15,151 | $ 835 | $ 434 | $ 795 | $ 633 | $ 40 | $ 51 | $ 17,939 |
| | 50% - price - 60% | $ 842 | $ 52 | $ 21 | $ 224 | $ 191 | $ 5 | $ 10 | $ 1,345 |
| | 40% - price - 50% | $ 61 | $ 4 | $ 1 | $ 10 | $ 9 | $ 0 | $ 1 | $ 87 |
| | 30% - price - 40% | $ 8 | $ 1 | $ 0 | $ 1 | $ 1 | $ 0 | $ 1 | $ 11 |
| | 20% - price - 30% | $ 0 | $ 0 | $ - | $ 0 | $ 0 | $ 0 | $ 0 | $ 1 |
| | 10% - price - 20% | $ 0 | $ - | $ - | $ - | $ - | $ - | $ - | $ 0 |
| | price < 10% | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - |
| | **Subtotal** | **$ 64,676** | **$ 3,145** | **$ 1,841** | **$ 1,274** | **$ 1,025** | **$ 64** | **$ 85** | **$ 72,109** |
| Total | | $ 72,575 | $ 4,275 | $ 2,510 | $ 1,823 | $ 3,266 | $ 6,548 | $ 11,415 | $ 102,412 |

**Table 10: Aggregate Enterprise Unpaid Principal Balance by Loan Performance, Portfolio Type & 'NPV NO MOD Price' at 06/30/2010**
**for Loans with MTMLTV >= 125**
**$ in Millions**

| | | | Days Delinquent | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Portfolio | NPV/UPB | Current | 1 to 59 Days | 60 to 89 Days | 90 to 119 Days | 120 to 179 Days | 180 to 365 Days | 365+ Days | Total |
| Retained | price >= 90% | $ 407 | $ 70 | $ 58 | $ 26 | $ 110 | $ 449 | $ 1,049 | $ 2,169 |
| | 80% - price - 90% | $ 1,852 | $ 279 | $ 184 | $ 104 | $ 460 | $ 1,562 | $ 4,468 | $ 8,909 |
| | 70% - price - 80% | $ 2,668 | $ 390 | $ 246 | $ 152 | $ 578 | $ 1,814 | $ 4,197 | $ 10,046 |
| | 60% - price - 70% | $ 5,997 | $ 801 | $ 477 | $ 212 | $ 1,039 | $ 3,667 | $ 7,444 | $ 19,637 |
| | 50% - price - 60% | $ 3,667 | $ 468 | $ 218 | $ 361 | $ 1,296 | $ 4,073 | $ 9,353 | $ 19,435 |
| | 40% - price - 50% | $ 576 | $ 71 | $ 34 | $ 86 | $ 236 | $ 629 | $ 870 | $ 2,502 |
| | 30% - price - 40% | $ 36 | $ 5 | $ 2 | $ 6 | $ 16 | $ 44 | $ 55 | $ 165 |
| | 20% - price - 30% | $ 4 | $ 1 | $ 1 | $ 1 | $ 1 | $ 4 | $ 2 | $ 13 |
| | 10% - price - 20% | $ 0 | $ 0 | $ 0 | $ 0 | $ 0 | $ 0 | $ 0 | $ 1 |
| | price < 10% | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - |
| | **Subtotal** | **$ 15,206** | **$ 2,086** | **$ 1,220** | **$ 948** | **$ 3,738** | **$ 12,242** | **$ 27,438** | **$ 62,878** |
| Sold | price >= 90% | $ 3,889 | $ 253 | $ 180 | $ 49 | $ 40 | $ 5 | $ 6 | $ 4,421 |
| | 80% - price - 90% | $ 11,962 | $ 755 | $ 449 | $ 222 | $ 181 | $ 9 | $ 18 | $ 13,596 |
| | 70% - price - 80% | $ 19,788 | $ 1,058 | $ 700 | $ 311 | $ 251 | $ 12 | $ 24 | $ 22,144 |
| | 60% - price - 70% | $ 29,204 | $ 1,637 | $ 1,028 | $ 537 | $ 498 | $ 30 | $ 54 | $ 32,988 |
| | 50% - price - 60% | $ 5,354 | $ 364 | $ 219 | $ 756 | $ 591 | $ 39 | $ 75 | $ 7,397 |
| | 40% - price - 50% | $ 342 | $ 20 | $ 14 | $ 118 | $ 99 | $ 5 | $ 8 | $ 607 |
| | 30% - price - 40% | $ 14 | $ 1 | $ 1 | $ 7 | $ 7 | $ 1 | $ 1 | $ 31 |
| | 20% - price - 30% | $ 0 | $ 0 | $ 0 | $ 0 | $ 0 | $ 0 | $ 0 | $ 2 |
| | 10% - price - 20% | $ 0 | $ - | $ - | $ 0 | $ 0 | $ - | $ - | $ 0 |
| | price < 10% | $ 0 | $ - | $ - | $ - | $ - | $ - | $ - | $ 0 |
| | **Subtotal** | **$ 70,554** | **$ 4,088** | **$ 2,592** | **$ 2,000** | **$ 1,667** | **$ 100** | **$ 186** | **$ 81,187** |
| Total | | $ 85,760 | $ 6,174 | $ 3,812 | $ 2,948 | $ 5,404 | $ 12,342 | $ 27,624 | $ 144,065 |

Table 11: Aggregate Enterprise Loan Counts by Loan Performance, Portfolio Type & 'NPV No Mod Price' at 06/30/2010
for Loans with 115 > MTMLTV < 125
$ in Millions

| | | | Days Delinquent | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Portfolio | NPV/UPB | Current | 1 to 59 Days | 60 to 89 Days | 90 to 119 Days | 120 to 179 Days | 180 to 365 Days | 365+ Days | Total |
| Retained | price >= 90% | 2,695 | 430 | 306 | 178 | 727 | 2,013 | 3,735 | 10,084 |
| | 80% - price - 90% | 4,569 | 845 | 440 | 250 | 826 | 2,227 | 3,792 | 12,949 |
| | 70% - price - 80% | 10,292 | 1,621 | 1,174 | 269 | 790 | 2,402 | 4,128 | 20,676 |
| | 60% - price - 70% | 13,192 | 1,794 | 870 | 1,115 | 4,944 | 14,722 | 26,325 | 62,962 |
| | 50% - price - 60% | 2,785 | 417 | 210 | 494 | 1,931 | 5,470 | 8,430 | 19,737 |
| | 40% - price - 50% | 775 | 85 | 42 | 86 | 198 | 524 | 638 | 2,348 |
| | 30% - price - 40% | 215 | 32 | 18 | 24 | 46 | 70 | 60 | 465 |
| | 20% - price - 30% | 57 | 8 | - | 10 | 19 | 25 | 17 | 136 |
| | 10% - price - 20% | 2 | 1 | - | 2 | 1 | 4 | 3 | 13 |
| | price < 10% | - | - | - | - | - | - | 1 | 1 |
| | Subtotal | 34,582 | 5,233 | 3,060 | 2,428 | 9,482 | 27,457 | 47,129 | 129,371 |
| Sold | price >= 90% | 23,407 | 1,329 | 758 | 341 | 246 | 46 | 47 | 26,174 |
| | 80% - price - 90% | 28,753 | 1,456 | 789 | 402 | 328 | 28 | 33 | 31,789 |
| | 70% - price - 80% | 161,599 | 6,915 | 4,129 | 348 | 291 | 21 | 25 | 173,328 |
| | 60% - price - 70% | 80,745 | 4,245 | 2,133 | 3,011 | 2,438 | 149 | 188 | 92,909 |
| | 50% - price - 60% | 7,462 | 477 | 193 | 1,190 | 997 | 29 | 57 | 10,405 |
| | 40% - price - 50% | 803 | 51 | 17 | 120 | 113 | 5 | 11 | 1,120 |
| | 30% - price - 40% | 148 | 13 | 2 | 10 | 6 | 2 | 6 | 187 |
| | 20% - price - 30% | 6 | 2 | - | 6 | 4 | 2 | 2 | 22 |
| | 10% - price - 20% | - | - | - | - | - | - | - | - |
| | price < 10% | - | 0 | 0 | 0 | 0 | 0 | 0 | - |
| | Subtotal | 302,923 | 14,488 | 8,021 | 5,428 | 4,423 | 282 | 369 | 335,934 |
| Total | | 337,505 | 19,721 | 11,081 | 7,856 | 13,905 | 27,739 | 47,498 | 465,305 |

Table 12: Aggregate Enterprise Loan Counts by Loan Performance, Portfolio Type & 'NPV No Mod Price' at 06/30/2010
for Loans with MTMLTV >= 125
$ in Millions

| | | | Days Delinquent | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Portfolio | NPV/UPB | Current | 1 to 59 Days | 60 to 89 Days | 90 to 119 Days | 120 to 179 Days | 180 to 365 Days | 365+ Days | Total |
| Retained | price >= 90% | 1,547 | 276 | 227 | 102 | 409 | 1,695 | 3,799 | 8,055 |
| | 80% - price - 90% | 7,289 | 1,122 | 752 | 409 | 1,880 | 6,458 | 18,154 | 36,064 |
| | 70% - price - 80% | 11,301 | 1,714 | 1,058 | 659 | 2,640 | 8,462 | 19,356 | 45,190 |
| | 60% - price - 70% | 22,900 | 3,141 | 1,874 | 889 | 4,214 | 14,586 | 28,985 | 76,589 |
| | 50% - price - 60% | 15,311 | 2,005 | 963 | 1,435 | 5,328 | 17,346 | 40,344 | 82,732 |
| | 40% - price - 50% | 3,269 | 382 | 187 | 393 | 1,244 | 3,561 | 5,168 | 14,204 |
| | 30% - price - 40% | 355 | 57 | 25 | 51 | 133 | 346 | 455 | 1,422 |
| | 20% - price - 30% | 46 | 12 | 8 | 10 | 19 | 31 | 21 | 147 |
| | 10% - price - 20% | 4 | 1 | 1 | 6 | 1 | 2 | 1 | 16 |
| | price < 10% | - | - | - | - | - | - | - | - |
| | Subtotal | 62,022 | 8,710 | 5,095 | 3,954 | 15,868 | 52,487 | 116,283 | 264,419 |
| Sold | price >= 90% | 16,894 | 1,071 | 738 | 192 | 160 | 23 | 32 | 19,110 |
| | 80% - price - 90% | 57,870 | 3,490 | 2,058 | 928 | 752 | 41 | 78 | 65,217 |
| | 70% - price - 80% | 92,004 | 4,902 | 3,052 | 1,490 | 1,190 | 61 | 109 | 102,808 |
| | 60% - price - 70% | 130,622 | 7,137 | 4,356 | 2,243 | 2,055 | 111 | 194 | 146,718 |
| | 50% - price - 60% | 29,106 | 1,857 | 1,090 | 3,166 | 2,531 | 156 | 292 | 38,198 |
| | 40% - price - 50% | 2,732 | 157 | 112 | 649 | 548 | 32 | 44 | 4,274 |
| | 30% - price - 40% | 180 | 16 | 7 | 61 | 51 | 6 | 6 | 327 |
| | 20% - price - 30% | 9 | 1 | 2 | 7 | 3 | 3 | 3 | 28 |
| | 10% - price - 20% | 1 | - | - | 1 | 1 | - | - | 3 |
| | price < 10% | 1 | - | - | - | - | - | - | 1 |
| | Subtotal | 329,419 | 18,631 | 11,415 | 8,737 | 7,291 | 433 | 758 | 376,684 |
| Total | | 391,441 | 27,341 | 16,510 | 12,691 | 23,159 | 52,920 | 117,041 | 641,103 |

*Analysis Provided to Acting Director DeMarco in December 2011*

The attached tables are a follow-up to the forbearance versus forgiveness modification analyses we delivered in December 2010 and June 2011. This update includes data as of June 30, 2011 and uses version 4.03 of the HAMP NPV Model.

**Table Descriptions:**

**Table 1:** Distribution of unpaid principal balance (UPB) of high LTV loans (> 115 mark-to-market loan-to-value (MTMLTV) by portfolio type, product and delinquency status.

**Table 2:** Analogous to Table 1, except in terms of loan count instead of UPB.

Highlights over the Year:

a) High LTV loan counts increased by 27% over the year; UPB of high LTV loans increased by 23%.

b) More than 73% of the high LTV UPB is current. A year ago, roughly 60% of the high LTV UPB was current.

c) Two delinquency categories, current and 1-59 days delinquent, showed dramatic increases in high LTV loans of 41% and 17%, respectively, in terms of UPB.

d) The more severely delinquent categories all showed drops in high LTV Enterprise portfolio representation over the year ranging from -3% to -34%.

e) Changes in the number of loans and UPB between 115 and 125 MTMLTV were negligible over the year while dramatic increases in the UPB of loans in the >= 125 MTMLTV category are observed. Increases ranged from 70% (current) to 34%, 13% and 1% for each of the next 3 delinquency categories. Again, more severely delinquent loans showed decreases over the year.

f) The percentage of securitized UPB is unchanged at 62%.

**Table 3:** Comparative analysis of losses to the Enterprises under two modification scenarios:

1. Principal forbearance to 115 MTMLTV.
2. Principal forgiveness to 115 MTMLTV.

The results for Scenarios 1 and 2 (Forbearance and Forgiveness) are similar to what we presented in December 2010. Our conclusion was that while forbearance shows a slightly lower loss than forgiveness, the difference is negligible given the model risk. One item of note in these results:

- The two rows in the middle of the table show the results of giving the modification to: a) all borrowers regardless of whether or not they are NPV positive and b) only borrowers who are NPV positive. The difference in results between these two populations is negligible, suggesting that virtually all borrowers > 115 MTMLTV would benefit from forbearance or forgiveness to 115 MTMLTV. Therefore, if a) was implemented NPV tests and their associated costs/timelines may not be required.

Highlights over the Year:

a) The costs of not modifying Fannie Mae's $192.2B and Freddie Mac's $111.2B of > 115 MTMLTV loans are estimated to be $63.5B and $38.4B, respectively (this may be stated as loss severity of 33% and 35%, respectively). Last year, the loss severities associated with not modifying were 29% and 30%, respectively, for FNM and FHLM.

b) The loss severities associated with modifying with forbearance or with forgiveness are similar, at 26% and 27%, respectively. Last year, those figures were 22% (forbearance) and 23% (forgiveness).

**Table 4:** Percentage reduction in Enterprise losses of Scenario 1 (Forbearance) relative to the losses associated with not modifying the loans, by portfolio type, product and delinquency status. Overall, losses are reduced by 24%.

**Table 5:** Percentage reduction in Enterprise losses of Scenario 2 (Forgiveness) relative to the losses associated with not modifying the loans, by portfolio type, product and delinquency status. Overall, losses are reduced by 20%.

Highlights over the Year:

a) Consistent with last year's findings, securitized loans that are fewer than 90 days delinquent and > 125 MTMLTV have the greatest reduction in losses relative to no modification.

b) The reduction in losses for securitized loans fewer than 90 days delinquent and > 125 MTMLTV is in the 31% - 35% range for forbearance and in the 24 – 28% range for forgiveness. Last year, the reduction in losses vis-à-vis not modifying was in the 33 – 38% range (forbearance) and in the 21 – 27% range (forgiveness) for these loans.

Tables 4 and 5 are on the same page to facilitate a comparison between the percentage reduction in Enterprise losses from forbearance and forgiveness vis-à-vis not modifying the loans. Scenarios 1 and 2 on Table 3 showed that Enterprise losses were slightly lower with forbearance than with forgiveness. Therefore, the smaller loss from forbearance results in a larger percentage reduction in losses relative to not modifying the loans.

**Assumptions/Caveats:**

1. Treasury's NPV Model v4.03 was used to calculate the loan net present values for this analysis. *The Treasury model was developed to support the President's Home Affordable Modification Program and there could be significant model error in using this model for this analysis.*
2. A major driver of the results is the sensitivity of the default equations to the change in MTMLTV given forgiveness. Due to a paucity of historical performance data on modifications (and very high LTV loans), the default equations in the NPV model rely heavily on the expert judgment of FHLM, FNM, FDIC, Treasury and FHFA staff.
3. Data Sources: RBC/QRM loan-level data 6/30/2011. Delinquency, DTI and credit score data are from the HLP data.
4. Current credit scores and DTI ratios are not available. The values at origination were used instead. Missing credit scores were defaulted to 580.
5. HOA fees, insurance and escrow advances were all defaulted to zero. Real estate taxes were set to .002 x property value.
6. The FHFA monthly state-level, purchase-only HPI was used to calculate the MTMLTV. If HPI is missing, typically due to PR, GU and VI or missing state in Geographic table of HLP data, the loans were deleted from the analysis.
7. Only loans with MTMLTV > 115 were used in the analysis.
8. Per Treasury's NPV Model, a discount rate of 4.51% (Freddie Mac PMMS on 6/30/2011) was used in this analysis.

**Table 1: Aggregate Enterprise Unpaid Principal Balance of High LTV Loans at 6/30/2011**
**by Portfolio Type, Product and Delinquency Status**
**$ in Millions**

| | | Days Delinquent | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Current | 1 to 59 Days | 60 to 89 Days | 90 to 119 Days | 120 - 179 Days | 180 to 365 Days | More than 1 Year | Total |
| 115 < MTMLTV < 125 | $76,813 | $3,939 | $1,848 | $1,123 | $1,775 | $3,249 | $8,689 | $97,437 |
| Retained | $13,264 | $1,619 | $778 | $441 | $1,203 | $3,236 | $8,658 | $29,199 |
| ARM | $7,286 | $809 | $388 | $191 | $381 | $907 | $1,963 | $11,925 |
| FRM | $5,977 | $810 | $390 | $250 | $822 | $2,329 | $6,696 | $17,274 |
| Sold | $63,549 | $2,320 | $1,070 | $682 | $573 | $13 | $31 | $68,238 |
| ARM | $8,706 | $349 | $188 | $126 | $100 | $0 | $3 | $9,473 |
| FRM | $54,843 | $1,971 | $882 | $556 | $473 | $12 | $27 | $58,765 |
| MTMLTV >= 125 | $145,850 | $8,257 | $4,304 | $2,982 | $4,884 | $9,259 | $30,451 | $205,987 |
| Retained | $35,385 | $3,735 | $1,879 | $1,145 | $3,311 | $9,246 | $30,419 | $85,119 |
| ARM | $20,773 | $2,066 | $984 | $573 | $1,357 | $3,383 | $9,581 | $38,717 |
| FRM | $14,612 | $1,668 | $895 | $571 | $1,954 | $5,863 | $20,838 | $46,402 |
| Sold | $110,465 | $4,523 | $2,425 | $1,837 | $1,573 | $13 | $32 | $120,868 |
| ARM | $25,509 | $1,076 | $640 | $522 | $434 | $2 | $8 | $28,192 |
| FRM | $84,955 | $3,447 | $1,785 | $1,316 | $1,139 | $11 | $24 | $92,676 |
| Total | $222,663 | $12,197 | $6,152 | $4,105 | $6,659 | $12,508 | $39,140 | $303,424 |

**Table 2: Aggregate Enterprise Counts of High LTV Loans at 6/30/2011**
**by Portfolio Type, Product and Delinquency Status**

| | | Days Delinquent | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Current | 1 to 59 Days | 60 to 89 Days | 90 to 119 Days | 120 - 179 Days | 180 to 365 Days | More than 1 Year | Total |
| 115 < MTMLTV < 125 | 375,607 | 19,680 | 8,907 | 5,312 | 8,307 | 15,285 | 40,419 | 473,517 |
| Retained | 58,737 | 7,808 | 3,782 | 2,090 | 5,585 | 15,214 | 40,246 | 133,462 |
| ARM | 30,554 | 3,678 | 1,768 | 883 | 1,632 | 3,749 | 7,990 | 50,254 |
| FRM | 28,183 | 4,130 | 2,014 | 1,207 | 3,953 | 11,465 | 32,256 | 83,208 |
| Sold | 316,870 | 11,872 | 5,125 | 3,222 | 2,722 | 71 | 173 | 340,055 |
| ARM | 36,921 | 1,366 | 692 | 479 | 391 | 2 | 14 | 39,865 |
| FRM | 279,949 | 10,506 | 4,433 | 2,743 | 2,331 | 69 | 159 | 300,190 |
| MTMLTV >= 125 | 666,348 | 37,207 | 18,896 | 12,812 | 21,068 | 40,675 | 135,830 | 932,836 |
| Retained | 143,161 | 15,872 | 7,955 | 4,780 | 14,100 | 40,609 | 135,666 | 362,143 |
| ARM | 81,486 | 8,409 | 3,991 | 2,282 | 5,311 | 13,383 | 39,445 | 154,307 |
| FRM | 61,675 | 7,463 | 3,964 | 2,498 | 8,789 | 27,226 | 96,221 | 207,836 |
| Sold | 523,187 | 21,335 | 10,941 | 8,032 | 6,968 | 66 | 164 | 570,693 |
| ARM | 104,798 | 4,212 | 2,455 | 1,976 | 1,673 | 8 | 36 | 115,158 |
| FRM | 418,389 | 17,123 | 8,486 | 6,056 | 5,295 | 58 | 128 | 455,535 |
| Total | 1,041,955 | 56,887 | 27,803 | 18,124 | 29,375 | 55,960 | 176,249 | 1,406,353 |

**Table 3: Forbearance v. Forgiveness**
**All Loans > 115 MTMLTV at 6/30/2011**
**$ in Millions**

| | Forbearance | | Forgiveness | |
|---|---|---|---|---|
| | Fannie Mae | Freddie Mac | Fannie Mae | Freddie Mac |
| Number of Loans | 891,725 | 514,628 | 891,725 | 514,628 |
| Outstanding Balance | $192,216 | $111,207 | $192,216 | $111,207 |
| | | | | |
| Principal Forgiveness/Forbearance Amount | $27,208 | $14,816 | $27,208 | $14,816 |
| | | | | |
| Loss if all borrowers get a Modification regardless of whether or not they are NPV Positive (Mod) | $49,103 | $28,698 | $51,808 | $29,971 |
| | | | | |
| Loss if only borrowers who are NPV Positive get a Modification (PosMod) | $46,081 | $27,799 | $45,547 | $27,965 |
| | | | | |
| Loss if nothing is done (borrowers do not get principal forgiveness/forbearance), NoMod | $63,458 | $38,367 | $63,458 | $38,367 |

NOTE: All loans are given forebearance/forgiveness down to 115 MTMLTV. The rate and term for fixed rate loans are not modified, ARMs are modified into fixed rate loans

Table 4: Percent Reduction in Enterprise Losses Relative to No Modification
If Forbearance Only Modifications are Performed for All Borrowers
Data as of 6/30/2011

| | | Days Delinquent | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Current | 1 to 59 Days | 60 to 89 Days | 90 to 119 Days | 120 - 179 Days | 180 to 365 Days | More than 1 Year | Total |
| 115 < MTMLTV < 125 | 22% | 18% | 18% | 12% | 11% | 7% | 2% | 19% |
| Retained | 13% | 13% | 12% | 9% | 10% | 7% | 2% | 9% |
| ARM | 6% | 6% | 6% | 6% | 7% | 5% | 4% | 6% |
| FRM | 20% | 20% | 19% | 12% | 12% | 8% | 1% | 11% |
| Sold | 24% | 23% | 22% | 13% | 12% | 8% | 4% | 24% |
| ARM | 22% | 23% | 25% | 13% | 12% | 0% | 9% | 22% |
| FRM | 25% | 23% | 22% | 13% | 12% | 8% | 3% | 24% |
| MTMLTV >= 125 | 30% | 24% | 25% | 18% | 17% | 15% | 12% | 25% |
| Retained | 18% | 17% | 17% | 13% | 16% | 15% | 12% | 15% |
| ARM | 14% | 12% | 12% | 10% | 13% | 13% | 13% | 13% |
| FRM | 24% | 23% | 23% | 16% | 18% | 16% | 12% | 17% |
| Sold | 34% | 31% | 31% | 21% | 20% | 16% | 13% | 33% |
| ARM | 31% | 31% | 31% | 20% | 20% | 18% | 13% | 31% |
| FRM | 35% | 31% | 31% | 21% | 20% | 15% | 13% | 34% |
| Total | 28% | 23% | 23% | 16% | 16% | 13% | 10% | 24% |

Table 5: Percent Reduction in Enterprise Losses Relative to No Modification
If Forgiveness Only Modifications are Performed for All Borrowers
Data as of 6/30/2011

| | | Days Delinquent | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Current | 1 to 59 Days | 60 to 89 Days | 90 to 119 Days | 120 - 179 Days | 180 to 365 Days | More than 1 Year | Total |
| 115 < MTMLTV < 125 | 22% | 18% | 18% | 12% | 12% | 8% | 3% | 19% |
| Retained | 12% | 13% | 12% | 10% | 11% | 8% | 3% | 9% |
| ARM | 5% | 6% | 5% | 6% | 7% | 6% | 5% | 5% |
| FRM | 20% | 20% | 19% | 13% | 12% | 9% | 2% | 11% |
| Sold | 24% | 23% | 23% | 14% | 13% | 9% | 4% | 24% |
| ARM | 21% | 23% | 24% | 14% | 13% | -1% | 9% | 21% |
| FRM | 24% | 23% | 22% | 14% | 13% | 9% | 4% | 24% |
| MTMLTV >= 125 | 23% | 18% | 18% | 17% | 16% | 14% | 12% | 20% |
| Retained | 11% | 11% | 10% | 11% | 15% | 14% | 12% | 12% |
| ARM | 6% | 5% | 4% | 8% | 11% | 11% | 13% | 8% |
| FRM | 19% | 18% | 17% | 15% | 17% | 15% | 11% | 15% |
| Sold | 27% | 25% | 24% | 20% | 20% | 15% | 10% | 27% |
| ARM | 25% | 25% | 26% | 20% | 20% | 17% | 10% | 25% |
| FRM | 28% | 25% | 24% | 20% | 20% | 14% | 9% | 28% |
| Total | 23% | 18% | 18% | 16% | 15% | 13% | 10% | 20% |