MORTGAGE INSURANCE COMPANIES OF AMERICA

MORTGAGE INSURANCE LOAN PERFORMANCE ANALYSIS
AS OF MARCH 31, 2011

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TABLE OF CONTENTS

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INTRODUCTION AND BACKGROUND

The Office of the Comptroller of the Currency, Treasury, the Board of Governors of the Federal Reserve System, the Federal Deposit Insurance Corporation, the U.S. Securities and Exchange Commission, the Federal Housing Finance Agency, and the Department of Housing and Urban Development (the Agencies) are proposing rules to implement the credit risk retention requirements of section 15G of the Securities Exchange Act of 1934 (15. U.S.C. § 78o-11), as added by section 941 of the Dodd-Frank Wall Street Reform and Consumer Protection Act. Section 15G generally requires the securitizer of asset-backed securities to retain not less than five percent of the credit risk of the assets collateralizing the asset-backed securities. Section 15G includes a variety of exemptions from these requirements, including an exemption for asset-backed securities that are collateralized exclusively by residential mortgages that meet the definition of a "qualified residential mortgage" (QRM) as such term is defined by the Agencies. Section 15G directs the Agencies to define jointly what constitutes a QRM, taking into consideration underwriting and product features that historical loan performance data indicate result in a lower risk of default. In March 2011 the Agencies issued a report outlining the proposed definition of a QRM; the report provided a number of questions on the proposed definition of a QRM for which the agencies are seeking comments.

As required by section 15G, the Agencies considered information regarding the credit risk mitigation effects of mortgage guarantee insurance or other credit enhancements obtained at the time of origination. According to the QRM proposal, "the Agencies considered a variety of information and reports related to such guarantees and other credit enhancements. While this insurance protects creditors from losses when borrowers default, the Agencies have not identified studies or historical loan performance data adequately demonstrating that mortgages with such credit enhancements are less likely to default than other mortgages after adequately controlling for loan underwriting or other factors known to influence

credit performance, especially considering the important role of LTV ratios in predicting default. Therefore, the Agencies are not proposing to include any criteria regarding mortgage guarantee insurance…"

Further in the proposal, "The Agencies seek comment on whether mortgage guarantee insurance or other types of insurance or credit enhancement obtained at the time of origination would or would not reduce the risk of default of a residential mortgage that meets the proposed QRM criteria but for a higher adjusted LTV ratio." This report intends to address the issue of whether or not mortgage guarantee insurance at loan origination has an influence on borrower default rates. This report investigates performance differences between loans with and without mortgage insurance at loan origination.

SCOPE OF ANALYSIS

Mortgage Insurance Companies of America (MICA) engaged Milliman to analyze performance differences in insured mortgage loans versus uninsured mortgage loans. Specifically, Milliman has been asked to use statistical methods to investigate the hypothesis that insured loans and uninsured loans perform differently when controlling for other influential variables. The purpose of this study is to assess whether loans with mortgage insurance at origination have a lower incidence of default than uninsured loans. To do this, Milliman analyzed loan-level data from Corelogic's LoanPerformance Loan Level Servicing Database with logistic regressions of default performance and compared the modeled coefficients of insured and uninsured loans. Milliman analyzed five different loan populations to investigate the qualitative and quantitative robustness of the model indications. The loan populations vary by insurance type, underwriting characteristics, and original investor. This allowed Milliman to investigate performance differences between insured and uninsured loans and to specifically probe a question posed by MICA with regard to performance differences in loans that meet the proposed QRM definition but for higher combined loan-to-value (CLTV) ratios.

This report presents the results of our analysis.

EXECUTIVE SUMMARY

The purpose of this study is to assess whether loans that are similar in every aspect except for the presence of mortgage insurance at origination have a lower incidence of default than uninsured loans for loans that meet the proposed QRM definition but for higher combined LTV. Milliman invoked a multivariate modeling approach to control for characteristics besides insurance presence and investigate performance differences between groups of loans with and without mortgage insurance. Milliman's results generally indicate loans with mortgage insurance at origination have historically been associated with a lower rate of default when compared to similar loans without mortgage insurance, after controlling for influential underwriting characteristics and economic trends.

Milliman utilized CoreLogic's LoanPerformance Loan Level Servicing Database (Corelogic Data) for this analysis. The Corelogic Data contains loan-level underwriting characteristics and monthly performance history for prime mortgage loans, as determined by Corelogic, beginning with performance data in 1998. Milliman filtered the data as described in the data section of this report to produce a robust dataset of performance history for each loan; Milliman applied additional loan level filters to the data to produce a final clean dataset useful for comparing the relative default performance of insured loans against uninsured loans. Using the filtered dataset, Milliman performed various regressions[1] to develop a statistical comparison of the relative default incidence for uninsured loans versus insured loans that controls for both underwriting characteristics and economic conditions.

Milliman analyzed five different loan populations to investigate the qualitative and quantitative robustness of the model indications. A description of the five different loan populations is provided in Table 1:

[1] All of the regressions discussed in this study are logistic regressions

Table 1 Loan Population Summary					
Population	**Description**	**Excludes FHA Loans[2]**	**Excludes GT95 CLTV[3]**	**Meets proposed QRM definition (except for LTV and DTI limits)[4]**	**Excludes GSE Investor Loans[5]**
1	All loans in the data after applying the data filers described in the data section of this report	No	No	No	No
2	All loans excluding FHA and GT95 CLTV	Yes	Yes	No	No
3	QRM loans excluding FHA and GT95 CLTV	Yes	Yes	Yes	No
4	All loans excluding FHA, GT95 CLTV, and GSE	Yes	Yes	No	Yes
5	QRM loans excluding FHA, GT95 CLTV, and GSE	Yes	Yes	Yes	Yes

Table 2 below provides the loan count for each population for both terminated and active loans and terminated loans only. Terminated loans are loans that have paid off either through early repayment, foreclosure, repossession, or by any other means; active loans are loans that have not terminated.

Table 2 Loan Count Summary by Population		
Population	**Terminated and Active Loans**	**Terminated Loans Only**
Population 1 – All loans in the data	6,045,900	3,365,360
Population 2 – All loans excluding FHA and GT95 CLTV	4,380,969	2,495,367
Population 3 – QRM loans excluding FHA and GT95 CLTV	1,110,159	618,357
Population 4 – All loans excluding FHA, GT95 CLTV, and GSE	1,500,352	998,173
Population 5 – QRM loans excluding FHA, GT95 CLTV, and GSE	285,739	207,974

Population (1) allows investigation into performance differences between insured and uninsured loans in the entire loan population. That is, Population (1) does not filter for QRM requirements and uses all available data.

Population (2) removes from Population (1) FHA loans and loans with an initial CLTV greater than 95%. Loans insured by the Federal Housing Administration (FHA Loans) are considered insured loans for this

[2] An "FHA Loan" is any loan insured by the Federal Housing Administration or any loan purchased by Ginnie Mae
[3] "GT95 CLTV" corresponds to any loan where the initial combined loan-to-value ratio on the loan is greater than 95%
[4] "DTI" = Debt-to-income ratio
[5] "GSE Investor Loans" correspond to any loan purchased by either Freddie Mac or Fannie Mae

study, however, this insurance is provided by the government. A purpose of our study is to determine performance differences between privately insured and uninsured loans. Since a majority of FHA Loans are concentrated in the GT95 CLTV bucket, the remaining GT95 CLTV bucket is also removed from the population.

Population (3) removes from Population (2) loans that do not meet the proposed QRM criteria. Models based on Population (3) can be used to investigate performance differences between insured and uninsured loans that otherwise meet the proposed QRM criteria, excluding loans insured by the FHA and loans with an initial CLTV greater than 95%.

Population (4) removes from Population (2) loans purchased by the GSE's. During the period in which the studied loans were originated, in many instances the private mortgage insurance companies delegated approval authority to the GSE's and their automated underwriting systems. It is difficult to distinguish the impact of these underwriting systems from that of private mortgage insurance on those loans. Therefore, Milliman removed loans purchased by the GSEs within 3 months of origination from this loan population to investigate the impact the GSE purchased loans may have on results as compared to Population (2).

Population (5) removes from Population (4) loans that do not meet the proposed QRM criteria. Models based on Population (5) can be used to investigate performance differences between insured and uninsured loans for loans meeting the proposed QRM criteria but for higher CLTV when private mortgage insurers were allowed to independently underwrite (i.e. without following the automated underwriting systems of the GSEs) and provide loss mitigation.

To investigate performance differences (i.e. differences in default rates) between insured and uninsured loans Milliman first compared the actual default rates on loans with mortgage insurance to loans without mortgage insurance. This comparison suggested that loans with mortgage insurance have historically

had lower default rates than loans without mortgage insurance for similar loan cohorts. Default rates for each cohort are provided in the Tables 3 through 7 starting on page 9.

Quantitative analysis was performed separately on each of the 5 loan populations to explore the robustness of insured vs. uninsured loan performance results and to test important hypotheses regarding the observable impact of mortgage insurance on loan performance. For each loan population Milliman assigned each loan to one of four distinct sub-populations depending upon the home price appreciation (HPA) range from loan origination through the end of the evaluation period generating four separate models for each of the five loan populations.

To segment each population into insured and uninsured cohorts, Milliman created a combined explanatory variable in the regression using the original CLTV of each loan and an insurance indicator. For example, Milliman assigned each loan with a CLTV between 90 and 95 to one of two cohorts: "95 Insured" or "95 Uninsured". This allowed Milliman to directly compare groups of insured and uninsured loans by CLTV cohort by comparing the parameter estimates of the regression. If the parameter estimate for an insured loan is smaller than the parameter estimate for an uninsured loan for the same CLTV cohort, then the model indicates loans with mortgage insurance have a lower default incidence than uninsured loans for that cohort of loans all else equal. As a result of the regression model form Milliman used, the test statistic to quantify the difference between the uninsured and insured model parameters can be equivalently expressed as an arithmetic difference in the parameters or as a ratio of the exponentiated parameters (Odds). Milliman refers to the ratio of the exponentiated parameter estimates (Odds) for uninsured loans relative to insured loans as the Odds Relativity.[6] The Odds Relativity then measures the relative default incidence of uninsured loans relative to insured loans. For example, an Odds Relativity of 1.5 would indicate the odds of an uninsured loan defaulting is 1.5 times that of an insured loan, all else equal. Milliman applied statistical tests to determine if observed performance

[6] In this analysis, the Odds Relativity is a comparison of the parameter estimates of the uninsured parameter estimate relative to the insured parameter estimate for the same CLTV category. Mathematically, as Milliman used a logistic regression to calibrate the models described in this report, the Odds Relativity is equal to $e^{(\text{uninsured parameter estimate})}/e^{(\text{insured parameter estimate})}$. Odds in favor of an event are the probability of the event divided by the probability of the event complement, or p/(1-p).

differences between uninsured and insured loans are statistically significant at conventionally accepted levels.

For each population and each HPA range, Milliman performed the analysis twice. Once for loans terminated at the end of the evaluation period and once for loans that were either active or terminated as of the evaluation period (all loans). The evaluation period used for all analysis in this study is 20 quarters. A 20 quarter evaluation period implies that each loan is potentially observable for 20 quarters (through 5 years of loan age). Performance after 20 quarters is ignored and acts to provide a uniform maximum default exposure time for all loans in the study. Loans without at least 20 quarters of development time were excluded from the analysis; therefore, the study includes loan originated between the years 2002 Q1 and 2006 Q1 as loans originated after 2006 Q1 do not have 20 quarters of development as of March 31, 2011. The tables below provide the results of Milliman's analysis for each loan population using the default definition of default and did not cure (Default_NC) as described in the text of this report.

Each table provides four statistics for each loan population and HPA range. The first statistic shown in the tables is the observed default rate on insured loans (Insured Default Rate) calculated as the number of defaults in the data divided by the number of loans for insured loans only. The second statistic shown is the observed default rate for uninsured loans (Uninsured Default Rate) calculated as the number of defaults in the data divided by the number of loans for uninsured loans only. The third statistic is the ratio of the uninsured default rate to the insured default rate; if this ratio is larger than 1, then based on historical default rates, insured loans default less frequently than uninsured loans. Finally, the fourth statistic in each table is the Odds Relativity (which measures the relative default incidence of uninsured loans relative to insured loans in a statistical framework as described above) and the associated statistical significance.

1) All loans:

Table 3 Population 1 : All Loans Origination Years 2002-2006 Modeled Default Rate: Default_NC						
	Terminated and Active Loans			Terminated Loans Only		
	CLTV 90	CLTV 95	CLTV > 95	CLTV 90	CLTV 95	CLTV > 95
HPA Range	**Insured Default Rate**			**Insured Default Rate**		
HPA<=-20%	29.0%	30.8%	27.1%	30.4%	33.5%	30.3%
-20%<HPA<=0%	11.9%	12.1%	14.4%	10.9%	10.9%	16.7%
0%<HPA<=20%	5.7%	5.9%	9.5%	5.8%	6.1%	11.7%
20%<HPA	2.7%	3.3%	6.2%	2.7%	3.4%	6.7%
HPA Range	**Uninsured Default Rate**			**Uninsured Default Rate**		
HPA<=-20%	45.0%	43.5%	53.1%	53.8%	59.5%	68.2%
-20%<HPA<=0%	19.2%	16.8%	27.9%	19.7%	18.4%	30.9%
0%<HPA<=20%	7.8%	7.1%	18.5%	8.6%	8.0%	18.8%
20%<HPA	3.0%	3.3%	13.8%	3.8%	3.9%	15.5%
HPA Range	**Ratio of Uninsured to Insured Default Rate**			**Ratio of Uninsured to Insured Default Rate**		
HPA<=-20%	1.55	1.41	1.96	1.77	1.77	2.25
-20%<HPA<=0%	1.61	1.38	1.94	1.80	1.69	1.86
0%<HPA<=20%	1.37	1.20	1.95	1.48	1.33	1.61
20%<HPA	1.13	1.01	2.24	1.41	1.13	2.30
HPA Range	**Modeled Odds Relativity***			**Modeled Odds Relativity***		
HPA<=-20%	1.20	1.25	1.84	1.94	1.81	2.18
-20%<HPA<=0%	1.33	1.36	2.22	1.53	1.37	1.70
0%<HPA<=20%	1.41	1.49	2.47	1.45	1.40	1.97
20%<HPA	1.43	1.33	2.28	1.60	1.31	2.38

*Each result significant at the 0.001 level

For all of the cohorts in Table 3 (and for the remaining tables that follow) the empirical default rate is consistent with the expectation that negative HPA environments are associated with higher default rates and positive HPA environments are associated with lower default rates. Within the CLTV 90 cohort (an initial CLTV between 80% and 90%) for uninsured loans, the default rate for the lowest HPA range is 45.0% while the default rate for the highest HPA range is 3.0%.

For Population (1), insured loans have a lower empirical default rate within all of the HPA and CLTV cells for all loans (i.e. active and terminated loans) and terminated only loans. For example, the default rate for terminated and active uninsured loans for CLTV 90 with HPA of less than or equal to -20% after 20 quarters of development was 45.0%. This compares to a default rate for the similar cohort of insured loans of 29.0%. The empirical default relativity for this cohort was 1.55 (1.55 = 0.45 / 0.29). The empirical odds relativity for this cohort was 2.00 (2.00 = [(0.45/(1-0.45)] / [0.29/(1-0.29)].

A disadvantage of using a one-way analysis of empirical rates like what was just described is that when the two groups being compared differ in ways other than the segmenting characteristic it is difficult to justify that observed differences are due to the segmenting characteristic and not some other difference between the groups that was not considered. To control for important risk characteristics known to influence default rates besides CLTV range and home price change environment, Milliman fit logistic regression models to the loan level data. Milliman then computed the Odds Relativity to compare the relative default incidence of insured loans to uninsured loans, all else equal. For each of the cohorts listed in Table 3, the Odds Relativity of uninsured loans to insured loans is greater than one and is significant at the 0.1% level.

2) All loans in the filtered dataset excluding Federal Housing Administration (FHA)-insured loans and excluding loans with a CLTV above 95%:

Table 4
Population 2 : All Loans Excluding FHA-Insured Loans and Loans with a CLTV Above 95%
Origination Years 2002-2006
Modeled Default Rate: Default_NC

	Terminated and Active Loans			Terminated Loans Only		
	CLTV 90	CLTV 95	CLTV > 95	CLTV 90	CLTV 95	CLTV > 95
HPA Range	**Insured Default Rate**			**Insured Default Rate**		
HPA<=-20%	30.4%	32.1%	NA	32.3%	35.2%	NA
-20%<HPA<=0%	12.5%	12.8%	NA	11.6%	11.4%	NA
0%<HPA<=20%	5.7%	5.7%	NA	5.8%	5.6%	NA
20%<HPA	2.4%	2.9%	NA	2.3%	2.8%	NA
HPA Range	**Uninsured Default Rate**			**Uninsured Default Rate**		
HPA<=-20%	45.0%	43.5%	NA	53.8%	59.5%	NA
-20%<HPA<=0%	19.2%	16.8%	NA	19.7%	18.4%	NA
0%<HPA<=20%	7.8%	7.1%	NA	8.6%	8.0%	NA
20%<HPA	3.0%	3.3%	NA	3.8%	3.9%	NA
HPA Range	**Ratio of Uninsured to Insured Default Rate**			**Ratio of Uninsured to Insured Default Rate**		
HPA<=-20%	1.48	1.35	NA	1.67	1.69	NA
-20%<HPA<=0%	1.53	1.31	NA	1.70	1.62	NA
0%<HPA<=20%	1.36	1.24	NA	1.50	1.45	NA
20%<HPA	1.27	1.15	NA	1.69	1.39	NA
HPA Range	**Modeled Odds Relativity***			**Modeled Odds Relativity***		
HPA<=-20%	1.12	1.16	NA	1.78	1.63	NA
-20%<HPA<=0%	1.14	1.12	NA	1.29	1.10	NA
0%<HPA<=20%	1.18	1.22	NA	1.17	1.13	NA
20%<HPA	1.25	1.19	NA	1.32	1.12	NA

* Each result significant at the 0.001 level except in the two cases discussed below.

When FHA loans and loans with a CLTV above 95% are removed from the data the empirical insured default rate, in general, increases for HPA ranges less than 0 and decreases for HPA ranges greater than 0 relative to the default rate in Population (1). The uninsured loan population does not change from Population (1) for loans with a CLTV less than 95% as FHA loans are categorized as insured loans in this analysis. Removing FHA loans from the data does not affect the uninsured loan population.

For the second population of loans, all of the empirical default ratios of uninsured loans to insured loans and the Odds Relativities are greater than one and are significant at the 0.1% level, with the exception of the -20% < HPA <=0% which has a p-value of 0.2% and the 20%<HPA range which has a p-value of 5.0% for the terminated loans only in the CLTV 95 group (reference Exhibit 3, Page 10). These results indicate that for this population of loans, insured loans have historically had a lower default rate than uninsured loans, all else equal.

3) Only loans meeting the proposed QRM definition with the exception of loan-to-value (LTV) and debt-to-income (DTI) requirements, excluding FHA loans and excluding loans with a CLTV above 95%:

Table 5
Population 3 : QRM Loans Only Excluding FHA-Insured Loans and Loans with a CLTV Above 95%
Origination Years 2002-2006
Modeled Default Rate: Default_NC

	Terminated and Active Loans			Terminated Loans Only		
	CLTV 90	CLTV 95	CLTV > 95	CLTV 90	CLTV 95	CLTV > 95
HPA Range	**Insured Default Rate**			**Insured Default Rate**		
HPA<=-20%	17.5%	19.1%	NA	20.1%	21.1%	NA
-20%<HPA<=0%	5.8%	5.5%	NA	4.7%	4.9%	NA
0%<HPA<=20%	1.9%	1.8%	NA	1.7%	1.6%	NA
20%<HPA	0.9%	1.0%	NA	0.9%	1.1%	NA
HPA Range	**Uninsured Default Rate**			**Uninsured Default Rate**		
HPA<=-20%	16.5%	19.2%	NA	33.4%	40.9%	NA
-20%<HPA<=0%	5.1%	5.9%	NA	6.0%	6.2%	NA
0%<HPA<=20%	1.8%	2.0%	NA	2.8%	2.8%	NA
20%<HPA	0.6%	0.8%	NA	1.3%	1.4%	NA
HPA Range	**Ratio of Uninsured to Insured Default Rate**			**Ratio of Uninsured to Insured Default Rate**		
HPA<=-20%	0.94	1.01	NA	1.66	1.94	NA
-20%<HPA<=0%	0.89	1.06	NA	1.27	1.27	NA
0%<HPA<=20%	0.92	1.11	NA	1.62	1.70	NA
20%<HPA	0.69	0.81	NA	1.47	1.28	NA
HPA Range	**Modeled Odds Relativity (Significance)**			**Modeled Odds Relativity (Significance)**		
HPA<=-20%	0.98 (0.730)	1.00 (0.986)	NA	1.84 (<0.001)	2.28 (<0.001)	NA
-20%<HPA<=0%	1.02 (0.762)	1.01 (0.873)	NA	1.25 (0.024)	1.05 (0.659)	NA
0%<HPA<=20%	1.10 (0.184)	1.12 (0.103)	NA	1.46 (<0.001)	1.33 (0.010)	NA
20%<HPA	0.84 (0.134)	0.87 (0.242)	NA	1.26 (0.375)	1.08 (0.744)	NA

Population (3) is identical to Population (2) with the exception that the proposed QRM underwriting requirements are applied to the loans (except for LTV and DTI requirements). The empirical default rates and Odds Relativities for Population (3) cohorts are notably lower and more similar in magnitude than comparable figures for Population (2). This is consistent with expectations since the qualifying characteristics for population inclusion are more narrowly defined by levels associated with less risky loans, for example, no FICO less than 690. For terminated and active loans, the Odds Relativities show little difference between insured and uninsured loans, with all results insignificant at the 10% level except for the CLTV 95 cohort in the 0%<HPA<=20% range (which indicates insured loans perform better).

When looking at only terminated loans, the empirical default rate ratio of uninsured to insured default rates do indicate insured loans have a lower default incidence than uninsured loans. The empirical observation is supported by the Odds Relativity for all cohorts, most of which are significant at the 10% level.

4) All loans in the filtered dataset excluding FHA loans, loans with a CLTV greater than 95%, and excluding government-sponsored enterprise (GSE) loans:

Table 6
Population 4 : All Loans Excluding FHA-Insured Loans, Loans with a CLTV Above 95%, and GSE Purchased Loans
Origination Years 2002-2006
Modeled Default Rate: Default_NC

	Terminated and Active Loans			Terminated Loans Only		
	CLTV 90	CLTV 95	CLTV > 95	CLTV 90	CLTV 95	CLTV > 95
HPA Range	**Insured Default Rate**			**Insured Default Rate**		
HPA<=-20%	33.6%	36.1%	NA	29.1%	30.5%	NA
-20%<HPA<=0%	12.9%	13.7%	NA	8.9%	9.2%	NA
0%<HPA<=20%	6.0%	6.4%	NA	5.2%	4.8%	NA
20%<HPA	3.0%	3.4%	NA	2.8%	2.9%	NA
HPA Range	**Uninsured Default Rate**			**Uninsured Default Rate**		
HPA<=-20%	48.8%	51.9%	NA	54.3%	62.9%	NA
-20%<HPA<=0%	24.9%	23.6%	NA	24.7%	24.2%	NA
0%<HPA<=20%	11.9%	12.5%	NA	12.6%	12.0%	NA
20%<HPA	4.9%	7.5%	NA	6.8%	8.7%	NA
HPA Range	**Ratio of Uninsured to Insured Default Rate**			**Ratio of Uninsured to Insured Default Rate**		
HPA<=-20%	1.45	1.43	NA	1.86	2.06	NA
-20%<HPA<=0%	1.93	1.72	NA	2.77	2.63	NA
0%<HPA<=20%	1.97	1.96	NA	2.40	2.51	NA
20%<HPA	1.62	2.24	NA	2.38	3.01	NA
HPA Range	**Modeled Odds Relativity***			**Modeled Odds Relativity***		
HPA<=-20%	1.30	1.41	NA	2.23	2.09	NA
-20%<HPA<=0%	1.43	1.38	NA	2.07	1.54	NA
0%<HPA<=20%	1.42	1.44	NA	1.61	1.52	NA
20%<HPA	1.36	1.48	NA	1.53	1.64	NA

* Each result significant at the 0.001 level

Population (4) removes from Population (2) loans purchased by the GSE's within a three month time period from origination. For Terminated and Active loans, the default rates are greater for both insured and uninsured loans relative to Population (2). The simple average of the default rates for all insured cohorts across all HPA ranges is 13.3% for Population (2) and 14.4% for Population (4). The simple

average of the default rates for all uninsured cohorts across all HPA ranges is 18.2% for Population (2) and 23.2% for Population (4). Both the empirical ratio and Odds Relativity for uninsured default rates relative to insured default rates is greater than 1 for all HPA ranges and CLTV cohorts, and the Odds Relativity is highly significant.

For terminated loans only, the simple average of the default rates for all insured cohorts across all HPA ranges is 13.3% for Population (2) and 11.7% for Population (4). The simple average of the default rates for all uninsured cohorts across all HPA ranges is 22.0% for Population (2) and 25.8% for Population (4). Both the empirical ratio and Odds Relativity for uninsured default rates relative to insured default rates is greater than 1 for all HPA ranges and CLTV cohorts, and the Odds Relativity is highly significant.

5) Only loans meeting the proposed QRM definition with the exception of loan-to-value (LTV) and debt-to-income requirements, excluding FHA loans, loans with a CLTV greater than 95%, and excluding government-sponsored enterprise (GSE) loans:

Table 7
Population 5 : QRM Loans Only Excluding FHA-Insured Loans, Loans with a CLTV Above 95%, and GSE Purchased Loans
Modeled Default Rate: Default_NC

	Terminated and Active Loans			Terminated Loans Only		
	CLTV 90	**CLTV 95**	**CLTV > 95**	**CLTV 90**	**CLTV 95**	**CLTV > 95**
HPA Range	**Insured Default Rate**			**Insured Default Rate**		
HPA<=-20%	16.1%	17.2%	NA	12.2%	12.5%	NA
-20%<HPA<=0%	4.7%	4.9%	NA	2.6%	3.4%	NA
0%<HPA<=20%	1.9%	1.8%	NA	1.6%	1.6%	NA
20%<HPA	1.7%	1.6%	NA	1.9%	1.7%	NA
HPA Range	**Uninsured Default Rate**			**Uninsured Default Rate**		
HPA<=-20%	18.0%	25.1%	NA	30.5%	40.8%	NA
-20%<HPA<=0%	5.8%	8.1%	NA	5.7%	7.3%	NA
0%<HPA<=20%	2.2%	2.9%	NA	2.9%	3.5%	NA
20%<HPA	0.6%	1.1%	NA	0.9%	1.4%	NA
HPA Range	**Ratio of Uninsured to Insured Default Rate**			**Ratio of Uninsured to Insured Default Rate**		
HPA<=-20%	1.12	1.46	NA	2.49	3.26	NA
-20%<HPA<=0%	1.24	1.65	NA	2.22	2.14	NA
0%<HPA<=20%	1.17	1.58	NA	1.80	2.19	NA
20%<HPA	0.32	0.68	NA	0.50	0.79	NA
HPA Range	**Modeled Odds Relativity (Significance*)**			**Modeled Odds Relativity (Significance*)**		
HPA<=-20%	1.20 (0.088)	1.43 (0.012)	NA	2.54	3.78	NA
-20%HPA<=0%	1.49	1.45 (0.003)	NA	2.36	1.91 (0.001)	NA
0%<HPA<=20%	1.31 (0.017)	1.44 (0.005)	NA	1.83 (0.002)	1.84 (0.001)	NA
20%<HPA	0.48	0.84 (0.381)	NA	0.41 (0.134)	0.61 (0.420)	NA

*Unless otherwise shown, result significant at 0.001 level

Finally, in Population (5) Milliman applied the proposed QRM restrictions to the loans in Population (4). Similar to Population (3), the default rate for Population (5) is lower than Population (4). However unlike Population (3), once GSE loans are removed from the data, the relative performance of insured loans in this population have historically demonstrated lower default rates than comparable uninsured loans, with the exception of periods of instances where home prices have appreciated by more than 20% over a five year period. In addition, the Odds Relativity is greater than 1 for all HPA categories and is significant in many instances at the 1% level. The exception is the greater than 20% HPA range where for three of the four possible CLTV cohorts the results are not statistically significant at the 10% level.

Milliman's results generally indicate loans with mortgage insurance at origination have historically been associated with a lower rate of default when compared to similar loans without mortgage insurance, after controlling for influential underwriting characteristics and economic trends. This result is consistent across the five loan populations reviewed for this study. Loans with mortgage insurance showed the largest and most significant differences from uninsured loans in the negative HPA ranges. When applying the proposed QRM filters with the exception of LTV and DTI requirements, the results support the position that, if private mortgage insurance companies are not subject to pre-defined underwriting systems, loans with private mortgage insurance default at a lower rate than comparable loans without mortgage insurance.

The results are generally stronger and more significant in the terminated only loan populations when compared to the terminated and active loan populations. For the terminated only subset of loans, the ultimate performance of each loan is known as of the evaluation period of 20 quarters, which possibly imparts more stability in discerning statistical differences than the all loans models at any given evaluation period by reducing sample size and variation.

DATA USED IN ANALYSIS

Milliman subscribes to the CoreLogic LoanPerformance Loan Level Servicing Data (Corelogic Data). The Corelogic Data contains loan-level underwriting and performance history for prime mortgage loans beginning with performance data in 1998. Note the servicing database is a distinct database from the CoreLogic LoanPerformance Loan Level Securities Database. The securities database includes loans typically classified as "sub-prime" and "alt-a" mortgages that were sold to the public via private-label mortgage-backed securities; the securities database was not used for this analysis. The servicing database includes a majority of prime loans and represents about 80% of the active prime mortgage market, according to CoreLogic.

The data from the Servicing database contains underwriting characteristics and loan performance data such as loan status and loan balance from calendar years 1998 through 2011 (the last month of observation for this study is March 2011). Milliman processed the monthly payment records of the Corelogic Data to obtain the following for each loan:

- the first month the loan appeared in the monthly data;
- the last month the loan appeared in the monthly data;
- the month it became a 90 day delinquency, if any;
- the month it became a Foreclosure, if any;
- the month it became a REO, if any;
- the month its status changed from active to closed; and
- any months its delinquency status changed from a 30, 60, 90, FCL or REO to a status of Current (i.e., all months it cured), if any.

This information was then merged with the origination characteristics (static attributes) dataset and the data were then scrubbed for the following data defects:

- Any loans for which the difference between the origination month and first month the loan appeared in the monthly file was greater than 3 months were removed. This gives us loans for which we know the history from start to finish, or the current state, as we did not wish to speculate on the occurrence of default events that may have occurred between origination and the month at which the Monthly Performance data was first recorded; and
- We next removed any loans where the Active Status fluctuated between Active and Closed. Changes in this status from Active to Closed in the performance can be triggered by delinquency statuses of 'S' or 'T' (Servicing sold released, Loan status no longer provided/available, respectively) where, in subsequent periods, the statuses are not 'S' or 'T' and, thus, the status reverts from Closed back to Active. Our interest was in the "well defined" history which would not include loans such as these that have missing months of data.

The resulting dataset then contained various fields flagging the event of a 90 day delinquency status and the month it first occurred and similar fields for foreclosure, REO, cure post default and subsequent re-default as well as when the loan terminated.

The ultimate purpose of this study is to assess whether loans with mortgage insurance at origination have a lower incidence of default than uninsured loans for loans that meet the proposed QRM definition but for higher combined LTV ratios. Therefore, Milliman applied the following additional filters on the data:

Loans included in analysis:

- First lien loans;
- 1-4 Family property types;
- Loans with a combined loan-to-value ratio at origination inclusively between 80 and 105;
- Loans originated between 2002 Q1 and 2006 Q1;
- Loans with a first lien LTV equal to or greater than 80%;
- Loans with a CLTV greater than 80% and no insurance (Uninsured loans); and
- Loans with a first lien LTV greater than 80% and private mortgage insurance (Insured loans).

Loans excluded from analysis:

- Second lien or greater loans;
- Commercial, 5+ Unit, Co-op, mixed-use, and unknown property types;
- Loans with a missing FICO score; and
- Loans with an amortization type that is invalid or unknown.

Milliman appended home price appreciation data to the loan-level database using the Federal Housing Finance Agency (FHFA) home price indices at the metropolitan statistical area (CBSA) with actual home price indices as of December 31, 2010. Milliman relied on Moody's Economy.com home price index forecasts to extrapolate from the December 31, 2010 actual index values through March 31, 2011 where applicable.

Description of the Five Loan Populations

Milliman analyzed five different loan populations from the final dataset to investigate the qualitative and quantitative robustness of the model indications. The five different loan populations are:

1) All loans in the filtered dataset

This scenario covered all high LTV insured loans in addition to high LTV uninsured loans. The regression equations used in this scenario include underwriting variables to control for the impact of risky underwriting characteristics such as documentation type, loan term, interest only indicators, negative amortization indicators, etc. A complete list of the underwriting variables in the regression can be found in the "Description of Regression Model" section. A majority of the high LTV uninsured loans are piggyback loans.

2) All loans in the filtered dataset excluding Federal Housing Administration (FHA)-insured loans and excluding loans with a CLTV above 95%.

One question raised in the proposed QRM definition is whether or not the presence of mortgage insurance itself reduces the incidence of default. FHA-insured loans are explicitly excluded from the proposed risk-retention requirements of the Dodd-Frank Act. In addition, loans insured by the FHA must follow the underwriting guidelines, originator oversight, and servicer oversight set by the FHA. In order to provide a clean comparison of the relative default incidence of privately insured loans (which must follow the specifications of the private mortgage insurer) against uninsured loans, Milliman removed FHA-insured loans from the population.

After reviewing the remaining loan population of loans not insured by the FHA, Milliman also removed loans with a CLTV of greater than 95%. Milliman removed this segment of loans from the study because:

a) FHA-insured loans are concentrated in the greater 95% CLTV category;
b) Loans with a CLTV greater than 95% represents business that is unlikely to be written going forward, particularly for loans that meet the final definition of a QRM.

3) Only loans meeting the proposed QRM definition with the exception of loan-to-value (LTV) and debt-to-income (DTI) requirements, excluding FHA loans and excluding loans with a CLTV above 95%

The regulators issuing the proposed QRM definition issued a request to determine whether or not the presence of mortgage insurance itself at the time of origination reduces the incidence of default *for loans that meet the proposed QRM criteria but for a higher adjusted LTV ratio.* Therefore, Milliman filtered the data for the proposed QRM requirements as described in the data section of this report. DTI filters were not applied due to the lack of data and reliability of DTI ratios in the data used for this study[7].

[7] For the loan population used in this study, approximately 50% of the observations were missing a debt-to-income ratio. Upon further review it was determined loans missing a DTI were not randomly distributed among the loan population.

4) All loans in the filtered dataset excluding FHA loans, loans with a CLTV greater than 95%, and excluding government-sponsored enterprise (GSE) loans.

During the period in which the studied loans were originated, the private mortgage insurance companies delegated approval authority to the GSE's and their automated underwriting systems. It is difficult to separate the impact of the decisions made by Desktop Underwriter (Fannie Mae's automated underwriting system) and Loan Prospector (Freddie Mac's automated underwriting system) from the impact of the private mortgage insurance companies in those loans. Therefore, Milliman removed loans purchased by the GSEs within 3 months of origination for this loan population to test the resulting impact of the analysis against the results of the analysis of Population (2).

5) Only loans meeting the proposed QRM definition with the exception of loan-to-value (LTV) and debt-to-income requirements, excluding FHA loans, loans with a CLTV greater than 95%, and excluding government-sponsored enterprise (GSE) loans.

For the last population of loans, Milliman applied the QRM filters to the loan population described in Population (4). The regulators issuing the proposed QRM definition issued a request to determine whether or not the presence of mortgage insurance itself at the time of origination reduces the incidence of default *for loans that meet the proposed QRM criteria but for a higher adjusted LTV ratio.* As GSE loans are also excluded from risk retention requirements, and the GSEs also have specific underwriting and servicing requirements, Milliman removed GSE loans from the population to provide a clean comparison of the relative default incidence of privately insured loans (which must follow the specifications of the private mortgage insurer) against uninsured loans.

Description of the QRM Filter

Milliman filtered the underwriting data to meet the definition of a QRM per the proposed definition from the Agencies with the exception of filters for debt-to-income ratios and loan-to-value (LTV) ratios. Milliman did not filter on debt-to-income ratios due to the lack of data availability and reliability for this field; for example, approximately 50% of the observations under the proposed QRM definition were missing a DTI ratio. Milliman did not filter on loan-to-value ratios as mortgage insurance is typically provided for high LTV loans. The purpose of this study is to assess whether loans with mortgage insurance at origination have a lower incidence of default than uninsured loans for loans that meet the proposed QRM definition but for higher combined LTV ratios.

To define the loan population meeting the QRM proposal, Milliman applied additional filters to the loan level origination data to include only loans meeting the following proposed QRM requirements:

Loans included in the proposed QRM definition:

- Adjustable-rate mortgages with an annual maximum rate reset of less than or equal to 2 percentage points and a lifetime maximum rate reset of less than or equal to 6 percentage points;
- Loans with an amortization period equal to or less than 360 months;
- Full documentation loans;
- Loans with an occupancy type of primary residence / owner occupied; and
- Loans with a FICO score between 690 and 850.

Loans excluded from the proposed QRM definition:

- Interest-only loans;
- Loans with a balloon payment;
- Negative amortization loans; and
- Loans with a prepayment penalty.

Loan Counts for Each Population

The loan count for each population used in this study is summarized in Table 8 below.

Table 8 Loan Count Summary by Population		
Population	**Terminated and Active Loans**	**Terminated Loans Only**
Population 1 – All loans in the data	6,045,900	3,365,360
Population 2 – All loans excluding FHA and GT95 CLTV	4,380,969	2,495,367
Population 3 – QRM loans excluding FHA and GT95 CLTV	1,110,159	618,357
Population 4 – All loans excluding FHA, GT95 CLTV, and GSE	1,500,352	998,173
Population 5 – QRM loans excluding FHA, GT95 CLTV, and GSE	285,739	207,974

APPROACH TO ANALYSIS

To assess whether loans with mortgage insurance (MI) perform differently than uninsured loans with respect to default incidence, Milliman first reviewed the empirical default rates of the various cohorts according to the default definitions and cohorts described below. The empirical default rates provide an approximation of the relative default frequency of insured loans relative to uninsured loans. However, the empirical default rates may not provide controlling factors for the observed performance difference such as home price appreciation and underwriting characteristics. For example, the insured population may have less concentration in low documentation loans for Population (1) relative to uninsured loans, and the difference in the low documentation concentration may contribute more to the performance difference than the presence of mortgage insurance.

Description of the Logistic Regression

In order to control for such potential differences, Milliman performed logistic regressions on the Corelogic Data using a combination of underwriting data and home price appreciation categories. Milliman performed the analysis at 20 quarters of development[8]. Fixing the development period creates a homogeneous set of data across loan origination years with respect to the time duration of exposure to default; this methodology was used because cumulative loan default probabilities increase monotonically with time. Furthermore, the ultimate resolution of every loan in this study is not yet known. A mortgage loan will, at ultimate development, either terminate due to default or pay the mortgage in full through the amortization schedule of the mortgage or through early repayment. An ultimate default rate can only be known once all loans in the population are terminated. Therefore, we defined cumulative default rates as of a specific development period, i.e. 20 quarters of development, to control for time. This allowed us to compare the model results for differently defined default horizons and ensure that loans in a given model were exposed to default hazard for equal amounts of time.

[8] The study therefore includes loans originated from 2002 through 2006. Preliminary analyses inclusive of the 2007 book at 16 quarters of development show similar results to those obtained in this study.

The home price appreciation (HPA) environment that a borrower is subject to affects the value of the collateral behind each loan, which impacts both a borrowers' ability to refinance a loan and willingness to repay a loan. For each loan, Milliman associated an HPA measure for the metropolitan area or state in which the loan was located during the development period of the data considered. Borrowers who are not able to repay their mortgage through refinancing (possibly due to negative equity or due to the lack of available credit) present a greater default incidence than a similar loan that is able to refinance. Borrowers who face large declines in the value of their property have a greater propensity to default on their mortgages than borrowers who face large increases in the value of their property, all else equal.

After consideration of the exceptional rise and subsequent decline in home prices and the corresponding performance of mortgage loans over the time period utilized for this analysis, Milliman believes the relationships between the dependent variables in this analysis and the corresponding independent underwriting loan variables may not be constant across the diverse HPA environments experienced in the United States. This presents a modeling problem because any single statistical model relies on the assumption presented in its equation that the relationship between a dependent and independent variable can be characterized in part with a constant parameter. Specifically the assumption is that the parameter for the independent variable is an estimate of the "true" constant coefficient. If that "true" constant is not constant but in fact variable over the range of data considered, then the results of a model that assumes otherwise are questionable. One approach to deal with this problem is to build models for each cohort by segmenting the data into smaller ranges with respect the "controlling" variable in question, here metropolitan HPA.

For this particular analysis, Milliman treated HPA as a segmenting variable and subsetted the data according to distinct home price appreciation ranges. Specifically, Milliman grouped the loans according to the cumulative HPA categories after 20 quarters of development: HPA ≤ -20%, -20% < HPA ≤ 0%, 0 < HPA ≤ 20%, and 20% < HPA.

An alternative to segmenting the data by HPA would be to introduce HPA as a right hand side (RHS) variable. Milliman believes its approach to segment the loans into distinct HPA environments allows for a better understanding of the relationships between the dependent variables and independent underwriting variables in each model without sacrificing the explanatory power of the underwriting variables to the HPA environment of each loan. Model comparisons of insured versus uninsured loans are then made between cohorts of loans that were subject to similar HPA environments.

Description of the Datasets Used in the Analysis

For each defined loan population, Milliman created four datasets corresponding to four distinct HPA environments. The cumulative HPA categories after 20 quarters of development are: HPA ≤ -20%, -20% < HPA ≤ 0%, 0 < HPA ≤ 20%, and 20% < HPA.

Milliman calculated cumulative home price appreciation using metropolitan and state FHFA home price indices. If the property was located in a Core Based Statistical Area (CBSA), Milliman used the HPA for the CBSA. If the property was not located in a CBSA then Milliman used the state home price index to calculate cumulative home price appreciation. For each loan, Milliman calculated the home price appreciation at the end of 20 quarters of development. For example, for a loan originated in the first quarter of 2002, Milliman calculated HPA for that loan as the percentage change in the relevant home price index from the first quarter of 2002 through the first quarter of 2007 (20 quarters). HPA was calculated from loan origination date to the development age of 20 quarters for each loan, regardless of whether or not the loan terminated prior to the development age. Milliman did this to avoid measuring HPA at different times of development for different loans within the evaluation period. Milliman believes this method identifies the HPA environment in which the loan existed for model segmentation purposes.

Milliman performed analysis on:

1. populations of loans that are still active or terminated at the evaluation horizon; and
2. only loans have that terminated (i.e. full resolution of the loan is known) by the evaluation horizon.

For loans that have not terminated, the full performance history of the loan is not known; these loans may default in the future, may cure from a given delinquency status, and/or may repay their obligation in full.

A logistic regression models a binary dependent variable, usually with the signal of interest assigned an outcome of 1. For the models described in this analysis, the dependent variable is assigned a 1 if the loan has reached a pre-determined default status and a 0 otherwise. Since the data is not at ultimate, we defined default as of a given development age as discussed above. A nontrivial consideration is whether the models should be calibrated based on all loans or only those loans that have terminated by a given development age to evaluate whether insured loans perform differently than uninsured loans. If one is interested in the ultimate default rates for cohorts of loans, then the two data sets (all loans and terminated loans only) can be viewed as two distinct approximations. In order to provide a complete analysis of the independent variable relationships with the dependent variables, Milliman created a pair of data sets, one with all loans and one with only those loans that terminated as of the development age, for each HPA segment and calibrated a model based on each data set. Therefore, there are 8 distinct datasets for each population in this analysis (4 sets for the HPA segments * 2 sets for all loans (terminated and active loans) and terminated only loans, separately).

Description of Regression Models

For each regression model, Milliman used a stepwise selection procedure to determine which underwriting variables, in combination, were significant at the 10% level. The general equation form for the probability of a given response outcome in a logistic model is:

$P_i = e^{\sum \beta i Xi} / (1 + e^{\sum \beta i Xi})$, where the Xi are the independent covariates with βi as their associated coefficients.

Below is a summary of the variables included in the stepwise procedure and Milliman's view regarding these loan characteristics and their effect on default frequency:

- *Amortization (Reference Level = Fixed, Other Levels = ARM)*: ARMs are subject to interest rate risk and potential payment fluctuations with the market. Potentially higher interest rates for ARM borrowers without a proportional increase in income create greater mortgage service obligations for the borrower and an increased probability of default. On the other hand potentially lower interest rates for ARM borrowers without a proportional decrease in income create a lower mortgage debt obligation for the borrower and a decreased probability of default. In addition, the initial interest rate on ARMs is typically lower than the interest rate of fixed rate mortgages; therefore, some borrowers tend to select an ARM to achieve a better qualifying debt ratio;

- *Combined Loan-to-Value:* Mortgages supported by a lower equity investment by the borrower are subject to greater risk of default due to the increased likelihood of a future negative equity position caused by a future negative home price shock. In addition, a lower initial equity investment by the borrower may indicate either a lack of financial resources by the borrower for a larger down payment or potentially an investor in the property trying to limit their initial exposure. Consequently, mortgages with a higher CLTV should be associated with a higher default rate. For this analysis Milliman combined loans into CLTV segments, in combination with other underwriting variables, to categorize the loans into insured and uninsured cohorts as explained below;

- *Documentation Type (Reference Level = Full, Other Levels = Low):* Mortgages made with reduced documentation are more likely to default than those with full documentation provided at closing. Additionally, mortgages with no documentation (i.e., no income or asset verification) have a significantly greater chance of defaulting when compared to a full documentation mortgage;

- *FICO score (Reference Level = 780-850, Other Levels = 350-579, 580-599, 600-619, 620-659, 660-689, 690-719, 720-749, 750-779)*: Borrowers with low FICO scores are deemed to present a greater credit risk, and therefore, a borrower with a low FICO score should be associated with a higher default frequency. The relationship between FICO score and default rates is a non-linear

relationship. Therefore, Milliman treated this variable as a categorical variable as opposed to a continuous variable for the model;

- *Insured versus Uninsured:* Milliman separated the loans into insured and uninsured loans. This segmentation was used, in combination with other underwriting variables, to categorize the loans into the groups explained below. The intent of the present analysis is to determine if the presence of mortgage insurance at origination lowers default incidence;

- *Interest Only/Negative Amortization (Reference Level = No, Other Levels = Yes):* It is believed that borrowers with mortgages that have payment options such as only paying interest (as opposed to paying principal and interest) or less than the required interest payment (negative amortization mortgages) present a greater credit risk; thus, these types of mortgages should exhibit higher default rates than comparable fully amortizing mortgages;

- *Investor type:* For certain parts of the analysis, Milliman separated the loans into GSE and Private (i.e. not GSE) investor groups. Milliman does not have an a priori view of the relative default frequency by investor type;

- *Loan purpose (Reference Level = Purchase, Other Levels = C/O Refi, R/T Refi)*: Cash-out refinance loans can be indicative of financial stress on the borrower; therefore, these loans should be associated with a higher default frequency. Rate/term refinance loans should lower the debt service obligation of the borrower through better terms on the mortgage; therefore, these loans should be associated with a lower default frequency;

- *Occupancy type (Reference Level = O[wner], Other Levels = I[nvestor], S[econd], U[nknown]):* In the Corelogic data, properties are categorized as being occupied either by the owner of the property, owned as a second or vacation home, owned as an investment property, or the occupancy type is

unknown. In Milliman's experience, investor properties tend to have higher default rates than owner occupied properties and second homes;

- *Property type (Reference Level = SFR [Single Family Residence] , Other Levels = 2-4 U[nits], Condo):* Loans for 2-4 family homes and condos have exhibited a greater propensity for default when compared to single-family residences based on Milliman's experience; therefore, these loans should be associated with a higher default frequency;

- *Property value size (Reference Level = 2, Other Levels = 0, 1, 3, 4):* Each loan was assigned to a relative original property value size category based on the distribution of original property value sizes for each CBSA and origination year. To develop the original property value size categories Milliman looked at all loan originations in the Corelogic Data for origination years 2002 through 2006 by CBSA and origination year; Milliman determined original property value size quintiles for each geographic location by origination year. Milliman then assigned each loan to a quintile depending upon the size of the original property value of the loan, the location of the loan, and the origination year of the loan. The relationship between the relative original property value size and default rates tends to vary depending upon the loan's HPA environment;

- *Term (Reference Level = 360, Other Levels = <360, >360):* Mortgages with an original term less than 30 years can be representative of borrowers with greater financial resources and willingness to repay a mortgage over a shorter period than longer duration mortgages and consequently may be associated with lower default rates relative to 30 year mortgages. Similarly, mortgages with an original term greater than 30 years can be representative of borrowers with less financial resources to repay a mortgage over a shorter duration and consequently may be associated with higher default rates relative to 30 year mortgages; and

- *Source (Reference Level = Non-Retail, Other Levels = Retail, Correspond[ence], Other):* The origination source of a loan tends be a statistically significant variable in explaining loan default frequencies. Milliman categorized the origination source into four categories: retail, non-retail, correspondence, and other. A retail lender is a lender who originates loans (i.e. works with the potential borrowers to work out financing terms), underwrites the loan, and provides the funding for the mortgage. A non-retail lender is a lender classified as either a mortgage broker or wholesale lender. A mortgage broker works independently from lenders to connect borrowers with potential lenders. Once the broker connects a borrower with a potential lender, the lender may provide financing for the loan or may decide it does not want to accept the risk. A wholesale lender is a lender that works with mortgage brokers and other loans officers to originate loans; underwriting and processing are completed by the wholesale lender to determine if the borrower meets certain underwriting criteria. If underwriting criteria is met, the wholesale lender will provide funding; loans are typically sold to the secondary market shortly after origination. Finally, correspondence lenders are lenders that originate and fund loans for the purpose of selling the mortgages to a larger lender (known as the "sponsor"). Underwriting typically must follow the guidelines of the sponsor, and a single correspondent lender may have more than one sponsor. In Milliman's experience correspondence loans are associated with the highest default frequency.

Milliman created a field using the combined LTV ratio at origination and the insurance type fields. This single variable contains 7 distinct possibilities as shown below:

Table 9
Combined LTV and Insurance Type Variable List

	LTV	Insured (Yes or No)
1. 80 Uninsured	80%	No
2. 90 Uninsured	80%<CLTV≤90%	No
3. 90 Insured	80%<CLTV≤90%	Yes
4. 95 Uninsured	90%<CLTV≤95%	No
5. 95 Insured	90%<CLTV≤95%	Yes
6. GT95 Uninsured	95%<CLTV≤105%	No
7. GT95 Insured	95%<CLTV≤105%	Yes

The CLTV and insurance (CLTV_Insured) variables were grouped together in this manner to allow for different interactions between CLTV and insurance presence, so Milliman could specifically evaluate the impact of mortgage insurance for comparable CLTV and HPA categories.

Milliman fit the logistic regressions to three separate independent response variables to assess the impact of the presence of mortgage insurance of loan default rates. The first regression was for the response variable of default where default is defined as a loan ever reaching 90 days delinquent or worse. In this regression Milliman analyzed the relative frequency of default for loans with mortgage insurance compared to similar loans without mortgage insurance, while controlling for underwriting and economic variables.

The second regression Milliman performed was on the response variable of a loan cure given a loan has reached 90 days delinquent or worse. A loan cure is defined as the loan ever reaching the current status subsequent to the loan becoming 90 days delinquent or worse. In this regression Milliman analyzed the relative frequency of loan cures for loans with mortgage insurance compared to similar loans without mortgage insurance, while controlling for underwriting and economic variables.

The final regression Milliman performed was for the response variable loan default with consideration of both loans cures and re-defaults. In this regression a loan default was defined as any loan that reached a 90 days delinquency status or worse and subsequently did not cure from the default. If a loan did cure, Milliman determined whether the loan re-defaulted; if the loan re-defaulted after the cure the loan was categorized as a default. The intent of this regression is to determine the impact of mortgage insurance on final loan defaults with consideration of default mitigation activities of the mortgage insurance companies. In this regression equation Milliman analyzed the relative frequency of loan defaults with consideration of loan cures and re-defaults for loans with mortgage insurance compared to similar loans without mortgage insurance, while controlling for underwriting and economic variables.

RESULTS OF ANALYSIS

Table 10 below provides a summary, in terms of loan counts, of the data used to calibrate the models described above for Population (1) using all loans (i.e. including active and terminated loans after 20 quarters of development) for loans with an original CLTV of 90. Exhibit 1 provides this information for each of the five loan populations for every CLTV for both all loan originations (i.e. terminated and active loans) and terminated loans only.

Table 10
Population 1 : All loans in the Filtered Database
CLTV 90
Terminated and Active Loans

	Uninsured			Insured		
	Default 90	Cure Given Default 90	Default_NC	Default 90	Cure Given Default 90	Default_NC
HPA Range	**Observed Loan Count**			**Observed Loan Count**		
HPA<=-20%	80,539	38,415	80,539	47,743	15,344	47,743
-20%<HPA<=0%	90,231	19,359	90,231	123,527	17,938	123,527
0%<HPA<=20%	92,784	8,883	92,784	308,605	23,053	308,605
20%<HPA	60,436	2,811	60,436	341,716	14,351	341,716
HPA Range	**Number of Responses**			**Number of Responses**		
HPA<=-20%	38,415	4,824	36,246	15,344	2,703	13,838
-20%<HPA<=0%	19,359	4,187	17,320	17,938	5,548	14,691
0%<HPA<=20%	8,883	3,254	7,194	23,053	9,208	17,487
20%<HPA	2,811	1,663	1,818	14,351	7,902	9,119
HPA Range	**Response Rate**			**Response Rate**		
HPA<=-20%	47.7%	12.6%	45.0%	32.1%	17.6%	29.0%
-20%<HPA<=0%	21.5%	21.6%	19.2%	14.5%	30.9%	11.9%
0%<HPA<=20%	9.6%	36.6%	7.8%	7.5%	39.9%	5.7%
20%<HPA	4.7%	59.2%	3.0%	4.2%	55.1%	2.7%
HPA Range	**Ratio of Uninsured to Insured Rate**					
HPA<=-20%	1.48	0.71	1.55			
-20%<HPA<=0%	1.48	0.70	1.61			
0%<HPA<=20%	1.28	0.92	1.37			
20%<HPA	1.11	1.07	1.13			

The table and exhibits provide the total loan count, the response variable count (i.e. Default 90, Cure Given Default 90, or Default_NC), the rate for the response variable, and the empirical relativity of uninsured loans against insured loans for each HPA category. The loan cohorts include loans originated in years 2002 Q1 through 2006 Q1 as loans originated in 2006 Q2 or later do not have 20 quarters of

development. For example, looking to the third data column for the variable Default_NC for the HPA category “HPA<=-20%” for uninsured loans, there were 80,539 loans in the 90 CLTV cohort with cumulative home price appreciation of less than or equal to -20% at 20 quarters of development. Of these loans:

- 38,415 ever reached a 90 days delinquency status or worse (Default_90);
- 36,246 reached a 90 days delinquency status or worse and subsequently did not cure from the default (Default_NC);
- 4,824 of the loans that were ever 90 days delinquent or worse subsequently cured (Cure Given Default 90); and
- 2,655 of these loans cures re-defaulted (36,246 – (38,415 – 4,824)) [Not shown in table].

The response rate for each variable varies considerably across the four HPA ranges. Specifically, for the loan population in Table 10, the Default_NC response variable for uninsured loans ranges from a 45.0% default rate in the lowest HPA range “HPA<=-20%” (45.0% = 36,246 / 80,539) to a 3.0% default rate in the highest HPA range “20%<HPA” (3.0% = 1,818 / 60,436). The Default_NC response variable for insured loans similarly ranges from a high of 29.0% (29.0% = 13,838 / 47,743) to a low of 2.7% (2.7% = 9,119 / 341,716) for the lowest and highest HPA ranges, respectively. The substantial range in default rates by HPA environment supports our conjecture that the HPA environment of a loan is significantly influential on the resulting default and cure rates.

Table 11 below shows the estimated model parameters for the CLTV_Insured variable and their associated significance for all originated loans in the filtered database in Population (1) for the Default_NC response variable. In a logistic regression, a parameter estimate is created for each category within a variable relative to the reference category. For the CLTV_Insured variable, the reference category for all models discussed in this paper is “80 Uninsured” referring to loans with an original CLTV of 80% without mortgage insurance.

Table 11 Population 1 : All loans in the Filtered Database CLTV 90 Terminated and Active Loans Default_NC Model Parameter Estimates						
	90 Insured	**90 Uninsured**	**95 Insured**	**95 Uninsured**	**GT95 Insured**	**GT95 Uninsured**
HPA Range	**Parameter Estimates**					
HPA<=-20%	0.5587	0.7371	0.7719	0.9951	0.7197	1.3309
-20%<HPA<=0%	0.5123	0.7944	0.6905	1.0010	0.7581	1.5573
0%<HPA<=20%	0.5570	0.9001	0.6951	1.0949	0.8877	1.7937
20%<HPA	0.6111	0.9701	0.7872	1.0694	0.9780	1.8029
HPA Range	**Odds Ratio (Relative to 80 Uninsured)**					
HPA<=-20%	1.748	2.090	2.164	2.705	2.054	3.784
-20%<HPA<=0%	1.669	2.213	1.995	2.721	2.134	4.746
0%<HPA<=20%	1.745	2.460	2.004	2.989	2.430	6.012
20%<HPA	1.842	2.638	2.197	2.914	2.659	6.067
HPA Range	**Significance (ProbChiSq)**					
HPA<=-20%	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
-20%<HPA<=0%	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
0%<HPA<=20%	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
20%<HPA	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001

In Table 11, the values under the “Parameter Estimates” label contain the maximum likelihood parameter estimate for the “CLTV_Insured” variable and the values below the “Parameter Estimates” label shows the Chi-square p-value associated with each the respective “CLTV_Insured” parameter estimate, all determined in SAS. As mentioned above because the variables are categorical (as are all of the variables in each model), the coefficients are relative to the reference level of the variable. A coefficient of zero implies the level is exactly the same as the reference level, whereas a negative coefficient implies a lower probability of the response than the reference level and a positive coefficient implies a higher probability of the response than the reference level.

Odds ratios for each coefficient are produced as part of the standard SAS output for logistic regression; Table 11 above provides the odds ratio for each CLTV_Insured level. An odds ratio for a particular level of a variable can be derived from its coefficient and is equal to e (base of the natural logarithm) raised to the coefficient for that level, and is the odds for the level as compared to the reference level. Using the results shown in Table 11, the odds ratio for a “90 Uninsured” loan in the “HPA<=-20%” HPA environment

against an otherwise identical loan that is classified as an “80 Uninsured” loan for the CLTV_Insured variable is about 2.090 ($2.090 = e^{(0.7371)}$). This can be stated that the odds that a “90 Insured” loan defaults is approximately 2.090 times that of an “80 Uninsured” loan in an “HPA<=-20%” HPA environment.

Exhibit 2 Pages 1 through 30 show the parameter estimates and their associated significance p-values for each of the 120 models created using the five populations, two data sets (all loans and terminated loans only), three response variables (Default 90, Cure, and Default_NC), and four HPA ranges. Note, not every model has an estimate for every possible variable in each model due to the stepwise variable selection process; if a variable was not included in the model per the stepwise selection process, Exhibit 2 shows “NA” for the parameter estimate. The stepwise algorithm to include or exclude a variable looks at threshold p-values that are based on inclusion or exclusion of the entire variable. In general, variable significance and the signs of and relationships between coefficients within any given model conformed to Milliman’s expectations, which will be discussed in more detail below.

The p-value, shown in both Table 11 and Exhibit 2 Pages 1 through 30, for each coefficient is based on a test of the null hypothesis that the coefficient for that level is the same as the coefficient for the reference category, all else equal. The p-value for the stepwise regression is a different p-value than the Chi-square p-value associated with each parameter estimate. The threshold decision to include or exclude a variable is based on the hypothesis test that all the level coefficients are zero, or every level is the same as the reference level. A variable passes the test for inclusion if at least one of its levels is statistically different than the reference category. A variable can be statistically significant in the regression and have some of the category levels that are not statistically different from the reference level. For example on Exhibit 2 Page 1, the parameter estimate for the Quintile_String (Quintile_String represents the property value quintile) category “3” is -0.0119 with a Chi-square p-value of 0.2570, which is greater than the 10% requirement used in the stepwise selection. However, other levels of this variable are significant with a p-value of <0.0001, so the p-value for the entire variable is significant and the entire variable is included in the final model.

Exhibit 2 Page 1 provides the entire set of parameter estimates for Population (1) for the Default_NC response variable. In the less than negative 20% HPA range, assume a loan cohort has the following characteristics:

- 95 CLTV;
- 660-689 FICO (parameter estimate = 1.0671);
- SFR (parameter estimate = 0);
- ARM loan (parameter estimate = -0.1113);
- Non-Retail (parameter estimate = 0);
- C/O Refi (cash out refinance) (parameter estimate = 0.0948);
- Full documentation (parameter estimate = 0);
- Not an interest only loan (parameter estimate = 0);
- Not a negative amortization loan (parameter estimate = 0);
- 360 month term (parameter estimate = 0);
- 3 quintile of property values (parameter estimate = -0.0119);
- Second home (parameter estimate = 0.0728).

If the loans all had mortgage insurance at origination (i.e., 95 Insured), the logistic regression indicates the expected default rate for the loan cohort is:

$$P_i = e^{\sum \beta i Xi} / (1 + e^{\sum \beta i Xi}) = e^{-0.9733} / (1 + e^{-0.9733}) = 27.4\%$$

$$\sum \beta i Xi = (-2.8567+0.7719+1.0671+0-0.1113+0+0.0948+0+0+0+0-0.0119+0.0728) = -0.9733$$

If none of the loans had mortgage insurance at origination (i.e. 95 Uninsured), the logistic regression indicates the expected default rate for the loan cohort is:

$$P_i = e^{\sum \beta i Xi} / (1 + e^{\sum \beta i Xi}) = e^{-0.7501} / (1 + e^{-0.7501}) = 32.1\%$$

$$\sum \beta i Xi = (-2.8567+0.9951+1.0671+0-0.1113+0+0.0948+0+0+0+0-0.0119+0.0728) = -0.7501$$

As a result of the stepwise selection process, all variables included in any given model are significant at the 10% level. Because Milliman fit multiple models, the parameter estimates and each parameter's significance vary amongst models. One trend of interest is any level's coefficient that changes sign under the different models for each HPA bucket. This suggests the presence of a particular characteristic can have opposing effects depending on the HPA environment and supports Milliman's approach of using separate models for various HPA environments to study the relations between underwriting characteristics and performance. For example, in Exhibit 2 Page 1, the loan purpose R/T REFI (rate or term refinance) has a higher expected default rate under negative HPA environments and a lower expected default rate under positive HPA environments, all relative to the reference level of Purchase. This type of interaction can be challenging to capture when HPA is variable in the data. Similarly, coefficients that vary substantially in magnitude across the HPA categories also suggest the effect of the underwriting characteristic is not constant over broader HPA ranges. Alternatively, consistency in coefficients across HPA buckets suggests the effect of the characteristic is constant and segmenting the data is inconsequential to the results for that variable.

A general discussion for the Default_NC response variable model results for each explanatory variable in the Population (1) models is summarized below; the relevant parameter estimates can be viewed on Exhibit 2 Pages 1 and 4 for the all loans and terminated only loans models, respectively:

- *Amortization (Reference Level = Fixed, Other Levels = ARM)*: Contrary to expectations, ARM mortgages have a negative coefficient across all HPA environments although the coefficient is relatively small compared to other variables in the model. This observation holds when calibrating the models to both all loans (i.e., active and terminated loans) and terminated loans only. A possible explanation for this could be that the general trend of interest rates has been decreasing since late 2007 as the housing market collapsed potentially resulting in reduced monthly payments for ARM borrowers. Therefore, when controlling for other influential factors in the model, ARM defaulted less frequently than comparable fixed rate mortgages over the time period used for this analysis;

- *Combined Loan-to-Value (CLTV)*: In line with expectations, the coefficients for similar CLTV categories (e.g., 95 uninsured relative to 90 uninsured and 95 insured relative to 90 insured) increase as the CLTV category increases. This result supports to our opinion that default rates have an inverse relationship with borrower equity; that is, as borrower equity increases, mortgage defaults decrease;

- *Documentation Type (Reference Level = Full, Other Levels = Low):* Loans categorized as either low or no documentation loans relative to full documentation loans have a large, positive coefficient for all HPA categories using both all loans and terminated only loans. These results support the opinion that the amount of documentation at loan origination has a large influence on the default likelihood of a mortgage;

- *FICO score (Reference Level = 780-850, Other Levels = 350-579, 580-599, 600-619, 620-659, 660-689, 690-719, 720-749, 750-779)*: For all HPA categories and for both all loans and the terminated only loan model calibrations, the pattern between FICO score and the default rate follows the expected inverse relationship where lower FICO scores are associated with higher default rates and higher FICO scores are associated with lower default rates. One interesting observation is that the value of the coefficient for low FICO scores (e.g., FICO scores less than 660) increases as the HPA range increases from negative HPA environments to positive HPA environments. This suggests that the distinguishing effect of FICO score at origination is more diluted in negative HPA environments than in positive HPA environments;

- *Insured versus Uninsured:* For Population (1), the model coefficients support the empirical observation that the default rate for insured loans is less than the default rate for uninsured loans. That is, the coefficient for uninsured loans is larger than the coefficient for insured loans in the same CLTV cohort. More detail on comparisons between the relative performance of uninsured loans and insured loans is presented in a later section of this report;

- *Interest Only/Negative Amortization (Reference Level = No, Other Levels = Yes):* In line with expectations the coefficients associated with interest only flags and negative amortization flags are large and positive. The coefficient for loans categorized as interest only is generally larger than the coefficient for negative amortization flags. In addition, for the HPA category "20%>HPA", the negative amortization coefficient is relatively small for the all loans model and is not significant for the terminated only loans model;

- *Investor type:* For certain parts of the analysis, Milliman separated the loans into GSE and Private (i.e. not GSE) investor groups. This variable was not used as an explanatory variable in the regression models;

- *Loan purpose (Reference Level = Purchase, Other Levels = C/O Refi, R/T Refi)*: The relationship between loan purpose and default frequency varies depending upon the HPA environment. For negative HPA environments, cash out refinance loans and rate/term refinance loans have a positive coefficient indicating an increased likelihood of default relative to purchase loans; for largely positive HPA environments (i.e. 20%<HPA), cash out refinance loans and rate/term refinance loans have negative coefficients indicating a decreased likelihood of default although the absolute magnitude of default rates in high HPA environments is relatively small;

- *Occupancy type (Reference Level = O[wner], Other Levels = I[nvestor], S[econd], U[nknown]):* In line with expectations, mortgages on investor properties have a positive coefficient for both the terminated and active loans dataset and the terminated only loans dataset. The coefficient on second home mortgages is mixed in magnitude with positive coefficients for all HPA environments with the exception of the 20%>HPA environment where the coefficient is negative. The results for unknown occupancy types vary in magnitude and sign across models;

- *Property type (Reference Level = SFR [Single Family Residence] , Other Levels = 2-4 U[nits], Condo):* The coefficient on 2-4 properties is positive for all HPA environments and for both the all loans dataset and the terminated only loans dataset, and the coefficients vary in magnitude across HPA environments. Positive coefficients for 2-4 Units are in line with expectations. The coefficient for condo varies in sign and magnitude across HPA environments;

- *Property value size (Reference Level = 2, Other Levels = 0, 1, 3, 4):* Each loan was assigned to a relative original property value size category based on the distribution of original property value sizes for each CBSA and origination year. To develop the original property value size categories Milliman looked at all loan originations in the Corelogic Data for origination years 2002 through 2007 by CBSA and origination year; Milliman determined original property value size quintiles for each geographic location by origination year. Milliman then assigned each loan to a quintile depending upon the size of the original property value of the loan, the location of the loan, and the origination year of the loan. The relationship between the relative original property value size and default rates tends to vary depending upon the loan's HPA environment; and

- *Term (Reference Level = 360, Other Levels = <360, >360):* Mortgages with an original term more than 30 years had positive coefficients in all HPA environments, consistent with expectations. Mortgages with terms less than 30 years generally had negative coefficients, consistent with expectations, except for in the most positive HPA environment '20%<HPA'.

- *Source (Reference Level = Non-Retail, Other Levels = Retail, Correspond[ence], Other) :* Correspondence loans had positive coefficients, consistent with Milliman's expectations. Other and Retail generally showed negative coefficients, but varied by HPA environment.

Exhibit 2 Pages 2 and 5 provide the parameter estimates for the Default_90 response variable on loans that have terminated by 20 quarters of development; the results generally mirror those for the Default_NC

response variable. Exhibit 2 Pages 3 and 6 provide the parameter estimates for the cure response variable on loans that have terminated by 20 quarters of development; a large portion of the variables in the model are not significant at the 10% level due to the generally low volume in the response variable by 20 quarters of development. The volume of loan cures and subsequent terminations within the valuation period is minimal and results are inconsistent between models. The parameter estimates of these models are questionable, and the reader should be careful in trying to interpret these results.

The parameter estimates for each default model (i.e. for each of the five loan populations using both all loans and terminated only loans) and default response variable (i.e. either Default 90 or Default NC) are generally in line with expectations. This observation reinforces the reasonableness of the approach and findings in this study and provides support for the uninsured/insured results presented below.

Comparison of Uninsured Loan Default Rates to Insured Loan Default Rates

To statistically assess whether loans with insurance perform differently than loans without insurance, Milliman computed Odds Relativities of comparable cohorts and performed contrasts to assess the significance level of each comparison. For this study, Milliman computed the ratio of pairs of odds ratios, which we called the Odds Relativity. Within a given model, Milliman compared the odds ratios for uninsured loan cohorts relative to insured loan cohorts for a given CLTV cohort. Table 12 below provides the Odds Relativity and results of the contrast for Population (1) estimated using both terminated and active loans at 20 quarters of development.

Table 12 Population 1 : All loans in the Filtered Database CLTV 90 Terminated and Active Loans Default_NC Odds Relativity (Uninsured to Insured)			
	90 CLTV	**95 CLTV**	**GT95 CLTV**
HPA Range	**Odds Relativity**		
HPA<=-20%	1.195	1.250	1.843
-20%<HPA<=0%	1.326	1.364	2.224
0%<HPA<=20%	1.409	1.491	2.474
20%<HPA	1.432	1.326	2.282
HPA Range	**Significance (ProbChiSq)**		
HPA<=-20%	<0.0001	<0.0001	<0.0001
-20%<HPA<=0%	<0.0001	<0.0001	<0.0001
0%<HPA<=20%	<0.0001	<0.0001	<0.0001
20%<HPA	<0.0001	<0.0001	<0.0001

For example, within the 90 CLTV cohort, Milliman compared the odds ratio of the "90 Uninsured" cohort relative to the "90 Insured" cohort. "90 Uninsured" represents loans with an initial CLTV of 90 and no mortgage insurance; "90 Insured" represents loans with an initial CLTV of 90 and mortgage insurance. The Odds Relativity for the 90 CLTV cohort in the "HPA<=-20%" HPA environment is 1.195 ($1.195 = e^{(0.7371)} / e^{(0.5587)}$ where 0.7371 and 0.5587 are the parameter estimates shown in Table 11) . This type of comparison follows the same principles as computing contrasts in ANOVA or linear regression, and one can equivalently look at the arithmetic difference in the coefficients or the ratio of odds ratios. The Odds Relativity for the 90 CLTV cohort indicates that the odds of an uninsured loan in the 90 CLTV category defaulting is approximately 1.2 times as great as the odds of an insured loan in the 90 CLTV category defaulting assuming all other underwriting and HPA performance are similar. The Odds Relativity comparisons for all loan populations and response variables are shown in Exhibit 3. For completeness, these exhibits also provide the loan counts and empirical default relativities within each cohort.

For each model described in this paper, Milliman compared the odds ratios of uninsured loan cohorts relative to the odds ratios for insured loan cohorts as follows:

- 90 combined LTV;
- 95 combined LTV; and
- Greater than 95 combined LTV.

An Odds Relativity greater than one occurs when the odds ratio for the uninsured loan cohort is larger than the odds ratio for the insured loan cohort, all else equal. Note that an Odds Relativity of greater than one for the default variables (Default_NC and Default_90) indicates the probability of default for the uninsured loan cohort is higher than the probability of default for the insured loan cohort. An Odds Relativity of less than one for the cure variable indicates the probability of cure for the uninsured loan cohort is lower than the probability of cure for the insured cohort. In both cases we would conclude based on the odds ratio point estimates and Odds Relativities that the cohort of loans with insurance performed better, either from defaulting less or curing more.

In Table 11, the p-values of each parameter estimate are all significant at the 0.0001 level. The p-value shown in Table 11 is a test of whether or not each category in Table 11 is statistically different from the reference category of "80 Uninsured." Similarly, Milliman performed contrasts to determine whether or not the insured/uninsured coefficients are statistically different from each other.. The p-values shown in Table 12 and on the Odds Relativity exhibits are calculated using the contrast statement in SAS; the contrast statement tests for a statistical difference between the given pair of coefficients, namely uninsured versus insured loans. Mechanistically for the contrast, all other variables are set to their reference levels. The p-values represent the likelihood of observing the actual data given that the difference between the two true coefficients is zero, or that the two true coefficients are equal. Lower p-values indicate it is less likely to have observed the data given the two coefficients are equal. The p-values in Table 12 are the p-values of the contrast statement for Population (1) estimated using both terminated and active loans at 20 quarters of development. Table 12 indicates the Odds Relativities are significant at the 0.0001 level for every CLTV cohort. In other words, in any particular CLTV cohort, the probability of observing the actual data assuming there is no difference between the performance of insured and uninsured loans is 0.01%.

Exhibit 4 provides a visual summary of the Odds Relativities for the Default_NC variable for each of the models discussed in this report. In Exhibit 4, if the Odds Relativity is not significant at the 10% level, the Odds Relativity is not shown.

General Conclusions

In most of the CLTV cohorts and HPA environments for both Default_90 and Default_NC, the Odds Relativity is greater than one, which indicates the default frequency of uninsured loans is greater than the default frequency of insured loans after adjusting for underwriting characteristics and home price appreciation. This trend is most consistent in the models for large home price depreciation environments (appreciation of -20% or less). In general, the Odds Relativities are larger and have smaller p-values in the models with less favorable home price appreciation environments (e.g., HPA less than -20%).

The cure models based on all loans generally produce more reasonable results than in the terminated loans only models, at least in part because there are more observations to calibrate the models. We note that there are a nontrivial number of cells with very thin data, and those models should not be relied on for any inferences. Notwithstanding, the majority of the Odds Relativities are less than one in the cure models using all loans and concentrating on home price depreciation environments. An Odds Relativity of less than one in the cure models indicates uninsured loans are less likely to cure than insured loans. The p-values show a broad range across the models and CLTV cohorts, which is similar to the p-values in the default models. Many of the p-values are quite small, indicating a relatively low probability the coefficients are the same, but we note there are some p-values that are large with no evidence suggesting a difference in the coefficients.

OTHER CONSIDERATIONS

Cure Models and All Loans vs. Terminated Only

The cure models necessarily are calibrated with less data than the default models since a cure model is conditional on a loan default. That is, a loan must have defaulted prior to be considered for a cure model, and the cure model population is a subset of the loans used for the default models. Similarly, the models calibrated to the terminated loans only data are calibrated with less data than the models that use all loans. This is not only a data volume consideration but also a fundamental difference in the dependent variables of the models. In the all loans dataset (i.e. active and terminated loans) the dependent variable is the default probability for all loans originated as of the defined development period whereas the terminated only dataset is the default probability for loans that have terminated as of the defined development period. Although each tries to approximate the same response of interest, default probability, the difference between the two is more than their respective counts, and each approach has strengths and weaknesses.

Contrast P-Values

The p-values enhance the Odds Relativity statistic by encasing it in a probabilistic framework. However, we should be very clear about what the p-values for the contrasts mean. The contrast sets all other variables to the reference category and compares the requested point estimates for the given model in a two-sided test. This comparison is directly affected by the uncertainty associated with each point estimate, and uncertainty is influenced by both the true population characteristics and the sample size. Point estimates known with more certainty, i.e. which have less spread in their probability distribution, will be easier to discern statistical differences between than point estimates with less certainty. Importantly, these contrasts do not test for differences between the coefficients at levels other than the reference level for the other variables in the model. The p-values then are the probability the true coefficients are the same (the relative incidence is the same) for uninsured and insured loans, within a given model at the reference level for all other characteristics. This is also known as the probability of a Type I error, the probability of rejecting that the coefficients are equal when they are in fact the same. This tolerance level is subjective.

QUALIFICATIONS, LIMITATIONS AND DISCLOSURES

In performing this analysis, we have relied on data and other information available to us through Corelogic's LoanPerformance databases. We have not audited or verified this data and information. If the underlying data or information is inaccurate or incomplete, the results of our analysis may likewise be inaccurate or incomplete.

We performed a limited review of the data used directly in our analysis for reasonableness and consistency and have not found material defects in the data. If there are material defects in the data, it is possible that they would be uncovered by a detailed, systematic review and comparison of the data to search for data values that are questionable or relationships that are materially inconsistent. Such a review was beyond the scope of our assignment.

Any study of future operating results involves estimates of future contingencies. While our analysis represents our best professional judgment, arrived at after careful analysis of the available information, it is important to note that a significant degree of variation from our analysis is not only possible, but is in fact probable. The sources of this variation are numerous: future national or regional economic conditions, mortgage prepayment speeds, the time period used to calibrate the regression models, and legislative changes affecting the mortgage business are examples.

The uncertainty associated with our estimates is also magnified by the nature of mortgage performance. Mortgage defaults and prepayments are sensitive to economic factors such as unemployment, housing market conditions, interest rate levels, etc. Past experience may not be indicative of future conditions. A loan originated in a given year is generally active over several calendar years. Therefore, adverse economic conditions in a given calendar year could affect results not only for the current origination year, but also for prior origination years. Future economic developments that give rise to additional delinquencies and losses will impact ultimate defaults. Mortgage forecasts are significantly more uncertain given the current economic deterioration, elevated default rates, and adverse house price trends.

Continuing volatility in the housing and mortgage markets, as well as the overall economy, make it difficult to model mortgage performance. The unsettled economic environment may worsen, causing more future defaults than currently observed in this analysis. Potentially offsetting the economic factors are government- and private-led initiatives that could have a stabilizing impact on the key variables typically driving the level of future defaults.

The analysis and any conclusions provided in Milliman's deliverables are based on data provided to Milliman by third-party sources. Milliman does not warrant the accuracy or completeness of any third-party data, and disclaims any and all liability in connection with such third-party data. Any errors in the data provided may affect the results of our analysis. Milliman shall not be liable for the results of its analysis to the extent that errors are contained in third-party data sources.

Disclosures

Actuarial standards require us to disclose the following:

Purpose

The purpose of this analysis is to independently estimate the impact of mortgage insurance of mortgage default rates. Performance data used in our analysis was evaluated as of March 31, 2011.

Constraints

There have been no constraints on this project (such as time, availability of data, or access to staff) that materially impacted our ability to provide this analysis to the Mortgage Insurance Companies of America (MICA).

Scope

Our estimates of each cohort's parameters under this analysis are characterized as statistically-defined estimates (mean, median, nth percentile) using maximum likelihood estimation.

LIMITED DISTRIBUTION OF RESULTS

Milliman's work is prepared solely for the benefit of the Mortgage Insurance Companies of America. Except as set forth below, Milliman's work may not be provided to third parties without Milliman's prior written consent. Milliman does not intend to legally benefit any third-party recipient of its work product, even if Milliman consents to the release of its work product to a third party. The Mortgage Insurance Companies of America may distribute or submit for publication the final, non-draft version of reports that, by mutual written agreement, are intended for general public distribution as well as any summaries, abstracts, or press releases prepared by the Mortgage Insurance Companies of America subject to Milliman's prior review and approval, which shall not be unreasonably withheld or delayed. The Mortgage Insurance Companies of America shall not edit, modify, summarize, abstract, or otherwise change the content of any final report and any distribution must include the entire report. Press releases mentioning such reports may be issued by Milliman or the Mortgage Insurance Companies of America upon mutual agreement of the Mortgage Insurance Companies of America and Milliman as to their content. Mentions of Milliman work will provide citations that will enable the reader to obtain the full report. Notwithstanding the foregoing, no Milliman report shall be used by the Mortgage Insurance Companies of America in connection with any offering, prospectus, securities filing, or solicitation of investment. Professional reviewers engaged by the Mortgage Insurance Companies of America or independent journals to provide peer review of Milliman's work must agree to terms of confidentiality that are reasonable and customary in the industry. Any piece of Milliman draft work to be provided to peer reviewers must receive prior Milliman approval, and Milliman shall not unreasonably withhold such approval. The copyright to all report content shall remain with Milliman unless otherwise agreed.

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If you should have any questions with regard to this analysis or would like to have us consider additional information, please do not hesitate to contact us. We appreciate the opportunity to work with the Mortgage Insurance Companies of America on this assignment.

Respectfully submitted,

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Mortgage Insurance Companies of America
Loan Count and Empirical Default Rate Comparison
Loan Population 1: All loans in the filtered dataset
CLTV Cohort: 80

	Terminated and Active Loans						Terminated Loans					
	80 Uninsured			80 Insured			80 Uninsured			80 Insured		
	Default_90	Cure Given Default_90	Default_NC	Default_90	Cure Given Default_90	Default_NC	Default_90	Cure Given Default_90	Default_NC	Default_90	Cure Given Default_90	Default_NC
HPA Range	Observed Loan Count			Observed Loan Count			Observed Loan Count			Observed Loan Count		
HPA<=-20%	288,697	61,019	288,697	0	0	0	155,940	29,091	155,940	0	0	0
-20%<HPA<=0%	536,891	36,160	536,891	0	0	0	318,568	15,311	318,568	0	0	0
0%<HPA<=20%	917,340	25,131	917,340	0	0	0	574,489	13,024	574,489	0	0	0
20%<HPA	1,028,961	14,151	1,028,961	0	0	0	710,353	9,132	710,353	0	0	0
HPA Range	Number of Responses			Number of Responses			Number of Responses			Number of Responses		
HPA<=-20%	61,019	8,215	56,219	0	0	0	29,091	1,439	28,636	0	0	0
-20%<HPA<=0%	36,160	8,159	31,264	0	0	0	15,311	1,638	14,606	0	0	0
0%<HPA<=20%	25,131	8,271	19,804	0	0	0	13,024	2,704	11,359	0	0	0
20%<HPA	14,151	6,386	9,506	0	0	0	9,132	3,056	6,936	0	0	0
HPA Range	Response Rate			Response Rate			Response Rate			Response Rate		
HPA<=-20%	21.1%	13.5%	19.5%	NA	NA	NA	18.7%	4.9%	18.4%	NA	NA	NA
-20%<HPA<=0%	6.7%	22.6%	5.8%	NA	NA	NA	4.8%	10.7%	4.6%	NA	NA	NA
0%<HPA<=20%	2.7%	32.9%	2.2%	NA	NA	NA	2.3%	20.8%	2.0%	NA	NA	NA
20%<HPA	1.4%	45.1%	0.9%	NA	NA	NA	1.3%	33.5%	1.0%	NA	NA	NA

HPA Range	Ratio of Uninsured to Insured Rate			Ratio of Uninsured to Insured Rate		
HPA<=-20%	NA	NA	NA	NA	NA	NA
-20%<HPA<=0%	NA	NA	NA	NA	NA	NA
0%<HPA<=20%	NA	NA	NA	NA	NA	NA
20%<HPA	NA	NA	NA	NA	NA	NA

Mortgage Insurance Companies of America
Loan Count and Empirical Default Rate Comparison
Loan Population 1: All loans in the filtered dataset
CLTV Cohort: 90

Terminated and Active Loans

	90 Uninsured			90 Insured		
	Default_90	Cure Given Default_90	Default_NC	Default_90	Cure Given Default_90	Default_NC
HPA Range	Observed Loan Count			Observed Loan Count		
HPA<=-20%	80,539	38,415	80,539	47,743	15,344	47,743
-20%<HPA<=0%	90,231	19,359	90,231	123,527	17,938	123,527
0%<HPA<=20%	92,784	8,883	92,784	308,605	23,053	308,605
20%<HPA	60,436	2,811	60,436	341,716	14,351	341,716
HPA Range	Number of Responses			Number of Responses		
HPA<=-20%	38,415	4,824	36,246	15,344	2,703	13,838
-20%<HPA<=0%	19,359	4,187	17,320	17,938	5,548	14,691
0%<HPA<=20%	8,883	3,254	7,194	23,053	9,208	17,487
20%<HPA	2,811	1,663	1,818	14,351	7,902	9,119
HPA Range	Response Rate			Response Rate		
HPA<=-20%	47.7%	12.6%	45.0%	32.1%	17.6%	29.0%
-20%<HPA<=0%	21.5%	21.6%	19.2%	14.5%	30.9%	11.9%
0%<HPA<=20%	9.6%	36.6%	7.8%	7.5%	39.9%	5.7%
20%<HPA	4.7%	59.2%	3.0%	4.2%	55.1%	2.7%
HPA Range	Ratio of Uninsured to Insured Rate					
HPA<=-20%	1.484	0.713	1.553			
-20%<HPA<=0%	1.477	0.699	1.614			
0%<HPA<=20%	1.282	0.917	1.368			
20%<HPA	1.108	1.074	1.127			

Terminated Loans

	90 Uninsured			90 Insured		
	Default_90	Cure Given Default_90	Default_NC	Default_90	Cure Given Default_90	Default_NC
HPA Range	Observed Loan Count			Observed Loan Count		
HPA<=-20%	33,361	18,040	33,361	21,721	6,792	21,721
-20%<HPA<=0%	33,881	6,778	33,881	56,257	6,480	56,257
0%<HPA<=20%	31,769	2,929	31,769	154,422	10,082	154,422
20%<HPA	13,882	704	13,882	199,332	7,114	199,332
HPA Range	Number of Responses			Number of Responses		
HPA<=-20%	18,040	861	17,953	6,792	511	6,600
-20%<HPA<=0%	6,778	564	6,661	6,480	870	6,132
0%<HPA<=20%	2,929	524	2,732	10,082	2,142	8,995
20%<HPA	704	285	531	7,114	2,681	5,396
HPA Range	Response Rate			Response Rate		
HPA<=-20%	54.1%	4.8%	53.8%	31.3%	7.5%	30.4%
-20%<HPA<=0%	20.0%	8.3%	19.7%	11.5%	13.4%	10.9%
0%<HPA<=20%	9.2%	17.9%	8.6%	6.5%	21.2%	5.8%
20%<HPA	5.1%	40.5%	3.8%	3.6%	37.7%	2.7%
HPA Range	Ratio of Uninsured to Insured Rate					
HPA<=-20%	1.729	0.634	1.771			
-20%<HPA<=0%	1.737	0.620	1.804			
0%<HPA<=20%	1.412	0.842	1.476			
20%<HPA	1.421	1.074	1.413			

Mortgage Insurance Companies of America
Loan Count and Empirical Default Rate Comparison
Loan Population 1: All loans in the filtered dataset
CLTV Cohort: 95

Terminated and Active Loans

	95 Uninsured			95 Insured		
	Default_90	Cure Given Default_90	Default_NC	Default_90	Cure Given Default_90	Default_NC
HPA Range	Observed Loan Count			Observed Loan Count		
HPA<=-20%	21,854	9,976	21,854	20,912	7,077	20,912
-20%<HPA<=0%	44,092	8,358	44,092	61,640	9,119	61,640
0%<HPA<=20%	63,349	5,535	63,349	196,782	15,587	196,782
20%<HPA	37,426	1,882	37,426	225,957	11,695	225,957
HPA Range	Number of Responses			Number of Responses		
HPA<=-20%	9,976	1,124	9,496	7,077	1,222	6,443
-20%<HPA<=0%	8,358	1,986	7,392	9,119	3,040	7,468
0%<HPA<=20%	5,535	2,026	4,491	15,587	6,978	11,597
20%<HPA	1,882	1,125	1,248	11,695	6,604	7,483
HPA Range	Response Rate			Response Rate		
HPA<=-20%	45.6%	11.3%	43.5%	33.8%	17.3%	30.8%
-20%<HPA<=0%	19.0%	23.8%	16.8%	14.8%	33.3%	12.1%
0%<HPA<=20%	8.7%	36.6%	7.1%	7.9%	44.8%	5.9%
20%<HPA	5.0%	59.8%	3.3%	5.2%	56.5%	3.3%

HPA Range	Ratio of Uninsured to Insured Rate		
HPA<=-20%	1.349	0.653	1.410
-20%<HPA<=0%	1.281	0.713	1.384
0%<HPA<=20%	1.103	0.818	1.203
20%<HPA	0.972	1.059	1.007

Terminated Loans

	95 Uninsured			95 Insured		
	Default_90	Cure Given Default_90	Default_NC	Default_90	Cure Given Default_90	Default_NC
HPA Range	Observed Loan Count			Observed Loan Count		
HPA<=-20%	8,105	4,843	8,105	9,072	3,106	9,072
-20%<HPA<=0%	16,143	3,010	16,143	26,977	3,120	26,977
0%<HPA<=20%	23,205	1,971	23,205	95,859	6,565	95,859
20%<HPA	10,140	481	10,140	126,861	5,608	126,861
HPA Range	Number of Responses			Number of Responses		
HPA<=-20%	4,843	234	4,821	3,106	237	3,041
-20%<HPA<=0%	3,010	252	2,971	3,120	509	2,940
0%<HPA<=20%	1,971	315	1,868	6,565	1,579	5,803
20%<HPA	481	178	391	5,608	2,105	4,331
HPA Range	Response Rate			Response Rate		
HPA<=-20%	59.8%	4.8%	59.5%	34.2%	7.6%	33.5%
-20%<HPA<=0%	18.6%	8.4%	18.4%	11.6%	16.3%	10.9%
0%<HPA<=20%	8.5%	16.0%	8.0%	6.8%	24.1%	6.1%
20%<HPA	4.7%	37.0%	3.9%	4.4%	37.5%	3.4%

HPA Range	Ratio of Uninsured to Insured Rate		
HPA<=-20%	1.745	0.633	1.774
-20%<HPA<=0%	1.612	0.513	1.689
0%<HPA<=20%	1.240	0.664	1.330
20%<HPA	1.073	0.986	1.129

Mortgage Insurance Companies of America
Loan Count and Empirical Default Rate Comparison
Loan Population 1: All loans in the filtered dataset
CLTV Cohort: GT95

	Terminated and Active Loans						Terminated Loans					
	GT95 Uninsured			GT95 Insured			GT95 Uninsured			GT95 Insured		
	Default_90	Cure Given Default_90	Default_NC	Default_90	Cure Given Default_90	Default_NC	Default_90	Cure Given Default_90	Default_NC	Default_90	Cure Given Default_90	Default_NC
HPA Range	Observed Loan Count			Observed Loan Count			Observed Loan Count			Observed Loan Count		
HPA<=-20%	35,323	19,923	35,323	28,024	8,592	28,024	15,675	10,733	15,675	14,576	4,647	14,576
-20%<HPA<=0%	68,218	21,619	68,218	131,023	23,491	131,023	23,624	7,425	23,624	63,674	11,366	63,674
0%<HPA<=20%	116,952	26,902	116,952	490,179	61,156	490,179	37,154	7,352	37,154	245,040	31,500	245,040
20%<HPA	63,413	12,779	63,413	523,286	45,205	523,286	15,031	2,874	15,031	330,249	26,905	330,249
HPA Range	Number of Responses			Number of Responses			Number of Responses			Number of Responses		
HPA<=-20%	19,923	2,695	18,774	8,592	2,116	7,597	10,733	570	10,695	4,647	685	4,421
-20%<HPA<=0%	21,619	6,587	19,038	23,491	9,195	18,857	7,425	894	7,309	11,366	2,266	10,611
0%<HPA<=20%	26,902	13,217	21,605	61,156	28,213	46,409	7,352	1,872	6,977	31,500	7,384	28,573
20%<HPA	12,779	8,376	8,734	45,205	23,093	32,236	2,874	1,366	2,327	26,905	8,918	22,211
HPA Range	Response Rate			Response Rate			Response Rate			Response Rate		
HPA<=-20%	56.4%	13.5%	53.1%	30.7%	24.6%	27.1%	68.5%	5.3%	68.2%	31.9%	14.7%	30.3%
-20%<HPA<=0%	31.7%	30.5%	27.9%	17.9%	39.1%	14.4%	31.4%	12.0%	30.9%	17.9%	19.9%	16.7%
0%<HPA<=20%	23.0%	49.1%	18.5%	12.5%	46.1%	9.5%	19.8%	25.5%	18.8%	12.9%	23.4%	11.7%
20%<HPA	20.2%	65.5%	13.8%	8.6%	51.1%	6.2%	19.1%	47.5%	15.5%	8.1%	33.1%	6.7%

HPA Range	Ratio of Uninsured to Insured Rate			Ratio of Uninsured to Insured Rate		
HPA<=-20%	1.840	0.549	1.961	2.148	0.360	2.250
-20%<HPA<=0%	1.768	0.778	1.939	1.761	0.604	1.857
0%<HPA<=20%	1.844	1.065	1.951	1.539	1.086	1.610
20%<HPA	2.333	1.283	2.236	2.347	1.434	2.302

Mortgage Insurance Companies of America
Loan Count and Empirical Default Rate Comparison
Loan Population 2: All loans excluding FHA and GT95 CLTV
CLTV Cohort: 80

	Terminated and Active Loans						Terminated Loans					
	80 Uninsured			80 Insured			80 Uninsured			80 Insured		
	Default_90	Cure Given Default_90	Default_NC	Default_90	Cure Given Default_90	Default_NC	Default_90	Cure Given Default_90	Default_NC	Default_90	Cure Given Default_90	Default_NC
HPA Range	Observed Loan Count			Observed Loan Count			Observed Loan Count			Observed Loan Count		
HPA<=-20%	288,697	61,019	288,697	0	0	0	155,940	29,091	155,940	0	0	0
-20%<HPA<=0%	536,891	36,160	536,891	0	0	0	318,568	15,311	318,568	0	0	0
0%<HPA<=20%	917,340	25,131	917,340	0	0	0	574,489	13,024	574,489	0	0	0
20%<HPA	1,028,961	14,151	1,028,961	0	0	0	710,353	9,132	710,353	0	0	0
HPA Range	Number of Responses			Number of Responses			Number of Responses			Number of Responses		
HPA<=-20%	61,019	8,215	56,219	0	0	0	29,091	1,439	28,636	0	0	0
-20%<HPA<=0%	36,160	8,159	31,264	0	0	0	15,311	1,638	14,606	0	0	0
0%<HPA<=20%	25,131	8,271	19,804	0	0	0	13,024	2,704	11,359	0	0	0
20%<HPA	14,151	6,386	9,506	0	0	0	9,132	3,056	6,936	0	0	0
HPA Range	Response Rate			Response Rate			Response Rate			Response Rate		
HPA<=-20%	21.1%	13.5%	19.5%	NA	NA	NA	18.7%	4.9%	18.4%	NA	NA	NA
-20%<HPA<=0%	6.7%	22.6%	5.8%	NA	NA	NA	4.8%	10.7%	4.6%	NA	NA	NA
0%<HPA<=20%	2.7%	32.9%	2.2%	NA	NA	NA	2.3%	20.8%	2.0%	NA	NA	NA
20%<HPA	1.4%	45.1%	0.9%	NA	NA	NA	1.3%	33.5%	1.0%	NA	NA	NA

HPA Range	Ratio of Uninsured to Insured Rate			Ratio of Uninsured to Insured Rate		
HPA<=-20%	NA	NA	NA	NA	NA	NA
-20%<HPA<=0%	NA	NA	NA	NA	NA	NA
0%<HPA<=20%	NA	NA	NA	NA	NA	NA
20%<HPA	NA	NA	NA	NA	NA	NA

Mortgage Insurance Companies of America
Loan Count and Empirical Default Rate Comparison
Loan Population 2: All loans excluding FHA and GT95 CLTV
CLTV Cohort: 90

	Terminated and Active Loans						Terminated Loans					
	90 Uninsured			90 Insured			90 Uninsured			90 Insured		
	Default_90	Cure Given Default_90	Default_NC	Default_90	Cure Given Default_90	Default_NC	Default_90	Cure Given Default_90	Default_NC	Default_90	Cure Given Default_90	Default_NC
HPA Range	Observed Loan Count			Observed Loan Count			Observed Loan Count			Observed Loan Count		
HPA<=-20%	80,539	38,415	80,539	44,408	14,876	44,408	33,361	18,040	33,361	19,815	6,575	19,815
-20%<HPA<=0%	90,231	19,359	90,231	109,852	16,567	109,852	33,881	6,778	33,881	48,479	5,891	48,479
0%<HPA<=20%	92,784	8,883	92,784	267,317	19,664	267,317	31,769	2,929	31,769	131,518	8,358	131,518
20%<HPA	60,436	2,811	60,436	278,755	10,519	278,755	13,882	704	13,882	157,011	4,683	157,011
HPA Range	Number of Responses			Number of Responses			Number of Responses			Number of Responses		
HPA<=-20%	38,415	4,824	36,246	14,876	2,515	13,480	18,040	861	17,953	6,575	470	6,399
-20%<HPA<=0%	19,359	4,187	17,320	16,567	4,854	13,770	6,778	564	6,661	5,891	727	5,620
0%<HPA<=20%	8,883	3,254	7,194	19,664	7,423	15,215	2,929	524	2,732	8,358	1,608	7,565
20%<HPA	2,811	1,663	1,818	10,519	5,819	6,599	704	285	531	4,683	1,709	3,550
HPA Range	Response Rate			Response Rate			Response Rate			Response Rate		
HPA<=-20%	47.7%	12.6%	45.0%	33.5%	16.9%	30.4%	54.1%	4.8%	53.8%	33.2%	7.1%	32.3%
-20%<HPA<=0%	21.5%	21.6%	19.2%	15.1%	29.3%	12.5%	20.0%	8.3%	19.7%	12.2%	12.3%	11.6%
0%<HPA<=20%	9.6%	36.6%	7.8%	7.4%	37.7%	5.7%	9.2%	17.9%	8.6%	6.4%	19.2%	5.8%
20%<HPA	4.7%	59.2%	3.0%	3.8%	55.3%	2.4%	5.1%	40.5%	3.8%	3.0%	36.5%	2.3%

HPA Range	Ratio of Uninsured to Insured Rate				Ratio of Uninsured to Insured Rate	
HPA<=-20%	1.424	0.743	1.483		1.630	0.668	1.666
-20%<HPA<=0%	1.423	0.738	1.531		1.646	0.674	1.696
0%<HPA<=20%	1.301	0.970	1.362		1.451	0.930	1.495
20%<HPA	1.233	1.069	1.271		1.700	1.109	1.692

Mortgage Insurance Companies of America
Loan Count and Empirical Default Rate Comparison
Loan Population 2: All loans excluding FHA and GT95 CLTV
CLTV Cohort: 95

Terminated and Active Loans

	95 Uninsured			95 Insured		
	Default_90	Cure Given Default_90	Default_NC	Default_90	Cure Given Default_90	Default_NC
HPA Range	Observed Loan Count			Observed Loan Count		
HPA<=-20%	21,854	9,976	21,854	19,414	6,828	19,414
-20%<HPA<=0%	44,092	8,358	44,092	53,427	8,225	53,427
0%<HPA<=20%	63,349	5,535	63,349	163,582	12,360	163,582
20%<HPA	37,426	1,882	37,426	181,614	8,449	181,614
HPA Range	Number of Responses			Number of Responses		
HPA<=-20%	9,976	1,124	9,496	6,828	1,139	6,239
-20%<HPA<=0%	8,358	1,986	7,392	8,225	2,596	6,836
0%<HPA<=20%	5,535	2,026	4,491	12,360	5,353	9,323
20%<HPA	1,882	1,125	1,248	8,449	4,914	5,244
HPA Range	Response Rate			Response Rate		
HPA<=-20%	45.6%	11.3%	43.5%	35.2%	16.7%	32.1%
-20%<HPA<=0%	19.0%	23.8%	16.8%	15.4%	31.6%	12.8%
0%<HPA<=20%	8.7%	36.6%	7.1%	7.6%	43.3%	5.7%
20%<HPA	5.0%	59.8%	3.3%	4.7%	58.2%	2.9%

HPA Range	Ratio of Uninsured to Insured Rate		
HPA<=-20%	1.298	0.675	1.352
-20%<HPA<=0%	1.231	0.753	1.310
0%<HPA<=20%	1.156	0.845	1.244
20%<HPA	1.081	1.028	1.155

Terminated Loans

	95 Uninsured			95 Insured		
	Default_90	Cure Given Default_90	Default_NC	Default_90	Cure Given Default_90	Default_NC
HPA Range	Observed Loan Count			Observed Loan Count		
HPA<=-20%	8,105	4,843	8,105	8,283	2,970	8,283
-20%<HPA<=0%	16,143	3,010	16,143	22,896	2,743	22,896
0%<HPA<=20%	23,205	1,971	23,205	79,008	4,922	79,008
20%<HPA	10,140	481	10,140	98,521	3,589	98,521
HPA Range	Number of Responses			Number of Responses		
HPA<=-20%	4,843	234	4,821	2,970	216	2,914
-20%<HPA<=0%	3,010	252	2,971	2,743	413	2,604
0%<HPA<=20%	1,971	315	1,868	4,922	1,117	4,389
20%<HPA	481	178	391	3,589	1,363	2,730
HPA Range	Response Rate			Response Rate		
HPA<=-20%	59.8%	4.8%	59.5%	35.9%	7.3%	35.2%
-20%<HPA<=0%	18.6%	8.4%	18.4%	12.0%	15.1%	11.4%
0%<HPA<=20%	8.5%	16.0%	8.0%	6.2%	22.7%	5.6%
20%<HPA	4.7%	37.0%	3.9%	3.6%	38.0%	2.8%

HPA Range	Ratio of Uninsured to Insured Rate		
HPA<=-20%	1.666	0.664	1.691
-20%<HPA<=0%	1.556	0.556	1.618
0%<HPA<=20%	1.363	0.704	1.449
20%<HPA	1.302	0.974	1.392

Mortgage Insurance Companies of America
Loan Count and Empirical Default Rate Comparison
Loan Population 2: All loans excluding FHA and GT95 CLTV
CLTV Cohort: GT95

	Terminated and Active Loans						Terminated Loans					
	GT95 Uninsured			GT95 Insured			GT95 Uninsured			GT95 Insured		
	Default_90	Cure Given Default_90	Default_NC	Default_90	Cure Given Default_90	Default_NC	Default_90	Cure Given Default_90	Default_NC	Default_90	Cure Given Default_90	Default_NC
HPA Range	Observed Loan Count			Observed Loan Count			Observed Loan Count			Observed Loan Count		
HPA<=-20%	0	0	0	0	0	0	0	0	0	0	0	0
-20%<HPA<=0%	0	0	0	0	0	0	0	0	0	0	0	0
0%<HPA<=20%	0	0	0	0	0	0	0	0	0	0	0	0
20%<HPA	0	0	0	0	0	0	0	0	0	0	0	0
HPA Range	Number of Responses			Number of Responses			Number of Responses			Number of Responses		
HPA<=-20%	0	0	0	0	0	0	0	0	0	0	0	0
-20%<HPA<=0%	0	0	0	0	0	0	0	0	0	0	0	0
0%<HPA<=20%	0	0	0	0	0	0	0	0	0	0	0	0
20%<HPA	0	0	0	0	0	0	0	0	0	0	0	0
HPA Range	Response Rate			Response Rate			Response Rate			Response Rate		
HPA<=-20%	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
-20%<HPA<=0%	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
0%<HPA<=20%	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
20%<HPA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

HPA Range	Ratio of Uninsured to Insured Rate			Ratio of Uninsured to Insured Rate		
HPA<=-20%	NA	NA	NA	NA	NA	NA
-20%<HPA<=0%	NA	NA	NA	NA	NA	NA
0%<HPA<=20%	NA	NA	NA	NA	NA	NA
20%<HPA	NA	NA	NA	NA	NA	NA

Mortgage Insurance Companies of America
Loan Count and Empirical Default Rate Comparison
Loan Population 3: QRM loans excluding FHA and GT95 CLTV
CLTV Cohort: 80

	Terminated and Active Loans						Terminated Loans					
	80 Uninsured			80 Insured			80 Uninsured			80 Insured		
	Default_90	Cure Given Default_90	Default_NC	Default_90	Cure Given Default_90	Default_NC	Default_90	Cure Given Default_90	Default_NC	Default_90	Cure Given Default_90	Default_NC
HPA Range	Observed Loan Count			Observed Loan Count			Observed Loan Count			Observed Loan Count		
HPA<=-20%	36,093	3,571	36,093	0	0	0	15,935	1,382	15,935	0	0	0
-20%<HPA<=0%	113,787	2,840	113,787	0	0	0	60,412	962	60,412	0	0	0
0%<HPA<=20%	255,035	2,784	255,035	0	0	0	147,253	1,389	147,253	0	0	0
20%<HPA	322,005	1,906	322,005	0	0	0	206,196	1,116	206,196	0	0	0
HPA Range	Number of Responses			Number of Responses			Number of Responses			Number of Responses		
HPA<=-20%	3,571	489	3,196	0	0	0	1,382	62	1,345	0	0	0
-20%<HPA<=0%	2,840	666	2,362	0	0	0	962	105	901	0	0	0
0%<HPA<=20%	2,784	915	2,130	0	0	0	1,389	292	1,188	0	0	0
20%<HPA	1,906	883	1,223	0	0	0	1,116	365	842	0	0	0
HPA Range	Response Rate			Response Rate			Response Rate			Response Rate		
HPA<=-20%	9.9%	13.7%	8.9%	NA	NA	NA	8.7%	4.5%	8.4%	NA	NA	NA
-20%<HPA<=0%	2.5%	23.5%	2.1%	NA	NA	NA	1.6%	10.9%	1.5%	NA	NA	NA
0%<HPA<=20%	1.1%	32.9%	0.8%	NA	NA	NA	0.9%	21.0%	0.8%	NA	NA	NA
20%<HPA	0.6%	46.3%	0.4%	NA	NA	NA	0.5%	32.7%	0.4%	NA	NA	NA
HPA Range	Ratio of Uninsured to Insured Rate						Ratio of Uninsured to Insured Rate					
HPA<=-20%	NA	NA	NA				NA	NA	NA			
-20%<HPA<=0%	NA	NA	NA				NA	NA	NA			
0%<HPA<=20%	NA	NA	NA				NA	NA	NA			
20%<HPA	NA	NA	NA				NA	NA	NA			

Mortgage Insurance Companies of America
Loan Count and Empirical Default Rate Comparison
Loan Population 3: QRM loans excluding FHA and GT95 CLTV
CLTV Cohort: 90

Terminated and Active Loans

	90 Uninsured			90 Insured		
	Default_90	Cure Given Default_90	Default_NC	Default_90	Cure Given Default_90	Default_NC
HPA Range	Observed Loan Count			Observed Loan Count		
HPA<=-20%	3,145	582	3,145	6,006	1,175	6,006
-20%<HPA<=0%	8,817	536	8,817	20,819	1,431	20,819
0%<HPA<=20%	14,544	344	14,544	67,874	1,740	67,874
20%<HPA	12,697	133	12,697	90,049	1,296	90,049
HPA Range	Number of Responses			Number of Responses		
HPA<=-20%	582	87	519	1,175	164	1,053
-20%<HPA<=0%	536	129	454	1,431	351	1,200
0%<HPA<=20%	344	114	261	1,740	596	1,317
20%<HPA	133	78	78	1,296	649	796
HPA Range	Response Rate			Response Rate		
HPA<=-20%	18.5%	14.9%	16.5%	19.6%	14.0%	17.5%
-20%<HPA<=0%	6.1%	24.1%	5.1%	6.9%	24.5%	5.8%
0%<HPA<=20%	2.4%	33.1%	1.8%	2.6%	34.3%	1.9%
20%<HPA	1.0%	58.6%	0.6%	1.4%	50.1%	0.9%
HPA Range	Ratio of Uninsured to Insured Rate					
HPA<=-20%	0.946	1.071	0.941			
-20%<HPA<=0%	0.884	0.981	0.893			
0%<HPA<=20%	0.923	0.967	0.925			
20%<HPA	0.728	1.171	0.695			

Terminated Loans

	90 Uninsured			90 Insured		
	Default_90	Cure Given Default_90	Default_NC	Default_90	Cure Given Default_90	Default_NC
HPA Range	Observed Loan Count			Observed Loan Count		
HPA<=-20%	575	193	575	1,988	408	1,988
-20%<HPA<=0%	2,626	159	2,626	8,532	424	8,532
0%<HPA<=20%	3,531	108	3,531	37,251	720	37,251
20%<HPA	1,198	21	1,198	56,881	685	56,881
HPA Range	Number of Responses			Number of Responses		
HPA<=-20%	193	4	192	408	21	400
-20%<HPA<=0%	159	10	157	424	46	403
0%<HPA<=20%	108	17	98	720	126	640
20%<HPA	21	9	16	685	221	517
HPA Range	Response Rate			Response Rate		
HPA<=-20%	33.6%	2.1%	33.4%	20.5%	5.1%	20.1%
-20%<HPA<=0%	6.1%	6.3%	6.0%	5.0%	10.8%	4.7%
0%<HPA<=20%	3.1%	15.7%	2.8%	1.9%	17.5%	1.7%
20%<HPA	1.8%	42.9%	1.3%	1.2%	32.3%	0.9%
HPA Range	Ratio of Uninsured to Insured Rate					
HPA<=-20%	1.635	0.403	1.660			
-20%<HPA<=0%	1.218	0.580	1.266			
0%<HPA<=20%	1.582	0.899	1.615			
20%<HPA	1.456	1.328	1.469			

Mortgage Insurance Companies of America
Loan Count and Empirical Default Rate Comparison
Loan Population 3: QRM loans excluding FHA and GT95 CLTV
CLTV Cohort: 95

Terminated and Active Loans

	95 Uninsured			95 Insured		
	Default_90	Cure Given Default_90	Default_NC	Default_90	Cure Given Default_90	Default_NC
HPA Range	Observed Loan Count			Observed Loan Count		
HPA<=-20%	2,269	482	2,269	3,187	672	3,187
-20%<HPA<=0%	7,967	555	7,967	11,795	787	11,795
0%<HPA<=20%	14,238	360	14,238	47,684	1,164	47,684
20%<HPA	9,254	121	9,254	62,894	1,028	62,894
HPA Range	Number of Responses			Number of Responses		
HPA<=-20%	482	66	436	672	84	609
-20%<HPA<=0%	555	133	467	787	199	650
0%<HPA<=20%	360	124	279	1,164	437	844
20%<HPA	121	59	77	1,028	539	649
HPA Range	Response Rate			Response Rate		
HPA<=-20%	21.2%	13.7%	19.2%	21.1%	12.5%	19.1%
-20%<HPA<=0%	7.0%	24.0%	5.9%	6.7%	25.3%	5.5%
0%<HPA<=20%	2.5%	34.4%	2.0%	2.4%	37.5%	1.8%
20%<HPA	1.3%	48.8%	0.8%	1.6%	52.4%	1.0%

HPA Range	Ratio of Uninsured to Insured Rate		
HPA<=-20%	1.007	1.095	1.006
-20%<HPA<=0%	1.044	0.948	1.064
0%<HPA<=20%	1.036	0.917	1.107
20%<HPA	0.800	0.930	0.806

Terminated Loans

	95 Uninsured			95 Insured		
	Default_90	Cure Given Default_90	Default_NC	Default_90	Cure Given Default_90	Default_NC
HPA Range	Observed Loan Count			Observed Loan Count		
HPA<=-20%	460	190	460	1,016	217	1,016
-20%<HPA<=0%	2,426	152	2,426	4,621	235	4,621
0%<HPA<=20%	4,175	124	4,175	24,426	467	24,426
20%<HPA	1,459	27	1,459	37,396	545	37,396
HPA Range	Number of Responses			Number of Responses		
HPA<=-20%	190	8	188	217	9	214
-20%<HPA<=0%	152	6	151	235	14	227
0%<HPA<=20%	124	17	117	467	96	402
20%<HPA	27	7	21	545	186	419
HPA Range	Response Rate			Response Rate		
HPA<=-20%	41.3%	4.2%	40.9%	21.4%	4.1%	21.1%
-20%<HPA<=0%	6.3%	3.9%	6.2%	5.1%	6.0%	4.9%
0%<HPA<=20%	3.0%	13.7%	2.8%	1.9%	20.6%	1.6%
20%<HPA	1.9%	25.9%	1.4%	1.5%	34.1%	1.1%

HPA Range	Ratio of Uninsured to Insured Rate		
HPA<=-20%	1.934	1.015	1.940
-20%<HPA<=0%	1.232	0.663	1.267
0%<HPA<=20%	1.553	0.667	1.703
20%<HPA	1.270	0.760	1.285

Mortgage Insurance Companies of America
Loan Count and Empirical Default Rate Comparison
Loan Population 3: QRM loans excluding FHA and GT95 CLTV
CLTV Cohort: GT95

Terminated and Active Loans

	GT95 Uninsured			GT95 Insured		
	Default_90	Cure Given Default_90	Default_NC	Default_90	Cure Given Default_90	Default_NC
HPA Range	Observed Loan Count			Observed Loan Count		
HPA<=-20%	0	0	0	0	0	0
-20%<HPA<=0%	0	0	0	0	0	0
0%<HPA<=20%	0	0	0	0	0	0
20%<HPA	0	0	0	0	0	0
HPA Range	Number of Responses			Number of Responses		
HPA<=-20%	0	0	0	0	0	0
-20%<HPA<=0%	0	0	0	0	0	0
0%<HPA<=20%	0	0	0	0	0	0
20%<HPA	0	0	0	0	0	0
HPA Range	Response Rate			Response Rate		
HPA<=-20%	NA	NA	NA	NA	NA	NA
-20%<HPA<=0%	NA	NA	NA	NA	NA	NA
0%<HPA<=20%	NA	NA	NA	NA	NA	NA
20%<HPA	NA	NA	NA	NA	NA	NA

HPA Range	Ratio of Uninsured to Insured Rate		
HPA<=-20%	NA	NA	NA
-20%<HPA<=0%	NA	NA	NA
0%<HPA<=20%	NA	NA	NA
20%<HPA	NA	NA	NA

Terminated Loans

	GT95 Uninsured			GT95 Insured		
	Default_90	Cure Given Default_90	Default_NC	Default_90	Cure Given Default_90	Default_NC
HPA Range	Observed Loan Count			Observed Loan Count		
HPA<=-20%	0	0	0	0	0	0
-20%<HPA<=0%	0	0	0	0	0	0
0%<HPA<=20%	0	0	0	0	0	0
20%<HPA	0	0	0	0	0	0
HPA Range	Number of Responses			Number of Responses		
HPA<=-20%	0	0	0	0	0	0
-20%<HPA<=0%	0	0	0	0	0	0
0%<HPA<=20%	0	0	0	0	0	0
20%<HPA	0	0	0	0	0	0
HPA Range	Response Rate			Response Rate		
HPA<=-20%	NA	NA	NA	NA	NA	NA
-20%<HPA<=0%	NA	NA	NA	NA	NA	NA
0%<HPA<=20%	NA	NA	NA	NA	NA	NA
20%<HPA	NA	NA	NA	NA	NA	NA

HPA Range	Ratio of Uninsured to Insured Rate		
HPA<=-20%	NA	NA	NA
-20%<HPA<=0%	NA	NA	NA
0%<HPA<=20%	NA	NA	NA
20%<HPA	NA	NA	NA

Mortgage Insurance Companies of America
Loan Count and Empirical Default Rate Comparison
Loan Population 4: All loans excluding FHA, GT95 CLTV, and GSE
CLTV Cohort: 80

Terminated and Active Loans

	80 Uninsured			80 Insured		
	Default_90	Cure Given Default_90	Default_NC	Default_90	Cure Given Default_90	Default_NC
HPA Range	Observed Loan Count			Observed Loan Count		
HPA<=-20%	169,920	39,881	169,920	0	0	0
-20%<HPA<=0%	249,563	20,113	249,563	0	0	0
0%<HPA<=20%	310,014	9,423	310,014	0	0	0
20%<HPA	267,988	3,513	267,988	0	0	0
HPA Range	Number of Responses			Number of Responses		
HPA<=-20%	39,881	5,090	37,169	0	0	0
-20%<HPA<=0%	20,113	3,778	18,052	0	0	0
0%<HPA<=20%	9,423	2,598	7,857	0	0	0
20%<HPA	3,513	1,409	2,527	0	0	0
HPA Range	Response Rate			Response Rate		
HPA<=-20%	23.5%	12.8%	21.9%	NA	NA	NA
-20%<HPA<=0%	8.1%	18.8%	7.2%	NA	NA	NA
0%<HPA<=20%	3.0%	27.6%	2.5%	NA	NA	NA
20%<HPA	1.3%	40.1%	0.9%	NA	NA	NA
HPA Range	Ratio of Uninsured to Insured Rate					
HPA<=-20%	NA	NA	NA			
-20%<HPA<=0%	NA	NA	NA			
0%<HPA<=20%	NA	NA	NA			
20%<HPA	NA	NA	NA			

Terminated Loans

	80 Uninsured			80 Insured		
	Default_90	Cure Given Default_90	Default_NC	Default_90	Cure Given Default_90	Default_NC
HPA Range	Observed Loan Count			Observed Loan Count		
HPA<=-20%	102,863	19,633	102,863	0	0	0
-20%<HPA<=0%	169,923	9,297	169,923	0	0	0
0%<HPA<=20%	239,254	5,584	239,254	0	0	0
20%<HPA	215,525	2,554	215,525	0	0	0
HPA Range	Number of Responses			Number of Responses		
HPA<=-20%	19,633	974	19,334	0	0	0
-20%<HPA<=0%	9,297	865	8,930	0	0	0
0%<HPA<=20%	5,584	1,083	4,925	0	0	0
20%<HPA	2,554	856	1,953	0	0	0
HPA Range	Response Rate			Response Rate		
HPA<=-20%	19.1%	5.0%	18.8%	NA	NA	NA
-20%<HPA<=0%	5.5%	9.3%	5.3%	NA	NA	NA
0%<HPA<=20%	2.3%	19.4%	2.1%	NA	NA	NA
20%<HPA	1.2%	33.5%	0.9%	NA	NA	NA
HPA Range	Ratio of Uninsured to Insured Rate					
HPA<=-20%	NA	NA	NA			
-20%<HPA<=0%	NA	NA	NA			
0%<HPA<=20%	NA	NA	NA			
20%<HPA	NA	NA	NA			

Mortgage Insurance Companies of America
Loan Count and Empirical Default Rate Comparison
Loan Population 4: All loans excluding FHA, GT95 CLTV, and GSE
CLTV Cohort: 90

Terminated and Active Loans

	90 Uninsured			90 Insured		
	Default_90	Cure Given Default_90	Default_NC	Default_90	Cure Given Default_90	Default_NC
HPA Range	Observed Loan Count			Observed Loan Count		
HPA<=-20%	59,350	30,531	59,350	16,736	6,067	16,736
-20%<HPA<=0%	51,992	14,247	51,992	31,107	4,615	31,107
0%<HPA<=20%	39,084	5,675	39,084	64,135	4,713	64,135
20%<HPA	22,787	1,702	22,787	59,026	2,464	59,026
HPA Range	Number of Responses			Number of Responses		
HPA<=-20%	30,531	3,849	28,946	6,067	961	5,624
-20%<HPA<=0%	14,247	2,986	12,936	4,615	1,212	4,017
0%<HPA<=20%	5,675	2,156	4,652	4,713	1,562	3,874
20%<HPA	1,702	1,070	1,122	2,464	1,058	1,792
HPA Range	Response Rate			Response Rate		
HPA<=-20%	51.4%	12.6%	48.8%	36.3%	15.8%	33.6%
-20%<HPA<=0%	27.4%	21.0%	24.9%	14.8%	26.3%	12.9%
0%<HPA<=20%	14.5%	38.0%	11.9%	7.3%	33.1%	6.0%
20%<HPA	7.5%	62.9%	4.9%	4.2%	42.9%	3.0%

HPA Range	Ratio of Uninsured to Insured Rate		
HPA<=-20%	1.419	0.796	1.451
-20%<HPA<=0%	1.847	0.798	1.927
0%<HPA<=20%	1.976	1.146	1.970
20%<HPA	1.789	1.464	1.622

Terminated Loans

	90 Uninsured			90 Insured		
	Default_90	Cure Given Default_90	Default_NC	Default_90	Cure Given Default_90	Default_NC
HPA Range	Observed Loan Count			Observed Loan Count		
HPA<=-20%	25,776	14,062	25,776	9,266	2,749	9,266
-20%<HPA<=0%	19,599	4,919	19,599	18,454	1,712	18,454
0%<HPA<=20%	12,737	1,714	12,737	44,173	2,541	44,173
20%<HPA	3,685	326	3,685	46,307	1,674	46,307
HPA Range	Number of Responses			Number of Responses		
HPA<=-20%	14,062	730	13,994	2,749	173	2,698
-20%<HPA<=0%	4,919	414	4,839	1,712	196	1,647
0%<HPA<=20%	1,714	331	1,599	2,541	487	2,308
20%<HPA	326	149	250	1,674	539	1,318
HPA Range	Response Rate			Response Rate		
HPA<=-20%	54.6%	5.2%	54.3%	29.7%	6.3%	29.1%
-20%<HPA<=0%	25.1%	8.4%	24.7%	9.3%	11.4%	8.9%
0%<HPA<=20%	13.5%	19.3%	12.6%	5.8%	19.2%	5.2%
20%<HPA	8.8%	45.7%	6.8%	3.6%	32.2%	2.8%

HPA Range	Ratio of Uninsured to Insured Rate		
HPA<=-20%	1.839	0.825	1.865
-20%<HPA<=0%	2.705	0.735	2.766
0%<HPA<=20%	2.339	1.008	2.403
20%<HPA	2.447	1.419	2.384

Mortgage Insurance Companies of America
Loan Count and Empirical Default Rate Comparison
Loan Population 4: All loans excluding FHA, GT95 CLTV, and GSE
CLTV Cohort: 95

Terminated and Active Loans

	95 Uninsured			95 Insured		
	Default_90	Cure Given Default_90	Default_NC	Default_90	Cure Given Default_90	Default_NC
HPA Range	Observed Loan Count			Observed Loan Count		
HPA<=-20%	12,775	6,897	12,775	7,163	2,782	7,163
-20%<HPA<=0%	18,620	4,932	18,620	15,402	2,482	15,402
0%<HPA<=20%	20,938	3,220	20,938	38,098	2,978	38,098
20%<HPA	11,084	1,238	11,084	34,570	1,609	34,570
HPA Range	Number of Responses			Number of Responses		
HPA<=-20%	6,897	774	6,624	2,782	443	2,589
-20%<HPA<=0%	4,932	1,247	4,397	2,482	739	2,112
0%<HPA<=20%	3,220	1,297	2,622	2,978	1,099	2,435
20%<HPA	1,238	782	833	1,609	741	1,161
HPA Range	Response Rate			Response Rate		
HPA<=-20%	54.0%	11.2%	51.9%	38.8%	15.9%	36.1%
-20%<HPA<=0%	26.5%	25.3%	23.6%	16.1%	29.8%	13.7%
0%<HPA<=20%	15.4%	40.3%	12.5%	7.8%	36.9%	6.4%
20%<HPA	11.2%	63.2%	7.5%	4.7%	46.1%	3.4%

HPA Range	Ratio of Uninsured to Insured Rate		
HPA<=-20%	1.390	0.705	1.435
-20%<HPA<=0%	1.644	0.849	1.722
0%<HPA<=20%	1.967	1.091	1.959
20%<HPA	2.400	1.372	2.238

Terminated Loans

	95 Uninsured			95 Insured		
	Default_90	Cure Given Default_90	Default_NC	Default_90	Cure Given Default_90	Default_NC
HPA Range	Observed Loan Count			Observed Loan Count		
HPA<=-20%	5,229	3,305	5,229	3,878	1,198	3,878
-20%<HPA<=0%	6,884	1,685	6,884	9,085	873	9,085
0%<HPA<=20%	7,833	991	7,833	27,837	1,491	27,837
20%<HPA	2,368	245	2,368	27,497	1,011	27,497
HPA Range	Number of Responses			Number of Responses		
HPA<=-20%	3,305	179	3,287	1,198	79	1,181
-20%<HPA<=0%	1,685	163	1,669	873	117	838
0%<HPA<=20%	991	192	940	1,491	329	1,330
20%<HPA	245	91	207	1,011	329	799
HPA Range	Response Rate			Response Rate		
HPA<=-20%	63.2%	5.4%	62.9%	30.9%	6.6%	30.5%
-20%<HPA<=0%	24.5%	9.7%	24.2%	9.6%	13.4%	9.2%
0%<HPA<=20%	12.7%	19.4%	12.0%	5.4%	22.1%	4.8%
20%<HPA	10.3%	37.1%	8.7%	3.7%	32.5%	2.9%

HPA Range	Ratio of Uninsured to Insured Rate		
HPA<=-20%	2.046	0.821	2.064
-20%<HPA<=0%	2.547	0.722	2.628
0%<HPA<=20%	2.362	0.878	2.512
20%<HPA	2.814	1.141	3.008

Mortgage Insurance Companies of America
Loan Count and Empirical Default Rate Comparison
Loan Population 4: All loans excluding FHA, GT95 CLTV, and GSE
CLTV Cohort: GT95

Terminated and Active Loans

	GT95 Uninsured			GT95 Insured		
	Default_90	Cure Given Default_90	Default_NC	Default_90	Cure Given Default_90	Default_NC
HPA Range	Observed Loan Count			Observed Loan Count		
HPA<=-20%	0	0	0	0	0	0
-20%<HPA<=0%	0	0	0	0	0	0
0%<HPA<=20%	0	0	0	0	0	0
20%<HPA	0	0	0	0	0	0
HPA Range	Number of Responses			Number of Responses		
HPA<=-20%	0	0	0	0	0	0
-20%<HPA<=0%	0	0	0	0	0	0
0%<HPA<=20%	0	0	0	0	0	0
20%<HPA	0	0	0	0	0	0
HPA Range	Response Rate			Response Rate		
HPA<=-20%	NA	NA	NA	NA	NA	NA
-20%<HPA<=0%	NA	NA	NA	NA	NA	NA
0%<HPA<=20%	NA	NA	NA	NA	NA	NA
20%<HPA	NA	NA	NA	NA	NA	NA

HPA Range	Ratio of Uninsured to Insured Rate		
HPA<=-20%	NA	NA	NA
-20%<HPA<=0%	NA	NA	NA
0%<HPA<=20%	NA	NA	NA
20%<HPA	NA	NA	NA

Terminated Loans

	GT95 Uninsured			GT95 Insured		
	Default_90	Cure Given Default_90	Default_NC	Default_90	Cure Given Default_90	Default_NC
HPA Range	Observed Loan Count			Observed Loan Count		
HPA<=-20%	0	0	0	0	0	0
-20%<HPA<=0%	0	0	0	0	0	0
0%<HPA<=20%	0	0	0	0	0	0
20%<HPA	0	0	0	0	0	0
HPA Range	Number of Responses			Number of Responses		
HPA<=-20%	0	0	0	0	0	0
-20%<HPA<=0%	0	0	0	0	0	0
0%<HPA<=20%	0	0	0	0	0	0
20%<HPA	0	0	0	0	0	0
HPA Range	Response Rate			Response Rate		
HPA<=-20%	NA	NA	NA	NA	NA	NA
-20%<HPA<=0%	NA	NA	NA	NA	NA	NA
0%<HPA<=20%	NA	NA	NA	NA	NA	NA
20%<HPA	NA	NA	NA	NA	NA	NA

HPA Range	Ratio of Uninsured to Insured Rate		
HPA<=-20%	NA	NA	NA
-20%<HPA<=0%	NA	NA	NA
0%<HPA<=20%	NA	NA	NA
20%<HPA	NA	NA	NA

Mortgage Insurance Companies of America
Loan Count and Empirical Default Rate Comparison
Loan Population 5: QRM loans excluding FHA, GT95 CLTV, and GSE
CLTV Cohort: 80

Terminated and Active Loans

	80 Uninsured			80 Insured		
	Default_90	Cure Given Default_90	Default_NC	Default_90	Cure Given Default_90	Default_NC
HPA Range	Observed Loan Count			Observed Loan Count		
HPA<=-20%	13,865	921	13,865	0	0	0
-20%<HPA<=0%	38,357	727	38,357	0	0	0
0%<HPA<=20%	69,438	712	69,438	0	0	0
20%<HPA	77,641	469	77,641	0	0	0
HPA Range	Number of Responses			Number of Responses		
HPA<=-20%	921	141	814	0	0	0
-20%<HPA<=0%	727	160	612	0	0	0
0%<HPA<=20%	712	187	577	0	0	0
20%<HPA	469	181	327	0	0	0
HPA Range	Response Rate			Response Rate		
HPA<=-20%	6.6%	15.3%	5.9%	NA	NA	NA
-20%<HPA<=0%	1.9%	22.0%	1.6%	NA	NA	NA
0%<HPA<=20%	1.0%	26.3%	0.8%	NA	NA	NA
20%<HPA	0.6%	38.6%	0.4%	NA	NA	NA
HPA Range	Ratio of Uninsured to Insured Rate					
HPA<=-20%	NA	NA	NA			
-20%<HPA<=0%	NA	NA	NA			
0%<HPA<=20%	NA	NA	NA			
20%<HPA	NA	NA	NA			

Terminated Loans

	80 Uninsured			80 Insured		
	Default_90	Cure Given Default_90	Default_NC	Default_90	Cure Given Default_90	Default_NC
HPA Range	Observed Loan Count			Observed Loan Count		
HPA<=-20%	8,308	358	8,308	0	0	0
-20%<HPA<=0%	26,997	312	26,997	0	0	0
0%<HPA<=20%	55,641	513	55,641	0	0	0
20%<HPA	61,382	374	61,382	0	0	0
HPA Range	Number of Responses			Number of Responses		
HPA<=-20%	358	21	342	0	0	0
-20%<HPA<=0%	312	36	288	0	0	0
0%<HPA<=20%	513	107	430	0	0	0
20%<HPA	374	120	278	0	0	0
HPA Range	Response Rate			Response Rate		
HPA<=-20%	4.3%	5.9%	4.1%	NA	NA	NA
-20%<HPA<=0%	1.2%	11.5%	1.1%	NA	NA	NA
0%<HPA<=20%	0.9%	20.9%	0.8%	NA	NA	NA
20%<HPA	0.6%	32.1%	0.5%	NA	NA	NA
HPA Range	Ratio of Uninsured to Insured Rate					
HPA<=-20%	NA	NA	NA			
-20%<HPA<=0%	NA	NA	NA			
0%<HPA<=20%	NA	NA	NA			
20%<HPA	NA	NA	NA			

Mortgage Insurance Companies of America
Loan Count and Empirical Default Rate Comparison
Loan Population 5: QRM loans excluding FHA, GT95 CLTV, and GSE
CLTV Cohort: 90

Terminated and Active Loans

	90 Uninsured			90 Insured		
	Default_90	Cure Given Default_90	Default_NC	Default_90	Cure Given Default_90	Default_NC
HPA Range	Observed Loan Count			Observed Loan Count		
HPA<=-20%	1,182	240	1,182	1,549	272	1,549
-20%<HPA<=0%	2,905	202	2,905	5,217	278	5,217
0%<HPA<=20%	5,531	161	5,531	14,374	334	14,374
20%<HPA	6,209	61	6,209	16,634	393	16,634
HPA Range	Number of Responses			Number of Responses		
HPA<=-20%	240	39	213	272	32	249
-20%<HPA<=0%	202	48	169	278	53	244
0%<HPA<=20%	161	54	121	334	102	269
20%<HPA	61	40	35	393	135	289
HPA Range	Response Rate			Response Rate		
HPA<=-20%	20.3%	16.3%	18.0%	17.6%	11.8%	16.1%
-20%<HPA<=0%	7.0%	23.8%	5.8%	5.3%	19.1%	4.7%
0%<HPA<=20%	2.9%	33.5%	2.2%	2.3%	30.5%	1.9%
20%<HPA	1.0%	65.6%	0.6%	2.4%	34.4%	1.7%
HPA Range	Ratio of Uninsured to Insured Rate					
HPA<=-20%	1.156	1.381	1.121			
-20%<HPA<=0%	1.305	1.246	1.244			
0%<HPA<=20%	1.253	1.098	1.169			
20%<HPA	0.416	1.909	0.324			

Terminated Loans

	90 Uninsured			90 Insured		
	Default_90	Cure Given Default_90	Default_NC	Default_90	Cure Given Default_90	Default_NC
HPA Range	Observed Loan Count			Observed Loan Count		
HPA<=-20%	256	79	256	835	106	835
-20%<HPA<=0%	881	52	881	3,606	97	3,606
0%<HPA<=20%	1,123	37	1,123	11,721	214	11,721
20%<HPA	322	4	322	14,212	338	14,212
HPA Range	Number of Responses			Number of Responses		
HPA<=-20%	79	2	78	106	7	102
-20%<HPA<=0%	52	3	50	97	8	92
0%<HPA<=20%	37	4	33	214	41	191
20%<HPA	4	2	3	338	103	265
HPA Range	Response Rate			Response Rate		
HPA<=-20%	30.9%	2.5%	30.5%	12.7%	6.6%	12.2%
-20%<HPA<=0%	5.9%	5.8%	5.7%	2.7%	8.2%	2.6%
0%<HPA<=20%	3.3%	10.8%	2.9%	1.8%	19.2%	1.6%
20%<HPA	1.2%	50.0%	0.9%	2.4%	30.5%	1.9%
HPA Range	Ratio of Uninsured to Insured Rate					
HPA<=-20%	2.431	0.383	2.494			
-20%<HPA<=0%	2.194	0.700	2.224			
0%<HPA<=20%	1.805	0.564	1.803			
20%<HPA	0.522	1.641	0.500			

Mortgage Insurance Companies of America
Loan Count and Empirical Default Rate Comparison
Loan Population 5: QRM loans excluding FHA, GT95 CLTV, and GSE
CLTV Cohort: 95

Terminated and Active Loans

	95 Uninsured			95 Insured		
	Default_90	Cure Given Default_90	Default_NC	Default_90	Cure Given Default_90	Default_NC
HPA Range	Observed Loan Count			Observed Loan Count		
HPA<=-20%	582	157	582	708	128	708
-20%<HPA<=0%	1,944	184	1,944	2,725	146	2,725
0%<HPA<=20%	3,437	130	3,437	9,851	226	9,851
20%<HPA	2,650	49	2,650	10,940	227	10,940
HPA Range	Number of Responses			Number of Responses		
HPA<=-20%	157	16	146	128	8	122
-20%<HPA<=0%	184	43	157	146	20	133
0%<HPA<=20%	130	50	99	226	64	180
20%<HPA	49	25	29	227	74	177
HPA Range	Response Rate			Response Rate		
HPA<=-20%	27.0%	10.2%	25.1%	18.1%	6.3%	17.2%
-20%<HPA<=0%	9.5%	23.4%	8.1%	5.4%	13.7%	4.9%
0%<HPA<=20%	3.8%	38.5%	2.9%	2.3%	28.3%	1.8%
20%<HPA	1.8%	51.0%	1.1%	2.1%	32.6%	1.6%
HPA Range	Ratio of Uninsured to Insured Rate					
HPA<=-20%	1.492	1.631	1.456			
-20%<HPA<=0%	1.767	1.706	1.655			
0%<HPA<=20%	1.649	1.358	1.576			
20%<HPA	0.891	1.565	0.676			

Terminated Loans

	95 Uninsured			95 Insured		
	Default_90	Cure Given Default_90	Default_NC	Default_90	Cure Given Default_90	Default_NC
HPA Range	Observed Loan Count			Observed Loan Count		
HPA<=-20%	152	63	152	471	59	471
-20%<HPA<=0%	688	50	688	2,031	75	2,031
0%<HPA<=20%	1,112	39	1,112	8,430	157	8,430
20%<HPA	220	4	220	9,586	207	9,586
HPA Range	Number of Responses			Number of Responses		
HPA<=-20%	63	4	62	59	0	59
-20%<HPA<=0%	50	2	50	75	7	69
0%<HPA<=20%	39	5	39	157	32	135
20%<HPA	4	1	3	207	63	166
HPA Range	Response Rate			Response Rate		
HPA<=-20%	41.4%	6.3%	40.8%	12.5%	0.0%	12.5%
-20%<HPA<=0%	7.3%	4.0%	7.3%	3.7%	9.3%	3.4%
0%<HPA<=20%	3.5%	12.8%	3.5%	1.9%	20.4%	1.6%
20%<HPA	1.8%	25.0%	1.4%	2.2%	30.4%	1.7%
HPA Range	Ratio of Uninsured to Insured Rate					
HPA<=-20%	3.309	NA	3.256			
-20%<HPA<=0%	1.968	0.429	2.139			
0%<HPA<=20%	1.883	0.629	2.190			
20%<HPA	0.842	0.821	0.787			

Mortgage Insurance Companies of America
Loan Count and Empirical Default Rate Comparison
Loan Population 5: QRM loans excluding FHA, GT95 CLTV, and GSE
CLTV Cohort: GT95

Terminated and Active Loans

	GT95 Uninsured			GT95 Insured		
	Default_90	Cure Given Default_90	Default_NC	Default_90	Cure Given Default_90	Default_NC
HPA Range	Observed Loan Count			Observed Loan Count		
HPA<=-20%	0	0	0	0	0	0
-20%<HPA<=0%	0	0	0	0	0	0
0%<HPA<=20%	0	0	0	0	0	0
20%<HPA	0	0	0	0	0	0
HPA Range	Number of Responses			Number of Responses		
HPA<=-20%	0	0	0	0	0	0
-20%<HPA<=0%	0	0	0	0	0	0
0%<HPA<=20%	0	0	0	0	0	0
20%<HPA	0	0	0	0	0	0
HPA Range	Response Rate			Response Rate		
HPA<=-20%	NA	NA	NA	NA	NA	NA
-20%<HPA<=0%	NA	NA	NA	NA	NA	NA
0%<HPA<=20%	NA	NA	NA	NA	NA	NA
20%<HPA	NA	NA	NA	NA	NA	NA

HPA Range	Ratio of Uninsured to Insured Rate		
HPA<=-20%	NA	NA	NA
-20%<HPA<=0%	NA	NA	NA
0%<HPA<=20%	NA	NA	NA
20%<HPA	NA	NA	NA

Terminated Loans

	GT95 Uninsured			GT95 Insured		
	Default_90	Cure Given Default_90	Default_NC	Default_90	Cure Given Default_90	Default_NC
HPA Range	Observed Loan Count			Observed Loan Count		
HPA<=-20%	0	0	0	0	0	0
-20%<HPA<=0%	0	0	0	0	0	0
0%<HPA<=20%	0	0	0	0	0	0
20%<HPA	0	0	0	0	0	0
HPA Range	Number of Responses			Number of Responses		
HPA<=-20%	0	0	0	0	0	0
-20%<HPA<=0%	0	0	0	0	0	0
0%<HPA<=20%	0	0	0	0	0	0
20%<HPA	0	0	0	0	0	0
HPA Range	Response Rate			Response Rate		
HPA<=-20%	NA	NA	NA	NA	NA	NA
-20%<HPA<=0%	NA	NA	NA	NA	NA	NA
0%<HPA<=20%	NA	NA	NA	NA	NA	NA
20%<HPA	NA	NA	NA	NA	NA	NA

HPA Range	Ratio of Uninsured to Insured Rate		
HPA<=-20%	NA	NA	NA
-20%<HPA<=0%	NA	NA	NA
0%<HPA<=20%	NA	NA	NA
20%<HPA	NA	NA	NA

Mortgage Insurance Companies of America
Logistic Model Parameter Estimates and Significance
Loan Population 1: All loans in the filtered dataset
Terminated and Active Loans
Response Variable: Default_NC

		HPA Bucket:	HPA<=-20%		-20%<HPA<=0%		0%<HPA<=20%		20%<HPA	
Variable	Reference Level	Level	Parameter	p-value	Parameter	p-value	Parameter	p-value	Parameter	p-value
		Intercept	-2.8567	< 0.0001	-4.3523	< 0.0001	-5.4168	< 0.0001	-6.1685	< 0.0001
CLTV	80 Uninsured	90 Insured	0.5587	< 0.0001	0.5123	< 0.0001	0.5570	< 0.0001	0.6111	< 0.0001
		90 Uninsured	0.7371	< 0.0001	0.7944	< 0.0001	0.9001	< 0.0001	0.9701	< 0.0001
		95 Insured	0.7719	< 0.0001	0.6905	< 0.0001	0.6951	< 0.0001	0.7872	< 0.0001
		95 Uninsured	0.9951	< 0.0001	1.0010	< 0.0001	1.0949	< 0.0001	1.0694	< 0.0001
		GT95 Insured	0.7197	< 0.0001	0.7581	< 0.0001	0.8877	< 0.0001	0.9780	< 0.0001
		GT95 Uninsured	1.3309	< 0.0001	1.5573	< 0.0001	1.7937	< 0.0001	1.8029	< 0.0001
ficobucket	780-850	350 - 579	1.5381	< 0.0001	2.5216	< 0.0001	3.1599	< 0.0001	3.4566	< 0.0001
		580 - 599	1.3497	< 0.0001	2.2334	< 0.0001	2.7562	< 0.0001	3.0071	< 0.0001
		600 - 619	1.3174	< 0.0001	2.0576	< 0.0001	2.5453	< 0.0001	2.7632	< 0.0001
		620 - 659	1.2734	< 0.0001	1.8188	< 0.0001	2.1898	< 0.0001	2.3533	< 0.0001
		660 - 689	1.0671	< 0.0001	1.4841	< 0.0001	1.7042	< 0.0001	1.8060	< 0.0001
		690 - 719	0.8351	< 0.0001	1.1681	< 0.0001	1.2827	< 0.0001	1.3561	< 0.0001
		720 - 749	0.6344	< 0.0001	0.8277	< 0.0001	0.8504	< 0.0001	0.8472	< 0.0001
		750 - 779	0.3506	< 0.0001	0.3887	< 0.0001	0.3170	< 0.0001	0.3067	< 0.0001
proptyp	SFR	2-4U	0.0924	0.0006	0.4945	< 0.0001	0.3658	< 0.0001	0.4062	< 0.0001
		COND	0.1507	< 0.0001	-0.0768	< 0.0001	-0.2214	< 0.0001	-0.4240	< 0.0001
product	Fixed	ARM	-0.1113	< 0.0001	-0.0491	< 0.0001	-0.0522	< 0.0001	-0.0567	0.0002
source	Non-Retail	CORRESPOND	0.2162	< 0.0001	0.1469	< 0.0001	0.1671	< 0.0001	0.1372	< 0.0001
		OTHER	-1.7896	< 0.0001	-1.4067	< 0.0001	-0.5502	< 0.0001	0.1597	< 0.0001
		RETAIL	-0.0569	< 0.0001	-0.2104	< 0.0001	-0.2454	< 0.0001	-0.1853	< 0.0001
loanpurp	Purchase	C/O REFI	0.0948	< 0.0001	0.2350	< 0.0001	0.1714	< 0.0001	-0.1993	< 0.0001
		R/T REFI	0.0821	< 0.0001	0.1254	< 0.0001	-0.0608	< 0.0001	-0.3939	< 0.0001
Doctype	Full	Low	0.4329	< 0.0001	0.5198	< 0.0001	0.5647	< 0.0001	0.5309	< 0.0001
intonly	No	YES	1.2992	< 0.0001	1.1379	< 0.0001	1.0000	< 0.0001	0.9221	< 0.0001
negam	No	YES	0.9615	< 0.0001	0.8963	< 0.0001	0.8304	< 0.0001	0.2745	< 0.0001
Term	360	< 360	-0.4211	< 0.0001	-0.1798	< 0.0001	-0.0425	0.0004	0.1745	< 0.0001
		> 360	0.4143	< 0.0001	0.7978	< 0.0001	0.9497	< 0.0001	0.9859	< 0.0001
Quintile_String	2	0	-0.1902	< 0.0001	0.0324	0.0012	0.1838	< 0.0001	0.2577	< 0.0001
		1	-0.0416	< 0.0001	0.0346	0.0004	0.0644	< 0.0001	0.1283	< 0.0001
		3	-0.0119	0.2570	0.0014	0.9000	-0.0216	0.0507	-0.0643	< 0.0001
		4	-0.0665	< 0.0001	0.0346	0.0098	0.1620	< 0.0001	0.1409	< 0.0001
ownocc	O	I	0.2835	< 0.0001	0.5356	< 0.0001	0.7414	< 0.0001	0.3226	< 0.0001
		S	0.0728	< 0.0001	0.2290	< 0.0001	0.4825	< 0.0001	-0.1107	0.0040
		U	-0.2607	< 0.0001	-0.1800	< 0.0001	0.0029	0.7932	0.0587	< 0.0001

Mortgage Insurance Companies of America
Logistic Model Parameter Estimates and Significance
Loan Population 1: All loans in the filtered dataset
Terminated and Active Loans
Response Variable: Default_90

		HPA Bucket:	HPA<=-20%		-20%<HPA<=0%		0%<HPA<=20%		20%<HPA	
Variable	Reference Level	Level	Parameter	p-value	Parameter	p-value	Parameter	p-value	Parameter	p-value
		Intercept	-2.7706	< 0.0001	-4.2195	< 0.0001	-5.1956	< 0.0001	-5.7357	< 0.0001
CLTV	80 Uninsured	90 Insured	0.5822	< 0.0001	0.5395	< 0.0001	0.5847	< 0.0001	0.6710	< 0.0001
		90 Uninsured	0.7590	< 0.0001	0.8142	< 0.0001	0.9317	< 0.0001	1.0457	< 0.0001
		95 Insured	0.7872	< 0.0001	0.7237	< 0.0001	0.7256	< 0.0001	0.8414	< 0.0001
		95 Uninsured	0.9971	< 0.0001	1.0326	< 0.0001	1.1129	< 0.0001	1.1299	< 0.0001
		GT95 Insured	0.7311	< 0.0001	0.7948	< 0.0001	0.8920	< 0.0001	0.9448	< 0.0001
		GT95 Uninsured	1.3722	< 0.0001	1.6061	< 0.0001	1.8300	< 0.0001	1.9161	< 0.0001
ficobucket	780-850	350 - 579	1.6436	< 0.0001	2.6587	< 0.0001	3.2753	< 0.0001	3.4212	< 0.0001
		580 - 599	1.4441	< 0.0001	2.3593	< 0.0001	2.8779	< 0.0001	2.9892	< 0.0001
		600 - 619	1.4201	< 0.0001	2.1737	< 0.0001	2.6655	< 0.0001	2.7510	< 0.0001
		620 - 659	1.3470	< 0.0001	1.9078	< 0.0001	2.2817	< 0.0001	2.3384	< 0.0001
		660 - 689	1.1123	< 0.0001	1.5275	< 0.0001	1.7580	< 0.0001	1.7673	< 0.0001
		690 - 719	0.8710	< 0.0001	1.1933	< 0.0001	1.3073	< 0.0001	1.2850	< 0.0001
		720 - 749	0.6531	< 0.0001	0.8350	< 0.0001	0.8609	< 0.0001	0.7884	< 0.0001
		750 - 779	0.3621	< 0.0001	0.3854	< 0.0001	0.3171	< 0.0001	0.2881	< 0.0001
proptyp	SFR	2-4U	0.1166	< 0.0001	0.4954	< 0.0001	0.3470	< 0.0001	0.3649	< 0.0001
		COND	0.1237	< 0.0001	-0.1085	< 0.0001	-0.2579	< 0.0001	-0.4244	< 0.0001
product	Fixed	ARM	-0.1132	< 0.0001	-0.0560	< 0.0001	-0.0887	< 0.0001	-0.1116	< 0.0001
source	Non-Retail	CORRESPOND	0.2325	< 0.0001	0.1512	< 0.0001	0.1637	< 0.0001	0.1884	< 0.0001
		OTHER	-1.7124	< 0.0001	-1.4081	< 0.0001	-0.4572	< 0.0001	0.3156	< 0.0001
		RETAIL	-0.0480	< 0.0001	-0.1938	< 0.0001	-0.2029	< 0.0001	-0.1304	< 0.0001
loanpurp	Purchase	C/O REFI	0.1175	< 0.0001	0.2681	< 0.0001	0.1404	< 0.0001	-0.2265	< 0.0001
		R/T REFI	0.0910	< 0.0001	0.1291	< 0.0001	-0.0738	< 0.0001	-0.3736	< 0.0001
Doctype	Full	Low	0.4465	< 0.0001	0.5176	< 0.0001	0.5173	< 0.0001	0.4778	< 0.0001
intonly	No	YES	1.2585	< 0.0001	1.0531	< 0.0001	0.9048	< 0.0001	0.7361	< 0.0001
negam	No	YES	0.8881	< 0.0001	0.8059	< 0.0001	0.7846	< 0.0001	0.2200	< 0.0001
Term	360	< 360	-0.1312	< 0.0001	0.0788	< 0.0001	0.1366	< 0.0001	0.3182	< 0.0001
		> 360	0.6760	< 0.0001	1.1579	< 0.0001	1.2562	< 0.0001	1.2123	< 0.0001
Quintile_String	2	0	-0.2074	< 0.0001	0.0124	0.1875	0.1773	< 0.0001	0.2338	< 0.0001
		1	-0.0442	< 0.0001	0.0328	0.0003	0.0672	< 0.0001	0.1154	< 0.0001
		3	-0.0127	0.2182	-0.0037	0.7220	-0.0185	0.0613	-0.0572	< 0.0001
		4	-0.0803	< 0.0001	0.0188	0.1371	0.1359	< 0.0001	0.0934	< 0.0001
ownocc	O	I	0.2473	< 0.0001	0.4746	< 0.0001	0.6487	< 0.0001	0.2485	< 0.0001
		S	0.0373	0.0022	0.1989	< 0.0001	0.4349	< 0.0001	-0.0822	0.0078
		U	-0.1506	< 0.0001	-0.0441	0.0042	0.0918	< 0.0001	0.1338	< 0.0001

Mortgage Insurance Companies of America
Logistic Model Parameter Estimates and Significance
Loan Population 1: All loans in the filtered dataset
Terminated and Active Loans
Response Variable: Cure

		HPA Bucket:	HPA<=-20%		-20%<HPA<=0%		0%<HPA<=20%		20%<HPA	
Variable	Reference Level	Level	Parameter	p-value	Parameter	p-value	Parameter	p-value	Parameter	p-value
		Intercept	-2.1765	< 0.0001	-1.4264	< 0.0001	-0.8291	< 0.0001	-0.1122	0.0725
CLTV	80 Uninsured	90 Insured	0.1323	< 0.0001	0.0908	< 0.0001	0.1281	< 0.0001	0.3088	< 0.0001
		90 Uninsured	0.0845	< 0.0001	0.0848	0.0003	0.2294	< 0.0001	0.5141	< 0.0001
		95 Insured	0.1408	< 0.0001	0.1924	< 0.0001	0.1885	< 0.0001	0.2892	< 0.0001
		95 Uninsured	-0.0431	0.2203	0.1074	0.0004	0.1346	< 0.0001	0.4988	< 0.0001
		GT95 Insured	0.1741	< 0.0001	0.1353	< 0.0001	0.0562	0.0045	0.0302	0.2116
		GT95 Uninsured	0.0418	0.1205	0.1469	< 0.0001	0.2220	< 0.0001	0.5030	< 0.0001
ficobucket	780-850	350 - 579	1.4452	< 0.0001	1.1180	< 0.0001	0.7325	< 0.0001	0.0808	0.1808
		580 - 599	1.2597	< 0.0001	1.0738	< 0.0001	0.7048	< 0.0001	0.0876	0.1603
		600 - 619	1.0846	< 0.0001	0.9216	< 0.0001	0.6688	< 0.0001	0.0550	0.3725
		620 - 659	0.7849	< 0.0001	0.7035	< 0.0001	0.4855	< 0.0001	0.0082	0.8903
		660 - 689	0.5087	< 0.0001	0.4062	< 0.0001	0.2543	< 0.0001	-0.1388	0.0214
		690 - 719	0.3260	< 0.0001	0.2098	< 0.0001	0.1195	0.0090	-0.2329	0.0001
		720 - 749	0.1360	0.0023	0.0644	0.1756	0.0018	0.9697	-0.2502	< 0.0001
		750 - 779	0.0678	0.1492	-0.0359	0.4810	-0.0858	0.0937	-0.1539	0.0232
proptyp	SFR	2-4U	0.1188	0.0460	-0.1546	< 0.0001	-0.1554	< 0.0001	-0.2090	< 0.0001
		COND	-0.3013	< 0.0001	-0.2242	< 0.0001	-0.1697	< 0.0001	0.0000	0.9990
product	Fixed	ARM	-0.0535	0.0118	-0.1262	< 0.0001	-0.2011	< 0.0001	-0.2186	< 0.0001
source	Non-Retail	CORRESPOND	-0.0154	0.3978	-0.0091	0.5770	-0.0057	0.6861	0.2647	< 0.0001
		OTHER	1.1014	< 0.0001	0.3748	< 0.0001	0.8215	< 0.0001	1.0903	< 0.0001
		RETAIL	-0.0257	0.1679	0.0302	0.0585	0.0806	< 0.0001	0.1716	< 0.0001
loanpurp	Purchase	C/O REFI	0.2328	< 0.0001	0.1183	< 0.0001	-0.1654	< 0.0001	-0.1853	< 0.0001
		R/T REFI	0.1318	< 0.0001	0.0199	0.2707	-0.0908	< 0.0001	-0.0870	< 0.0001
Doctype	Full	Low	0.0989	< 0.0001	NA	NA	-0.0734	< 0.0001	-0.0759	< 0.0001
intonly	No	YES	-0.3201	< 0.0001	-0.5380	< 0.0001	-0.4858	< 0.0001	-0.6820	< 0.0001
negam	No	YES	-0.4630	< 0.0001	-0.4853	< 0.0001	-0.2294	< 0.0001	NA	NA
Term	360	< 360	1.4251	< 0.0001	1.0882	< 0.0001	0.8886	< 0.0001	0.8323	< 0.0001
		> 360	0.8574	< 0.0001	0.9909	< 0.0001	1.1277	< 0.0001	1.0622	< 0.0001
Quintile_String	2	0	NA	NA	-0.0686	0.0003	-0.0437	0.0030	-0.0978	< 0.0001
		1	NA	NA	-0.0006	0.9735	-0.0105	0.4878	-0.0414	0.0322
		3	NA	NA	-0.0036	0.8674	-0.0335	0.0818	-0.0619	0.0182
		4	NA	NA	-0.0678	0.0135	-0.0942	0.0001	-0.1874	< 0.0001
ownocc	O	I	-0.3691	< 0.0001	-0.3869	< 0.0001	-0.4711	< 0.0001	-0.2950	< 0.0001
		S	-0.3014	< 0.0001	-0.2150	< 0.0001	-0.2225	< 0.0001	0.0693	0.2658
		U	0.4081	< 0.0001	0.5867	< 0.0001	0.2552	< 0.0001	0.1850	< 0.0001

Mortgage Insurance Companies of America
Logistic Model Parameter Estimates and Significance
Loan Population 1: All loans in the filtered dataset
Terminated Loans
Response Variable: Default_NC

		HPA Bucket:	HPA<=-20%		-20%<HPA<=0%		0%<HPA<=20%		20%<HPA	
Variable	Reference Level	Level	Parameter	p-value	Parameter	p-value	Parameter	p-value	Parameter	p-value
		Intercept	-2.7568	< 0.0001	-4.6224	< 0.0001	-5.5497	< 0.0001	-5.9902	< 0.0001
CLTV	80 Uninsured	90 Insured	0.5027	< 0.0001	0.5945	< 0.0001	0.6432	< 0.0001	0.6039	< 0.0001
		90 Uninsured	1.1640	< 0.0001	1.0182	< 0.0001	1.0168	< 0.0001	1.0717	< 0.0001
		95 Insured	0.8283	< 0.0001	0.8326	< 0.0001	0.8554	< 0.0001	0.8147	< 0.0001
		95 Uninsured	1.4206	< 0.0001	1.1508	< 0.0001	1.1941	< 0.0001	1.0847	< 0.0001
		GT95 Insured	0.8817	< 0.0001	1.1796	< 0.0001	1.1684	< 0.0001	1.0102	< 0.0001
		GT95 Uninsured	1.6619	< 0.0001	1.7093	< 0.0001	1.8468	< 0.0001	1.8758	< 0.0001
ficobucket	780-850	350 - 579	1.2981	< 0.0001	2.4622	< 0.0001	3.1224	< 0.0001	3.2673	< 0.0001
		580 - 599	1.1123	< 0.0001	2.1351	< 0.0001	2.6688	< 0.0001	2.7500	< 0.0001
		600 - 619	1.0726	< 0.0001	1.9864	< 0.0001	2.4294	< 0.0001	2.5186	< 0.0001
		620 - 659	1.1120	< 0.0001	1.7705	< 0.0001	2.0777	< 0.0001	2.1058	< 0.0001
		660 - 689	0.9405	< 0.0001	1.4472	< 0.0001	1.6248	< 0.0001	1.5880	< 0.0001
		690 - 719	0.7401	< 0.0001	1.1350	< 0.0001	1.2176	< 0.0001	1.1621	< 0.0001
		720 - 749	0.5481	< 0.0001	0.7723	< 0.0001	0.7632	< 0.0001	0.6872	< 0.0001
		750 - 779	0.3284	< 0.0001	0.3277	< 0.0001	0.2392	< 0.0001	0.2122	< 0.0001
proptyp	SFR	2-4U	0.0522	0.1660	0.4020	< 0.0001	0.2764	< 0.0001	0.3978	< 0.0001
		COND	0.1614	< 0.0001	-0.1161	< 0.0001	-0.3150	< 0.0001	-0.4881	< 0.0001
product	Fixed	ARM	-0.4707	< 0.0001	-0.3072	< 0.0001	-0.3460	< 0.0001	-0.3407	< 0.0001
source	Non-Retail	CORRESPOND	0.5435	< 0.0001	0.3761	< 0.0001	0.6545	< 0.0001	0.9128	< 0.0001
		OTHER	-1.8810	< 0.0001	-1.4870	< 0.0001	-0.9291	< 0.0001	-0.4220	< 0.0001
		RETAIL	0.0289	0.0191	-0.2207	< 0.0001	-0.1815	< 0.0001	-0.1028	< 0.0001
loanpurp	Purchase	C/O REFI	0.0683	< 0.0001	0.1712	< 0.0001	0.0568	0.0007	-0.3214	< 0.0001
		R/T REFI	0.3220	< 0.0001	0.2811	< 0.0001	0.0387	0.0014	-0.4230	< 0.0001
Doctype	Full	Low	0.3760	< 0.0001	0.5915	< 0.0001	0.8196	< 0.0001	0.6909	< 0.0001
intonly	No	YES	1.6060	< 0.0001	1.3677	< 0.0001	0.8755	< 0.0001	0.5767	< 0.0001
negam	No	YES	0.6955	< 0.0001	0.6910	< 0.0001	0.6087	< 0.0001	NA	NA
Term	360	< 360	-0.8405	< 0.0001	-0.5579	< 0.0001	-0.2426	< 0.0001	0.0606	0.0018
		> 360	1.1316	< 0.0001	1.4671	< 0.0001	1.5873	< 0.0001	1.3218	< 0.0001
Quintile_String	2	0	-0.1683	< 0.0001	0.1865	< 0.0001	0.3808	< 0.0001	0.3542	< 0.0001
		1	-0.0180	0.2162	0.1025	< 0.0001	0.1471	< 0.0001	0.1634	< 0.0001
		3	-0.0354	0.0207	0.0010	0.9520	-0.0726	< 0.0001	-0.0406	0.0540
		4	-0.1126	< 0.0001	0.0658	0.0013	0.1369	< 0.0001	0.1689	< 0.0001
ownocc	O	I	0.5371	< 0.0001	0.9826	< 0.0001	1.1288	< 0.0001	0.4623	< 0.0001
		S	0.4046	< 0.0001	0.5832	< 0.0001	0.6585	< 0.0001	-0.1069	0.0381
		U	-0.3097	< 0.0001	-0.4286	< 0.0001	0.0458	0.0041	0.0584	0.0007

Mortgage Insurance Companies of America
Logistic Model Parameter Estimates and Significance
Loan Population 1: All loans in the filtered dataset
Terminated Loans
Response Variable: Default_90

		HPA Bucket:	HPA<=-20%		-20%<HPA<=0%		0%<HPA<=20%		20%<HPA	
Variable	Reference Level	Level	Parameter	p-value	Parameter	p-value	Parameter	p-value	Parameter	p-value
		Intercept	-2.7344	< 0.0001	-4.5505	< 0.0001	-5.3561	< 0.0001	-5.6671	< 0.0001
CLTV	80 Uninsured	90 Insured	0.5236	< 0.0001	0.5970	< 0.0001	0.6214	< 0.0001	0.5929	< 0.0001
		90 Uninsured	1.1620	< 0.0001	1.0049	< 0.0001	0.9884	< 0.0001	1.1522	< 0.0001
		95 Insured	0.8376	< 0.0001	0.8327	< 0.0001	0.8151	< 0.0001	0.7913	< 0.0001
		95 Uninsured	1.4185	< 0.0001	1.1257	< 0.0001	1.1284	< 0.0001	1.0920	< 0.0001
		GT95 Insured	0.9196	< 0.0001	1.1816	< 0.0001	1.0971	< 0.0001	0.9369	< 0.0001
		GT95 Uninsured	1.6571	< 0.0001	1.6838	< 0.0001	1.7720	< 0.0001	1.9504	< 0.0001
ficobucket	780-850	350 - 579	1.3441	< 0.0001	2.5155	< 0.0001	3.1675	< 0.0001	3.2850	< 0.0001
		580 - 599	1.1469	< 0.0001	2.2094	< 0.0001	2.7274	< 0.0001	2.7817	< 0.0001
		600 - 619	1.1297	< 0.0001	2.0220	< 0.0001	2.4789	< 0.0001	2.5425	< 0.0001
		620 - 659	1.1328	< 0.0001	1.7881	< 0.0001	2.1028	< 0.0001	2.1124	< 0.0001
		660 - 689	0.9489	< 0.0001	1.4441	< 0.0001	1.6170	< 0.0001	1.5607	< 0.0001
		690 - 719	0.7441	< 0.0001	1.1261	< 0.0001	1.2029	< 0.0001	1.1175	< 0.0001
		720 - 749	0.5499	< 0.0001	0.7547	< 0.0001	0.7465	< 0.0001	0.6481	< 0.0001
		750 - 779	0.3275	< 0.0001	0.3092	< 0.0001	0.2165	< 0.0001	0.2053	< 0.0001
proptyp	SFR	2-4U	0.0641	0.0877	0.3990	< 0.0001	0.2942	< 0.0001	0.3919	< 0.0001
		COND	0.1629	< 0.0001	-0.1077	< 0.0001	-0.2823	< 0.0001	-0.4286	< 0.0001
product	Fixed	ARM	-0.4752	< 0.0001	-0.3074	< 0.0001	-0.3266	< 0.0001	-0.3114	< 0.0001
source	Non-Retail	CORRESPOND	0.5326	< 0.0001	0.3592	< 0.0001	0.6194	< 0.0001	0.8328	< 0.0001
		OTHER	-1.7638	< 0.0001	-1.3957	< 0.0001	-0.7923	< 0.0001	-0.3100	< 0.0001
		RETAIL	0.0168	0.1719	-0.2263	< 0.0001	-0.1663	< 0.0001	-0.0788	< 0.0001
loanpurp	Purchase	C/O REFI	0.0635	< 0.0001	0.1507	< 0.0001	NA	NA	-0.2997	< 0.0001
		R/T REFI	0.3177	< 0.0001	0.2605	< 0.0001	NA	NA	-0.4074	< 0.0001
Doctype	Full	Low	0.3867	< 0.0001	0.5889	< 0.0001	0.7633	< 0.0001	0.6071	< 0.0001
intonly	No	YES	1.5981	< 0.0001	1.3538	< 0.0001	0.8428	< 0.0001	0.4894	< 0.0001
negam	No	YES	0.6770	< 0.0001	0.6696	< 0.0001	0.5873	< 0.0001	-0.2224	0.0368
Term	360	< 360	-0.7004	< 0.0001	-0.3603	< 0.0001	-0.1212	< 0.0001	0.1582	< 0.0001
		> 360	1.2419	< 0.0001	1.6762	< 0.0001	1.8368	< 0.0001	1.5609	< 0.0001
Quintile_String	2	0	-0.1728	< 0.0001	0.1827	< 0.0001	0.3671	< 0.0001	0.3221	< 0.0001
		1	-0.0224	0.1224	0.0999	< 0.0001	0.1411	< 0.0001	0.1502	< 0.0001
		3	-0.0360	0.0180	0.0007	0.9682	-0.0713	< 0.0001	-0.0433	0.0204
		4	-0.1144	< 0.0001	0.0598	0.0029	0.1209	< 0.0001	0.1443	< 0.0001
ownocc	O	I	0.5342	< 0.0001	0.9585	< 0.0001	1.0529	< 0.0001	0.4121	< 0.0001
		S	0.4067	< 0.0001	0.5717	< 0.0001	0.6124	< 0.0001	-0.0490	0.2659
		U	-0.3368	< 0.0001	-0.4434	< 0.0001	0.0093	0.5412	0.0283	0.0686

Mortgage Insurance Companies of America
Logistic Model Parameter Estimates and Significance
Loan Population 1: All loans in the filtered dataset
Terminated Loans
Response Variable: Cure

		HPA Bucket:	HPA<=-20%		-20%<HPA<=0%		0%<HPA<=20%		20%<HPA	
Variable	Reference Level	Level	Parameter	p-value	Parameter	p-value	Parameter	p-value	Parameter	p-value
		Intercept	-3.2684	< 0.0001	-2.0589	< 0.0001	-1.1580	< 0.0001	-0.5211	< 0.0001
CLTV	80 Uninsured	90 Insured	0.2366	< 0.0001	-0.0690	0.1520	-0.0669	0.0525	0.0968	0.0054
		90 Uninsured	0.0923	0.0514	-0.0658	0.2343	0.0427	0.4493	0.4581	< 0.0001
		95 Insured	0.2156	0.0054	0.0717	0.2283	-0.0920	0.0194	0.0342	0.3755
		95 Uninsured	0.1380	0.0638	-0.1940	0.0080	-0.2298	0.0007	0.2869	0.0045
		GT95 Insured	0.4225	< 0.0001	-0.0835	0.0663	-0.2940	< 0.0001	-0.1856	< 0.0001
		GT95 Uninsured	0.1530	0.0079	-0.0938	0.0615	-0.0517	0.2013	0.5056	< 0.0001
ficobucket	780-850	350 - 579	1.9295	< 0.0001	1.0782	< 0.0001	0.6007	< 0.0001	0.2388	0.0050
		580 - 599	1.6577	< 0.0001	1.1344	< 0.0001	0.6733	< 0.0001	0.2490	0.0047
		600 - 619	1.4194	< 0.0001	0.9011	< 0.0001	0.5724	< 0.0001	0.1659	0.0567
		620 - 659	1.0187	< 0.0001	0.5764	< 0.0001	0.3223	< 0.0001	0.0853	0.3108
		660 - 689	0.6704	< 0.0001	0.2129	0.0188	0.0060	0.9354	-0.1313	0.1238
		690 - 719	0.3574	0.0003	-0.0082	0.9290	-0.0926	0.2170	-0.2060	0.0179
		720 - 749	0.0699	0.4927	-0.2016	0.0362	-0.1736	0.0264	-0.2332	0.0097
		750 - 779	-0.0405	0.7087	-0.2867	0.0062	-0.2256	0.0083	-0.1138	0.2363
proptyp	SFR	2-4U	0.2380	0.0421	NA	NA	-0.0276	0.6749	-0.0947	0.1132
		COND	-0.1424	0.0029	NA	NA	0.1753	< 0.0001	0.2498	< 0.0001
product	Fixed	ARM	-0.1294	0.0061	NA	NA	0.0736	0.0093	0.1081	0.0013
source	Non-Retail	CORRESPOND	-0.2252	< 0.0001	-0.0504	0.1382	-0.1181	< 0.0001	-0.1602	< 0.0001
		OTHER	1.4467	< 0.0001	0.6301	< 0.0001	0.7641	< 0.0001	0.6827	< 0.0001
		RETAIL	-0.2921	< 0.0001	-0.0622	0.0638	0.0389	0.0886	0.1074	< 0.0001
loanpurp	Purchase	C/O REFI	NA	NA	-0.2042	< 0.0001	-0.2643	< 0.0001	-0.0542	0.1625
		R/T REFI	NA	NA	-0.2501	< 0.0001	-0.2348	< 0.0001	-0.1418	< 0.0001
Doctype	Full	Low	0.1547	< 0.0001	0.0741	0.0096	-0.2117	< 0.0001	-0.2574	< 0.0001
intonly	No	YES	-0.1745	0.0005	-0.4881	< 0.0001	-0.4668	< 0.0001	-0.5613	< 0.0001
negam	No	YES	-0.2611	< 0.0001	-0.6192	< 0.0001	-0.4029	< 0.0001	-0.5729	0.0098
Term	360	< 360	1.7124	< 0.0001	1.5573	< 0.0001	0.9702	< 0.0001	0.7097	< 0.0001
		> 360	0.8268	< 0.0001	1.4895	< 0.0001	2.1108	< 0.0001	2.1997	< 0.0001
Quintile_String	2	0	0.0767	0.1182	NA	NA	-0.0980	0.0002	-0.1222	< 0.0001
		1	-0.0343	0.4581	NA	NA	-0.0350	0.1910	-0.0321	0.2485
		3	0.0145	0.7734	NA	NA	-0.0240	0.4884	-0.0657	0.0845
		4	0.0847	0.1462	NA	NA	-0.0765	0.0837	-0.1524	0.0023
ownocc	O	I	-0.1753	0.0046	-0.2529	< 0.0001	-0.5357	< 0.0001	-0.2784	< 0.0001
		S	-0.0719	0.2634	-0.2037	0.0193	-0.2631	0.0003	0.1634	0.0706
		U	-0.3951	0.0049	-0.0920	0.1787	-0.5351	< 0.0001	-0.3016	< 0.0001

Mortgage Insurance Companies of America
Logistic Model Parameter Estimates and Significance
Loan Population 2: All loans excluding FHA and GT95 CLTV
Terminated and Active Loans
Response Variable: Default_NC

		HPA Bucket:	HPA<=-20%		-20%<HPA<=0%		0%<HPA<=20%		20%<HPA	
Variable	Reference Level	Level	Parameter	p-value	Parameter	p-value	Parameter	p-value	Parameter	p-value
		Intercept	-2.8965	< 0.0001	-4.4280	< 0.0001	-5.5337	< 0.0001	-6.3297	< 0.0001
CLTV	80 Uninsured	90 Insured	0.6213	< 0.0001	0.6334	< 0.0001	0.6623	< 0.0001	0.6868	< 0.0001
		90 Uninsured	0.7341	< 0.0001	0.7665	< 0.0001	0.8294	< 0.0001	0.9102	< 0.0001
		95 Insured	0.8388	< 0.0001	0.8441	< 0.0001	0.8180	< 0.0001	0.8780	< 0.0001
		95 Uninsured	0.9859	< 0.0001	0.9551	< 0.0001	1.0170	< 0.0001	1.0547	< 0.0001
		GT95 Insured	NA	NA	NA	NA	NA	NA	NA	NA
		GT95 Uninsured	NA	NA	NA	NA	NA	NA	NA	NA
ficobucket	780-850	350 - 579	1.8065	< 0.0001	2.7714	< 0.0001	3.3833	< 0.0001	3.5896	< 0.0001
		580 - 599	1.4222	< 0.0001	2.1854	< 0.0001	2.7103	< 0.0001	3.0201	< 0.0001
		600 - 619	1.3658	< 0.0001	1.9788	< 0.0001	2.4327	< 0.0001	2.7475	< 0.0001
		620 - 659	1.2822	< 0.0001	1.7807	< 0.0001	2.1525	< 0.0001	2.3299	< 0.0001
		660 - 689	1.0779	< 0.0001	1.5118	< 0.0001	1.7589	< 0.0001	1.8377	< 0.0001
		690 - 719	0.8491	< 0.0001	1.2023	< 0.0001	1.3494	< 0.0001	1.3648	< 0.0001
		720 - 749	0.6419	< 0.0001	0.8542	< 0.0001	0.9330	< 0.0001	0.8727	< 0.0001
		750 - 779	0.3572	< 0.0001	0.4071	< 0.0001	0.3782	< 0.0001	0.3209	< 0.0001
proptyp	SFR	2-4U	0.0955	0.0006	0.4884	< 0.0001	0.3979	< 0.0001	0.5332	< 0.0001
		COND	0.1388	< 0.0001	-0.0619	< 0.0001	-0.2230	< 0.0001	-0.4167	< 0.0001
product	Fixed	ARM	-0.1133	< 0.0001	-0.0771	< 0.0001	-0.1010	< 0.0001	-0.1697	< 0.0001
source	Non-Retail	CORRESPOND	0.2133	< 0.0001	0.1227	< 0.0001	0.1272	< 0.0001	-0.0058	0.7562
		OTHER	-1.8851	< 0.0001	-1.6269	< 0.0001	-0.8851	< 0.0001	-0.0447	0.2592
		RETAIL	-0.0435	< 0.0001	-0.1846	< 0.0001	-0.2150	< 0.0001	-0.2457	< 0.0001
loanpurp	Purchase	C/O REFI	0.1083	< 0.0001	0.3128	< 0.0001	0.3558	< 0.0001	0.1115	< 0.0001
		R/T REFI	0.1219	< 0.0001	0.2446	< 0.0001	0.1683	< 0.0001	-0.0124	0.4342
Doctype	Full	Low	0.4716	< 0.0001	0.5878	< 0.0001	0.6733	< 0.0001	0.7279	< 0.0001
intonly	No	YES	1.3247	< 0.0001	1.2718	< 0.0001	1.2182	< 0.0001	1.1199	< 0.0001
negam	No	YES	0.9541	< 0.0001	0.9047	< 0.0001	0.8646	< 0.0001	0.3850	< 0.0001
Term	360	< 360	-0.4609	< 0.0001	-0.3774	< 0.0001	-0.4170	< 0.0001	-0.3033	< 0.0001
		> 360	0.3672	< 0.0001	0.5968	< 0.0001	0.5398	< 0.0001	0.5396	< 0.0001
Quintile_String	2	0	-0.1741	< 0.0001	0.0476	0.0002	0.2271	< 0.0001	0.3519	< 0.0001
		1	-0.0439	< 0.0001	0.0381	0.0013	0.0756	< 0.0001	0.1737	< 0.0001
		3	-0.0207	0.0592	-0.0104	0.4050	-0.0161	0.2611	-0.0187	0.3943
		4	-0.0734	< 0.0001	0.0076	0.5960	0.1455	< 0.0001	0.2229	< 0.0001
ownocc	O	I	0.2774	< 0.0001	0.5090	< 0.0001	0.6931	< 0.0001	0.3466	< 0.0001
		S	0.0617	< 0.0001	0.1946	< 0.0001	0.4456	< 0.0001	-0.0698	0.0769
		U	-0.0200	0.6046	-0.1227	0.0002	-0.0065	0.8443	-0.2099	< 0.0001

Mortgage Insurance Companies of America
Logistic Model Parameter Estimates and Significance
Loan Population 2: All loans excluding FHA and GT95 CLTV
Terminated and Active Loans
Response Variable: Default_90

		HPA Bucket:	HPA<=-20%		-20%<HPA<=0%		0%<HPA<=20%		20%<HPA	
Variable	Reference Level	Level	Parameter	p-value	Parameter	p-value	Parameter	p-value	Parameter	p-value
		Intercept	-2.8100	< 0.0001	-4.2873	< 0.0001	-5.2727	< 0.0001	-5.8430	< 0.0001
CLTV	80 Uninsured	90 Insured	0.6494	< 0.0001	0.6616	< 0.0001	0.6821	< 0.0001	0.7501	< 0.0001
		90 Uninsured	0.7544	< 0.0001	0.7840	< 0.0001	0.8584	< 0.0001	0.9841	< 0.0001
		95 Insured	0.8596	< 0.0001	0.8773	< 0.0001	0.8381	< 0.0001	0.9469	< 0.0001
		95 Uninsured	0.9840	< 0.0001	0.9829	< 0.0001	1.0267	< 0.0001	1.1008	< 0.0001
		GT95 Insured	NA	NA	NA	NA	NA	NA	NA	NA
		GT95 Uninsured	NA	NA	NA	NA	NA	NA	NA	NA
ficobucket	780-850	350 - 579	1.9009	< 0.0001	2.9288	< 0.0001	3.4904	< 0.0001	3.5573	< 0.0001
		580 - 599	1.5357	< 0.0001	2.3187	< 0.0001	2.8500	< 0.0001	3.0140	< 0.0001
		600 - 619	1.4505	< 0.0001	2.1126	< 0.0001	2.5712	< 0.0001	2.7351	< 0.0001
		620 - 659	1.3483	< 0.0001	1.8662	< 0.0001	2.2267	< 0.0001	2.2868	< 0.0001
		660 - 689	1.1198	< 0.0001	1.5496	< 0.0001	1.7914	< 0.0001	1.7655	< 0.0001
		690 - 719	0.8824	< 0.0001	1.2221	< 0.0001	1.3559	< 0.0001	1.2639	< 0.0001
		720 - 749	0.6572	< 0.0001	0.8584	< 0.0001	0.9223	< 0.0001	0.7816	< 0.0001
		750 - 779	0.3649	< 0.0001	0.4067	< 0.0001	0.3611	< 0.0001	0.2758	< 0.0001
proptyp	SFR	2-4U	0.1158	< 0.0001	0.4929	< 0.0001	0.3814	< 0.0001	0.4830	< 0.0001
		COND	0.1127	< 0.0001	-0.0929	< 0.0001	-0.2529	< 0.0001	-0.3907	< 0.0001
product	Fixed	ARM	-0.1213	< 0.0001	-0.0854	< 0.0001	-0.1331	< 0.0001	-0.2336	< 0.0001
source	Non-Retail	CORRESPOND	0.2311	< 0.0001	0.1283	< 0.0001	0.1398	< 0.0001	0.1126	< 0.0001
		OTHER	-1.8084	< 0.0001	-1.6138	< 0.0001	-0.7675	< 0.0001	0.1099	0.0004
		RETAIL	-0.0300	0.0007	-0.1693	< 0.0001	-0.1775	< 0.0001	-0.2068	< 0.0001
loanpurp	Purchase	C/O REFI	0.1335	< 0.0001	0.3518	< 0.0001	0.3253	< 0.0001	0.0814	< 0.0001
		R/T REFI	0.1354	< 0.0001	0.2515	< 0.0001	0.1482	< 0.0001	0.0006	0.9656
Doctype	Full	Low	0.4848	< 0.0001	0.5885	< 0.0001	0.6307	< 0.0001	0.6669	< 0.0001
intonly	No	YES	1.3030	< 0.0001	1.1983	< 0.0001	1.1245	< 0.0001	0.9374	< 0.0001
negam	No	YES	0.8914	< 0.0001	0.8174	< 0.0001	0.8175	< 0.0001	0.3942	< 0.0001
Term	360	< 360	-0.1947	< 0.0001	-0.1452	< 0.0001	-0.2854	< 0.0001	-0.1846	< 0.0001
		> 360	0.5935	< 0.0001	0.8974	< 0.0001	0.7609	< 0.0001	0.6510	< 0.0001
Quintile_String	2	0	-0.1904	< 0.0001	0.0242	0.0419	0.2114	< 0.0001	0.3239	< 0.0001
		1	-0.0459	< 0.0001	0.0330	0.0031	0.0745	< 0.0001	0.1663	< 0.0001
		3	-0.0205	0.0565	-0.0158	0.1789	-0.0249	0.0506	-0.0194	0.2732
		4	-0.0872	< 0.0001	-0.0070	0.6081	0.1114	< 0.0001	0.1571	< 0.0001
ownocc	O	I	0.2395	< 0.0001	0.4483	< 0.0001	0.6021	< 0.0001	0.2686	< 0.0001
		S	0.0243	0.0489	0.1645	< 0.0001	0.3935	< 0.0001	-0.0492	0.1197
		U	0.0787	0.0269	0.0078	0.7890	0.0724	0.0101	-0.1040	0.0096

Mortgage Insurance Companies of America
Logistic Model Parameter Estimates and Significance
Loan Population 2: All loans excluding FHA and GT95 CLTV
Terminated and Active Loans
Response Variable: Cure

		HPA Bucket:	HPA<=-20%		-20%<HPA<=0%		0%<HPA<=20%		20%<HPA	
Variable	Reference Level	Level	Parameter	p-value	Parameter	p-value	Parameter	p-value	Parameter	p-value
		Intercept	-2.1606	< 0.0001	-1.4107	< 0.0001	-0.7495	< 0.0001	-0.0338	0.6482
CLTV	80 Uninsured	90 Insured	0.1290	< 0.0001	0.0734	0.0013	0.1010	< 0.0001	0.3259	< 0.0001
		90 Uninsured	0.0711	0.0007	0.0666	0.0044	0.2040	< 0.0001	0.4693	< 0.0001
		95 Insured	0.1467	< 0.0001	0.1724	< 0.0001	0.1777	< 0.0001	0.3386	< 0.0001
		95 Uninsured	-0.0793	0.0238	0.0821	0.0071	0.0897	0.0066	0.4063	< 0.0001
		GT95 Insured	NA	NA	NA	NA	NA	NA	NA	NA
		GT95 Uninsured	NA	NA	NA	NA	NA	NA	NA	NA
ficobucket	780-850	350 - 579	1.3991	< 0.0001	1.2452	< 0.0001	0.8271	< 0.0001	0.2773	0.0009
		580 - 599	1.0975	< 0.0001	1.1577	< 0.0001	0.8112	< 0.0001	0.2509	0.0052
		600 - 619	1.0413	< 0.0001	0.9434	< 0.0001	0.7750	< 0.0001	0.1877	0.0211
		620 - 659	0.7347	< 0.0001	0.6920	< 0.0001	0.4506	< 0.0001	-0.0194	0.7844
		660 - 689	0.4810	< 0.0001	0.3989	< 0.0001	0.2269	< 0.0001	-0.1779	0.0121
		690 - 719	0.2960	< 0.0001	0.2022	< 0.0001	0.0854	0.1113	-0.2887	< 0.0001
		720 - 749	0.1154	0.0156	0.0542	0.3096	-0.0642	0.2467	-0.3178	< 0.0001
		750 - 779	0.0435	0.3871	-0.0349	0.5401	-0.1222	0.0405	-0.1924	0.0148
proptyp	SFR	2-4U	0.1136	0.0727	-0.1095	0.0054	-0.1666	0.0006	-0.1912	0.0017
		COND	-0.2697	< 0.0001	-0.2029	< 0.0001	-0.1466	< 0.0001	0.0477	0.2922
product	Fixed	ARM	-0.1353	< 0.0001	-0.1373	< 0.0001	-0.1768	< 0.0001	-0.2323	< 0.0001
source	Non-Retail	CORRESPOND	-0.0133	0.5139	0.0122	0.5498	0.0426	0.0380	0.4321	< 0.0001
		OTHER	1.1801	< 0.0001	0.3490	0.0012	0.7126	< 0.0001	0.8245	< 0.0001
		RETAIL	0.0092	0.6598	0.0144	0.4702	0.0764	< 0.0001	0.1646	< 0.0001
loanpurp	Purchase	C/O REFI	0.2398	< 0.0001	0.1190	< 0.0001	-0.1819	< 0.0001	-0.1889	< 0.0001
		R/T REFI	0.1429	< 0.0001	0.0200	0.3403	-0.1181	< 0.0001	-0.0595	0.0195
Doctype	Full	Low	0.0895	< 0.0001	0.0347	0.0453	-0.0631	0.0002	-0.1329	< 0.0001
intonly	No	YES	-0.1245	< 0.0001	-0.4558	< 0.0001	-0.4192	< 0.0001	-0.7028	< 0.0001
negam	No	YES	-0.3529	< 0.0001	-0.4732	< 0.0001	-0.2321	< 0.0001	NA	NA
Term	360	< 360	1.3251	< 0.0001	0.8384	< 0.0001	0.5538	< 0.0001	0.4532	< 0.0001
		> 360	0.7399	< 0.0001	0.7870	< 0.0001	0.7871	< 0.0001	0.7640	< 0.0001
Quintile_String	2	0	NA	NA	-0.0925	0.0003	-0.0592	0.0151	-0.0719	0.0236
		1	NA	NA	-0.0065	0.7803	-0.0061	0.8014	-0.0072	0.8228
		3	NA	NA	0.0075	0.7621	-0.0449	0.0803	-0.0583	0.0985
		4	NA	NA	-0.0573	0.0525	-0.1035	0.0003	-0.2114	< 0.0001
ownocc	O	I	-0.4063	< 0.0001	-0.3892	< 0.0001	-0.4788	< 0.0001	-0.3321	< 0.0001
		S	-0.3298	< 0.0001	-0.2242	< 0.0001	-0.2657	< 0.0001	0.0217	0.7345
		U	0.1842	0.0192	0.3939	< 0.0001	0.2203	< 0.0001	0.2667	0.0010

Mortgage Insurance Companies of America
Logistic Model Parameter Estimates and Significance
Loan Population 2: All loans excluding FHA and GT95 CLTV
Terminated Loans
Response Variable: Default_NC

		HPA Bucket:	HPA<=-20%		-20%<HPA<=0%		0%<HPA<=20%		20%<HPA	
Variable	Reference Level	Level	Parameter	p-value	Parameter	p-value	Parameter	p-value	Parameter	p-value
		Intercept	-2.7968	< 0.0001	-4.6801	< 0.0001	-5.6640	< 0.0001	-6.2129	< 0.0001
CLTV	80 Uninsured	90 Insured	0.5818	< 0.0001	0.7249	< 0.0001	0.7692	< 0.0001	0.7293	< 0.0001
		90 Uninsured	1.1585	< 0.0001	0.9770	< 0.0001	0.9304	< 0.0001	1.0046	< 0.0001
		95 Insured	0.9126	< 0.0001	0.9925	< 0.0001	0.9991	< 0.0001	0.9746	< 0.0001
		95 Uninsured	1.4016	< 0.0001	1.0895	< 0.0001	1.1239	< 0.0001	1.0901	< 0.0001
		GT95 Insured	NA	NA	NA	NA	NA	NA	NA	NA
		GT95 Uninsured	NA	NA	NA	NA	NA	NA	NA	NA
ficobucket	780-850	350 - 579	1.4535	< 0.0001	2.5941	< 0.0001	3.2957	< 0.0001	3.3865	< 0.0001
		580 - 599	1.1355	< 0.0001	2.0518	< 0.0001	2.4460	< 0.0001	2.7021	< 0.0001
		600 - 619	1.0928	< 0.0001	1.9135	< 0.0001	2.2364	< 0.0001	2.3849	< 0.0001
		620 - 659	1.1386	< 0.0001	1.7423	< 0.0001	2.0263	< 0.0001	2.0734	< 0.0001
		660 - 689	0.9583	< 0.0001	1.4837	< 0.0001	1.6612	< 0.0001	1.6043	< 0.0001
		690 - 719	0.7568	< 0.0001	1.1751	< 0.0001	1.2869	< 0.0001	1.1659	< 0.0001
		720 - 749	0.5583	< 0.0001	0.8022	< 0.0001	0.8440	< 0.0001	0.7228	< 0.0001
		750 - 779	0.3373	< 0.0001	0.3431	< 0.0001	0.2971	< 0.0001	0.2258	0.0002
proptyp	SFR	2-4U	0.0652	0.0955	0.4364	< 0.0001	0.3555	< 0.0001	0.5135	< 0.0001
		COND	0.1377	< 0.0001	-0.0841	< 0.0001	-0.2987	< 0.0001	-0.4529	< 0.0001
product	Fixed	ARM	-0.5091	< 0.0001	-0.3803	< 0.0001	-0.4150	< 0.0001	-0.4857	< 0.0001
source	Non-Retail	CORRESPOND	0.5177	< 0.0001	0.2752	< 0.0001	0.4446	< 0.0001	0.5162	< 0.0001
		OTHER	-1.9532	< 0.0001	-1.6335	< 0.0001	-1.1285	< 0.0001	-0.4485	< 0.0001
		RETAIL	0.0197	0.1443	-0.2480	< 0.0001	-0.2264	< 0.0001	-0.2365	< 0.0001
loanpurp	Purchase	C/O REFI	0.0848	< 0.0001	0.2725	< 0.0001	0.2914	< 0.0001	0.0317	0.2059
		R/T REFI	0.3683	< 0.0001	0.4264	< 0.0001	0.3376	< 0.0001	0.0588	0.0058
Doctype	Full	Low	0.3952	< 0.0001	0.6075	< 0.0001	0.9339	< 0.0001	0.9656	< 0.0001
intonly	No	YES	1.7410	< 0.0001	1.6203	< 0.0001	1.1925	< 0.0001	0.9592	< 0.0001
negam	No	YES	0.7485	< 0.0001	0.7710	< 0.0001	0.6342	< 0.0001	NA	NA
Term	360	< 360	-0.8845	< 0.0001	-0.7486	< 0.0001	-0.6197	< 0.0001	-0.3720	< 0.0001
		> 360	1.0965	< 0.0001	1.3376	< 0.0001	1.1560	< 0.0001	0.3280	0.1600
Quintile_String	2	0	-0.1561	< 0.0001	0.2083	< 0.0001	0.4152	< 0.0001	0.4383	< 0.0001
		1	-0.0268	0.0912	0.1088	< 0.0001	0.1505	< 0.0001	0.1849	< 0.0001
		3	-0.0488	0.0024	-0.0164	0.3979	-0.0440	0.0336	0.0110	0.6993
		4	-0.1265	< 0.0001	0.0354	0.1102	0.1382	< 0.0001	0.2527	< 0.0001
ownocc	O	I	0.5341	< 0.0001	0.9430	< 0.0001	1.0783	< 0.0001	0.5029	< 0.0001
		S	0.3989	< 0.0001	0.5562	< 0.0001	0.6384	< 0.0001	-0.0420	0.4258
		U	0.1174	0.0630	-0.5309	< 0.0001	-0.1504	0.0091	-0.3302	< 0.0001

Mortgage Insurance Companies of America
Logistic Model Parameter Estimates and Significance
Loan Population 2: All loans excluding FHA and GT95 CLTV
Terminated Loans
Response Variable: Default_90

		HPA Bucket:	HPA<=-20%		-20%<HPA<=0%		0%<HPA<=20%		20%<HPA	
Variable	Reference Level	Level	Parameter	p-value	Parameter	p-value	Parameter	p-value	Parameter	p-value
		Intercept	-2.7744	< 0.0001	-4.6010	< 0.0001	-5.4526	< 0.0001	-5.8145	< 0.0001
CLTV	80 Uninsured	90 Insured	0.6032	< 0.0001	0.7243	< 0.0001	0.7365	< 0.0001	0.7173	< 0.0001
		90 Uninsured	1.1552	< 0.0001	0.9628	< 0.0001	0.9056	< 0.0001	1.0802	< 0.0001
		95 Insured	0.9199	< 0.0001	0.9864	< 0.0001	0.9518	< 0.0001	0.9362	< 0.0001
		95 Uninsured	1.3982	< 0.0001	1.0635	< 0.0001	1.0644	< 0.0001	1.0830	< 0.0001
		GT95 Insured	NA	NA	NA	NA	NA	NA	NA	NA
		GT95 Uninsured	NA	NA	NA	NA	NA	NA	NA	NA
ficobucket	780-850	350 - 579	1.5039	< 0.0001	2.6738	< 0.0001	3.3495	< 0.0001	3.4037	< 0.0001
		580 - 599	1.1811	< 0.0001	2.1653	< 0.0001	2.5566	< 0.0001	2.7707	< 0.0001
		600 - 619	1.1663	< 0.0001	1.9653	< 0.0001	2.3046	< 0.0001	2.4335	< 0.0001
		620 - 659	1.1574	< 0.0001	1.7557	< 0.0001	2.0371	< 0.0001	2.0633	< 0.0001
		660 - 689	0.9667	< 0.0001	1.4731	< 0.0001	1.6343	< 0.0001	1.5563	< 0.0001
		690 - 719	0.7607	< 0.0001	1.1595	< 0.0001	1.2544	< 0.0001	1.0995	< 0.0001
		720 - 749	0.5596	< 0.0001	0.7809	< 0.0001	0.8115	< 0.0001	0.6592	< 0.0001
		750 - 779	0.3372	< 0.0001	0.3237	< 0.0001	0.2612	< 0.0001	0.2019	0.0001
proptyp	SFR	2-4U	0.0810	0.0376	0.4339	< 0.0001	0.3803	< 0.0001	0.4915	< 0.0001
		COND	0.1399	< 0.0001	-0.0799	< 0.0001	-0.2774	< 0.0001	-0.4068	< 0.0001
product	Fixed	ARM	-0.5133	< 0.0001	-0.3787	< 0.0001	-0.3974	< 0.0001	-0.4695	< 0.0001
source	Non-Retail	CORRESPOND	0.5074	< 0.0001	0.2598	< 0.0001	0.4292	< 0.0001	0.5098	< 0.0001
		OTHER	-1.8336	< 0.0001	-1.5397	< 0.0001	-0.9579	< 0.0001	-0.3461	< 0.0001
		RETAIL	0.0114	0.3959	-0.2481	< 0.0001	-0.2124	< 0.0001	-0.2318	< 0.0001
loanpurp	Purchase	C/O REFI	0.0824	< 0.0001	0.2556	< 0.0001	0.2532	< 0.0001	NA	NA
		R/T REFI	0.3675	< 0.0001	0.4091	< 0.0001	0.2950	< 0.0001	NA	NA
Doctype	Full	Low	0.4047	< 0.0001	0.6077	< 0.0001	0.8747	< 0.0001	0.8637	< 0.0001
intonly	No	YES	1.7311	< 0.0001	1.5965	< 0.0001	1.1512	< 0.0001	0.8562	< 0.0001
negam	No	YES	0.7311	< 0.0001	0.7468	< 0.0001	0.6076	< 0.0001	NA	NA
Term	360	< 360	-0.8028	< 0.0001	-0.6063	< 0.0001	-0.5095	< 0.0001	-0.2728	< 0.0001
		> 360	1.1754	< 0.0001	1.4276	< 0.0001	1.2285	< 0.0001	0.4400	0.0272
Quintile_String	2	0	-0.1570	< 0.0001	0.2029	< 0.0001	0.3916	< 0.0001	0.3975	< 0.0001
		1	-0.0307	0.0519	0.1039	< 0.0001	0.1426	< 0.0001	0.1719	< 0.0001
		3	-0.0485	0.0024	-0.0159	0.4049	-0.0451	0.0208	-0.0013	0.9589
		4	-0.1276	< 0.0001	0.0314	0.1500	0.1220	< 0.0001	0.2121	< 0.0001
ownocc	O	I	0.5293	< 0.0001	0.9189	< 0.0001	1.0126	< 0.0001	0.4331	< 0.0001
		S	0.4009	< 0.0001	0.5465	< 0.0001	0.6011	< 0.0001	0.0003	0.9941
		U	0.1016	0.1057	-0.5168	< 0.0001	-0.1344	0.0106	-0.3445	< 0.0001

Mortgage Insurance Companies of America
Logistic Model Parameter Estimates and Significance
Loan Population 2: All loans excluding FHA and GT95 CLTV
Terminated Loans
Response Variable: Cure

		HPA Bucket:	HPA<=-20%		-20%<HPA<=0%		0%<HPA<=20%		20%<HPA	
Variable	Reference Level	Level	Parameter	p-value	Parameter	p-value	Parameter	p-value	Parameter	p-value
		Intercept	-3.1942	< 0.0001	-2.0078	< 0.0001	-0.9919	< 0.0001	-0.3299	0.0013
CLTV	80 Uninsured	90 Insured	0.2560	< 0.0001	-0.0862	0.0901	-0.0816	0.0283	0.0915	0.0191
		90 Uninsured	0.0492	0.2858	-0.1021	0.0657	0.0478	0.3971	0.4365	< 0.0001
		95 Insured	0.2250	0.0046	0.0190	0.7673	-0.0864	0.0478	0.0488	0.2719
		95 Uninsured	0.0854	0.2483	-0.2438	0.0009	-0.2228	0.0010	0.2342	0.0224
		GT95 Insured	NA	NA	NA	NA	NA	NA	NA	NA
		GT95 Uninsured	NA	NA	NA	NA	NA	NA	NA	NA
ficobucket	780-850	350 - 579	1.8440	< 0.0001	1.2881	< 0.0001	0.6663	< 0.0001	0.3476	0.0032
		580 - 599	1.5924	< 0.0001	1.2705	< 0.0001	0.7914	< 0.0001	0.2767	0.0288
		600 - 619	1.4721	< 0.0001	0.9235	< 0.0001	0.5524	< 0.0001	0.2048	0.0763
		620 - 659	0.9591	< 0.0001	0.5168	< 0.0001	0.1863	0.0290	-0.0101	0.9182
		660 - 689	0.6430	< 0.0001	0.1731	0.0877	-0.0491	0.5643	-0.2244	0.0231
		690 - 719	0.3295	0.0019	-0.0207	0.8396	-0.1506	0.0801	-0.3073	0.0022
		720 - 749	0.0440	0.6924	-0.2077	0.0527	-0.2449	0.0062	-0.3445	0.0009
		750 - 779	-0.0375	0.7497	-0.3054	0.0089	-0.2404	0.0132	-0.1692	0.1241
proptyp	SFR	2-4U	0.3107	0.0114	NA	NA	NA	NA	-0.1386	0.0915
		COND	-0.0424	0.4126	NA	NA	NA	NA	0.1960	0.0018
product	Fixed	ARM	-0.2829	< 0.0001	NA	NA	NA	NA	NA	NA
source	Non-Retail	CORRESPOND	-0.2867	< 0.0001	-0.0650	0.1549	-0.1586	< 0.0001	0.0946	0.0724
		OTHER	1.6119	< 0.0001	0.6247	< 0.0001	0.8090	< 0.0001	0.5892	< 0.0001
		RETAIL	-0.2296	< 0.0001	0.0019	0.9651	0.0041	0.9065	0.0759	0.0413
loanpurp	Purchase	C/O REFI	NA	NA	-0.1944	< 0.0001	-0.2817	< 0.0001	-0.0857	0.0548
		R/T REFI	NA	NA	-0.2620	< 0.0001	-0.2925	< 0.0001	-0.2041	< 0.0001
Doctype	Full	Low	0.1372	0.0011	0.1031	0.0075	-0.2180	< 0.0001	-0.2965	< 0.0001
intonly	No	YES	NA	NA	-0.5127	< 0.0001	-0.3343	< 0.0001	-0.4933	0.0003
negam	No	YES	NA	NA	-0.5524	< 0.0001	-0.3105	0.0002	-0.5007	0.0261
Term	360	< 360	1.3314	< 0.0001	1.0425	< 0.0001	0.6586	< 0.0001	0.3722	< 0.0001
		> 360	0.4524	< 0.0001	0.7351	< 0.0001	1.0159	< 0.0001	1.6047	0.0002
Quintile_String	2	0	NA	NA	NA	NA	-0.1772	< 0.0001	-0.1659	0.0004
		1	NA	NA	NA	NA	-0.0689	0.1176	-0.0639	0.1766
		3	NA	NA	NA	NA	-0.0454	0.3293	-0.0522	0.3056
		4	NA	NA	NA	NA	-0.0724	0.1562	-0.1838	0.0013
ownocc	O	I	-0.2469	< 0.0001	-0.2591	< 0.0001	-0.5056	< 0.0001	-0.2826	< 0.0001
		S	-0.1279	0.0523	-0.2272	0.0103	-0.2685	0.0003	0.1351	0.1435
		U	-0.7015	0.0253	0.1369	0.4419	-0.0680	0.5800	0.0516	0.6966

Mortgage Insurance Companies of America
Logistic Model Parameter Estimates and Significance
Loan Population 3: QRM loans excluding FHA and GT95 CLTV
Terminated and Active Loans
Response Variable: Default_NC

		HPA Bucket:	HPA<=-20%		-20%<HPA<=0%		0%<HPA<=20%		20%<HPA	
Variable	Reference Level	Level	Parameter	p-value	Parameter	p-value	Parameter	p-value	Parameter	p-value
		Intercept	-2.8946	< 0.0001	-4.7926	< 0.0001	-5.6952	< 0.0001	-6.5152	< 0.0001
CLTV	80 Uninsured	90 Insured	0.6053	< 0.0001	0.7270	< 0.0001	0.5396	< 0.0001	0.6315	< 0.0001
		90 Uninsured	0.5846	< 0.0001	0.7444	< 0.0001	0.6314	< 0.0001	0.4525	0.0001
		95 Insured	0.7791	< 0.0001	0.8788	< 0.0001	0.5933	< 0.0001	0.7749	< 0.0001
		95 Uninsured	0.7804	< 0.0001	0.8889	< 0.0001	0.7079	< 0.0001	0.6325	< 0.0001
		GT95 Insured	NA	NA	NA	NA	NA	NA	NA	NA
		GT95 Uninsured	NA	NA	NA	NA	NA	NA	NA	NA
ficobucket	780-850	350 - 579	NA	NA	NA	NA	NA	NA	NA	NA
		580 - 599	NA	NA	NA	NA	NA	NA	NA	NA
		600 - 619	NA	NA	NA	NA	NA	NA	NA	NA
		620 - 659	NA	NA	NA	NA	NA	NA	NA	NA
		660 - 689	NA	NA	NA	NA	NA	NA	NA	NA
		690 - 719	0.8974	< 0.0001	1.3321	< 0.0001	1.2739	< 0.0001	1.5602	< 0.0001
		720 - 749	0.6986	< 0.0001	0.9647	< 0.0001	0.8244	< 0.0001	1.0240	< 0.0001
		750 - 779	0.3972	< 0.0001	0.4780	< 0.0001	0.2442	0.0002	0.3318	0.0007
proptyp	SFR	2-4U	0.2174	0.1713	0.8203	< 0.0001	0.4456	< 0.0001	0.8357	< 0.0001
		COND	0.3363	< 0.0001	0.0897	0.0460	-0.2627	< 0.0001	-0.3802	< 0.0001
product	Fixed	ARM	-0.9632	< 0.0001	-0.7127	< 0.0001	-0.3375	< 0.0001	-0.3499	0.0019
source	Non-Retail	CORRESPOND	0.2521	< 0.0001	0.2460	< 0.0001	0.3912	< 0.0001	0.0206	0.6837
		OTHER	-1.2243	< 0.0001	-1.4478	< 0.0001	-1.0457	< 0.0001	-0.3075	0.0226
		RETAIL	0.0654	0.0637	-0.0612	0.0968	0.0107	0.7715	-0.2046	< 0.0001
loanpurp	Purchase	C/O REFI	0.1213	0.0010	0.4161	< 0.0001	0.4622	< 0.0001	0.1332	0.0133
		R/T REFI	0.0712	0.0905	0.3265	< 0.0001	0.1750	< 0.0001	-0.0661	0.1658
Doctype	Full	Low	NA	NA	NA	NA	NA	NA	NA	NA
intonly	No	YES	NA	NA	NA	NA	NA	NA	NA	NA
negam	No	YES	NA	NA	NA	NA	NA	NA	NA	NA
Term	360	< 360	-0.4778	< 0.0001	-0.2676	< 0.0001	-0.4399	< 0.0001	-0.3619	< 0.0001
		> 360	NA	NA	NA	NA	NA	NA	NA	NA
Quintile_String	2	0	-0.1791	< 0.0001	0.1927	< 0.0001	0.5312	< 0.0001	0.5821	< 0.0001
		1	-0.0310	0.4562	0.0396	0.3396	0.2230	< 0.0001	0.2610	< 0.0001
		3	-0.0551	0.1980	-0.1347	0.0028	-0.1072	0.0222	-0.1291	0.0431
		4	-0.1323	0.0083	-0.1731	0.0015	-0.0685	0.1957	0.0253	0.7247
ownocc	O	I	NA	NA	NA	NA	NA	NA	NA	NA
		S	NA	NA	NA	NA	NA	NA	NA	NA
		U	NA	NA	NA	NA	NA	NA	NA	NA

Mortgage Insurance Companies of America
Logistic Model Parameter Estimates and Significance
Loan Population 3: QRM loans excluding FHA and GT95 CLTV
Terminated and Active Loans
Response Variable: Default_90

		HPA Bucket:	HPA<=-20%		-20%<HPA<=0%		0%<HPA<=20%		20%<HPA	
Variable	Reference Level	Level	Parameter	p-value	Parameter	p-value	Parameter	p-value	Parameter	p-value
		Intercept	-2.7903	< 0.0001	-4.6652	< 0.0001	-5.4388	< 0.0001	-6.0133	< 0.0001
CLTV	80 Uninsured	90 Insured	0.6097	< 0.0001	0.7313	< 0.0001	0.5597	< 0.0001	0.6717	< 0.0001
		90 Uninsured	0.6001	< 0.0001	0.7480	< 0.0001	0.6470	< 0.0001	0.5305	< 0.0001
		95 Insured	0.8019	< 0.0001	0.9193	< 0.0001	0.6597	< 0.0001	0.8069	< 0.0001
		95 Uninsured	0.8016	< 0.0001	0.9200	< 0.0001	0.7133	< 0.0001	0.6412	< 0.0001
		GT95 Insured	NA	NA	NA	NA	NA	NA	NA	NA
		GT95 Uninsured	NA	NA	NA	NA	NA	NA	NA	NA
ficobucket	780-850	350 - 579	NA	NA	NA	NA	NA	NA	NA	NA
		580 - 599	NA	NA	NA	NA	NA	NA	NA	NA
		600 - 619	NA	NA	NA	NA	NA	NA	NA	NA
		620 - 659	NA	NA	NA	NA	NA	NA	NA	NA
		660 - 689	NA	NA	NA	NA	NA	NA	NA	NA
		690 - 719	0.9019	< 0.0001	1.3725	< 0.0001	1.3018	< 0.0001	1.4389	< 0.0001
		720 - 749	0.6954	< 0.0001	0.9748	< 0.0001	0.8163	< 0.0001	0.9258	< 0.0001
		750 - 779	0.3918	< 0.0001	0.4798	< 0.0001	0.2102	0.0003	0.2878	0.0001
proptyp	SFR	2-4U	0.2462	0.1016	0.7791	< 0.0001	0.4746	< 0.0001	0.7535	< 0.0001
		COND	0.3015	< 0.0001	0.0465	0.2682	-0.2705	< 0.0001	-0.3819	< 0.0001
product	Fixed	ARM	-0.9164	< 0.0001	-0.6234	< 0.0001	-0.3743	< 0.0001	-0.4324	< 0.0001
source	Non-Retail	CORRESPOND	0.2559	< 0.0001	0.2567	< 0.0001	0.3992	< 0.0001	0.2020	< 0.0001
		OTHER	-1.1044	< 0.0001	-1.5822	< 0.0001	-0.8463	< 0.0001	-0.0151	0.8746
		RETAIL	0.0676	0.0449	-0.0176	0.6022	0.0405	0.2077	-0.1352	0.0003
loanpurp	Purchase	C/O REFI	0.1600	< 0.0001	0.4174	< 0.0001	0.4339	< 0.0001	0.1164	0.0071
		R/T REFI	0.0977	0.0146	0.3093	< 0.0001	0.1679	< 0.0001	-0.0441	0.2418
Doctype	Full	Low	NA	NA	NA	NA	NA	NA	NA	NA
intonly	No	YES	NA	NA	NA	NA	NA	NA	NA	NA
negam	No	YES	NA	NA	NA	NA	NA	NA	NA	NA
Term	360	< 360	-0.1916	0.0005	NA	NA	-0.2928	< 0.0001	-0.2317	< 0.0001
		> 360	NA	NA	NA	NA	NA	NA	NA	NA
Quintile_String	2	0	-0.1955	< 0.0001	0.1741	< 0.0001	0.4859	< 0.0001	0.5079	< 0.0001
		1	-0.0361	0.3627	0.0522	0.1696	0.2154	< 0.0001	0.2050	< 0.0001
		3	-0.0610	0.1342	-0.1272	0.0020	-0.1361	0.0009	-0.1240	0.0129
		4	-0.1759	0.0003	-0.1596	0.0013	-0.0639	0.1638	0.0068	0.9041
ownocc	O	I	NA	NA	NA	NA	NA	NA	NA	NA
		S	NA	NA	NA	NA	NA	NA	NA	NA
		U	NA	NA	NA	NA	NA	NA	NA	NA

Mortgage Insurance Companies of America
Logistic Model Parameter Estimates and Significance
Loan Population 3: QRM loans excluding FHA and GT95 CLTV
Terminated and Active Loans
Response Variable: Cure

		HPA Bucket:	HPA<=-20%		-20%<HPA<=0%		0%<HPA<=20%		20%<HPA	
Variable	Reference Level	Level	Parameter	p-value	Parameter	p-value	Parameter	p-value	Parameter	p-value
		Intercept	-2.0766	< 0.0001	-1.5582	< 0.0001	-0.8165	< 0.0001	-0.3114	< 0.0001
CLTV	80 Uninsured	90 Insured	NA	NA	NA	NA	0.0447	0.5011	0.1366	0.0691
		90 Uninsured	NA	NA	NA	NA	-0.0149	0.9035	0.4868	0.0087
		95 Insured	NA	NA	NA	NA	0.2284	0.0020	0.1853	0.0231
		95 Uninsured	NA	NA	NA	NA	0.1087	0.3634	0.0381	0.8419
		GT95 Insured	NA	NA	NA	NA	NA	NA	NA	NA
		GT95 Uninsured	NA	NA	NA	NA	NA	NA	NA	NA
ficobucket	780-850	350 - 579	NA	NA	NA	NA	NA	NA	NA	NA
		580 - 599	NA	NA	NA	NA	NA	NA	NA	NA
		600 - 619	NA	NA	NA	NA	NA	NA	NA	NA
		620 - 659	NA	NA	NA	NA	NA	NA	NA	NA
		660 - 689	NA	NA	NA	NA	NA	NA	NA	NA
		690 - 719	NA	NA	0.5098	0.0002	0.0579	0.5870	NA	NA
		720 - 749	NA	NA	0.2523	0.0740	-0.1257	0.2590	NA	NA
		750 - 779	NA	NA	0.1405	0.3510	-0.1691	0.1648	NA	NA
proptyp	SFR	2-4U	0.4767	0.1711	-0.3706	0.0344	NA	NA	-0.4503	0.0074
		COND	-0.3179	0.0073	-0.3635	0.0003	NA	NA	-0.0249	0.8408
product	Fixed	ARM	0.4476	0.0092	NA	NA	-0.3488	0.0396	-0.4148	0.0391
source	Non-Retail	CORRESPOND	NA	NA	NA	NA	0.1077	0.0967	0.6418	< 0.0001
		OTHER	NA	NA	NA	NA	0.5432	0.0081	0.7216	0.0003
		RETAIL	NA	NA	NA	NA	0.1048	0.1181	0.2289	0.0025
loanpurp	Purchase	C/O REFI	0.3147	0.0003	NA	NA	NA	NA	-0.2900	0.0008
		R/T REFI	0.3386	0.0008	NA	NA	NA	NA	-0.0358	0.6348
Doctype	Full	Low	NA	NA	NA	NA	NA	NA	NA	NA
intonly	No	YES	NA	NA	NA	NA	NA	NA	NA	NA
negam	No	YES	NA	NA	NA	NA	NA	NA	NA	NA
Term	360	< 360	1.4240	< 0.0001	1.0032	< 0.0001	0.4784	< 0.0001	0.3947	< 0.0001
		> 360	NA	NA	NA	NA	NA	NA	NA	NA
Quintile_String	2	0	-0.0594	0.6162	NA	NA	NA	NA	NA	NA
		1	-0.0259	0.8069	NA	NA	NA	NA	NA	NA
		3	0.1147	0.2817	NA	NA	NA	NA	NA	NA
		4	-0.3144	0.0239	NA	NA	NA	NA	NA	NA
ownocc	O	I	NA	NA	NA	NA	NA	NA	NA	NA
		S	NA	NA	NA	NA	NA	NA	NA	NA
		U	NA	NA	NA	NA	NA	NA	NA	NA

Mortgage Insurance Companies of America
Logistic Model Parameter Estimates and Significance
Loan Population 3: QRM loans excluding FHA and GT95 CLTV
Terminated Loans
Response Variable: Default_NC

		HPA Bucket:	HPA<=-20%		-20%<HPA<=0%		0%<HPA<=20%		20%<HPA	
Variable	Reference Level	Level	Parameter	p-value	Parameter	p-value	Parameter	p-value	Parameter	p-value
		Intercept	-2.8903	< 0.0001	-5.1308	< 0.0001	-5.6061	< 0.0001	-6.4475	< 0.0001
CLTV	80 Uninsured	90 Insured	0.7478	< 0.0001	0.8107	< 0.0001	0.5059	< 0.0001	0.6582	< 0.0001
		90 Uninsured	1.3587	< 0.0001	1.0377	< 0.0001	0.8857	< 0.0001	0.8886	0.0006
		95 Insured	0.8057	< 0.0001	1.0532	< 0.0001	0.5654	< 0.0001	0.8356	< 0.0001
		95 Uninsured	1.6282	< 0.0001	1.1023	< 0.0001	0.8492	< 0.0001	0.9102	< 0.0001
		GT95 Insured	NA	NA	NA	NA	NA	NA	NA	NA
		GT95 Uninsured	NA	NA	NA	NA	NA	NA	NA	NA
ficobucket	780-850	350 - 579	NA	NA	NA	NA	NA	NA	NA	NA
		580 - 599	NA	NA	NA	NA	NA	NA	NA	NA
		600 - 619	NA	NA	NA	NA	NA	NA	NA	NA
		620 - 659	NA	NA	NA	NA	NA	NA	NA	NA
		660 - 689	NA	NA	NA	NA	NA	NA	NA	NA
		690 - 719	0.7623	< 0.0001	1.2239	< 0.0001	1.1006	< 0.0001	1.4489	< 0.0001
		720 - 749	0.6251	< 0.0001	0.8820	< 0.0001	0.6850	< 0.0001	0.9827	< 0.0001
		750 - 779	0.3860	< 0.0001	0.3364	0.0011	0.0336	0.7066	0.3597	0.0040
proptyp	SFR	2-4U	0.3509	0.1764	1.0953	< 0.0001	0.5793	< 0.0001	0.9748	< 0.0001
		COND	0.3776	< 0.0001	0.0601	0.4359	-0.3772	< 0.0001	-0.4217	< 0.0001
product	Fixed	ARM	-1.5045	< 0.0001	-1.0521	< 0.0001	-0.4501	< 0.0001	-0.4616	0.0001
source	Non-Retail	CORRESPOND	0.9098	< 0.0001	0.6239	< 0.0001	0.8982	< 0.0001	0.5114	< 0.0001
		OTHER	-1.2857	< 0.0001	-1.3833	< 0.0001	-0.9866	< 0.0001	-0.4102	0.0041
		RETAIL	0.3380	< 0.0001	-0.0118	0.8528	0.0443	0.3983	-0.2320	< 0.0001
loanpurp	Purchase	C/O REFI	NA	NA	0.5175	< 0.0001	0.3966	< 0.0001	0.0264	0.6880
		R/T REFI	NA	NA	0.2168	0.0011	0.2055	< 0.0001	-0.1422	0.0211
Doctype	Full	Low	NA	NA	NA	NA	NA	NA	NA	NA
intonly	No	YES	NA	NA	NA	NA	NA	NA	NA	NA
negam	No	YES	NA	NA	NA	NA	NA	NA	NA	NA
Term	360	< 360	-1.2017	< 0.0001	-0.8671	< 0.0001	-0.7175	< 0.0001	-0.4768	< 0.0001
		> 360	NA	NA	NA	NA	NA	NA	NA	NA
Quintile_String	2	0	-0.2656	0.0005	0.5450	< 0.0001	0.7248	< 0.0001	0.6294	< 0.0001
		1	0.0433	0.5217	0.1230	0.0843	0.2516	< 0.0001	0.3061	< 0.0001
		3	-0.1006	0.1453	-0.0970	0.1987	-0.1831	0.0055	-0.0932	0.2407
		4	-0.1352	0.0928	-0.1572	0.0857	-0.1666	0.0252	0.1832	0.0340
ownocc	O	I	NA	NA	NA	NA	NA	NA	NA	NA
		S	NA	NA	NA	NA	NA	NA	NA	NA
		U	NA	NA	NA	NA	NA	NA	NA	NA

Mortgage Insurance Companies of America
Logistic Model Parameter Estimates and Significance
Loan Population 3: QRM loans excluding FHA and GT95 CLTV
Terminated Loans
Response Variable: Default_90

		HPA Bucket:	HPA<=-20%		-20%<HPA<=0%		0%<HPA<=20%		20%<HPA	
Variable	Reference Level	Level	Parameter	p-value	Parameter	p-value	Parameter	p-value	Parameter	p-value
		Intercept	-2.8611	< 0.0001	-5.0526	< 0.0001	-5.3859	< 0.0001	-6.0312	< 0.0001
CLTV	80 Uninsured	90 Insured	0.7466	< 0.0001	0.8126	< 0.0001	0.4810	< 0.0001	0.6585	< 0.0001
		90 Uninsured	1.3389	< 0.0001	1.0032	< 0.0001	0.8587	< 0.0001	0.8428	0.0002
		95 Insured	0.7962	< 0.0001	1.0228	< 0.0001	0.5736	< 0.0001	0.8184	< 0.0001
		95 Uninsured	1.6195	< 0.0001	1.0565	< 0.0001	0.7908	< 0.0001	0.8514	< 0.0001
		GT95 Insured	NA	NA	NA	NA	NA	NA	NA	NA
		GT95 Uninsured	NA	NA	NA	NA	NA	NA	NA	NA
ficobucket	780-850	350 - 579	NA	NA	NA	NA	NA	NA	NA	NA
		580 - 599	NA	NA	NA	NA	NA	NA	NA	NA
		600 - 619	NA	NA	NA	NA	NA	NA	NA	NA
		620 - 659	NA	NA	NA	NA	NA	NA	NA	NA
		660 - 689	NA	NA	NA	NA	NA	NA	NA	NA
		690 - 719	0.7548	< 0.0001	1.2431	< 0.0001	1.0765	< 0.0001	1.3190	< 0.0001
		720 - 749	0.6242	< 0.0001	0.8947	< 0.0001	0.6236	< 0.0001	0.8331	< 0.0001
		750 - 779	0.3857	< 0.0001	0.3282	0.0012	0.0066	0.9359	0.2677	0.0096
proptyp	SFR	2-4U	0.3847	0.1302	1.1266	< 0.0001	0.5684	< 0.0001	0.9824	< 0.0001
		COND	0.3749	< 0.0001	0.0566	0.4522	-0.3050	0.0004	-0.4099	< 0.0001
product	Fixed	ARM	-1.4527	< 0.0001	-0.9349	< 0.0001	-0.3958	< 0.0001	-0.4282	< 0.0001
source	Non-Retail	CORRESPOND	0.9022	< 0.0001	0.5971	< 0.0001	0.8282	< 0.0001	0.5960	< 0.0001
		OTHER	-1.1031	< 0.0001	-1.4461	< 0.0001	-0.7814	< 0.0001	-0.2131	0.0618
		RETAIL	0.3231	< 0.0001	-0.0173	0.7786	0.0065	0.8940	-0.2436	< 0.0001
loanpurp	Purchase	C/O REFI	NA	NA	0.4775	< 0.0001	0.3833	< 0.0001	0.0134	0.8155
		R/T REFI	NA	NA	0.2034	0.0016	0.1909	0.0001	-0.1497	0.0054
Doctype	Full	Low	NA	NA	NA	NA	NA	NA	NA	NA
intonly	No	YES	NA	NA	NA	NA	NA	NA	NA	NA
negam	No	YES	NA	NA	NA	NA	NA	NA	NA	NA
Term	360	< 360	-1.1982	< 0.0001	-0.7572	< 0.0001	-0.6324	< 0.0001	-0.4132	< 0.0001
		> 360	NA	NA	NA	NA	NA	NA	NA	NA
Quintile_String	2	0	-0.2464	0.0011	0.5250	< 0.0001	0.6391	< 0.0001	0.6067	< 0.0001
		1	0.0396	0.5558	0.1044	0.1328	0.2448	< 0.0001	0.2478	< 0.0001
		3	-0.0878	0.1989	-0.1247	0.0903	-0.2068	0.0008	-0.0923	0.1768
		4	-0.1238	0.1192	-0.1531	0.0832	-0.1227	0.0710	0.1369	0.0695
ownocc	O	I	NA	NA	NA	NA	NA	NA	NA	NA
		S	NA	NA	NA	NA	NA	NA	NA	NA
		U	NA	NA	NA	NA	NA	NA	NA	NA

Mortgage Insurance Companies of America
Logistic Model Parameter Estimates and Significance
Loan Population 3: QRM loans excluding FHA and GT95 CLTV
Terminated Loans
Response Variable: Cure

		HPA Bucket:	HPA<=-20%		-20%<HPA<=0%		0%<HPA<=20%		20%<HPA	
Variable	Reference Level	Level	Parameter	p-value	Parameter	p-value	Parameter	p-value	Parameter	p-value
		Intercept	-3.4084	< 0.0001	-2.4814	< 0.0001	-0.9102	< 0.0001	-0.7820	< 0.0001
CLTV	80 Uninsured	90 Insured	NA	NA	-0.0006	0.9976	NA	NA	NA	NA
		90 Uninsured	NA	NA	-0.5893	0.0880	NA	NA	NA	NA
		95 Insured	NA	NA	-0.6290	0.0338	NA	NA	NA	NA
		95 Uninsured	NA	NA	-1.0310	0.0168	NA	NA	NA	NA
		GT95 Insured	NA	NA	NA	NA	NA	NA	NA	NA
		GT95 Uninsured	NA	NA	NA	NA	NA	NA	NA	NA
ficobucket	780-850	350 - 579	NA	NA	NA	NA	NA	NA	NA	NA
		580 - 599	NA	NA	NA	NA	NA	NA	NA	NA
		600 - 619	NA	NA	NA	NA	NA	NA	NA	NA
		620 - 659	NA	NA	NA	NA	NA	NA	NA	NA
		660 - 689	NA	NA	NA	NA	NA	NA	NA	NA
		690 - 719	NA	NA	0.5037	0.1327	-0.2140	0.2087	NA	NA
		720 - 749	NA	NA	0.1171	0.7390	-0.4544	0.0123	NA	NA
		750 - 779	NA	NA	-0.2152	0.5875	-0.1898	0.3350	NA	NA
proptyp	SFR	2-4U	NA	NA	NA	NA	NA	NA	NA	NA
		COND	NA	NA	NA	NA	NA	NA	NA	NA
product	Fixed	ARM	0.9897	0.0048	0.7196	0.0140	NA	NA	NA	NA
source	Non-Retail	CORRESPOND	-0.1379	0.5659	NA	NA	-0.4359	0.0004	0.4725	0.0005
		OTHER	2.0837	0.0007	NA	NA	0.7504	0.0016	0.6614	0.0035
		RETAIL	-0.5033	0.0671	NA	NA	-0.1953	0.1064	-0.0506	0.6463
loanpurp	Purchase	C/O REFI	NA	NA	NA	NA	NA	NA	NA	NA
		R/T REFI	NA	NA	NA	NA	NA	NA	NA	NA
Doctype	Full	Low	NA	NA	NA	NA	NA	NA	NA	NA
intonly	No	YES	NA	NA	NA	NA	NA	NA	NA	NA
negam	No	YES	NA	NA	NA	NA	NA	NA	NA	NA
Term	360	< 360	NA	NA	0.8947	0.0007	0.3726	0.0105	NA	NA
		> 360	NA	NA	NA	NA	NA	NA	NA	NA
Quintile_String	2	0	0.9133	0.0039	NA	NA	-0.4636	0.0015	NA	NA
		1	0.2123	0.5252	NA	NA	-0.0784	0.5706	NA	NA
		3	0.5441	0.0900	NA	NA	-0.2563	0.0974	NA	NA
		4	0.0758	0.8496	NA	NA	0.0011	0.9944	NA	NA
ownocc	O	I	NA	NA	NA	NA	NA	NA	NA	NA
		S	NA	NA	NA	NA	NA	NA	NA	NA
		U	NA	NA	NA	NA	NA	NA	NA	NA

Mortgage Insurance Companies of America
Logistic Model Parameter Estimates and Significance
Loan Population 4: All loans excluding FHA, GT95 CLTV, and GSE
Terminated and Active Loans
Response Variable: Default_NC

		HPA Bucket:	HPA<=-20%		-20%<HPA<=0%		0%<HPA<=20%		20%<HPA	
Variable	Reference Level	Level	Parameter	p-value	Parameter	p-value	Parameter	p-value	Parameter	p-value
		Intercept	-2.9581	< 0.0001	-4.2087	< 0.0001	-5.2029	< 0.0001	-5.9618	< 0.0001
CLTV	80 Uninsured	90 Insured	0.5217	< 0.0001	0.4557	< 0.0001	0.5423	< 0.0001	0.7750	< 0.0001
		90 Uninsured	0.7858	< 0.0001	0.8145	< 0.0001	0.8938	< 0.0001	1.0854	< 0.0001
		95 Insured	0.8072	< 0.0001	0.6827	< 0.0001	0.7599	< 0.0001	0.9465	< 0.0001
		95 Uninsured	1.1474	< 0.0001	1.0046	< 0.0001	1.1214	< 0.0001	1.3414	< 0.0001
		GT95 Insured	NA	NA	NA	NA	NA	NA	NA	NA
		GT95 Uninsured	NA	NA	NA	NA	NA	NA	NA	NA
ficobucket	780-850	350 - 579	2.3619	< 0.0001	3.2588	< 0.0001	3.5849	< 0.0001	3.5314	< 0.0001
		580 - 599	1.8752	< 0.0001	2.5811	< 0.0001	2.9230	< 0.0001	3.0011	< 0.0001
		600 - 619	1.5444	< 0.0001	2.2239	< 0.0001	2.6000	< 0.0001	2.6597	< 0.0001
		620 - 659	1.3538	< 0.0001	1.7597	< 0.0001	2.0957	< 0.0001	2.1652	< 0.0001
		660 - 689	1.1170	< 0.0001	1.5039	< 0.0001	1.6991	< 0.0001	1.6775	< 0.0001
		690 - 719	0.8545	< 0.0001	1.1735	< 0.0001	1.2577	< 0.0001	1.1920	< 0.0001
		720 - 749	0.6260	< 0.0001	0.7947	< 0.0001	0.8523	< 0.0001	0.6886	< 0.0001
		750 - 779	0.3385	< 0.0001	0.3557	< 0.0001	0.3244	< 0.0001	0.1738	0.0587
proptyp	SFR	2-4U	0.0979	0.0020	0.3936	< 0.0001	0.2744	< 0.0001	0.5264	< 0.0001
		COND	0.1509	< 0.0001	-0.0635	< 0.0001	-0.2475	< 0.0001	-0.3401	< 0.0001
product	Fixed	ARM	-0.1257	< 0.0001	-0.2059	< 0.0001	-0.2677	< 0.0001	-0.3709	< 0.0001
source	Non-Retail	CORRESPOND	0.2031	< 0.0001	0.0612	< 0.0001	-0.0420	0.0391	-0.1678	< 0.0001
		OTHER	-1.7214	< 0.0001	-1.7386	< 0.0001	-1.3894	< 0.0001	-0.2847	0.0005
		RETAIL	-0.1187	< 0.0001	-0.2236	< 0.0001	-0.3791	< 0.0001	-0.4471	< 0.0001
loanpurp	Purchase	C/O REFI	0.1117	< 0.0001	0.2371	< 0.0001	0.2157	< 0.0001	0.1284	0.0005
		R/T REFI	0.2274	< 0.0001	0.2622	< 0.0001	0.1600	< 0.0001	-0.0835	0.0059
Doctype	Full	Low	0.4750	< 0.0001	0.5852	< 0.0001	0.7380	< 0.0001	0.8851	< 0.0001
intonly	No	YES	1.3451	< 0.0001	1.2899	< 0.0001	1.1519	< 0.0001	0.9367	< 0.0001
negam	No	YES	0.9742	< 0.0001	0.9331	< 0.0001	0.8282	< 0.0001	0.3691	< 0.0001
Term	360	< 360	-0.3485	< 0.0001	-0.4438	< 0.0001	-0.4851	< 0.0001	-0.3583	< 0.0001
		> 360	0.2711	< 0.0001	0.2540	< 0.0001	0.0711	0.0353	0.2587	< 0.0001
Quintile_String	2	0	-0.1702	< 0.0001	NA	NA	0.1731	< 0.0001	0.2548	< 0.0001
		1	-0.0534	0.0002	NA	NA	0.0766	0.0011	0.1888	< 0.0001
		3	-0.0272	0.0537	NA	NA	0.0312	0.1991	-0.0144	0.7322
		4	-0.0463	0.0014	NA	NA	0.1920	< 0.0001	0.2471	< 0.0001
ownocc	O	I	0.3217	< 0.0001	0.5045	< 0.0001	0.7437	< 0.0001	0.3229	< 0.0001
		S	0.0825	< 0.0001	0.1446	< 0.0001	0.5301	< 0.0001	0.0793	0.2758
		U	-0.6595	< 0.0001	-0.0730	0.2111	0.1278	0.0130	0.1721	0.0279

Mortgage Insurance Companies of America
Logistic Model Parameter Estimates and Significance
Loan Population 4: All loans excluding FHA, GT95 CLTV, and GSE
Terminated and Active Loans
Response Variable: Default_90

		HPA Bucket:	HPA<=-20%		-20%<HPA<=0%		0%<HPA<=20%		20%<HPA	
Variable	Reference Level	Level	Parameter	p-value	Parameter	p-value	Parameter	p-value	Parameter	p-value
		Intercept	-2.8988	< 0.0001	-4.1020	< 0.0001	-5.0006	< 0.0001	-5.5875	< 0.0001
CLTV	80 Uninsured	90 Insured	0.5441	< 0.0001	0.4741	< 0.0001	0.5475	< 0.0001	0.7543	< 0.0001
		90 Uninsured	0.8047	< 0.0001	0.8375	< 0.0001	0.9499	< 0.0001	1.1690	< 0.0001
		95 Insured	0.8317	< 0.0001	0.7362	< 0.0001	0.7541	< 0.0001	0.9267	< 0.0001
		95 Uninsured	1.1350	< 0.0001	1.0454	< 0.0001	1.1782	< 0.0001	1.4190	< 0.0001
		GT95 Insured	NA	NA	NA	NA	NA	NA	NA	NA
		GT95 Uninsured	NA	NA	NA	NA	NA	NA	NA	NA
ficobucket	780-850	350 - 579	2.6182	< 0.0001	3.5409	< 0.0001	3.7441	< 0.0001	3.6395	< 0.0001
		580 - 599	2.0471	< 0.0001	2.7368	< 0.0001	3.0406	< 0.0001	3.0307	< 0.0001
		600 - 619	1.6562	< 0.0001	2.3555	< 0.0001	2.6998	< 0.0001	2.7661	< 0.0001
		620 - 659	1.4120	< 0.0001	1.8287	< 0.0001	2.1471	< 0.0001	2.1770	< 0.0001
		660 - 689	1.1514	< 0.0001	1.5192	< 0.0001	1.7194	< 0.0001	1.6381	< 0.0001
		690 - 719	0.8828	< 0.0001	1.1747	< 0.0001	1.2543	< 0.0001	1.1471	< 0.0001
		720 - 749	0.6407	< 0.0001	0.7851	< 0.0001	0.8337	< 0.0001	0.6352	< 0.0001
		750 - 779	0.3458	< 0.0001	0.3361	< 0.0001	0.2942	< 0.0001	0.1511	0.0491
proptyp	SFR	2-4U	0.1174	0.0002	0.4017	< 0.0001	0.2982	< 0.0001	0.4401	< 0.0001
		COND	0.1202	< 0.0001	-0.0943	< 0.0001	-0.2547	< 0.0001	-0.3316	< 0.0001
product	Fixed	ARM	-0.1203	< 0.0001	-0.1942	< 0.0001	-0.2742	< 0.0001	-0.3732	< 0.0001
source	Non-Retail	CORRESPOND	0.2221	< 0.0001	0.0762	< 0.0001	-0.0202	0.2847	-0.0522	0.1170
		OTHER	-1.6267	< 0.0001	-1.7153	< 0.0001	-1.2524	< 0.0001	-0.1758	0.0106
		RETAIL	-0.1044	< 0.0001	-0.2193	< 0.0001	-0.3501	< 0.0001	-0.4035	< 0.0001
loanpurp	Purchase	C/O REFI	0.1377	< 0.0001	0.2744	< 0.0001	0.2217	< 0.0001	0.1411	< 0.0001
		R/T REFI	0.2772	< 0.0001	0.2973	< 0.0001	0.1589	< 0.0001	-0.0872	0.0008
Doctype	Full	Low	0.4885	< 0.0001	0.5978	< 0.0001	0.7281	< 0.0001	0.8342	< 0.0001
intonly	No	YES	1.3759	< 0.0001	1.2568	< 0.0001	1.0770	< 0.0001	0.7798	< 0.0001
negam	No	YES	0.9349	< 0.0001	0.8636	< 0.0001	0.7823	< 0.0001	0.3667	< 0.0001
Term	360	< 360	-0.1582	0.0009	-0.2369	< 0.0001	-0.3563	< 0.0001	-0.2581	< 0.0001
		> 360	0.3425	< 0.0001	0.3567	< 0.0001	0.1737	< 0.0001	0.4143	< 0.0001
Quintile_String	2	0	-0.1821	< 0.0001	NA	NA	0.1688	< 0.0001	0.2598	< 0.0001
		1	-0.0557	< 0.0001	NA	NA	0.0760	0.0004	0.1787	< 0.0001
		3	-0.0254	0.0685	NA	NA	0.0286	0.2001	-0.0312	0.3827
		4	-0.0604	< 0.0001	NA	NA	0.1614	< 0.0001	0.1654	< 0.0001
ownocc	O	I	0.2939	< 0.0001	0.4706	< 0.0001	0.6840	< 0.0001	0.2994	< 0.0001
		S	0.0505	0.0029	0.1262	< 0.0001	0.4656	< 0.0001	0.1104	0.0734
		U	-0.5587	< 0.0001	0.0145	0.7871	0.1510	0.0012	0.2205	0.0008

Mortgage Insurance Companies of America
Logistic Model Parameter Estimates and Significance
Loan Population 4: All loans excluding FHA, GT95 CLTV, and GSE
Terminated and Active Loans
Response Variable: Cure

		HPA Bucket:	HPA<=-20%		-20%<HPA<=0%		0%<HPA<=20%		20%<HPA	
Variable	Reference Level	Level	Parameter	p-value	Parameter	p-value	Parameter	p-value	Parameter	p-value
		Intercept	-2.3530	< 0.0001	-1.6180	< 0.0001	-1.0265	< 0.0001	-0.2065	0.1552
CLTV	80 Uninsured	90 Insured	0.1869	< 0.0001	0.1527	0.0001	0.0821	0.0438	0.0217	0.7018
		90 Uninsured	0.0556	0.0231	0.0954	0.0013	0.3025	< 0.0001	0.5094	< 0.0001
		95 Insured	0.2549	< 0.0001	0.2987	< 0.0001	0.0934	0.0506	0.0456	0.4933
		95 Uninsured	-0.1499	0.0004	0.1781	< 0.0001	0.2525	< 0.0001	0.4293	< 0.0001
		GT95 Insured	NA	NA	NA	NA	NA	NA	NA	NA
		GT95 Uninsured	NA	NA	NA	NA	NA	NA	NA	NA
ficobucket	780-850	350 - 579	1.6865	< 0.0001	1.4475	< 0.0001	1.0135	< 0.0001	0.4895	0.0011
		580 - 599	1.2922	< 0.0001	1.3693	< 0.0001	0.9061	< 0.0001	0.3947	0.0190
		600 - 619	1.2031	< 0.0001	1.0905	< 0.0001	0.7736	< 0.0001	0.3296	0.0354
		620 - 659	0.7086	< 0.0001	0.6998	< 0.0001	0.4644	< 0.0001	0.0268	0.8477
		660 - 689	0.4587	< 0.0001	0.3879	< 0.0001	0.2698	0.0035	-0.1985	0.1559
		690 - 719	0.2877	< 0.0001	0.1402	0.0658	0.0874	0.3493	-0.2987	0.0348
		720 - 749	0.1207	0.0574	0.0203	0.7971	-0.1080	0.2654	-0.3900	0.0081
		750 - 779	0.0310	0.6444	-0.1197	0.1598	-0.1799	0.0869	-0.3207	0.0421
proptyp	SFR	2-4U	0.1235	0.0826	-0.1180	0.0246	NA	NA	-0.2602	0.0110
		COND	-0.2893	< 0.0001	-0.2233	< 0.0001	NA	NA	0.0301	0.7242
product	Fixed	ARM	-0.1269	< 0.0001	NA	NA	-0.1081	0.0028	NA	NA
source	Non-Retail	CORRESPOND	-0.0199	0.4344	NA	NA	0.0590	0.1097	0.4579	< 0.0001
		OTHER	1.3295	< 0.0001	NA	NA	0.5957	< 0.0001	0.8736	< 0.0001
		RETAIL	0.0593	0.0234	NA	NA	0.0368	0.2721	0.1518	0.0022
loanpurp	Purchase	C/O REFI	0.2601	< 0.0001	0.1424	< 0.0001	-0.0296	0.4638	-0.0883	0.1536
		R/T REFI	0.2626	< 0.0001	0.0963	0.0013	-0.0797	0.0167	-0.1220	0.0158
Doctype	Full	Low	0.0707	0.0041	0.0649	0.0114	NA	NA	NA	NA
intonly	No	YES	0.2781	< 0.0001	-0.2190	< 0.0001	-0.2451	< 0.0001	-0.6458	< 0.0001
negam	No	YES	-0.1421	< 0.0001	-0.4354	< 0.0001	-0.2493	< 0.0001	NA	NA
Term	360	< 360	1.4790	< 0.0001	0.9510	< 0.0001	0.7011	< 0.0001	0.5468	< 0.0001
		> 360	0.2774	< 0.0001	0.3832	< 0.0001	0.6180	< 0.0001	0.8972	< 0.0001
Quintile_String	2	0	NA	NA	-0.0801	0.0384	NA	NA	-0.0543	0.3993
		1	NA	NA	-0.0334	0.3399	NA	NA	-0.1226	0.0600
		3	NA	NA	0.0278	0.4372	NA	NA	-0.1244	0.0809
		4	NA	NA	-0.0299	0.4386	NA	NA	-0.3117	< 0.0001
ownocc	O	I	-0.3670	< 0.0001	-0.3366	< 0.0001	-0.4322	< 0.0001	-0.2364	0.0029
		S	-0.3227	< 0.0001	-0.1375	0.0403	-0.3238	< 0.0001	0.1035	0.4132
		U	0.8369	< 0.0001	0.5995	< 0.0001	0.1492	0.0882	0.0131	0.9181

Mortgage Insurance Companies of America
Logistic Model Parameter Estimates and Significance
Loan Population 4: All loans excluding FHA, GT95 CLTV, and GSE
Terminated Loans
Response Variable: Default_NC

		HPA Bucket:	HPA<=-20%		-20%<HPA<=0%		0%<HPA<=20%		20%<HPA	
Variable	Reference Level	Level	Parameter	p-value	Parameter	p-value	Parameter	p-value	Parameter	p-value
		Intercept	-2.9819	< 0.0001	-4.5359	< 0.0001	-5.3167	< 0.0001	-5.6732	< 0.0001
CLTV	80 Uninsured	90 Insured	0.3877	< 0.0001	0.3337	< 0.0001	0.5044	< 0.0001	0.7462	< 0.0001
		90 Uninsured	1.1902	< 0.0001	1.0610	< 0.0001	0.9803	< 0.0001	1.1731	< 0.0001
		95 Insured	0.7478	< 0.0001	0.6508	< 0.0001	0.7092	< 0.0001	0.8732	< 0.0001
		95 Uninsured	1.4859	< 0.0001	1.0819	< 0.0001	1.1299	< 0.0001	1.3680	< 0.0001
		GT95 Insured	NA	NA	NA	NA	NA	NA	NA	NA
		GT95 Uninsured	NA	NA	NA	NA	NA	NA	NA	NA
ficobucket	780-850	350 - 579	2.3784	< 0.0001	3.4550	< 0.0001	3.8938	< 0.0001	3.4943	< 0.0001
		580 - 599	1.9017	< 0.0001	2.6410	< 0.0001	2.8402	< 0.0001	2.6553	< 0.0001
		600 - 619	1.4386	< 0.0001	2.3093	< 0.0001	2.4981	< 0.0001	2.2423	< 0.0001
		620 - 659	1.2479	< 0.0001	1.8294	< 0.0001	2.0922	< 0.0001	1.9290	< 0.0001
		660 - 689	1.0372	< 0.0001	1.5503	< 0.0001	1.6755	< 0.0001	1.4912	< 0.0001
		690 - 719	0.8075	< 0.0001	1.2357	< 0.0001	1.2809	< 0.0001	1.0159	< 0.0001
		720 - 749	0.5817	< 0.0001	0.8026	< 0.0001	0.8459	< 0.0001	0.5762	< 0.0001
		750 - 779	0.3369	< 0.0001	0.3326	< 0.0001	0.3412	< 0.0001	0.0999	0.3628
proptyp	SFR	2-4U	0.0617	0.1643	0.3312	< 0.0001	0.1780	0.0002	0.4478	< 0.0001
		COND	0.1549	< 0.0001	-0.0511	0.0402	-0.3155	< 0.0001	-0.3233	< 0.0001
product	Fixed	ARM	-0.4873	< 0.0001	-0.4998	< 0.0001	-0.5168	< 0.0001	-0.6817	< 0.0001
source	Non-Retail	CORRESPOND	0.4006	< 0.0001	0.1195	< 0.0001	0.1964	< 0.0001	0.3616	< 0.0001
		OTHER	-1.7423	< 0.0001	-1.5623	< 0.0001	-1.4714	< 0.0001	-0.7738	< 0.0001
		RETAIL	-0.1041	< 0.0001	-0.3207	< 0.0001	-0.4468	< 0.0001	-0.5506	< 0.0001
loanpurp	Purchase	C/O REFI	0.1030	< 0.0001	0.1646	< 0.0001	0.1128	0.0002	NA	NA
		R/T REFI	0.4520	< 0.0001	0.3940	< 0.0001	0.2507	< 0.0001	NA	NA
Doctype	Full	Low	0.2937	< 0.0001	0.4387	< 0.0001	0.8482	< 0.0001	0.9991	< 0.0001
intonly	No	YES	2.0548	< 0.0001	1.8818	< 0.0001	1.2383	< 0.0001	0.7507	< 0.0001
negam	No	YES	0.9516	< 0.0001	0.9359	< 0.0001	0.5870	< 0.0001	NA	NA
Term	360	< 360	-0.6710	< 0.0001	-0.7853	< 0.0001	-0.5939	< 0.0001	-0.4070	< 0.0001
		> 360	1.0451	< 0.0001	1.1504	< 0.0001	0.7151	< 0.0001	-0.5482	0.0933
Quintile_String	2	0	-0.1927	< 0.0001	0.1360	< 0.0001	0.3330	< 0.0001	0.3108	< 0.0001
		1	-0.0511	0.0121	0.0978	0.0002	0.1435	< 0.0001	0.2202	< 0.0001
		3	-0.0570	0.0050	0.0164	0.5380	0.0222	0.5109	-0.0020	0.9695
		4	-0.0970	< 0.0001	0.0483	0.0873	0.1816	< 0.0001	0.1672	0.0012
ownocc	O	I	0.6130	< 0.0001	0.9303	< 0.0001	1.1217	< 0.0001	0.3344	< 0.0001
		S	0.4145	< 0.0001	0.4459	< 0.0001	0.6437	< 0.0001	-0.0006	0.9948
		U	-1.8304	< 0.0001	-1.3404	< 0.0001	-0.7455	< 0.0001	-0.4241	0.0004

Mortgage Insurance Companies of America
Logistic Model Parameter Estimates and Significance
Loan Population 4: All loans excluding FHA, GT95 CLTV, and GSE
Terminated Loans
Response Variable: Default_90

		HPA Bucket:	HPA<=-20%		-20%<HPA<=0%		0%<HPA<=20%		20%<HPA	
Variable	Reference Level	Level	Parameter	p-value	Parameter	p-value	Parameter	p-value	Parameter	p-value
		Intercept	-2.9584	< 0.0001	-4.4522	< 0.0001	-5.1114	< 0.0001	-5.3330	< 0.0001
CLTV	80 Uninsured	90 Insured	0.3965	< 0.0001	0.3273	< 0.0001	0.4831	< 0.0001	0.7155	< 0.0001
		90 Uninsured	1.1857	< 0.0001	1.0496	< 0.0001	0.9785	< 0.0001	1.2998	< 0.0001
		95 Insured	0.7489	< 0.0001	0.6368	< 0.0001	0.6811	< 0.0001	0.8506	< 0.0001
		95 Uninsured	1.4850	< 0.0001	1.0543	< 0.0001	1.0934	< 0.0001	1.4164	< 0.0001
		GT95 Insured	NA	NA	NA	NA	NA	NA	NA	NA
		GT95 Uninsured	NA	NA	NA	NA	NA	NA	NA	NA
ficobucket	780-850	350 - 579	2.4497	< 0.0001	3.4667	< 0.0001	3.8686	< 0.0001	3.4823	< 0.0001
		580 - 599	1.9719	< 0.0001	2.7637	< 0.0001	2.8356	< 0.0001	2.5922	< 0.0001
		600 - 619	1.4718	< 0.0001	2.3138	< 0.0001	2.4740	< 0.0001	2.2376	< 0.0001
		620 - 659	1.2607	< 0.0001	1.8336	< 0.0001	2.0646	< 0.0001	1.8987	< 0.0001
		660 - 689	1.0412	< 0.0001	1.5322	< 0.0001	1.6284	< 0.0001	1.4217	< 0.0001
		690 - 719	0.8097	< 0.0001	1.2110	< 0.0001	1.2343	< 0.0001	0.9633	< 0.0001
		720 - 749	0.5800	< 0.0001	0.7838	< 0.0001	0.8038	< 0.0001	0.5180	< 0.0001
		750 - 779	0.3343	< 0.0001	0.3088	< 0.0001	0.2742	< 0.0001	0.0999	0.2905
proptyp	SFR	2-4U	0.0728	0.0994	0.3331	< 0.0001	0.2112	< 0.0001	0.3927	< 0.0001
		COND	0.1585	< 0.0001	-0.0423	0.0843	-0.3007	< 0.0001	-0.2984	< 0.0001
product	Fixed	ARM	-0.4838	< 0.0001	-0.4982	< 0.0001	-0.4958	< 0.0001	-0.6484	< 0.0001
source	Non-Retail	CORRESPOND	0.3933	< 0.0001	0.1175	< 0.0001	0.1847	< 0.0001	0.3211	< 0.0001
		OTHER	-1.6337	< 0.0001	-1.4798	< 0.0001	-1.2617	< 0.0001	-0.6127	< 0.0001
		RETAIL	-0.1081	< 0.0001	-0.3185	< 0.0001	-0.4359	< 0.0001	-0.5276	< 0.0001
loanpurp	Purchase	C/O REFI	0.1049	< 0.0001	0.1524	< 0.0001	0.1110	0.0001	0.0954	0.0151
		R/T REFI	0.4516	< 0.0001	0.3839	< 0.0001	0.2310	< 0.0001	-0.0411	0.2513
Doctype	Full	Low	0.3029	< 0.0001	0.4459	< 0.0001	0.8124	< 0.0001	0.8849	< 0.0001
intonly	No	YES	2.0411	< 0.0001	1.8472	< 0.0001	1.1836	< 0.0001	0.6450	< 0.0001
negam	No	YES	0.9288	< 0.0001	0.9010	< 0.0001	0.5378	< 0.0001	NA	NA
Term	360	< 360	-0.6635	< 0.0001	-0.7193	< 0.0001	-0.5076	< 0.0001	-0.3021	< 0.0001
		> 360	1.0901	< 0.0001	1.1685	< 0.0001	0.7322	< 0.0001	-0.3163	0.2401
Quintile_String	2	0	-0.1909	< 0.0001	0.1309	< 0.0001	0.3139	< 0.0001	0.2929	< 0.0001
		1	-0.0546	0.0072	0.0896	0.0005	0.1354	< 0.0001	0.2089	< 0.0001
		3	-0.0570	0.0048	0.0158	0.5469	0.0179	0.5737	-0.0099	0.8294
		4	-0.0986	< 0.0001	0.0499	0.0727	0.1699	< 0.0001	0.1437	0.0018
ownocc	O	I	0.6073	< 0.0001	0.9081	< 0.0001	1.0590	< 0.0001	0.3203	< 0.0001
		S	0.4175	< 0.0001	0.4383	< 0.0001	0.6045	< 0.0001	0.0336	0.6783
		U	-1.7789	< 0.0001	-1.2829	< 0.0001	-0.6572	< 0.0001	-0.4253	< 0.0001

Mortgage Insurance Companies of America
Logistic Model Parameter Estimates and Significance
Loan Population 4: All loans excluding FHA, GT95 CLTV, and GSE
Terminated Loans
Response Variable: Cure

		HPA Bucket:	HPA<=-20%		-20%<HPA<=0%		0%<HPA<=20%		20%<HPA	
Variable	Reference Level	Level	Parameter	p-value	Parameter	p-value	Parameter	p-value	Parameter	p-value
		Intercept	-3.2682	< 0.0001	-2.0554	< 0.0001	-1.1636	< 0.0001	-0.3850	0.0240
CLTV	80 Uninsured	90 Insured	0.1993	0.0236	NA	NA	-0.0772	0.2294	-0.0746	0.2805
		90 Uninsured	0.1220	0.0221	NA	NA	0.1699	0.0265	0.6405	< 0.0001
		95 Insured	0.2307	0.0654	NA	NA	-0.0898	0.2359	-0.0965	0.2379
		95 Uninsured	0.1193	0.1665	NA	NA	-0.0281	0.7602	0.2318	0.1320
		GT95 Insured	NA	NA	NA	NA	NA	NA	NA	NA
		GT95 Uninsured	NA	NA	NA	NA	NA	NA	NA	NA
ficobucket	780-850	350 - 579	2.0003	< 0.0001	1.3383	< 0.0001	0.6073	0.0002	0.1062	0.5970
		580 - 599	1.8497	< 0.0001	1.3691	< 0.0001	0.5828	0.0031	-0.0368	0.8775
		600 - 619	1.4523	< 0.0001	0.9311	< 0.0001	0.3935	0.0256	-0.0271	0.8988
		620 - 659	0.8933	< 0.0001	0.4754	0.0013	0.1528	0.2738	-0.1436	0.4100
		660 - 689	0.5952	< 0.0001	0.1681	0.2490	0.0009	0.9950	-0.3078	0.0781
		690 - 719	0.3179	0.0210	-0.1574	0.2899	-0.1214	0.3849	-0.4065	0.0223
		720 - 749	0.0079	0.9563	-0.1442	0.3499	-0.1405	0.3315	-0.4335	0.0192
		750 - 779	-0.0559	0.7147	-0.3319	0.0505	-0.3339	0.0370	-0.3014	0.1269
proptyp	SFR	2-4U	NA	NA	NA	NA	NA	NA	-0.2858	0.0196
		COND	NA	NA	NA	NA	NA	NA	0.1554	0.1531
product	Fixed	ARM	-0.1981	0.0011	NA	NA	NA	NA	NA	NA
source	Non-Retail	CORRESPOND	-0.2640	< 0.0001	-0.0504	0.4588	-0.1418	0.0420	0.0404	0.7230
		OTHER	1.6747	< 0.0001	0.5716	0.0031	0.8046	< 0.0001	0.7816	< 0.0001
		RETAIL	-0.1363	0.0179	0.1075	0.0776	-0.0461	0.4153	0.0697	0.3007
loanpurp	Purchase	C/O REFI	NA	NA	-0.1679	0.0157	-0.0489	0.4635	NA	NA
		R/T REFI	NA	NA	-0.2189	0.0019	-0.1740	0.0038	NA	NA
Doctype	Full	Low	0.1460	0.0066	0.1184	0.0344	-0.1047	0.0342	-0.3374	< 0.0001
intonly	No	YES	0.1277	0.0105	-0.5312	< 0.0001	-0.2948	< 0.0001	-0.5301	0.0014
negam	No	YES	NA	NA	-0.5571	< 0.0001	-0.4247	< 0.0001	-0.5074	0.0307
Term	360	< 360	0.9250	0.0001	0.8912	< 0.0001	0.5790	< 0.0001	0.4888	< 0.0001
		> 360	0.1683	0.0362	0.3203	0.0218	1.0118	< 0.0001	1.2663	0.0236
Quintile_String	2	0	NA	NA	NA	NA	NA	NA	NA	NA
		1	NA	NA	NA	NA	NA	NA	NA	NA
		3	NA	NA	NA	NA	NA	NA	NA	NA
		4	NA	NA	NA	NA	NA	NA	NA	NA
ownocc	O	I	-0.3124	< 0.0001	-0.3304	< 0.0001	-0.6238	< 0.0001	NA	NA
		S	-0.2572	0.0035	-0.0968	0.4425	-0.3041	0.0105	NA	NA
		U	0.9644	0.0527	0.4124	0.1992	0.2274	0.2247	NA	NA

Mortgage Insurance Companies of America
Logistic Model Parameter Estimates and Significance
Loan Population 5: QRM loans excluding FHA, GT95 CLTV, and GSE
Terminated and Active Loans
Response Variable: Default_NC

		HPA Bucket:	HPA<=-20%		-20%<HPA<=0%		0%<HPA<=20%		20%<HPA	
Variable	Reference Level	Level	Parameter	p-value	Parameter	p-value	Parameter	p-value	Parameter	p-value
		Intercept	-3.0014	< 0.0001	-4.7316	< 0.0001	-5.1074	< 0.0001	-5.7219	< 0.0001
CLTV	80 Uninsured	90 Insured	0.7868	< 0.0001	0.6201	< 0.0001	0.4482	< 0.0001	0.9981	< 0.0001
		90 Uninsured	0.9680	< 0.0001	1.0162	< 0.0001	0.7190	< 0.0001	0.2660	0.1457
		95 Insured	0.9829	< 0.0001	0.8860	< 0.0001	0.5404	< 0.0001	0.9457	< 0.0001
		95 Uninsured	1.3422	< 0.0001	1.2579	< 0.0001	0.9035	< 0.0001	0.7648	0.0001
		GT95 Insured	NA	NA	NA	NA	NA	NA	NA	NA
		GT95 Uninsured	NA	NA	NA	NA	NA	NA	NA	NA
ficobucket	780-850	350 - 579	NA	NA	NA	NA	NA	NA	NA	NA
		580 - 599	NA	NA	NA	NA	NA	NA	NA	NA
		600 - 619	NA	NA	NA	NA	NA	NA	NA	NA
		620 - 659	NA	NA	NA	NA	NA	NA	NA	NA
		660 - 689	NA	NA	NA	NA	NA	NA	NA	NA
		690 - 719	0.9066	< 0.0001	1.2809	< 0.0001	1.0269	< 0.0001	1.3268	< 0.0001
		720 - 749	0.6885	< 0.0001	0.8272	< 0.0001	0.6699	< 0.0001	0.8127	< 0.0001
		750 - 779	0.3938	0.0002	0.2783	0.0249	0.0021	0.9867	0.3184	0.0707
proptyp	SFR	2-4U	0.2865	0.3112	0.9177	< 0.0001	0.3855	0.0381	0.7273	< 0.0001
		COND	0.3538	< 0.0001	-0.0478	0.6054	-0.4027	0.0031	-0.4597	0.0028
product	Fixed	ARM	-1.2745	< 0.0001	-1.0751	< 0.0001	-0.4959	< 0.0001	-0.6774	< 0.0001
source	Non-Retail	CORRESPOND	0.4190	< 0.0001	0.5168	< 0.0001	0.4084	< 0.0001	-0.2835	0.0508
		OTHER	-1.7793	< 0.0001	-1.3993	< 0.0001	-1.2210	< 0.0001	-0.4425	0.0958
		RETAIL	-0.1554	0.0163	-0.1983	0.0037	-0.3074	< 0.0001	-0.7901	< 0.0001
loanpurp	Purchase	C/O REFI	-0.0011	0.9877	0.2415	0.0021	0.1729	0.0304	-0.1411	0.1602
		R/T REFI	0.2538	0.0010	0.5210	< 0.0001	0.1410	0.0594	-0.2075	0.0278
Doctype	Full	Low	NA	NA	NA	NA	NA	NA	NA	NA
intonly	No	YES	NA	NA	NA	NA	NA	NA	NA	NA
negam	No	YES	NA	NA	NA	NA	NA	NA	NA	NA
Term	360	< 360	-0.6034	< 0.0001	-0.4897	< 0.0001	-0.3940	< 0.0001	-0.2736	0.0174
		> 360	NA	NA	NA	NA	NA	NA	NA	NA
Quintile_String	2	0	-0.2739	0.0042	0.2491	0.0065	0.4629	< 0.0001	0.3641	0.0006
		1	-0.0454	0.6035	0.0724	0.4159	0.2061	0.0208	0.1039	0.3296
		3	-0.1182	0.1822	-0.1280	0.1703	-0.1153	0.2249	-0.1875	0.1022
		4	-0.1384	0.1019	-0.1349	0.1505	-0.0725	0.4422	-0.0762	0.5050
ownocc	O	I	NA	NA	NA	NA	NA	NA	NA	NA
		S	NA	NA	NA	NA	NA	NA	NA	NA
		U	NA	NA	NA	NA	NA	NA	NA	NA

Mortgage Insurance Companies of America
Logistic Model Parameter Estimates and Significance
Loan Population 5: QRM loans excluding FHA, GT95 CLTV, and GSE
Terminated and Active Loans
Response Variable: Default_90

		HPA Bucket:	HPA<=-20%		-20%<HPA<=0%		0%<HPA<=20%		20%<HPA	
Variable	Reference Level	Level	Parameter	p-value	Parameter	p-value	Parameter	p-value	Parameter	p-value
		Intercept	-2.8857	< 0.0001	-4.5854	< 0.0001	-4.9491	< 0.0001	-5.3560	< 0.0001
CLTV	80 Uninsured	90 Insured	0.7649	< 0.0001	0.5978	< 0.0001	0.4607	< 0.0001	0.9463	< 0.0001
		90 Uninsured	1.0015	< 0.0001	1.0508	< 0.0001	0.7889	< 0.0001	0.3895	0.0056
		95 Insured	0.9406	< 0.0001	0.8440	< 0.0001	0.5733	< 0.0001	0.8734	< 0.0001
		95 Uninsured	1.3381	< 0.0001	1.2945	< 0.0001	0.9755	< 0.0001	0.8841	< 0.0001
		GT95 Insured	NA	NA	NA	NA	NA	NA	NA	NA
		GT95 Uninsured	NA	NA	NA	NA	NA	NA	NA	NA
ficobucket	780-850	350 - 579	NA	NA	NA	NA	NA	NA	NA	NA
		580 - 599	NA	NA	NA	NA	NA	NA	NA	NA
		600 - 619	NA	NA	NA	NA	NA	NA	NA	NA
		620 - 659	NA	NA	NA	NA	NA	NA	NA	NA
		660 - 689	NA	NA	NA	NA	NA	NA	NA	NA
		690 - 719	0.8924	< 0.0001	1.2264	< 0.0001	1.0844	< 0.0001	1.2445	< 0.0001
		720 - 749	0.6678	< 0.0001	0.7653	< 0.0001	0.6529	< 0.0001	0.7178	< 0.0001
		750 - 779	0.3841	0.0001	0.2261	0.0455	-0.0230	0.8376	0.1626	0.2563
proptyp	SFR	2-4U	0.2383	0.3873	0.8946	< 0.0001	0.4059	0.0148	0.6970	< 0.0001
		COND	0.3380	< 0.0001	-0.0854	0.3243	-0.3353	0.0052	-0.4089	0.0014
product	Fixed	ARM	-1.1760	< 0.0001	-0.8644	< 0.0001	-0.4910	< 0.0001	-0.6542	< 0.0001
source	Non-Retail	CORRESPOND	0.4475	< 0.0001	0.5738	< 0.0001	0.4560	< 0.0001	-0.1483	0.1899
		OTHER	-1.3027	< 0.0001	-1.5300	< 0.0001	-1.1227	< 0.0001	-0.2706	0.1812
		RETAIL	-0.1416	0.0221	-0.1201	0.0574	-0.3200	< 0.0001	-0.6907	< 0.0001
loanpurp	Purchase	C/O REFI	0.0322	0.6468	0.2598	0.0004	0.1533	0.0328	-0.0502	0.5349
		R/T REFI	0.3450	< 0.0001	0.5220	< 0.0001	0.1601	0.0161	-0.2395	0.0024
Doctype	Full	Low	NA	NA	NA	NA	NA	NA	NA	NA
intonly	No	YES	NA	NA	NA	NA	NA	NA	NA	NA
negam	No	YES	NA	NA	NA	NA	NA	NA	NA	NA
Term	360	< 360	-0.5504	< 0.0001	-0.2832	0.0037	-0.2810	0.0002	NA	NA
		> 360	NA	NA	NA	NA	NA	NA	NA	NA
Quintile_String	2	0	-0.2989	0.0011	0.2501	0.0033	0.4383	< 0.0001	0.3885	< 0.0001
		1	-0.0938	0.2616	0.0950	0.2492	0.2005	0.0125	0.0812	0.3721
		3	-0.1201	0.1515	-0.1570	0.0720	-0.1066	0.2122	-0.1555	0.1071
		4	-0.1716	0.0330	-0.1156	0.1820	-0.0062	0.9413	-0.1031	0.2902
ownocc	O	I	NA	NA	NA	NA	NA	NA	NA	NA
		S	NA	NA	NA	NA	NA	NA	NA	NA
		U	NA	NA	NA	NA	NA	NA	NA	NA

Mortgage Insurance Companies of America
Logistic Model Parameter Estimates and Significance
Loan Population 5: QRM loans excluding FHA, GT95 CLTV, and GSE
Terminated and Active Loans
Response Variable: Cure

		HPA Bucket:	HPA<=-20%		-20%<HPA<=0%		0%<HPA<=20%		20%<HPA	
Variable	Reference Level	Level	Parameter	p-value	Parameter	p-value	Parameter	p-value	Parameter	p-value
		Intercept	-2.2186	< 0.0001	-1.4546	< 0.0001	-1.0385	< 0.0001	-0.3751	0.1511
CLTV	80 Uninsured	90 Insured	NA	NA	NA	NA	NA	NA	-0.1083	0.4725
		90 Uninsured	NA	NA	NA	NA	NA	NA	0.8982	0.0023
		95 Insured	NA	NA	NA	NA	NA	NA	-0.1238	0.4798
		95 Uninsured	NA	NA	NA	NA	NA	NA	0.4279	0.1652
		GT95 Insured	NA	NA	NA	NA	NA	NA	NA	NA
		GT95 Uninsured	NA	NA	NA	NA	NA	NA	NA	NA
ficobucket	780-850	350 - 579	NA	NA	NA	NA	NA	NA	NA	NA
		580 - 599	NA	NA	NA	NA	NA	NA	NA	NA
		600 - 619	NA	NA	NA	NA	NA	NA	NA	NA
		620 - 659	NA	NA	NA	NA	NA	NA	NA	NA
		660 - 689	NA	NA	NA	NA	NA	NA	NA	NA
		690 - 719	NA	NA	NA	NA	NA	NA	-0.3270	0.2083
		720 - 749	NA	NA	NA	NA	NA	NA	-0.3209	0.2382
		750 - 779	NA	NA	NA	NA	NA	NA	-0.7525	0.0126
proptyp	SFR	2-4U	NA	NA	NA	NA	NA	NA	NA	NA
		COND	NA	NA	NA	NA	NA	NA	NA	NA
product	Fixed	ARM	0.5811	0.0087	0.5262	0.0121	NA	NA	NA	NA
source	Non-Retail	CORRESPOND	-0.0354	0.8560	NA	NA	0.4301	0.0043	0.5745	0.0123
		OTHER	1.8134	0.0011	NA	NA	0.0139	0.9622	0.6715	0.1043
		RETAIL	-0.0002	0.9988	NA	NA	-0.1239	0.3521	0.3193	0.0315
loanpurp	Purchase	C/O REFI	0.4058	0.0255	NA	NA	NA	NA	NA	NA
		R/T REFI	0.8588	< 0.0001	NA	NA	NA	NA	NA	NA
Doctype	Full	Low	NA	NA	NA	NA	NA	NA	NA	NA
intonly	No	YES	NA	NA	NA	NA	NA	NA	NA	NA
negam	No	YES	NA	NA	NA	NA	NA	NA	NA	NA
Term	360	< 360	NA	NA	0.8514	< 0.0001	0.6858	< 0.0001	0.6390	0.0004
		> 360	NA	NA	NA	NA	NA	NA	NA	NA
Quintile_String	2	0	NA	NA	NA	NA	NA	NA	NA	NA
		1	NA	NA	NA	NA	NA	NA	NA	NA
		3	NA	NA	NA	NA	NA	NA	NA	NA
		4	NA	NA	NA	NA	NA	NA	NA	NA
ownocc	O	I	NA	NA	NA	NA	NA	NA	NA	NA
		S	NA	NA	NA	NA	NA	NA	NA	NA
		U	NA	NA	NA	NA	NA	NA	NA	NA

Mortgage Insurance Companies of America
Logistic Model Parameter Estimates and Significance
Loan Population 5: QRM loans excluding FHA, GT95 CLTV, and GSE
Terminated Loans
Response Variable: Default_NC

		HPA Bucket:	HPA<=-20%		-20%<HPA<=0%		0%<HPA<=20%		20%<HPA	
Variable	Reference Level	Level	Parameter	p-value	Parameter	p-value	Parameter	p-value	Parameter	p-value
		Intercept	-3.1244	< 0.0001	-5.0848	< 0.0001	-4.9145	< 0.0001	-5.5782	< 0.0001
CLTV	80 Uninsured	90 Insured	0.8337	< 0.0001	0.3856	0.0029	0.3542	0.0002	0.9921	< 0.0001
		90 Uninsured	1.7666	< 0.0001	1.2422	< 0.0001	0.9560	< 0.0001	0.0939	0.8757
		95 Insured	0.9864	< 0.0001	0.8960	< 0.0001	0.4868	< 0.0001	0.9680	< 0.0001
		95 Uninsured	2.3174	< 0.0001	1.5426	< 0.0001	1.0991	< 0.0001	0.4851	0.4162
		GT95 Insured	NA	NA	NA	NA	NA	NA	NA	NA
		GT95 Uninsured	NA	NA	NA	NA	NA	NA	NA	NA
ficobucket	780-850	350 - 579	NA	NA	NA	NA	NA	NA	NA	NA
		580 - 599	NA	NA	NA	NA	NA	NA	NA	NA
		600 - 619	NA	NA	NA	NA	NA	NA	NA	NA
		620 - 659	NA	NA	NA	NA	NA	NA	NA	NA
		660 - 689	NA	NA	NA	NA	NA	NA	NA	NA
		690 - 719	0.8301	< 0.0001	1.2508	< 0.0001	0.8032	< 0.0001	1.2204	< 0.0001
		720 - 749	0.6812	< 0.0001	0.7632	< 0.0001	0.5128	< 0.0001	0.7463	< 0.0001
		750 - 779	0.4204	0.0096	0.1908	0.3076	-0.1645	0.2617	0.3036	0.1266
proptyp	SFR	2-4U	NA	NA	1.2723	< 0.0001	0.4116	0.0568	0.7541	< 0.0001
		COND	NA	NA	-0.1436	0.3185	-0.6295	0.0003	-0.4494	0.0070
product	Fixed	ARM	-1.5668	< 0.0001	-1.2180	< 0.0001	-0.5597	< 0.0001	-0.7363	< 0.0001
source	Non-Retail	CORRESPOND	1.0295	< 0.0001	0.8029	< 0.0001	0.8075	< 0.0001	0.5280	0.0147
		OTHER	-2.5188	< 0.0001	-1.2761	< 0.0001	-1.2632	< 0.0001	-0.4294	0.1080
		RETAIL	-0.2903	0.0045	-0.3279	0.0020	-0.4218	< 0.0001	-0.9170	< 0.0001
loanpurp	Purchase	C/O REFI	NA	NA	0.3922	0.0008	0.2847	0.0036	-0.1527	0.1725
		R/T REFI	NA	NA	0.1940	0.1189	0.0832	0.3900	-0.2936	0.0070
Doctype	Full	Low	NA	NA	NA	NA	NA	NA	NA	NA
intonly	No	YES	NA	NA	NA	NA	NA	NA	NA	NA
negam	No	YES	NA	NA	NA	NA	NA	NA	NA	NA
Term	360	< 360	-1.1765	< 0.0001	-0.8935	< 0.0001	-0.3860	0.0012	-0.4119	0.0050
		> 360	NA	NA	NA	NA	NA	NA	NA	NA
Quintile_String	2	0	-0.2924	0.0484	0.6077	< 0.0001	0.5679	< 0.0001	0.3232	0.0057
		1	0.0182	0.8944	0.2386	0.0876	0.0917	0.4002	0.0617	0.5969
		3	-0.0954	0.4886	-0.1691	0.2699	-0.1311	0.2425	-0.1362	0.2679
		4	0.0932	0.4863	0.1772	0.2283	-0.1382	0.2341	-0.0088	0.9437
ownocc	O	I	NA	NA	NA	NA	NA	NA	NA	NA
		S	NA	NA	NA	NA	NA	NA	NA	NA
		U	NA	NA	NA	NA	NA	NA	NA	NA

Mortgage Insurance Companies of America
Logistic Model Parameter Estimates and Significance
Loan Population 5: QRM loans excluding FHA, GT95 CLTV, and GSE
Terminated Loans
Response Variable: Default_90

		HPA Bucket:	HPA<=-20%		-20%<HPA<=0%		0%<HPA<=20%		20%<HPA	
Variable	Reference Level	Level	Parameter	p-value	Parameter	p-value	Parameter	p-value	Parameter	p-value
		Intercept	-3.0808	< 0.0001	-4.9667	< 0.0001	-4.7420	< 0.0001	-5.1533	< 0.0001
CLTV	80 Uninsured	90 Insured	0.7972	< 0.0001	0.3970	0.0016	0.3072	0.0006	0.9398	< 0.0001
		90 Uninsured	1.7289	< 0.0001	1.2400	< 0.0001	0.9255	< 0.0001	0.0693	0.8943
		95 Insured	0.8795	< 0.0001	0.9171	< 0.0001	0.4932	< 0.0001	0.9057	< 0.0001
		95 Uninsured	2.2885	< 0.0001	1.4885	< 0.0001	0.9685	< 0.0001	0.4885	0.3460
		GT95 Insured	NA	NA	NA	NA	NA	NA	NA	NA
		GT95 Uninsured	NA	NA	NA	NA	NA	NA	NA	NA
ficobucket	780-850	350 - 579	NA	NA	NA	NA	NA	NA	NA	NA
		580 - 599	NA	NA	NA	NA	NA	NA	NA	NA
		600 - 619	NA	NA	NA	NA	NA	NA	NA	NA
		620 - 659	NA	NA	NA	NA	NA	NA	NA	NA
		660 - 689	NA	NA	NA	NA	NA	NA	NA	NA
		690 - 719	0.7702	< 0.0001	1.2193	< 0.0001	0.8015	< 0.0001	1.0921	< 0.0001
		720 - 749	0.6452	< 0.0001	0.7497	< 0.0001	0.4512	0.0002	0.6080	< 0.0001
		750 - 779	0.3885	0.0141	0.1489	0.4094	-0.2000	0.1391	0.1467	0.3771
proptyp	SFR	2-4U	NA	NA	1.3238	< 0.0001	0.4572	0.0200	0.7282	< 0.0001
		COND	NA	NA	-0.1684	0.2279	-0.5700	0.0003	-0.4560	0.0019
product	Fixed	ARM	-1.4736	< 0.0001	-1.0557	< 0.0001	-0.5166	< 0.0001	-0.7187	< 0.0001
source	Non-Retail	CORRESPOND	1.0478	< 0.0001	0.7713	< 0.0001	0.7107	< 0.0001	0.5347	0.0044
		OTHER	-1.8240	< 0.0001	-1.3432	< 0.0001	-1.1380	< 0.0001	-0.1843	0.3704
		RETAIL	-0.3088	0.0022	-0.3268	0.0015	-0.4549	< 0.0001	-0.8944	< 0.0001
loanpurp	Purchase	C/O REFI	NA	NA	0.3558	0.0017	0.3172	0.0005	-0.1059	0.2732
		R/T REFI	NA	NA	0.1601	0.1849	0.1108	0.2163	-0.3269	0.0008
Doctype	Full	Low	NA	NA	NA	NA	NA	NA	NA	NA
intonly	No	YES	NA	NA	NA	NA	NA	NA	NA	NA
negam	No	YES	NA	NA	NA	NA	NA	NA	NA	NA
Term	360	< 360	-1.1778	< 0.0001	-0.8520	< 0.0001	-0.3386	0.0019	-0.2599	0.0312
		> 360	NA	NA	NA	NA	NA	NA	NA	NA
Quintile_String	2	0	NA	NA	0.5982	< 0.0001	0.5092	< 0.0001	0.3042	0.0030
		1	NA	NA	0.1981	0.1418	0.0843	0.4086	0.0305	0.7665
		3	NA	NA	-0.2380	0.1106	-0.0775	0.4532	-0.1372	0.1993
		4	NA	NA	0.1729	0.2198	-0.0703	0.5092	-0.0798	0.4683
ownocc	O	I	NA	NA	NA	NA	NA	NA	NA	NA
		S	NA	NA	NA	NA	NA	NA	NA	NA
		U	NA	NA	NA	NA	NA	NA	NA	NA

Mortgage Insurance Companies of America
Logistic Model Parameter Estimates and Significance
Loan Population 5: QRM loans excluding FHA, GT95 CLTV, and GSE
Terminated Loans
Response Variable: Cure

		HPA Bucket:	HPA<=-20%		-20%<HPA<=0%		0%<HPA<=20%		20%<HPA	
Variable	Reference Level	Level	Parameter	p-value	Parameter	p-value	Parameter	p-value	Parameter	p-value
		Intercept	-3.3509	< 0.0001	-2.4042	< 0.0001	-1.4639	< 0.0001	-0.8775	< 0.0001
CLTV	80 Uninsured	90 Insured	NA	NA	NA	NA	NA	NA	NA	NA
		90 Uninsured	NA	NA	NA	NA	NA	NA	NA	NA
		95 Insured	NA	NA	NA	NA	NA	NA	NA	NA
		95 Uninsured	NA	NA	NA	NA	NA	NA	NA	NA
		GT95 Insured	NA	NA	NA	NA	NA	NA	NA	NA
		GT95 Uninsured	NA	NA	NA	NA	NA	NA	NA	NA
ficobucket	780-850	350 - 579	NA	NA	NA	NA	NA	NA	NA	NA
		580 - 599	NA	NA	NA	NA	NA	NA	NA	NA
		600 - 619	NA	NA	NA	NA	NA	NA	NA	NA
		620 - 659	NA	NA	NA	NA	NA	NA	NA	NA
		660 - 689	NA	NA	NA	NA	NA	NA	NA	NA
		690 - 719	NA	NA	NA	NA	NA	NA	NA	NA
		720 - 749	NA	NA	NA	NA	NA	NA	NA	NA
		750 - 779	NA	NA	NA	NA	NA	NA	NA	NA
proptyp	SFR	2-4U	NA	NA	NA	NA	NA	NA	NA	NA
		COND	NA	NA	NA	NA	NA	NA	NA	NA
product	Fixed	ARM	1.1434	0.0096	0.9804	0.0048	NA	NA	NA	NA
source	Non-Retail	CORRESPOND	-0.1458	0.7894	NA	NA	NA	NA	NA	NA
		OTHER	3.3893	0.0001	NA	NA	NA	NA	NA	NA
		RETAIL	-0.4176	0.3682	NA	NA	NA	NA	NA	NA
loanpurp	Purchase	C/O REFI	-0.1147	0.8241	NA	NA	NA	NA	NA	NA
		R/T REFI	1.3036	0.0020	NA	NA	NA	NA	NA	NA
Doctype	Full	Low	NA	NA	NA	NA	NA	NA	NA	NA
intonly	No	YES	NA	NA	NA	NA	NA	NA	NA	NA
negam	No	YES	NA	NA	NA	NA	NA	NA	NA	NA
Term	360	< 360	NA	NA	NA	NA	0.4787	0.0444	0.8310	0.0003
		> 360	NA	NA	NA	NA	NA	NA	NA	NA
Quintile_String	2	0	NA	NA	NA	NA	NA	NA	NA	NA
		1	NA	NA	NA	NA	NA	NA	NA	NA
		3	NA	NA	NA	NA	NA	NA	NA	NA
		4	NA	NA	NA	NA	NA	NA	NA	NA
ownocc	O	I	NA	NA	NA	NA	NA	NA	NA	NA
		S	NA	NA	NA	NA	NA	NA	NA	NA
		U	NA	NA	NA	NA	NA	NA	NA	NA

Mortgage Insurance Companies of America
Logistic Model Contrasts and Significance
90 CLTV - Insurance Variable
Loan Population 1: All loans in the filtered dataset
Terminated and Active Loans

		90 Uninsured			90 Insured			Empirical Default		
Response	HPA Bucket	Loans	Defaults	Default Rate	Loans	Defaults	Default Rate	Relativity	Odds Relativity	p-value
Default_NC	HPA<=-20%	80,539	36,246	45.0%	47,743	13,838	29.0%	1.553	1.195	< 0.0001
	-20%<HPA<=0%	90,231	17,320	19.2%	123,527	14,691	11.9%	1.614	1.326	< 0.0001
	0%<HPA<=20%	92,784	7,194	7.8%	308,605	17,487	5.7%	1.368	1.409	< 0.0001
	20%<HPA	60,436	1,818	3.0%	341,716	9,119	2.7%	1.127	1.432	< 0.0001
Default_90	HPA<=-20%	80,539	38,415	47.7%	47,743	15,344	32.1%	1.484	1.193	< 0.0001
	-20%<HPA<=0%	90,231	19,359	21.5%	123,527	17,938	14.5%	1.477	1.316	< 0.0001
	0%<HPA<=20%	92,784	8,883	9.6%	308,605	23,053	7.5%	1.282	1.415	< 0.0001
	20%<HPA	60,436	2,811	4.7%	341,716	14,351	4.2%	1.108	1.455	< 0.0001
		Defaults	Cures	Cure Rate	Defaults	Cures	Cure Rate			
Cure	HPA<=-20%	38,415	4,824	12.6%	15,344	2,703	17.6%	0.713	0.953	0.0990
	-20%<HPA<=0%	19,359	4,187	21.6%	17,938	5,548	30.9%	0.699	0.994	0.8215
	0%<HPA<=20%	8,883	3,254	36.6%	23,053	9,208	39.9%	0.917	1.107	0.0003
	20%<HPA	2,811	1,663	59.2%	14,351	7,902	55.1%	1.074	1.228	< 0.0001

Mortgage Insurance Companies of America
Logistic Model Contrasts and Significance
95 CLTV - Insurance Variable
Loan Population 1: All loans in the filtered dataset
Terminated and Active Loans

		95 Uninsured			95 Insured			Empirical Default		
Response	HPA Bucket	Loans	Defaults	Default Rate	Loans	Defaults	Default Rate	Relativity	Odds Relativity	p-value
Default_NC	HPA<=-20%	21,854	9,496	43.5%	20,912	6,443	30.8%	1.410	1.250	< 0.0001
	-20%<HPA<=0%	44,092	7,392	16.8%	61,640	7,468	12.1%	1.384	1.364	< 0.0001
	0%<HPA<=20%	63,349	4,491	7.1%	196,782	11,597	5.9%	1.203	1.491	< 0.0001
	20%<HPA	37,426	1,248	3.3%	225,957	7,483	3.3%	1.007	1.326	< 0.0001
Default_90	HPA<=-20%	21,854	9,976	45.6%	20,912	7,077	33.8%	1.349	1.234	< 0.0001
	-20%<HPA<=0%	44,092	8,358	19.0%	61,640	9,119	14.8%	1.281	1.362	< 0.0001
	0%<HPA<=20%	63,349	5,535	8.7%	196,782	15,587	7.9%	1.103	1.473	< 0.0001
	20%<HPA	37,426	1,882	5.0%	225,957	11,695	5.2%	0.972	1.334	< 0.0001
		Defaults	Cures	Cure Rate	Defaults	Cures	Cure Rate			
Cure	HPA<=-20%	9,976	1,124	11.3%	7,077	1,222	17.3%	0.653	0.832	< 0.0001
	-20%<HPA<=0%	8,358	1,986	23.8%	9,119	3,040	33.3%	0.713	0.919	0.0178
	0%<HPA<=20%	5,535	2,026	36.6%	15,587	6,978	44.8%	0.818	0.947	0.1115
	20%<HPA	1,882	1,125	59.8%	11,695	6,604	56.5%	1.059	1.233	< 0.0001

Mortgage Insurance Companies of America
Logistic Model Contrasts and Significance
GT95 CLTV - Insurance Variable
Loan Population 1: All loans in the filtered dataset
Terminated and Active Loans

		GT95 Uninsured			GT95 Insured			Empirical Default		
Response	HPA Bucket	Loans	Defaults	Default Rate	Loans	Defaults	Default Rate	Relativity	Odds Relativity	p-value
Default_NC	HPA<=-20%	35,323	18,774	53.1%	28,024	7,597	27.1%	1.961	1.843	< 0.0001
	-20%<HPA<=0%	68,218	19,038	27.9%	131,023	18,857	14.4%	1.939	2.224	< 0.0001
	0%<HPA<=20%	116,952	21,605	18.5%	490,179	46,409	9.5%	1.951	2.474	< 0.0001
	20%<HPA	63,413	8,734	13.8%	523,286	32,236	6.2%	2.236	2.282	< 0.0001
Default_90	HPA<=-20%	35,323	19,923	56.4%	28,024	8,592	30.7%	1.840	1.899	< 0.0001
	-20%<HPA<=0%	68,218	21,619	31.7%	131,023	23,491	17.9%	1.768	2.251	< 0.0001
	0%<HPA<=20%	116,952	26,902	23.0%	490,179	61,156	12.5%	1.844	2.555	< 0.0001
	20%<HPA	63,413	12,779	20.2%	523,286	45,205	8.6%	2.333	2.641	< 0.0001
		Defaults	Cures	Cure Rate	Defaults	Cures	Cure Rate			
Cure	HPA<=-20%	19,923	2,695	13.5%	8,592	2,116	24.6%	0.549	0.876	0.0002
	-20%<HPA<=0%	21,619	6,587	30.5%	23,491	9,195	39.1%	0.778	1.012	0.5952
	0%<HPA<=20%	26,902	13,217	49.1%	61,156	28,213	46.1%	1.065	1.180	< 0.0001
	20%<HPA	12,779	8,376	65.5%	45,205	23,093	51.1%	1.283	1.604	< 0.0001

Mortgage Insurance Companies of America
Logistic Model Contrasts and Significance
90 CLTV - Insurance Variable
Loan Population 1: All loans in the filtered dataset
Terminated Loans

		90 Uninsured			90 Insured			Empirical Default		
Response	HPA Bucket	Loans	Defaults	Default Rate	Loans	Defaults	Default Rate	Relativity	Odds Relativity	p-value
Default_NC	HPA<=-20%	33,361	17,953	53.8%	21,721	6,600	30.4%	1.771	1.937	< 0.0001
	-20%<HPA<=0%	33,881	6,661	19.7%	56,257	6,132	10.9%	1.804	1.528	< 0.0001
	0%<HPA<=20%	31,769	2,732	8.6%	154,422	8,995	5.8%	1.476	1.453	< 0.0001
	20%<HPA	13,882	531	3.8%	199,332	5,396	2.7%	1.413	1.596	< 0.0001
Default_90	HPA<=-20%	33,361	18,040	54.1%	21,721	6,792	31.3%	1.729	1.894	< 0.0001
	-20%<HPA<=0%	33,881	6,778	20.0%	56,257	6,480	11.5%	1.737	1.504	< 0.0001
	0%<HPA<=20%	31,769	2,929	9.2%	154,422	10,082	6.5%	1.412	1.443	< 0.0001
	20%<HPA	13,882	704	5.1%	199,332	7,114	3.6%	1.421	1.749	< 0.0001
		Defaults	Cures	Cure Rate	Defaults	Cures	Cure Rate			
Cure	HPA<=-20%	18,040	861	4.8%	6,792	511	7.5%	0.634	0.866	0.0248
	-20%<HPA<=0%	6,778	564	8.3%	6,480	870	13.4%	0.620	1.003	0.9591
	0%<HPA<=20%	2,929	524	17.9%	10,082	2,142	21.2%	0.842	1.116	0.0615
	20%<HPA	704	285	40.5%	7,114	2,681	37.7%	1.074	1.435	< 0.0001

Mortgage Insurance Companies of America
Logistic Model Contrasts and Significance
95 CLTV - Insurance Variable
Loan Population 1: All loans in the filtered dataset
Terminated Loans

		95 Uninsured			95 Insured			Empirical Default		
Response	HPA Bucket	Loans	Defaults	Default Rate	Loans	Defaults	Default Rate	Relativity	Odds Relativity	p-value
Default_NC	HPA<=-20%	8,105	4,821	59.5%	9,072	3,041	33.5%	1.774	1.808	< 0.0001
	-20%<HPA<=0%	16,143	2,971	18.4%	26,977	2,940	10.9%	1.689	1.375	< 0.0001
	0%<HPA<=20%	23,205	1,868	8.0%	95,859	5,803	6.1%	1.330	1.403	< 0.0001
	20%<HPA	10,140	391	3.9%	126,861	4,331	3.4%	1.129	1.310	< 0.0001
Default_90	HPA<=-20%	8,105	4,843	59.8%	9,072	3,106	34.2%	1.745	1.788	< 0.0001
	-20%<HPA<=0%	16,143	3,010	18.6%	26,977	3,120	11.6%	1.612	1.340	< 0.0001
	0%<HPA<=20%	23,205	1,971	8.5%	95,859	6,565	6.8%	1.240	1.368	< 0.0001
	20%<HPA	10,140	481	4.7%	126,861	5,608	4.4%	1.073	1.351	< 0.0001
		Defaults	Cures	Cure Rate	Defaults	Cures	Cure Rate			
Cure	HPA<=-20%	4,843	234	4.8%	3,106	237	7.6%	0.633	0.925	0.4336
	-20%<HPA<=0%	3,010	252	8.4%	3,120	509	16.3%	0.513	0.767	0.0017
	0%<HPA<=20%	1,971	315	16.0%	6,565	1,579	24.1%	0.664	0.871	0.0508
	20%<HPA	481	178	37.0%	5,608	2,105	37.5%	0.986	1.287	0.0135

Mortgage Insurance Companies of America
Logistic Model Contrasts and Significance
GT95 CLTV - Insurance Variable
Loan Population 1: All loans in the filtered dataset
Terminated Loans

		GT95 Uninsured			GT95 Insured			Empirical Default		
Response	HPA Bucket	Loans	Defaults	Default Rate	Loans	Defaults	Default Rate	Relativity	Odds Relativity	p-value
Default_NC	HPA<=-20%	15,675	10,695	68.2%	14,576	4,421	30.3%	2.250	2.182	< 0.0001
	-20%<HPA<=0%	23,624	7,309	30.9%	63,674	10,611	16.7%	1.857	1.698	< 0.0001
	0%<HPA<=20%	37,154	6,977	18.8%	245,040	28,573	11.7%	1.610	1.971	< 0.0001
	20%<HPA	15,031	2,327	15.5%	330,249	22,211	6.7%	2.302	2.377	< 0.0001
Default_90	HPA<=-20%	15,675	10,733	68.5%	14,576	4,647	31.9%	2.148	2.091	< 0.0001
	-20%<HPA<=0%	23,624	7,425	31.4%	63,674	11,366	17.9%	1.761	1.652	< 0.0001
	0%<HPA<=20%	37,154	7,352	19.8%	245,040	31,500	12.9%	1.539	1.964	< 0.0001
	20%<HPA	15,031	2,874	19.1%	330,249	26,905	8.1%	2.347	2.755	< 0.0001
		Defaults	Cures	Cure Rate	Defaults	Cures	Cure Rate			
Cure	HPA<=-20%	10,733	570	5.3%	4,647	685	14.7%	0.360	0.764	0.0001
	-20%<HPA<=0%	7,425	894	12.0%	11,366	2,266	19.9%	0.604	0.990	0.8306
	0%<HPA<=20%	7,352	1,872	25.5%	31,500	7,384	23.4%	1.086	1.274	< 0.0001
	20%<HPA	2,874	1,366	47.5%	26,905	8,918	33.1%	1.434	1.996	< 0.0001

Mortgage Insurance Companies of America
Logistic Model Contrasts and Significance
90 CLTV - Insurance Variable
Loan Population 2: All loans excluding FHA and GT95 CLTV
Terminated and Active Loans

		90 Uninsured			90 Insured			Empirical Default		
Response	HPA Bucket	Loans	Defaults	Default Rate	Loans	Defaults	Default Rate	Relativity	Odds Relativity	p-value
Default_NC	HPA<=-20%	80,539	36,246	45.0%	44,408	13,480	30.4%	1.483	1.119	< 0.0001
	-20%<HPA<=0%	90,231	17,320	19.2%	109,852	13,770	12.5%	1.531	1.142	< 0.0001
	0%<HPA<=20%	92,784	7,194	7.8%	267,317	15,215	5.7%	1.362	1.182	< 0.0001
	20%<HPA	60,436	1,818	3.0%	278,755	6,599	2.4%	1.271	1.250	< 0.0001
Default_90	HPA<=-20%	80,539	38,415	47.7%	44,408	14,876	33.5%	1.424	1.111	< 0.0001
	-20%<HPA<=0%	90,231	19,359	21.5%	109,852	16,567	15.1%	1.423	1.130	< 0.0001
	0%<HPA<=20%	92,784	8,883	9.6%	267,317	19,664	7.4%	1.301	1.193	< 0.0001
	20%<HPA	60,436	2,811	4.7%	278,755	10,519	3.8%	1.233	1.264	< 0.0001
		Defaults	Cures	Cure Rate	Defaults	Cures	Cure Rate			
Cure	HPA<=-20%	38,415	4,824	12.6%	14,876	2,515	16.9%	0.743	0.944	0.0491
	-20%<HPA<=0%	19,359	4,187	21.6%	16,567	4,854	29.3%	0.738	0.993	0.8050
	0%<HPA<=20%	8,883	3,254	36.6%	19,664	7,423	37.7%	0.970	1.109	0.0004
	20%<HPA	2,811	1,663	59.2%	10,519	5,819	55.3%	1.069	1.154	0.0017

Mortgage Insurance Companies of America
Logistic Model Contrasts and Significance
95 CLTV - Insurance Variable
Loan Population 2: All loans excluding FHA and GT95 CLTV
Terminated and Active Loans

		95 Uninsured			95 Insured			Empirical Default		
Response	HPA Bucket	Loans	Defaults	Default Rate	Loans	Defaults	Default Rate	Relativity	Odds Relativity	p-value
Default_NC	HPA<=-20%	21,854	9,496	43.5%	19,414	6,239	32.1%	1.352	1.158	< 0.0001
	-20%<HPA<=0%	44,092	7,392	16.8%	53,427	6,836	12.8%	1.310	1.117	< 0.0001
	0%<HPA<=20%	63,349	4,491	7.1%	163,582	9,323	5.7%	1.244	1.220	< 0.0001
	20%<HPA	37,426	1,248	3.3%	181,614	5,244	2.9%	1.155	1.193	< 0.0001
Default_90	HPA<=-20%	21,854	9,976	45.6%	19,414	6,828	35.2%	1.298	1.132	< 0.0001
	-20%<HPA<=0%	44,092	8,358	19.0%	53,427	8,225	15.4%	1.231	1.111	< 0.0001
	0%<HPA<=20%	63,349	5,535	8.7%	163,582	12,360	7.6%	1.156	1.208	< 0.0001
	20%<HPA	37,426	1,882	5.0%	181,614	8,449	4.7%	1.081	1.166	< 0.0001
		Defaults	Cures	Cure Rate	Defaults	Cures	Cure Rate			
Cure	HPA<=-20%	9,976	1,124	11.3%	6,828	1,139	16.7%	0.675	0.798	< 0.0001
	-20%<HPA<=0%	8,358	1,986	23.8%	8,225	2,596	31.6%	0.753	0.914	0.0145
	0%<HPA<=20%	5,535	2,026	36.6%	12,360	5,353	43.3%	0.845	0.916	0.0122
	20%<HPA	1,882	1,125	59.8%	8,449	4,914	58.2%	1.028	1.070	0.2191

Mortgage Insurance Companies of America
Logistic Model Contrasts and Significance
90 CLTV - Insurance Variable
Loan Population 2: All loans excluding FHA and GT95 CLTV
Terminated Loans

		90 Uninsured			90 Insured			Empirical Default		
Response	HPA Bucket	Loans	Defaults	Default Rate	Loans	Defaults	Default Rate	Relativity	Odds Relativity	p-value
Default_NC	HPA<=-20%	33,361	17,953	53.8%	19,815	6,399	32.3%	1.666	1.780	< 0.0001
	-20%<HPA<=0%	33,881	6,661	19.7%	48,479	5,620	11.6%	1.696	1.287	< 0.0001
	0%<HPA<=20%	31,769	2,732	8.6%	131,518	7,565	5.8%	1.495	1.175	< 0.0001
	20%<HPA	13,882	531	3.8%	157,011	3,550	2.3%	1.692	1.317	< 0.0001
Default_90	HPA<=-20%	33,361	18,040	54.1%	19,815	6,575	33.2%	1.630	1.737	< 0.0001
	-20%<HPA<=0%	33,881	6,778	20.0%	48,479	5,891	12.2%	1.646	1.269	< 0.0001
	0%<HPA<=20%	31,769	2,929	9.2%	131,518	8,358	6.4%	1.451	1.184	< 0.0001
	20%<HPA	13,882	704	5.1%	157,011	4,683	3.0%	1.700	1.437	< 0.0001
		Defaults	Cures	Cure Rate	Defaults	Cures	Cure Rate			
Cure	HPA<=-20%	18,040	861	4.8%	6,575	470	7.1%	0.668	0.813	0.0011
	-20%<HPA<=0%	6,778	564	8.3%	5,891	727	12.3%	0.674	0.984	0.8091
	0%<HPA<=20%	2,929	524	17.9%	8,358	1,608	19.2%	0.930	1.138	0.0308
	20%<HPA	704	285	40.5%	4,683	1,709	36.5%	1.109	1.412	< 0.0001

Mortgage Insurance Companies of America
Logistic Model Contrasts and Significance
95 CLTV - Insurance Variable
Loan Population 2: All loans excluding FHA and GT95 CLTV
Terminated Loans

		95 Uninsured			95 Insured			Empirical Default		
Response	HPA Bucket	Loans	Defaults	Default Rate	Loans	Defaults	Default Rate	Relativity	Odds Relativity	p-value
Default_NC	HPA<=-20%	8,105	4,821	59.5%	8,283	2,914	35.2%	1.691	1.631	< 0.0001
	-20%<HPA<=0%	16,143	2,971	18.4%	22,896	2,604	11.4%	1.618	1.102	0.0024
	0%<HPA<=20%	23,205	1,868	8.0%	79,008	4,389	5.6%	1.449	1.133	< 0.0001
	20%<HPA	10,140	391	3.9%	98,521	2,730	2.8%	1.392	1.122	0.0503
Default_90	HPA<=-20%	8,105	4,843	59.8%	8,283	2,970	35.9%	1.666	1.613	< 0.0001
	-20%<HPA<=0%	16,143	3,010	18.6%	22,896	2,743	12.0%	1.556	1.080	0.0143
	0%<HPA<=20%	23,205	1,971	8.5%	79,008	4,922	6.2%	1.363	1.119	0.0002
	20%<HPA	10,140	481	4.7%	98,521	3,589	3.6%	1.302	1.158	0.0059
		Defaults	Cures	Cure Rate	Defaults	Cures	Cure Rate			
Cure	HPA<=-20%	4,843	234	4.8%	2,970	216	7.3%	0.664	0.870	0.1649
	-20%<HPA<=0%	3,010	252	8.4%	2,743	413	15.1%	0.556	0.769	0.0029
	0%<HPA<=20%	1,971	315	16.0%	4,922	1,117	22.7%	0.704	0.873	0.0610
	20%<HPA	481	178	37.0%	3,589	1,363	38.0%	0.974	1.204	0.0792

Mortgage Insurance Companies of America
Logistic Model Contrasts and Significance
90 CLTV - Insurance Variable
Loan Population 3: QRM loans excluding FHA and GT95 CLTV
Terminated and Active Loans

		90 Uninsured			90 Insured			Empirical Default		
Response	HPA Bucket	Loans	Defaults	Default Rate	Loans	Defaults	Default Rate	Relativity	Odds Relativity	p-value
Default_NC	HPA<=-20%	3,145	519	16.5%	6,006	1,053	17.5%	0.941	0.980	0.7296
	-20%<HPA<=0%	8,817	454	5.1%	20,819	1,200	5.8%	0.893	1.018	0.7625
	0%<HPA<=20%	14,544	261	1.8%	67,874	1,317	1.9%	0.925	1.096	0.1842
	20%<HPA	12,697	78	0.6%	90,049	796	0.9%	0.695	0.836	0.1343
Default_90	HPA<=-20%	3,145	582	18.5%	6,006	1,175	19.6%	0.946	0.990	0.8664
	-20%<HPA<=0%	8,817	536	6.1%	20,819	1,431	6.9%	0.884	1.017	0.7538
	0%<HPA<=20%	14,544	344	2.4%	67,874	1,740	2.6%	0.923	1.091	0.1483
	20%<HPA	12,697	133	1.0%	90,049	1,296	1.4%	0.728	0.868	0.1250
		Defaults	Cures	Cure Rate	Defaults	Cures	Cure Rate			
Cure	HPA<=-20%	582	87	14.9%	1,175	164	14.0%	1.071	NA	NA
	-20%<HPA<=0%	536	129	24.1%	1,431	351	24.5%	0.981	NA	NA
	0%<HPA<=20%	344	114	33.1%	1,740	596	34.3%	0.967	0.942	0.6377
	20%<HPA	133	78	58.6%	1,296	649	50.1%	1.171	1.419	0.0631

Mortgage Insurance Companies of America
Logistic Model Contrasts and Significance
95 CLTV - Insurance Variable
Loan Population 3: QRM loans excluding FHA and GT95 CLTV
Terminated and Active Loans

		95 Uninsured			95 Insured			Empirical Default		
Response	HPA Bucket	Loans	Defaults	Default Rate	Loans	Defaults	Default Rate	Relativity	Odds Relativity	p-value
Default_NC	HPA<=-20%	2,269	436	19.2%	3,187	609	19.1%	1.006	1.001	0.9860
	-20%<HPA<=0%	7,967	467	5.9%	11,795	650	5.5%	1.064	1.010	0.8728
	0%<HPA<=20%	14,238	279	2.0%	47,684	844	1.8%	1.107	1.121	0.1031
	20%<HPA	9,254	77	0.8%	62,894	649	1.0%	0.806	0.867	0.2416
Default_90	HPA<=-20%	2,269	482	21.2%	3,187	672	21.1%	1.007	1.000	0.9964
	-20%<HPA<=0%	7,967	555	7.0%	11,795	787	6.7%	1.044	1.001	0.9907
	0%<HPA<=20%	14,238	360	2.5%	47,684	1,164	2.4%	1.036	1.055	0.3845
	20%<HPA	9,254	121	1.3%	62,894	1,028	1.6%	0.800	0.847	0.0887
		Defaults	Cures	Cure Rate	Defaults	Cures	Cure Rate			
Cure	HPA<=-20%	482	66	13.7%	672	84	12.5%	1.095	NA	NA
	-20%<HPA<=0%	555	133	24.0%	787	199	25.3%	0.948	NA	NA
	0%<HPA<=20%	360	124	34.4%	1,164	437	37.5%	0.917	0.887	0.3463
	20%<HPA	121	59	48.8%	1,028	539	52.4%	0.930	0.863	0.4512

Mortgage Insurance Companies of America
Logistic Model Contrasts and Significance
90 CLTV - Insurance Variable
Loan Population 3: QRM loans excluding FHA and GT95 CLTV
Terminated Loans

		90 Uninsured			90 Insured			Empirical Default		
Response	HPA Bucket	Loans	Defaults	Default Rate	Loans	Defaults	Default Rate	Relativity	Odds Relativity	p-value
Default_NC	HPA<=-20%	575	192	33.4%	1,988	400	20.1%	1.660	1.842	< 0.0001
	-20%<HPA<=0%	2,626	157	6.0%	8,532	403	4.7%	1.266	1.255	0.0237
	0%<HPA<=20%	3,531	98	2.8%	37,251	640	1.7%	1.615	1.462	0.0008
	20%<HPA	1,198	16	1.3%	56,881	517	0.9%	1.469	1.259	0.3751
Default_90	HPA<=-20%	575	193	33.6%	1,988	408	20.5%	1.635	1.808	< 0.0001
	-20%<HPA<=0%	2,626	159	6.1%	8,532	424	5.0%	1.218	1.210	0.0546
	0%<HPA<=20%	3,531	108	3.1%	37,251	720	1.9%	1.582	1.459	0.0005
	20%<HPA	1,198	21	1.8%	56,881	685	1.2%	1.456	1.202	0.4175
		Defaults	Cures	Cure Rate	Defaults	Cures	Cure Rate			
Cure	HPA<=-20%	193	4	2.1%	408	21	5.1%	0.403	na	na
	-20%<HPA<=0%	159	10	6.3%	424	46	10.8%	0.580	0.555	0.1061
	0%<HPA<=20%	108	17	15.7%	720	126	17.5%	0.899	na	na
	20%<HPA	21	9	42.9%	685	221	32.3%	1.328	na	na

Mortgage Insurance Companies of America
Logistic Model Contrasts and Significance
95 CLTV - Insurance Variable
Loan Population 3: QRM loans excluding FHA and GT95 CLTV
Terminated Loans

		95 Uninsured			95 Insured			Empirical Default		
Response	HPA Bucket	Loans	Defaults	Default Rate	Loans	Defaults	Default Rate	Relativity	Odds Relativity	p-value
Default_NC	HPA<=-20%	460	188	40.9%	1,016	214	21.1%	1.940	2.276	< 0.0001
	-20%<HPA<=0%	2,426	151	6.2%	4,621	227	4.9%	1.267	1.050	0.6586
	0%<HPA<=20%	4,175	117	2.8%	24,426	402	1.6%	1.703	1.328	0.0094
	20%<HPA	1,459	21	1.4%	37,396	419	1.1%	1.285	1.077	0.7445
Default_90	HPA<=-20%	460	190	41.3%	1,016	217	21.4%	1.934	2.278	< 0.0001
	-20%<HPA<=0%	2,426	152	6.3%	4,621	235	5.1%	1.232	1.034	0.7597
	0%<HPA<=20%	4,175	124	3.0%	24,426	467	1.9%	1.553	1.243	0.0388
	20%<HPA	1,459	27	1.9%	37,396	545	1.5%	1.270	1.034	0.8705
		Defaults	Cures	Cure Rate	Defaults	Cures	Cure Rate			
Cure	HPA<=-20%	190	8	4.2%	217	9	4.1%	1.015	na	na
	-20%<HPA<=0%	152	6	3.9%	235	14	6.0%	0.663	0.669	0.4229
	0%<HPA<=20%	124	17	13.7%	467	96	20.6%	0.667	na	na
	20%<HPA	27	7	25.9%	545	186	34.1%	0.760	na	na

Mortgage Insurance Companies of America
Logistic Model Contrasts and Significance
90 CLTV - Insurance Variable
Loan Population 4: All loans excluding FHA, GT95 CLTV, and GSE
Terminated and Active Loans

		90 Uninsured			90 Insured			Empirical Default		
Response	HPA Bucket	Loans	Defaults	Default Rate	Loans	Defaults	Default Rate	Relativity	Odds Relativity	p-value
Default_NC	HPA<=-20%	59,350	28,946	48.8%	16,736	5,624	33.6%	1.451	1.302	< 0.0001
	-20%<HPA<=0%	51,992	12,936	24.9%	31,107	4,017	12.9%	1.927	1.432	< 0.0001
	0%<HPA<=20%	39,084	4,652	11.9%	64,135	3,874	6.0%	1.970	1.421	< 0.0001
	20%<HPA	22,787	1,122	4.9%	59,026	1,792	3.0%	1.622	1.364	< 0.0001
Default_90	HPA<=-20%	59,350	30,531	51.4%	16,736	6,067	36.3%	1.419	1.298	< 0.0001
	-20%<HPA<=0%	51,992	14,247	27.4%	31,107	4,615	14.8%	1.847	1.438	< 0.0001
	0%<HPA<=20%	39,084	5,675	14.5%	64,135	4,713	7.3%	1.976	1.495	< 0.0001
	20%<HPA	22,787	1,702	7.5%	59,026	2,464	4.2%	1.789	1.514	< 0.0001
		Defaults	Cures	Cure Rate	Defaults	Cures	Cure Rate			
Cure	HPA<=-20%	30,531	3,849	12.6%	6,067	961	15.8%	0.796	0.877	0.0015
	-20%<HPA<=0%	14,247	2,986	21.0%	4,615	1,212	26.3%	0.798	0.944	0.1777
	0%<HPA<=20%	5,675	2,156	38.0%	4,713	1,562	33.1%	1.146	1.247	< 0.0001
	20%<HPA	1,702	1,070	62.9%	2,464	1,058	42.9%	1.464	1.629	< 0.0001

Mortgage Insurance Companies of America
Logistic Model Contrasts and Significance
95 CLTV - Insurance Variable
Loan Population 4: All loans excluding FHA, GT95 CLTV, and GSE
Terminated and Active Loans

		95 Uninsured			95 Insured			Empirical Default		
Response	HPA Bucket	Loans	Defaults	Default Rate	Loans	Defaults	Default Rate	Relativity	Odds Relativity	p-value
Default_NC	HPA<=-20%	12,775	6,624	51.9%	7,163	2,589	36.1%	1.435	1.405	< 0.0001
	-20%<HPA<=0%	18,620	4,397	23.6%	15,402	2,112	13.7%	1.722	1.380	< 0.0001
	0%<HPA<=20%	20,938	2,622	12.5%	38,098	2,435	6.4%	1.959	1.436	< 0.0001
	20%<HPA	11,084	833	7.5%	34,570	1,161	3.4%	2.238	1.484	< 0.0001
Default_90	HPA<=-20%	12,775	6,897	54.0%	7,163	2,782	38.8%	1.390	1.354	< 0.0001
	-20%<HPA<=0%	18,620	4,932	26.5%	15,402	2,482	16.1%	1.644	1.362	< 0.0001
	0%<HPA<=20%	20,938	3,220	15.4%	38,098	2,978	7.8%	1.967	1.528	< 0.0001
	20%<HPA	11,084	1,238	11.2%	34,570	1,609	4.7%	2.400	1.636	< 0.0001
		Defaults	Cures	Cure Rate	Defaults	Cures	Cure Rate			
Cure	HPA<=-20%	6,897	774	11.2%	2,782	443	15.9%	0.705	0.667	< 0.0001
	-20%<HPA<=0%	4,932	1,247	25.3%	2,482	739	29.8%	0.849	0.886	0.0363
	0%<HPA<=20%	3,220	1,297	40.3%	2,978	1,099	36.9%	1.091	1.172	0.0042
	20%<HPA	1,238	782	63.2%	1,609	741	46.1%	1.372	1.468	< 0.0001

Mortgage Insurance Companies of America
Logistic Model Contrasts and Significance
90 CLTV - Insurance Variable
Loan Population 4: All loans excluding FHA, GT95 CLTV, and GSE
Terminated Loans

		90 Uninsured			90 Insured			Empirical Default		
Response	HPA Bucket	Loans	Defaults	Default Rate	Loans	Defaults	Default Rate	Relativity	Odds Relativity	p-value
Default_NC	HPA<=-20%	25,776	13,994	54.3%	9,266	2,698	29.1%	1.865	2.231	< 0.0001
	-20%<HPA<=0%	19,599	4,839	24.7%	18,454	1,647	8.9%	2.766	2.069	< 0.0001
	0%<HPA<=20%	12,737	1,599	12.6%	44,173	2,308	5.2%	2.403	1.610	< 0.0001
	20%<HPA	3,685	250	6.8%	46,307	1,318	2.8%	2.384	1.533	< 0.0001
Default_90	HPA<=-20%	25,776	14,062	54.6%	9,266	2,749	29.7%	1.839	2.202	< 0.0001
	-20%<HPA<=0%	19,599	4,919	25.1%	18,454	1,712	9.3%	2.705	2.059	< 0.0001
	0%<HPA<=20%	12,737	1,714	13.5%	44,173	2,541	5.8%	2.339	1.641	< 0.0001
	20%<HPA	3,685	326	8.8%	46,307	1,674	3.6%	2.447	1.794	< 0.0001
		Defaults	Cures	Cure Rate	Defaults	Cures	Cure Rate			
Cure	HPA<=-20%	14,062	730	5.2%	2,749	173	6.3%	0.825	0.926	0.3935
	-20%<HPA<=0%	4,919	414	8.4%	1,712	196	11.4%	0.735	na	na
	0%<HPA<=20%	1,714	331	19.3%	2,541	487	19.2%	1.008	1.280	0.0044
	20%<HPA	326	149	45.7%	1,674	539	32.2%	1.419	2.044	< 0.0001

Mortgage Insurance Companies of America
Logistic Model Contrasts and Significance
95 CLTV - Insurance Variable
Loan Population 4: All loans excluding FHA, GT95 CLTV, and GSE
Terminated Loans

		95 Uninsured			95 Insured			Empirical Default		
Response	HPA Bucket	Loans	Defaults	Default Rate	Loans	Defaults	Default Rate	Relativity	Odds Relativity	p-value
Default_NC	HPA<=-20%	5,229	3,287	62.9%	3,878	1,181	30.5%	2.064	2.092	< 0.0001
	-20%<HPA<=0%	6,884	1,669	24.2%	9,085	838	9.2%	2.628	1.539	< 0.0001
	0%<HPA<=20%	7,833	940	12.0%	27,837	1,330	4.8%	2.512	1.523	< 0.0001
	20%<HPA	2,368	207	8.7%	27,497	799	2.9%	3.008	1.640	< 0.0001
Default_90	HPA<=-20%	5,229	3,305	63.2%	3,878	1,198	30.9%	2.046	2.088	< 0.0001
	-20%<HPA<=0%	6,884	1,685	24.5%	9,085	873	9.6%	2.547	1.518	< 0.0001
	0%<HPA<=20%	7,833	991	12.7%	27,837	1,491	5.4%	2.362	1.510	< 0.0001
	20%<HPA	2,368	245	10.3%	27,497	1,011	3.7%	2.814	1.761	< 0.0001
		Defaults	Cures	Cure Rate	Defaults	Cures	Cure Rate			
Cure	HPA<=-20%	3,305	179	5.4%	1,198	79	6.6%	0.821	0.895	0.4368
	-20%<HPA<=0%	1,685	163	9.7%	873	117	13.4%	0.722	na	na
	0%<HPA<=20%	991	192	19.4%	1,491	329	22.1%	0.878	1.064	0.5606
	20%<HPA	245	91	37.1%	1,011	329	32.5%	1.141	1.389	0.0418

Mortgage Insurance Companies of America
Logistic Model Contrasts and Significance
90 CLTV - Insurance Variable
Loan Population 5: QRM loans excluding FHA, GT95 CLTV, and GSE
Terminated and Active Loans

		90 Uninsured			90 Insured			Empirical Default		
Response	HPA Bucket	Loans	Defaults	Default Rate	Loans	Defaults	Default Rate	Relativity	Odds Relativity	p-value
Default_NC	HPA<=-20%	1,182	213	18.0%	1,549	249	16.1%	1.121	1.199	0.0883
	-20%<HPA<=0%	2,905	169	5.8%	5,217	244	4.7%	1.244	1.486	0.0002
	0%<HPA<=20%	5,531	121	2.2%	14,374	269	1.9%	1.169	1.311	0.0168
	20%<HPA	6,209	35	0.6%	16,634	289	1.7%	0.324	0.481	< 0.0001
Default_90	HPA<=-20%	1,182	240	20.3%	1,549	272	17.6%	1.156	1.267	0.0206
	-20%<HPA<=0%	2,905	202	7.0%	5,217	278	5.3%	1.305	1.573	< 0.0001
	0%<HPA<=20%	5,531	161	2.9%	14,374	334	2.3%	1.253	1.388	0.0010
	20%<HPA	6,209	61	1.0%	16,634	393	2.4%	0.416	0.573	< 0.0001
		Defaults	Cures	Cure Rate	Defaults	Cures	Cure Rate			
Cure	HPA<=-20%	240	39	16.3%	272	32	11.8%	1.381	na	na
	-20%<HPA<=0%	202	48	23.8%	278	53	19.1%	1.246	na	na
	0%<HPA<=20%	161	54	33.5%	334	102	30.5%	1.098	na	na
	20%<HPA	61	40	65.6%	393	135	34.4%	1.909	2.736	0.0009

Mortgage Insurance Companies of America
Logistic Model Contrasts and Significance
95 CLTV - Insurance Variable
Loan Population 5: QRM loans excluding FHA, GT95 CLTV, and GSE
Terminated and Active Loans

		95 Uninsured			95 Insured			Empirical Default		
Response	HPA Bucket	Loans	Defaults	Default Rate	Loans	Defaults	Default Rate	Relativity	Odds Relativity	p-value
Default_NC	HPA<=-20%	582	146	25.1%	708	122	17.2%	1.456	1.432	0.0116
	-20%<HPA<=0%	1,944	157	8.1%	2,725	133	4.9%	1.655	1.450	0.0031
	0%<HPA<=20%	3,437	99	2.9%	9,851	180	1.8%	1.576	1.438	0.0050
	20%<HPA	2,650	29	1.1%	10,940	177	1.6%	0.676	0.835	0.3807
Default_90	HPA<=-20%	582	157	27.0%	708	128	18.1%	1.492	1.488	0.0043
	-20%<HPA<=0%	1,944	184	9.5%	2,725	146	5.4%	1.767	1.569	0.0001
	0%<HPA<=20%	3,437	130	3.8%	9,851	226	2.3%	1.649	1.495	0.0004
	20%<HPA	2,650	49	1.8%	10,940	227	2.1%	0.891	1.011	0.9474
		Defaults	Cures	Cure Rate	Defaults	Cures	Cure Rate			
Cure	HPA<=-20%	157	16	10.2%	128	8	6.3%	1.631	na	na
	-20%<HPA<=0%	184	43	23.4%	146	20	13.7%	1.706	na	na
	0%<HPA<=20%	130	50	38.5%	226	64	28.3%	1.358	na	na
	20%<HPA	49	25	51.0%	227	74	32.6%	1.565	1.736	0.0916

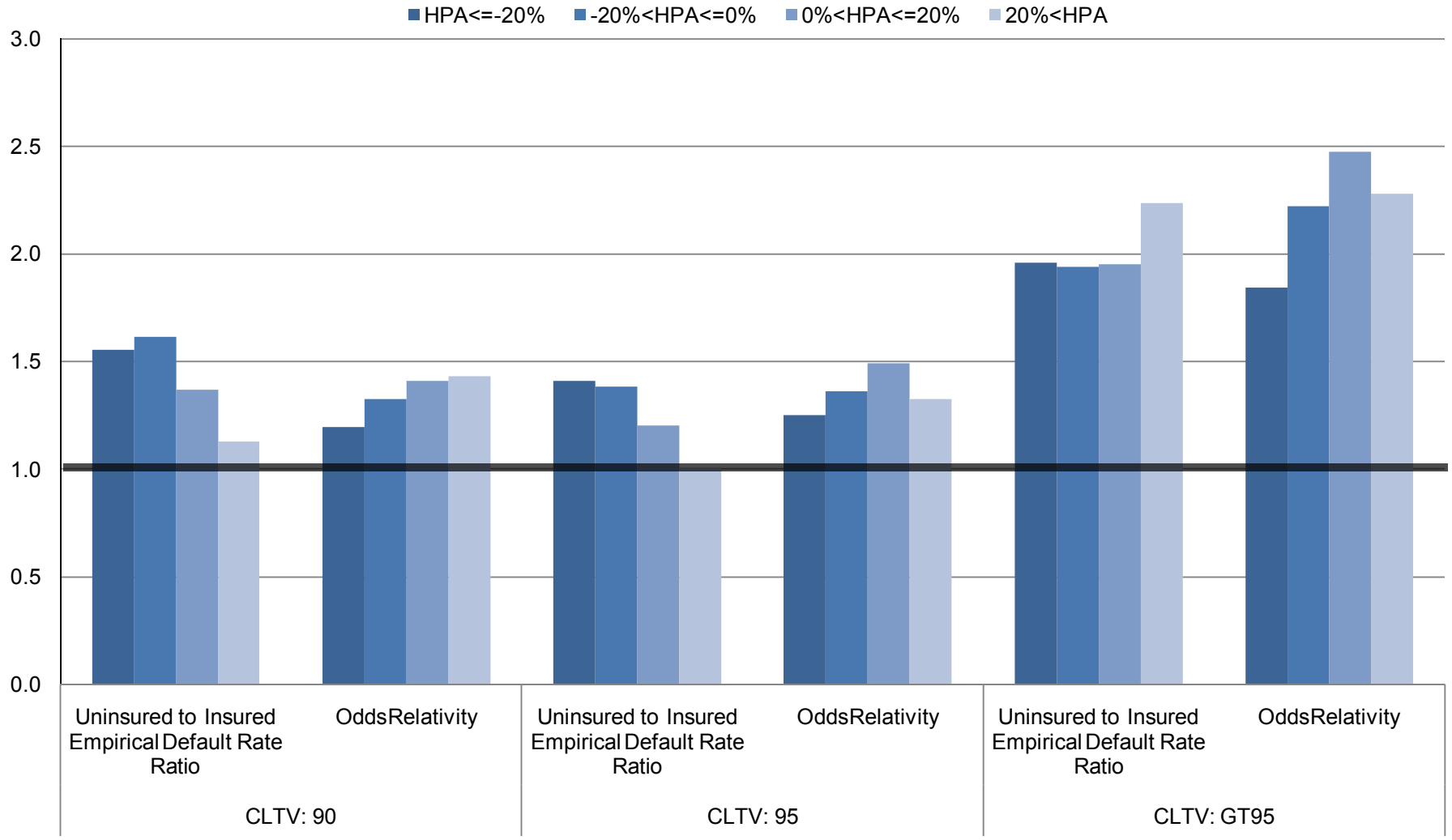
Mortgage Insurance Companies of America
Logistic Model Contrasts and Significance
90 CLTV - Insurance Variable
Loan Population 5: QRM loans excluding FHA, GT95 CLTV, and GSE
Terminated Loans

		90 Uninsured			90 Insured			Empirical Default		
Response	HPA Bucket	Loans	Defaults	Default Rate	Loans	Defaults	Default Rate	Relativity	Odds Relativity	p-value
Default_NC	HPA<=-20%	256	78	30.5%	835	102	12.2%	2.494	2.542	< 0.0001
	-20%<HPA<=0%	881	50	5.7%	3,606	92	2.6%	2.224	2.355	< 0.0001
	0%<HPA<=20%	1,123	33	2.9%	11,721	191	1.6%	1.803	1.825	0.0023
	20%<HPA	322	3	0.9%	14,212	265	1.9%	0.500	0.407	0.1343
Default_90	HPA<=-20%	256	79	30.9%	835	106	12.7%	2.431	2.539	< 0.0001
	-20%<HPA<=0%	881	52	5.9%	3,606	97	2.7%	2.194	2.323	< 0.0001
	0%<HPA<=20%	1,123	37	3.3%	11,721	214	1.8%	1.805	1.856	0.0009
	20%<HPA	322	4	1.2%	14,212	338	2.4%	0.522	0.419	0.0945
		Defaults	Cures	Cure Rate	Defaults	Cures	Cure Rate			
Cure	HPA<=-20%	79	2	2.5%	106	7	6.6%	0.383	na	na
	-20%<HPA<=0%	52	3	5.8%	97	8	8.2%	0.700	na	na
	0%<HPA<=20%	37	4	10.8%	214	41	19.2%	0.564	na	na
	20%<HPA	4	2	50.0%	338	103	30.5%	1.641	na	na

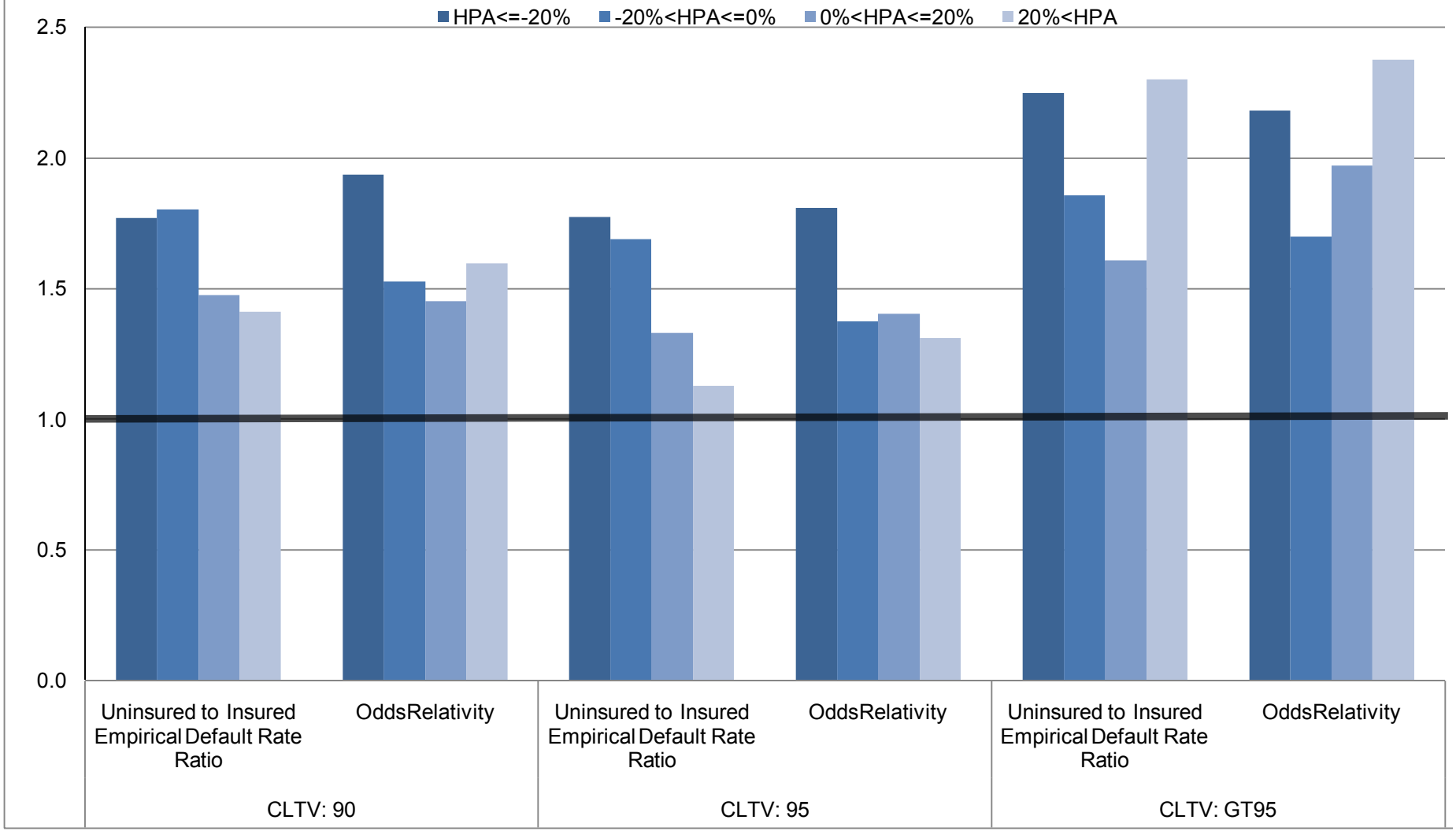
Mortgage Insurance Companies of America
Logistic Model Contrasts and Significance
95 CLTV - Insurance Variable
Loan Population 5: QRM loans excluding FHA, GT95 CLTV, and GSE
Terminated Loans

		95 Uninsured			95 Insured			Empirical Default		
Response	HPA Bucket	Loans	Defaults	Default Rate	Loans	Defaults	Default Rate	Relativity	Odds Relativity	p-value
Default_NC	HPA<=-20%	152	62	40.8%	471	59	12.5%	3.256	3.785	< 0.0001
	-20%<HPA<=0%	688	50	7.3%	2,031	69	3.4%	2.139	1.909	0.0012
	0%<HPA<=20%	1,112	39	3.5%	8,430	135	1.6%	2.190	1.845	0.0013
	20%<HPA	220	3	1.4%	9,586	166	1.7%	0.787	0.617	0.4194
Default_90	HPA<=-20%	152	63	41.4%	471	59	12.5%	3.309	4.092	< 0.0001
	-20%<HPA<=0%	688	50	7.3%	2,031	75	3.7%	1.968	1.771	0.0036
	0%<HPA<=20%	1,112	39	3.5%	8,430	157	1.9%	1.883	1.609	0.0111
	20%<HPA	220	4	1.8%	9,586	207	2.2%	0.842	0.659	0.4221
		Defaults	Cures	Cure Rate	Defaults	Cures	Cure Rate			
Cure	HPA<=-20%	63	4	6.3%	59	0	0.0%	na	na	na
	-20%<HPA<=0%	50	2	4.0%	75	7	9.3%	0.429	na	na
	0%<HPA<=20%	39	5	12.8%	157	32	20.4%	0.629	na	na
	20%<HPA	4	1	25.0%	207	63	30.4%	0.821	na	na

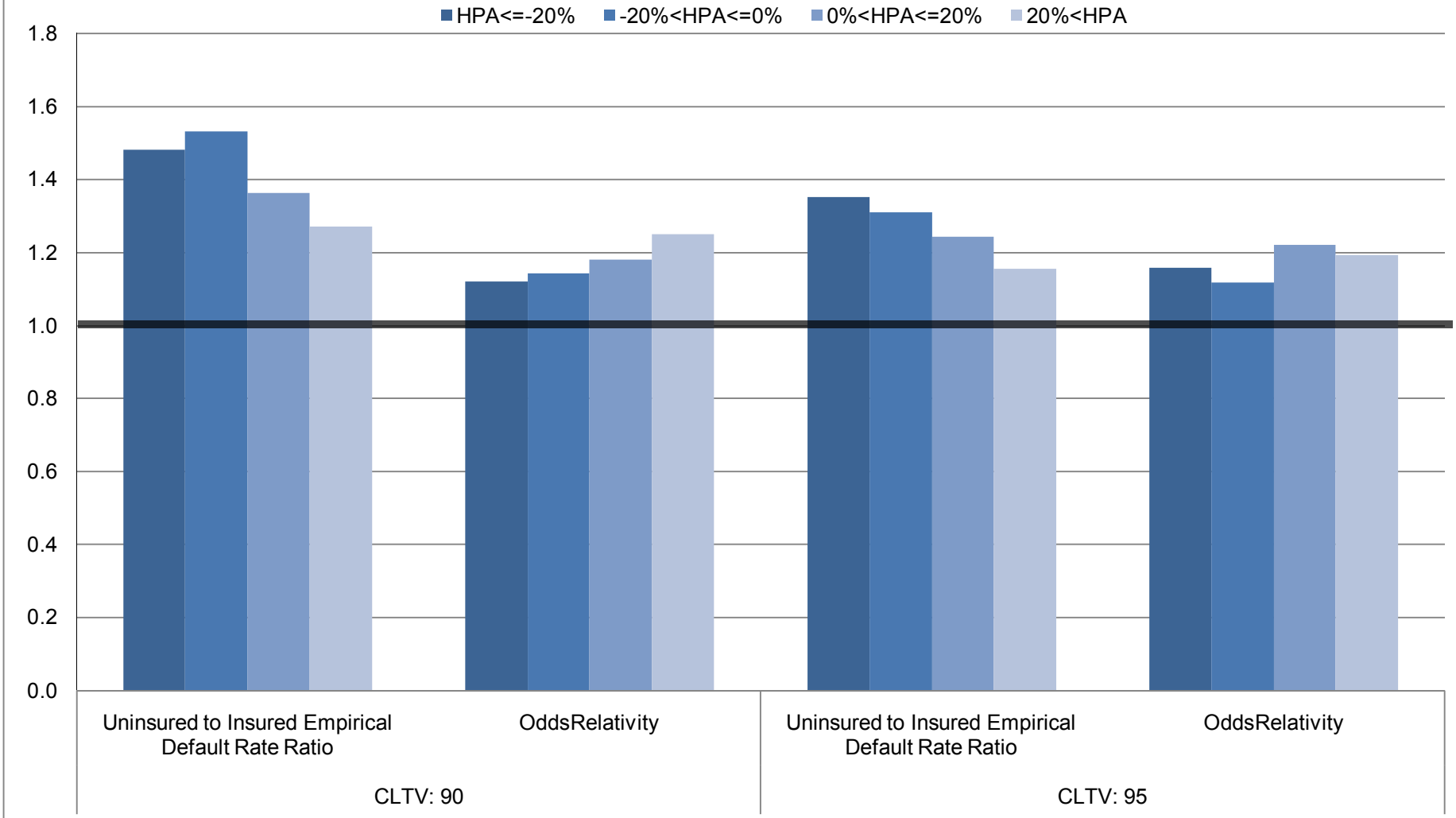
Mortgage Insurance Companies of America
Comparison of Empirical Default Rate Relativities and Odds Relativities
Loan Population 1: All loans
Terminated and Active Loans
Modeled Default Rate: Default_NC



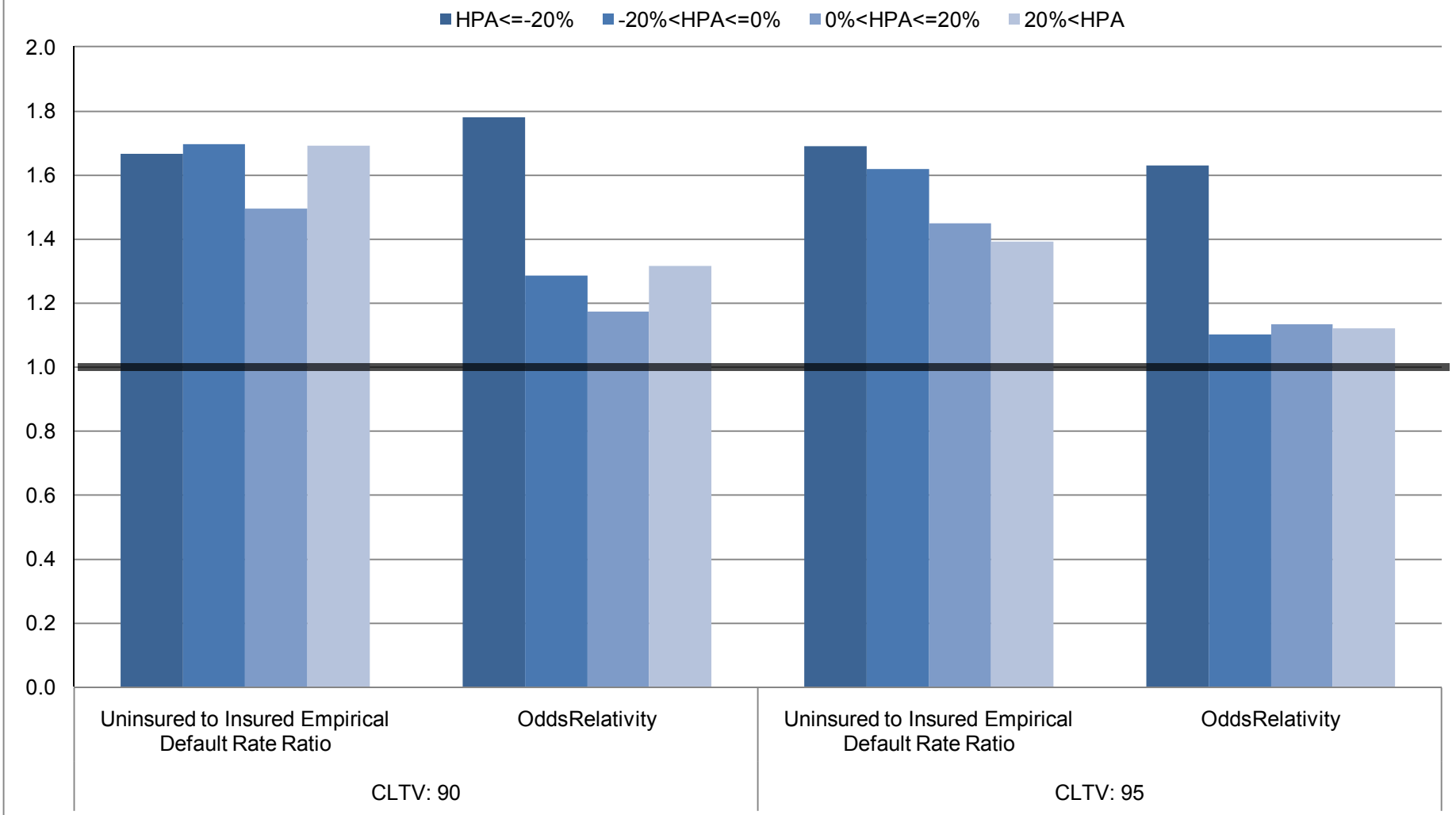
Mortgage Insurance Companies of America
Comparison of Empirical Default Rate Relativities and Odds Relativities
Loan Population 1: All loans
Terminated Loans
Modeled Default Rate: Default_NC



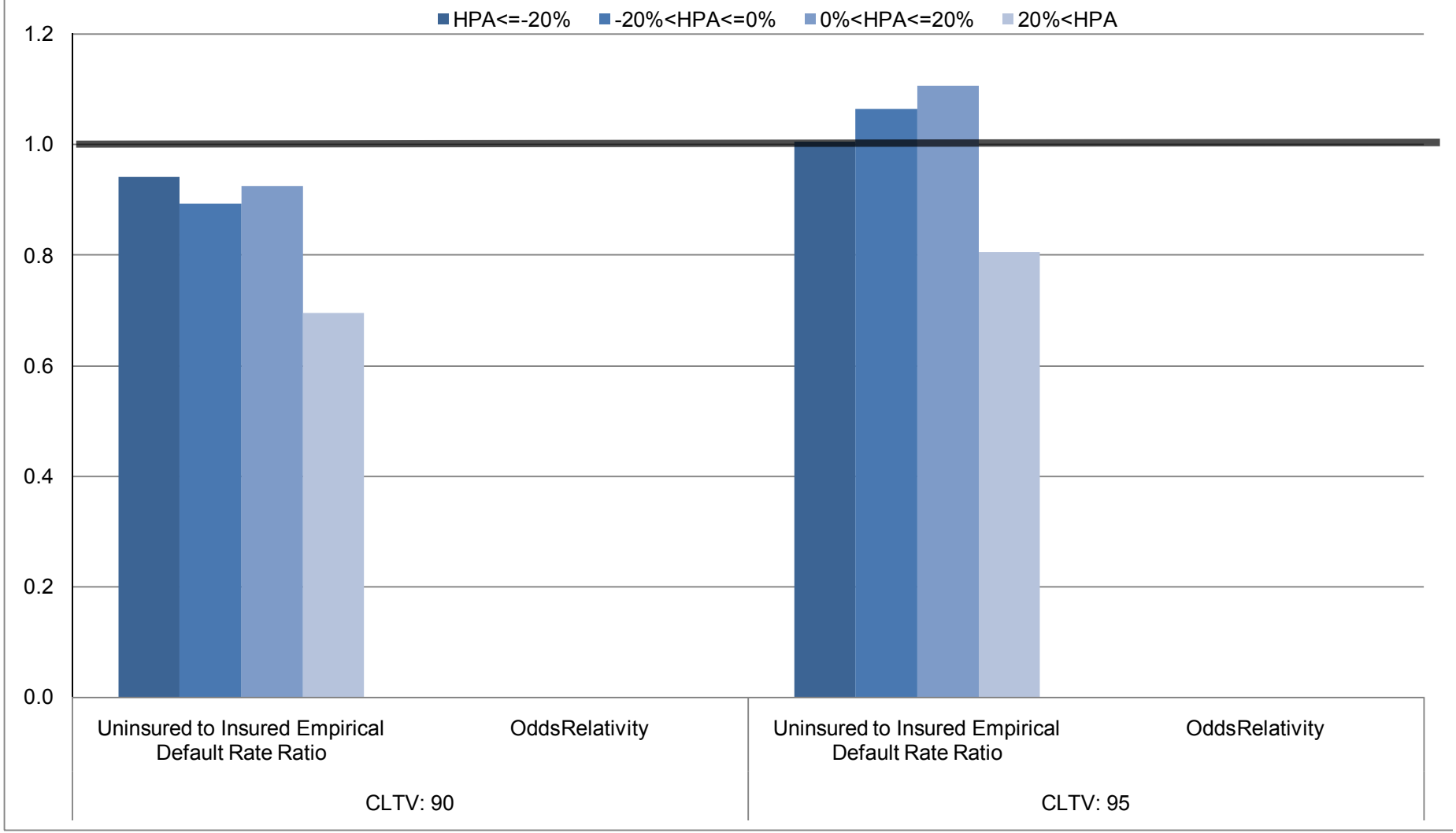
Mortgage Insurance Companies of America
Comparison of Empirical Default Rate Relativities and Odds Relativities
Loan Population 2: All loans excluding FHA and GT95 CLTV
Terminated and Active Loans
Modeled Default Rate: Default_NC



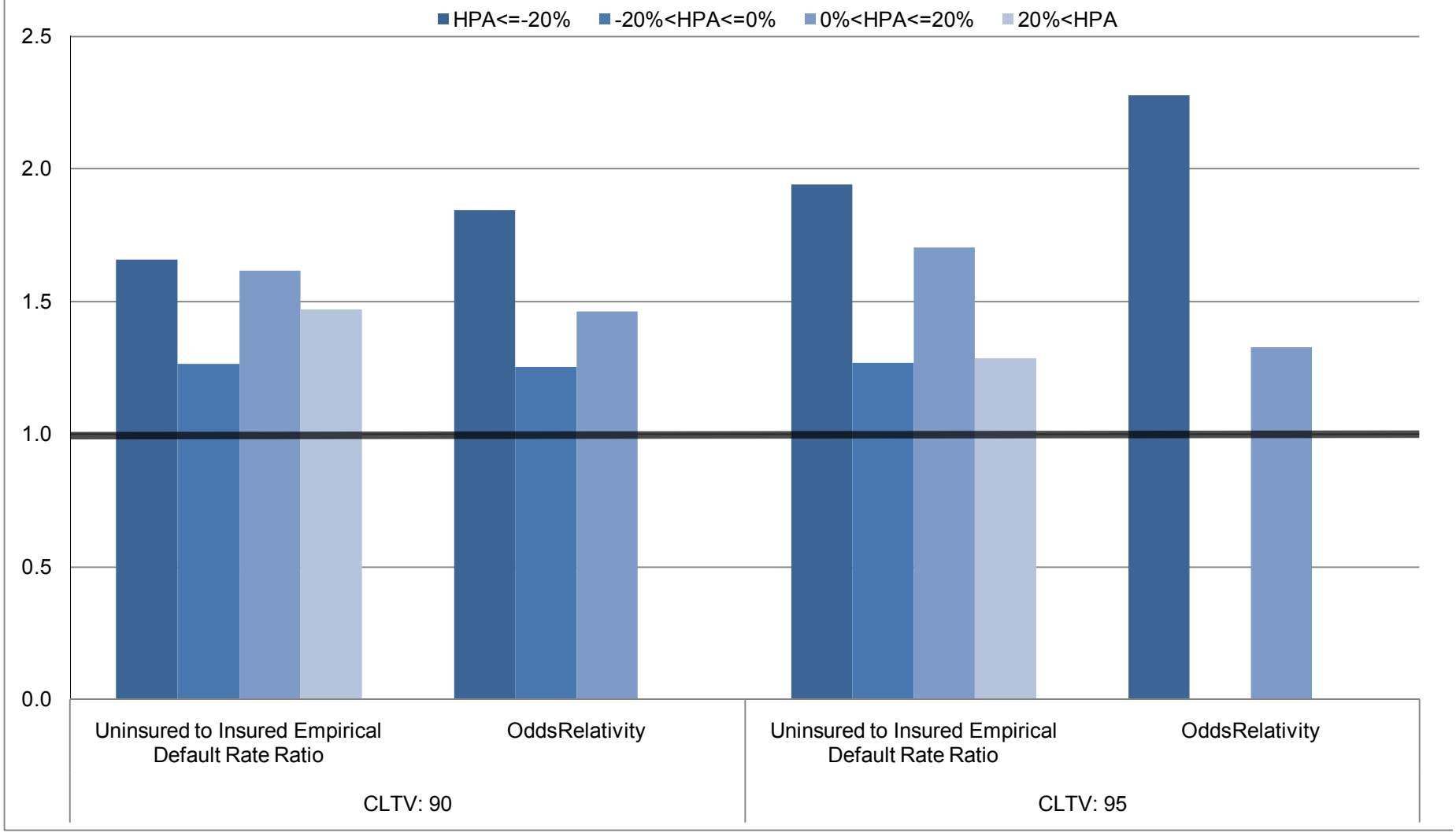
Mortgage Insurance Companies of America
Comparison of Empirical Default Rate Relativities and Odds Relativities
Loan Population 2: All loans excluding FHA and GT95 CLTV
Terminated Loans
Modeled Default Rate: Default_NC



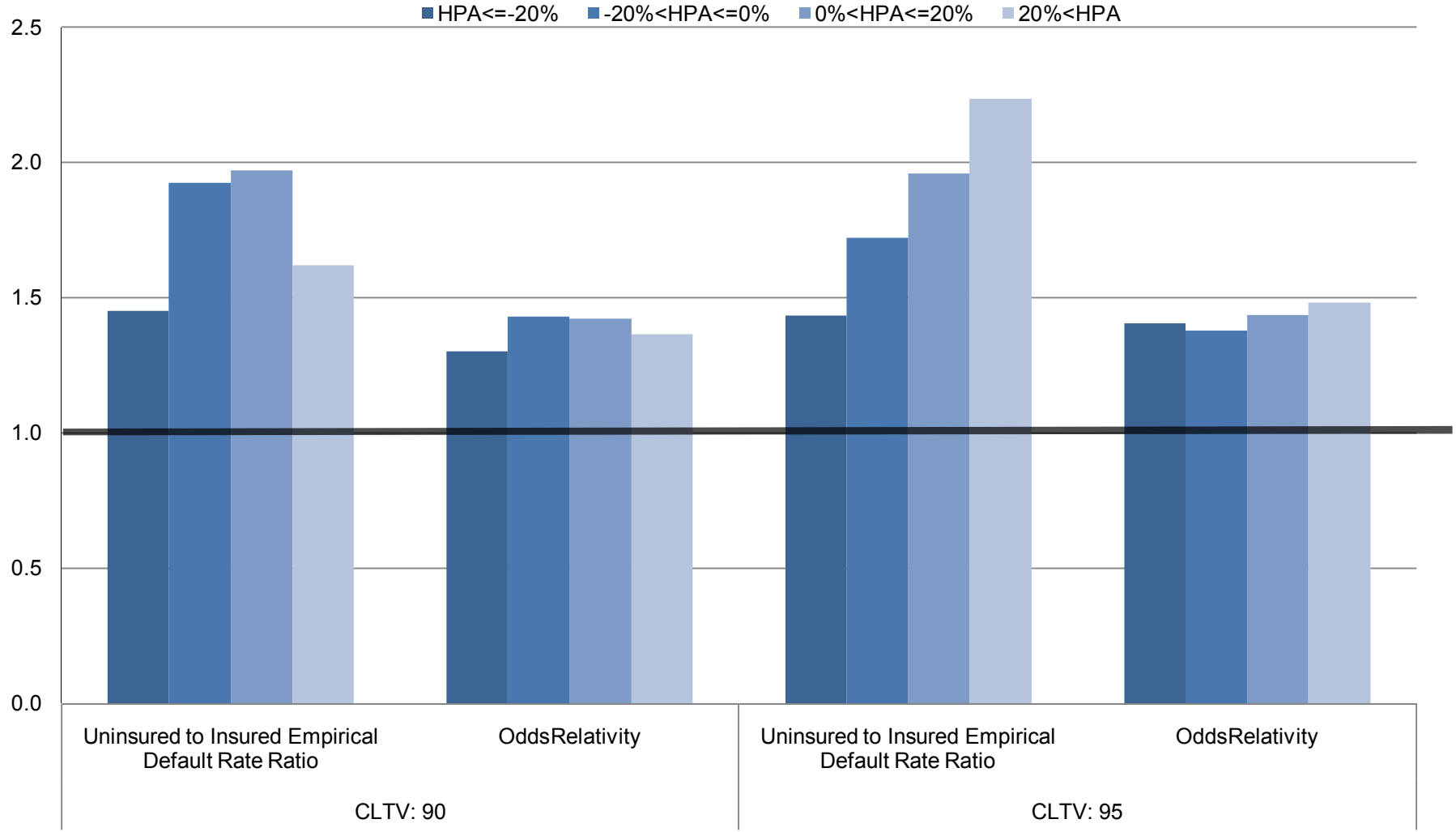
Mortgage Insurance Companies of America
Comparison of Empirical Default Rate Relativities and Odds Relativities
Loan Population 3: QRM loans excluding FHA and GT95 CLTV
Terminated and Active Loans
Modeled Default Rate: Default_NC



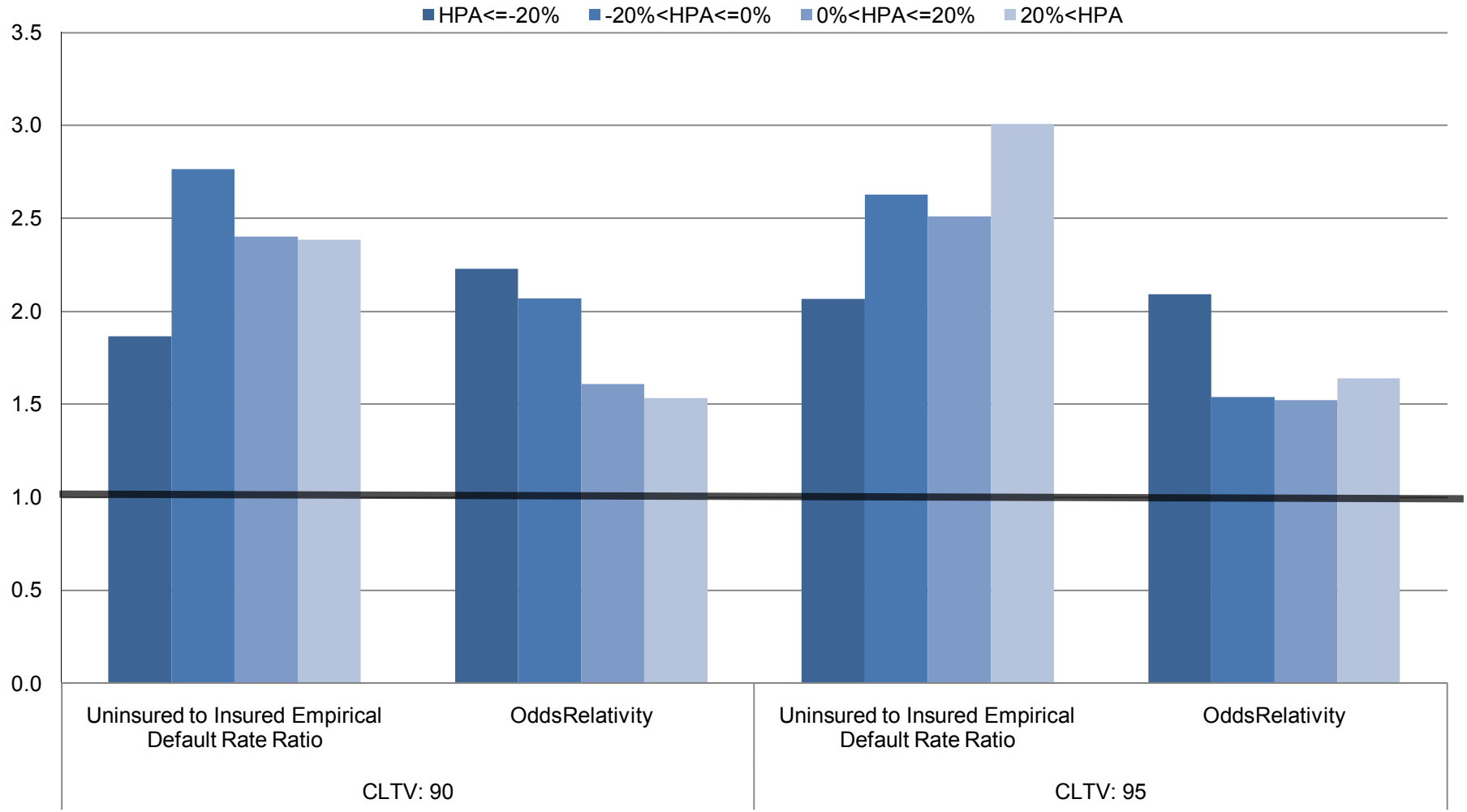
Mortgage Insurance Companies of America
Comparison of Empirical Default Rate Relativities and Odds Relativities
Loan Population 3: QRM loans excluding FHA and GT95 CLTV
Terminated Loans
Modeled Default Rate: Default_NC



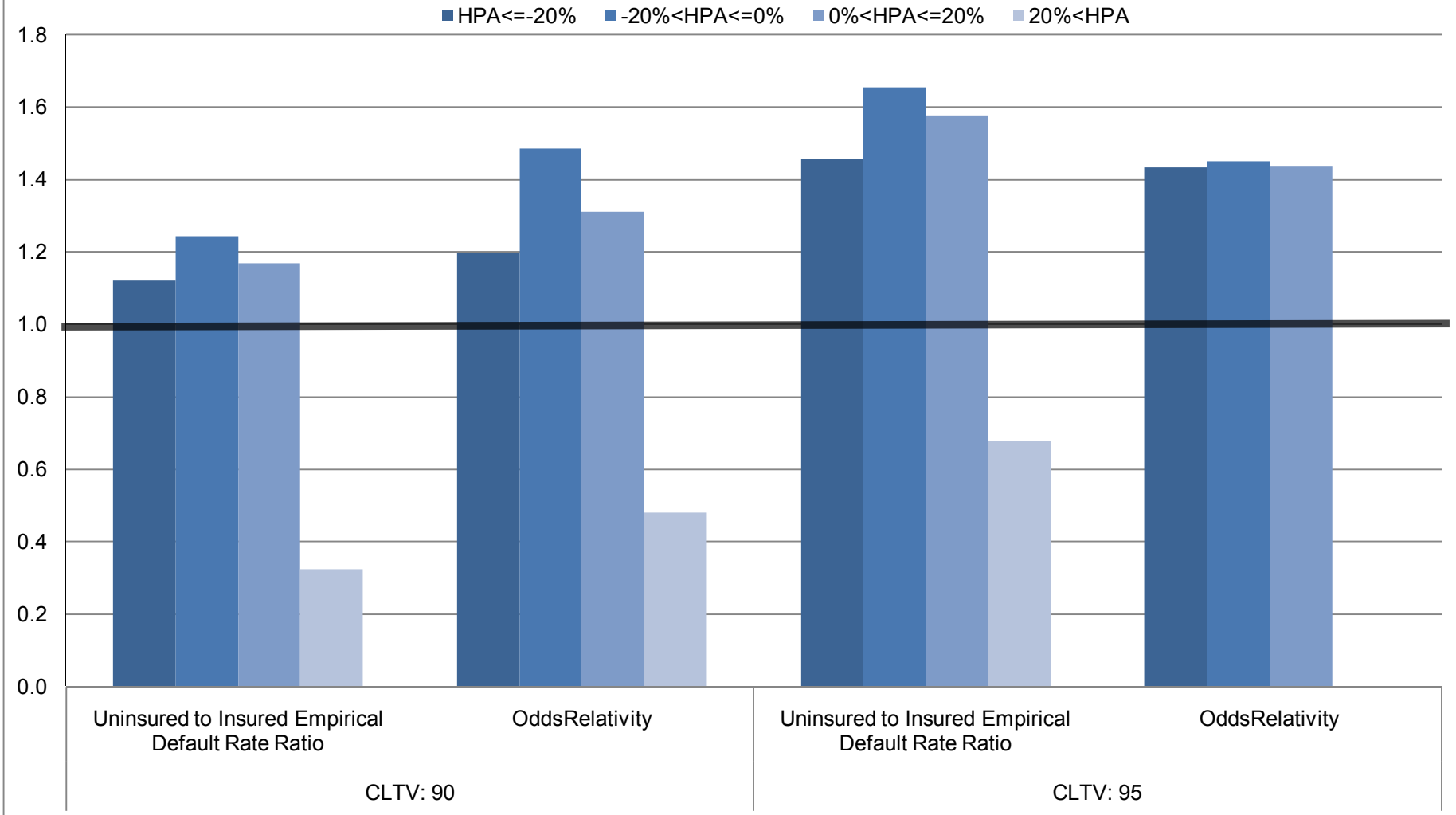
Mortgage Insurance Companies of America
Comparison of Empirical Default Rate Relativities and Odds Relativities
Loan Population 4: All loans excluding FHA, GT95 CLTV, and GSE
Terminated and Active Loans
Modeled Default Rate: Default_NC



Mortgage Insurance Companies of America
Comparison of Empirical Default Rate Relativities and Odds Relativities
Loan Population 4: All loans excluding FHA, GT95 CLTV, and GSE
Terminated Loans
Modeled Default Rate: Default_NC



Mortgage Insurance Companies of America
Comparison of Empirical Default Rate Relativities and Odds Relativities
Loan Population 5: QRM loans excluding FHA, GT95 CLTV, and GSE
Terminated and Active Loans
Modeled Default Rate: Default_NC



Mortgage Insurance Companies of America
Comparison of Empirical Default Rate Relativities and Odds Relativities
Loan Population 5: QRM loans excluding FHA, GT95 CLTV, and GSE Terminated Loans
Modeled Default Rate: Default_NC