

**UNITED GUARANTY CORPORATION**

October 30, 2013

Robert deV. Frierson  
Secretary  
Board of Governors of the Federal Reserve System  
20<sup>th</sup> Street & Constitution Avenue, NW  
Washington, DC 20551

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

Legislative and Regulatory Activities Division  
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Regulations Division  
Office of General Counsel  
Department of Housing and Urban  
Development  
451 7<sup>th</sup> Street, SW, Room 10276  
Washington, DC 20410-0500

Alfred M. Pollard  
General Counsel  
Attention: Comments/RIN 2590-AA43  
Federal Housing Finance Agency  
Constitution Center, (OGC) 8<sup>th</sup> Floor  
400 7<sup>th</sup> Street, SW  
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Elizabeth M. Murphy  
Secretary  
Securities and Exchange Commission  
100 F Street, NE  
Washington, DC 20549-1090

VIA FEDERAL E-RULEMAKING PORTAL

<http://www.regulations.gov>

**Re: Proposed Credit Risk Retention**

Ladies and Gentleman:

United Guaranty Corporation is pleased to comment on the joint proposed rule issued by the Board of Governors of the Federal Reserve System (“FRB”), Federal Deposit Insurance Corporation (“FDIC”), Office of the Comptroller of the Currency (“OCC”), Securities and Exchange Commission (“SEC”), Department of Housing and Urban Development (“HUD”) and Federal Housing Finance Agency (“FHFA”) (collectively referred to herein as “the Agencies”) that would revise the proposed rule the Agencies published in the Federal Register on April 29,

**UNITED GUARANTY CORPORATION**

2011.<sup>1</sup> United Guaranty also commented on the previous rulemaking and believes that significant progress has been made by the Agencies in accomplishing the directives set out in Section 941 of the Dodd Frank Act.<sup>2</sup>

**Executive Summary**

United Guaranty generally agrees with the Agencies' alignment of the QRM risk retention requirements with the Consumer Financial Protection Bureau's ("CFPB") new qualified mortgage ("QM") standard. Given the original directive set out in Section 941 of the Dodd Frank Act to align the incentives in the mortgage origination and securitization chain, aligning the two standards and exempting QM loans from any further risk retention is appropriate. Prudently underwritten mortgage loans that meet the comprehensive requirements under QM do not need additional risk retention to meet the objectives set forth in the directive. While the Agencies propose and recommend the alignment of QRM to QM, the NPR sets forth an alternative approach (the "QM-plus approach"), which United Guaranty does not support. The negative collateral consequences of restricting credit by imposing an additional risk retention requirement on loans that meet the QM test, but do not meet the 70% LTV test, far outweighs any incremental alignment resulting from such requirement. The QM-plus approach does not take into account the directives of Section 941, and instead backtracks on the progress the Agencies have made with respect to the rule.

**Background of Company**

Since 1963, United Guaranty has provided insurance products and services to mortgage lenders of all sizes. Subsidiaries of United Guaranty provide mortgage guaranty insurance to protect lenders against mortgage credit losses. At the end of the second quarter of this year, United Guaranty had \$136 billion of first-lien insurance in force in the U.S. In addition to mortgage insurance, United Guaranty offers a wide range of risk management and financial services to help lenders protect their investments. United Guaranty is a subsidiary of American International Group, Inc. (AIG).

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<sup>1</sup> Credit Risk Retention; Proposed Rule, 76 Fed. Reg. 24090 (April 29, 2011).

<sup>2</sup> A copy of United Guaranty's previous response is attached as Exhibit 1.

**UNITED GUARANTY CORPORATION**

As a provider of private mortgage insurance (“MI”), United Guaranty is dedicated to ensuring sustainable home ownership for creditworthy borrowers who lack the funds for a sizeable down payment, especially those first-time homeowners and low- and moderate-income borrowers for whom MI is essential. United Guaranty’s business model puts private capital at risk under disciplined risk management to promote sustainable home ownership across the country as well as investment quality mortgages to place into the secondary market.

**Response to Alternative Approach**

United Guaranty supports the approach set forth in the common text of the proposed rule and believes that this approach makes substantial progress towards the Agencies’ stated goal of properly aligning the incentives in the mortgage origination and securitization chain. Given that the “Ability to Repay” standard under the Truth in Lending Act is now final, any uncertainty that the Agencies may have had regarding whether the QM standard would be sufficiently strong to ensure that loans are prudently underwritten, should be diminished.

The NPR also requests comments on an alternative definition of QRM, referred to as “QM-plus.” In addition to meeting the QM standards adopted by the CFPB, QM-plus would incorporate the following additional requirements: (1) the loan must be secured by a one-to-four family real property that constitutes the principal dwelling of the borrower; (2) the loan must be a first-lien mortgage; (3) the originator must determine that the borrower(s) met certain credit worthiness standards; and (4) the loan to value (“LTV”) ratio at closing must not exceed 70%.

Under the QM-plus approach, borrowers would be required to make a 30% down payment and that requirement could not be offset with private mortgage insurance. The consequence of this approach would be a dramatic and unnecessary reduction in credit availability to creditworthy borrowers, with little material corresponding reduction in the probability of default. As detailed in our previous response to the QRM rule, requiring risk retention on loans over 80% LTV (and 70% LTV under the QM-plus approach) does not accurately take into account the risk characteristics of an individual loan. Furthermore, United Guaranty commissioned a study by Milliman, Inc. and submitted empirical evidence about the historical performance of QM-like loans in its response to the proposed Basel III NPR, a copy of which is attached as Exhibit 2. In pertinent part,

“Milliman, Inc. utilized industry data and actuarial models to estimate the default risk profiles and required capital levels for a mortgage insurance company insuring only QM

**UNITED GUARANTY CORPORATION**

loans. Strikingly, the estimated historical mean ultimate default rate for QM loans is 7.4%, which is less than half the estimated historical mean ultimate default rate of 16.7% for loans not filtered for QM requirements. In addition, the estimated default rate under extreme economic conditions (99th percentile) for QM loans is 18.4%, which is significantly less than the corresponding estimated 99th percentile default rate of 44.8% for loans not filtered for QM requirements. These results illustrate that mortgage insurance risk under QM is inherently less risky compared to all loans evaluated in the study.”<sup>3</sup>

As a result of the strength of the QM rule, the projected losses of such loans will be solid (even in down markets). And creditworthy borrowers will continue to have access to safe mortgage loans. If lenders elect to originate riskier non-QM loans, there will be economic consequences for such riskier origination practices.

In the event that the QM-plus approach is adopted, consumer interests will not be served because credit worthy borrowers would not be able to obtain competitive financing if they do not have a thirty percent (30%) down payment. This overly restrictive requirement will result in qualified borrowers being placed out of the housing market and could likely stunt the nascent housing recovery. Furthermore, given that only the description of the alternative QM-plus approach is laid out in the preamble to the NPR and not in the text of the proposed common rule, it is difficult to determine exactly how this QM-plus standard would be implemented. While United Guaranty understands the Agencies’ intent to provide a more restrictive alternative approach, QM-plus does not appear to be a meaningful policy option for the Agencies to seriously consider at this point given the severe collateral consequences that would result.

Additionally, United Guaranty encourages the Agencies to carefully weigh any incremental benefit the QM-plus rule would have, against the potential damaging impact on the marketplace by restricting the availability of high LTV loans. Further, as the availability of high LTV loans wanes on the private market, the result will be a flight to FHA loans. FHA loans are considered QM loans, and are not subject to the down-payment requirement contained in QM-plus approach since FHA loans are not securitized on the private market. Driving additional business to the FHA is in direct conflict with the stated goals of both houses of Congress and the President to

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<sup>3</sup> Pg. 14-15 of AIG’s Comment Dated October 22, 2012. In Re: Regulatory Capital Rules: Regulatory Capital, Implementation of Basel III, Minimum Regulatory Capital Ratios, Capital Adequacy, Transition Provisions, and Prompt Corrective Action; and Regulatory Capital Rules: Standardized Approach for Risk Weighted Assets; Market Discipline and Disclosure Requirements.

**UNITED GUARANTY CORPORATION**

reduce the US government's backing of the housing sector and to encourage the re-entry of private capital into the marketplace.

**Conclusion**

United Guaranty firmly believes that the proposed rule as drafted is strongly preferable to the QM-plus approach. Given the ultimate purpose of this proposed rule (as well as the QM rule under TILA) is to ensure that there are high quality and responsibly made mortgage loans in the system, the current proposal more than adequately achieves this objective. The consequence of a QM-plus approach would almost certainly lead to less available and more expensive mortgages for credit worthy borrowers, which would have serious ramifications on home ownership and the overall economy.

Thank you for the opportunity to comment on this proposed rule.

United Guaranty Corporation

Office of the Comptroller of the Currency  
250 E Street, SW  
Mail Stop 2-3  
Washington, DC 20219  
Docket No. OCC-2011-0002  
“Credit Risk Retention”

Ms. Jennifer J. Johnson  
Secretary  
Board of Governors of the Federal Reserve System  
20th Street and Constitution Avenue, NW  
Washington, DC 20551  
Docket No. R-1411

Mr. Robert E. Feldman  
Executive Secretary  
Federal Deposit Insurance Corporation  
550 17th Street, NW  
Washington, DC 20429  
Attention: Comments  
RIN 3064-AD74

Ms. Elizabeth M. Murphy  
Secretary  
Securities and Exchange Commission  
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File No. S7-14-11

Alfred M. Pollard, Esq.  
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Attention: Comments/RIN 2590-AA43

Regulations Division  
Office of General Counsel  
Department of Housing and Urban Development  
451 7th Street, SW  
Room 10276  
Washington, DC 20410-0500  
Docket number: FR-5504-P- 01  
"Credit Risk Retention"

**Re: United Guaranty's Comments on Credit Risk Retention**

Ladies and Gentlemen:

United Guaranty Corporation is pleased to comment on the notice of proposed rulemaking (NPR)<sup>14</sup> issued by the Board of Governors of the Federal Reserve System (FRB), Federal Deposit Insurance Corporation (FDIC), Office of the Comptroller of the Currency (OCC), Securities and Exchange Commission (SEC), Department of Housing and Urban Development (HUD) and Federal Housing Finance Agency (FHFA) -- collectively referred to herein as "the Agencies" -- to implement Section 941 of the Dodd-Frank Wall Street Reform and Consumer Protection Act (Dodd-Frank Act).<sup>15</sup>

Since 1963, United Guaranty has provided insurance products and services to mortgage lenders of all sizes. Subsidiaries of United Guaranty provide mortgage guaranty insurance to protect lenders against mortgage credit losses. At the end of the first quarter of this year, United Guaranty had \$107.4 billion of first-lien insurance in force in the U.S. In addition to mortgage insurance, United Guaranty offers a wide range of risk management and financial services to help lenders protect their investments. United Guaranty is a subsidiary of American International Group, Inc. (AIG).

As a provider of private mortgage insurance (MI), United Guaranty is dedicated to ensuring sustainable home ownership for creditworthy borrowers who lack the funds for a sizeable downpayment, especially those first-time homeowners and low- and moderate-income borrowers for whom MI is essential. United Guaranty's business model puts private capital at risk under disciplined risk management to promote sustainable home ownership across the country as well as to place investment quality mortgages into the secondary market.

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<sup>14</sup> Interagency Proposed Rule, *Credit Risk Retention*, 76 Fed. Reg. 24090 (Apr. 29, 2011) available at <http://edocket.access.gpo.gov/2011/pdf/2011-8364.pdf>.

<sup>15</sup> Dodd-Frank Wall Street Reform and Consumer Protection Act, Pub. L. No. 111-203 (2010).

We fully support the Agencies' desire to reduce risk in the mortgage finance industry. However, we believe the proposed qualified residential mortgage (QRM) requirements are too restrictive and will have the unintended negative consequence of reducing mortgage financing for creditworthy borrowers without any material corresponding reduction in the probability of default.

United Guaranty will demonstrate with the extensive data provided in this letter that a sizeable downpayment is not the only or the best predictor of residential-mortgage credit risk. The best predictor of loan performance is a multivariate analysis that takes into account the interaction of several risk variables. Loans with high loan-to-value (LTV) ratios and backed by properly underwritten MI perform at least as well as loans with low LTV.<sup>16</sup> We thus urge the Agencies to delete from the definition of a (QRM) the proposed twenty percent downpayment requirement for purchase loans, as well as the very significant downpayment requirement proposed for refinance mortgages and add a requirement that mortgage insurance be in place for all QRMs with LTVs above eighty percent. Data shows that the proposed restrictive criteria are not required for prudent lending and unnecessarily eliminates financing for creditworthy borrowers who lack substantial downpayments. They will also inhibit the recovery of the U.S. mortgage market, now particularly dependent on first-time buyers and other borrowers with minimal cash resources to absorb the approximately 1.8 million<sup>17</sup> homes in the "shadow" inventory following the national mortgage crisis. With proper underwriting and MI, even loans with a minimal downpayment (i.e. loans with 97% LTV) can be investment quality.

## **Executive Summary**

United Guaranty respectfully presents data in this letter illustrating that the presence of properly underwritten private MI on high LTV loans reduces the risk of default and thus must be included in the QRM to meet Congressional intent. United Guaranty urges the Agencies to:

- revise the QRM to permit high-LTV loans to qualify as QRMs if they are backed by private MI; and
- eliminate hard-coded underwriting standards in favor of a dynamic look at multiple risk characteristics that more effectively reduce the risk of default.

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<sup>16</sup> See Exhibits A-1, A-2 and A-3.

<sup>17</sup> CoreLogic, *CoreLogic Reports Shadow Inventory Declines Slightly, However, Nine Months' Worth of Supply Remains* (Mar. 2011) available at [http://www.corelogic.com/uploadedFiles/Pages/About Us/ResearchTrends/CoreLogic Shadow Inventory March 2011 FINAL 033011.pdf](http://www.corelogic.com/uploadedFiles/Pages/About%20Us/ResearchTrends/CoreLogic%20Shadow%20Inventory%20March%202011%20FINAL%20033011.pdf)

A system that successfully manages the risk of mortgage default should incorporate the following four capabilities:

- Accurate evaluation of the risk level of each individual loan;
- Underwriting of each individual loan at the time of origination;
- Active management of mortgage originators to promote a quality manufacturing process; and
- Agility to react to changing macroeconomic conditions by adjusting underwriting guidelines.

That system, however, must do more than just successfully reduce the frequency of default. It must also provide sufficient access to credit. The perfect system would allow origination of 100% of “good mortgages” with an acceptable risk of default and at the same time prevent origination of 100% of “bad mortgages” with an unacceptably high risk of default. The system in place leading up to the mortgage crisis clearly allowed origination of too many “bad mortgages.” The system proposed by the QRM, on the other hand, would not only prevent origination of some “bad mortgages,” but would also prevent origination of too many “good mortgages.” The key to a successful mortgage origination system is to accomplish both objectives at the same time.

In order to accomplish these objectives, as the Agencies recognize, financial incentives must be aligned with the production of “good mortgages.” The MI industry is uniquely positioned to identify and only agree to insure “good mortgages,” because their capital is in the first loss position. Moreover, MIs are the only party in the mortgage origination chain that takes a second look at the quality of loans originated and compliance with prudent underwriting standards. Even if regulating underwriting standards did produce the desired result, there is no party other than MIs to enforce compliance with those standards. Investors do not have access to the right information or the right expertise to analyze each individual loan as part of their investment decision, but MIs do. Finally, MIs have specialized risk management expertise that allows them to apply flexible and quickly changing underwriting standards in response to macro-economic changes.

## **I. MI Is Real Private Capital At Risk**

Throughout this comment letter, United Guaranty provides the Agencies with analytics on the current condition of the U.S. private mortgage insurance industry. The U.S. private MI industry had \$759 billion of insurance-in-force as of December 31, 2010,<sup>18</sup> protecting 7.1 percent of all U.S. single family, first liens then outstanding. Private MI is substantively different in many respects from monoline

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<sup>18</sup> Mortgage Insurance Companies of America (MICA), *MICA Issues Monthly Statistical Report: Insurance in Force Remains Strong* (Dec. 30, 2010) available at <http://www.privatemi.com/news/statistics/detail.cfv?id=172>.

bond insurance, most notably because its regulatory structure is truly monoline and limits mortgage insurers to providing only residential-mortgage insurance, barring investment in assets with risk correlated to those backed by MI.

Importantly, MI is in a first-loss position (generally the first 25 percent of the loan balance at default). This “skin in the game” effectively aligns mortgage insurers with borrowers, lenders, investors, and ultimately the taxpayer. Thus, MI is not only hard private capital at risk to ensure incentive alignment with both borrowers and investors, but it also prevents structuring or other evasions of exposure to mortgage credit risk.

Further, MIs must be well capitalized and adhere to state department of insurance requirements regarding capital and claims-paying ability. These requirements include a countercyclical reserve and limits on counterparty exposures.<sup>19</sup> An additional benefit of state insurance regulation is that an MI’s counterparty status can be validated by securitization sponsors with a status certificate of good standing issued by the applicable department of insurance. MI is thus a state-regulated, industry-capitalized form of credit risk transfer that poses none of the regulatory arbitrage or other problems highlighted in studies of this sector by global regulators.<sup>20</sup>

## **II. Successful Management Of Mortgage Risk Must Be Accomplished By Analyzing Multiple Characteristics To Evaluate The Risk Profile Of Each Individual Loan**

### ***A. The Proposed QRM Does Not Accurately Evaluate the Risk Characteristics of Each Individual Loan***

The proposed QRM requirements attempt to accurately capture the risk level of each individual loan by regulating underwriting guidelines. Most of the guidelines listed address prudent lending ideals, but are not real drivers of the risk of default. Of the guidelines listed, the two primary characteristics that drive the risk of default are LTV and DTI. While the current definition of QRM will certainly exclude some unacceptably risky loans, over reliance on LTV and DTI alone will not accurately capture the risk profile of an individual loan. Instead, a multitude of characteristics that drive the risk of default must be considered. Moreover, excluding loans that exceed only one of the permissible thresholds (univariate fatals) will not accurately capture the risk profile of an individual loan. Therefore the proposed QRM

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<sup>19</sup> See Interagency Proposed Rule, *supra* note 1, question 112(a).

<sup>20</sup> The Joint Forum, *Review of the Differentiated Nature and Scope of Financial Regulation - Key Issues and Recommendations*, (Jan. 8, 2010), available at <http://www.bis.org/publ/joint24.pdf>.

requirements are not effective, in that they include “bad mortgages” and exclude “good mortgages.”

While LTV and DTI are predictive of the risk of default, other variables are also predictive, including:

- Credit score;
- Loan purpose: purchase or refinance;
- Property Type: single family, condo, manufactured home;
- Loan type: fixed versus ARM;
- Loan term;
- Origination channel: retail, correspondent, broker;
- Quality of lender manufacturing process;
- Self-employed indicator;
- Prior bankruptcy indicator

We illustrate through the attached exhibits that the risk of default varies widely amongst QRM eligible loans, depending on the presence or absence of other predictive variables. Compare the following two examples from Exhibit A-1:

**Loan A:** 80% LTV, 36% DTI, 700 credit score, purchase mortgage for a single family residence in South Bend, Indiana, 30-year fixed mortgage originated in the retail channel by a lender with an average quality manufacturing process, no prior bankruptcies and not self-employed. The claim rate<sup>21</sup> for Loan A in a non-stressed economic environment is 0.9%. The claim rate in an extreme stressed economic environment (like the loans originated in 2006-2008 period experienced is 4.1%.

We will refer to Loan A throughout this comment letter as the “normal QRM scenario.” At the upper boundary of the LTV and DTI variables, the other variables considered are neutral.

**Loan B:** 80% LTV, 36% DTI, 660 credit score, purchase mortgage for a condo in Daytona, Florida, 30-year fixed mortgage originated by a broker and sold to a lender with a lower quality manufacturing process, self-employed borrower with a prior bankruptcy. The claim rate for Loan B in a non-stressed economic environment is 10.1%. The claim rate in an extreme stressed economic environment is 35.1%.

We can all agree that Loan A presents an acceptable risk of default. Loan B, on the other hand, has excessive risk layering that produces an unacceptable risk of default. Both mortgages, however, would carry the QRM stamp of approval and be released into the secondary market for resale. Exclusive reliance on single variable

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<sup>21</sup> Claim rate refers to the expected probability of a claim being filed on an insured loan and is highly correlated with the risk of default of a loan.

tests (LTV at 80% or DTI at 36%) will not effectively eliminate the securitization of mortgages that carry an unacceptable risk of default.

It is well accepted that as LTV and DTI increase, the risk of default increases. However, even with LTV higher than 80% and DTI higher than 36%, if the other predictive variables contained in Loan A have improved risk characteristics, the risk of default is even lower than Loan A, the "normal QRM scenario." As illustrated in Exhibit A-2, consider the following additional examples:

**Loan C:** 97% LTV, 36% DTI, 760 credit score, purchase mortgage for a single family residence in Topeka, Kansas, 30-year fixed mortgage originated in the retail channel by a lender with an above average quality manufacturing process, no prior bankruptcies, and not self-employed. The claim rate for Loan C in a non-stressed economic environment is 0.5%. The claim rate in an extreme stressed economic environment is 1.8%.

**Loan D:** 80% LTV, 45% DTI, all other loan characteristics are the same as Loan C above. The claim rate for Loan D in a non-stressed economic environment is 0.2%. The claim rate in an extreme stressed economic environment is 0.7%.

**Loan E:** 97% LTV, 45% DTI, 740 credit score, all other loan characteristics are the same as Loan C above. The claim rate for Loan E in a non-stressed economic environment is 0.8%. The claim rate in an extreme stressed economic environment is 2.8%.

All of these examples present acceptable levels of risk, and though the risk of default is less than that of Loan A, the "normal QRM" eligible loan, none of these examples would qualify as QRM eligible. The claim rate in a normal economic environment is 10 times lower than that of Loan B, which would be QRM eligible when these loans would not be.

These examples are not just hypothetical, they are representative of the loans insured by MIs. Today's environment is similar to the environment during the 2002-2004 time period, and can be considered a normal economic environment. The 2006-2008 originations are considered to have experienced an extreme stressed economic environment. Exhibit A-4 and A-5 illustrate that the performance of loans originated in 2009 and 2010 and insured by United Guaranty is even better than the performance of loans during the 2002-2004 time period, which stands in stark contrast to the 2006-2008 vintages.

If the goal is to encourage origination and resale of mortgages with an acceptable risk of default, and at the same time to exclude from resale all mortgages with an unacceptable risk of default, the QRM definition is too narrow and does not achieve the desired result. Instead, a multi-variate approach that considers all of the characteristics of a loan should be employed.

The impact to the mortgage system of excluding from the definition of QRM loans with an acceptable risk of default is significant. From January 2010 through June 2011, United Guaranty alone insured 74,977 loans above 80% LTV, each one of which would not be QRM eligible. Exhibit A-3 shows the distribution of these loans and their expected claim rates. 77% of these loans carry a risk of default less than Loan A, but none of them would be QRM eligible. Publicly available information indicates that the expected claim rates for the loans insured by other MI's is similar, and would also be less than that of Loan A. These loans should be originated and should be securitized, but the current definition of QRM does not support that objective.

### ***B. The Risk of Default Is Directly Correlated to the Quality of the Loan Origination Manufacturing Process***

During the 2006-2008 time period, loans that defaulted at an excessive rate could be separated into two categories: either the information about the loan was accurate but there was too much layering of risk, or information about the loan was inaccurately reported and prevented accurate evaluation of the risk. Even if excessive risk layering is eliminated, defects in the loan origination manufacturing process will still prevent accurate evaluation of the risk and will result in a higher than desired default rate.

The quality of the manufacturing process varies amongst lenders, and so does the frequency of default. For example, early delinquency is a strong indicator of mortgage fraud. An originator's ability to identify and screen out mortgage fraud is reflected in early delinquency ratios. Evaluating a lender's manufacturing process in this way demonstrates a dramatic variance in the risk of default amongst these lenders. (Exhibit B-2). All else being equal, those lenders with a lower early delinquency ratio, and with a better manufacturing process that allows for accurate evaluation of each loan, produce loans with a lower risk of default.

For purposes of illustration, lenders can be separated into a tiered hierarchy based on the early delinquency ratios of the loans they originate. (Exhibit B-1). We listed the early delinquency ratios by lender for 57 lenders, and assigned a score based on their manufacturing quality. We then grouped the lenders into five categories. Exhibit B-2 illustrates the dramatic difference in the risk of default based solely on the identity of the lender, *all else being equal*.

A more extreme example is illustrated in Exhibit B-3, which compares the performance of loans originated during the same time period and using the same basic underwriting guidelines, but originated by two different lenders.

The proposed QRM definition will treat all lenders equally, and will not capture the connection between the quality of the manufacturing process and the frequency of

default. The average loss from a high LTV loan is approximately \$100,000, half of which is suffered by the investors and half of which is covered by MI in today's stressed economic environment, making each error in the manufacturing process a very costly one.

### **III. MI Reduces The Frequency Of Default**

MI meets Congress' express goal of ensuring incentive alignment when mortgages are securitized into residential mortgage-backed securities (MBS)<sup>22</sup> because an MI firm puts its private capital at risk for every mortgage it insures. High LTV Loans with properly underwritten MI are expected to perform at least as well as those defined as QRM when other factors are evaluated.<sup>23</sup>

#### ***A. MI Second Look Improves the Quality of Loans Selected for Securitization***

A critical feature of MI is that it is generally underwritten prior to loan closing and it acts as a "second look" at the loan risk characteristics for the lender as well as the investor. Because the quality of the manufacturing process is directly correlated to the quality of the loans produced, any improvement in the manufacturing process will lower the risk of default of the loans released into the secondary market for investment. A recent FHFA report validated this conclusion by stating that, "Mortgage insurers now control risk from new loans through tightened underwriting standards and restrictions on insuring properties in higher risk markets"<sup>24</sup>

MI's provide a second look in the underwriting process as a backstop that equalizes the difference between the quality of the manufacturing process at different lenders. Only MI's provide this second look, no other entity reviews loans originated by lenders at any time in the origination process or the securitization process.

While it may not be necessary to look at every document in every loan file, a prudent MI underwriting process cannot be accomplished by exclusive use of automated underwriting systems. A complete and accurate file, and the ability to review and evaluate the information are critical components of a prudent process.

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<sup>22</sup> Senator Christopher Dodd, *speech before the United States Senate*, Congressional Record (May 11, 2010) S3518, "[A] skin-in-the game requirement that creates incentives that encourage sound lending practices, restores investor confidence, and permits securitization markets to resume their important role as a source of credit for households and businesses."

<sup>23</sup> Exhibits A-1, A-2 and A-3

<sup>24</sup> Federal Housing Finance Agency, *2010 Report to Congress* (June 13, 2011) p. 20, available at: <http://www.fhfa.gov/webfiles/21570/FHFA2010RepToCongress61311.pdf>.

When an MI firm receives and underwrites a loan file from an originator, one of four underwriting decisions is initially made:

- **Approved:** The loan file is complete and contains accurate information, and evaluation shows the risk of default is acceptable;
- **Conditional Approval:** The loan file is accurate and only missing a limited number of pieces of information. If those last pieces of information are obtained and are acceptable, the loan is approved;
- **Manufacturing Defects:** The loan either contains inaccurate information or is missing so much information that an accurate evaluation of the risk cannot be made;
- **Denied:** The loan is determined to either be fraudulent or the risk of default is so high it is considered uninsurable.

From July 2010 through May 2011, United Guaranty has initially approved only one quarter of the loans submitted to it. Approximately 60% of the loans submitted were missing information necessary for an accurate evaluation of risk. Nearly 10% of the loans submitted were denied as either fraudulent or so risky they are uninsurable. Loan file quality varies dramatically by originator, as some originators almost always submit complete and accurate files and other lenders almost never submit complete and accurate files on their first submission. (Exhibit B-4).

Loans that are approved by Fannie Mae as eligible for purchase, and which would be exempt from the QRM requirements, would not always be approved by an MI underwriter. If the characteristics meet the GSE automated underwriting guidelines, approval is granted with the push of a button. However, only a person looking at the full risk profile contained in a complete and accurate file would notice risk characteristics such as multiple late payments over a two year period, or that the borrower is in credit counseling, or that a recent serious delinquency is noted in the credit report. (Exhibit B-5).

These statistics are telling in a market where the majority of loans are prime mortgages originated in compliance with GSE guidelines, and demonstrate the continuing defects in the manufacturing process at loan originators, and the need for a thorough second review to ensure the quality of the loans being originated. These weaknesses in origination processes are further evidenced in recent articles describing substandard lender origination practices relating to loan quality in underwriting.<sup>25</sup>

The old system allowed lenders to originate and resell mortgages with representations and warranties that the loans had been prudently underwritten. Generally, there was no thorough review in advance of those loans being released

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<sup>25</sup> Evan Nemeroff, U.S. Sues Deutsche Bank for 'Reckless' FHA Lending Practices, American Banker, (May 4, 2011), available at [http://www.americanbanker.com/issues/176\\_85/deutsche-fha-lending-practices-1037024-1.html](http://www.americanbanker.com/issues/176_85/deutsche-fha-lending-practices-1037024-1.html)

into the secondary market. The pending rewrite of mortgage securitization seeks to strengthen these representations and warranties, and United Guaranty supports these efforts. While a put-back after foreclosure protects investors somewhat (when the put-back is successful), a second look at origination by a mortgage insurer protects both the borrower and the investor. The QRM requirements impose standards for prudent underwriting, but do not address operational deficiencies in the manufacturing process itself. If MIs do not perform the second look, and lenders do not flawlessly comply with QRM requirements, there may be no consequence to the lender or the securitizer but borrowers and investors are put at undue risk. MIs are in a first-loss position, and with private capital at risk, have the proper incentives to critically review loans submitted for MI to ensure compliance with underwriting criteria. The positive outcome of this process will be reduced frequency of default for QRM eligible loans.

### ***B. Mortgage Insurers Employ Superior Risk Management Expertise That Improves the Risk Quality of Loans Originated***

Since the crisis, a new MI business model has developed that emphasizes risk management and front end underwriting decisions made independent of automated underwriting approvals produced by GSE models. Beginning in late 2008, our industry made several changes to ensure that only quality loans meeting tighter underwriting guidelines would be insured. Loans originated with greater than 80% LTVs and sold to the GSEs must now also meet these strict requirements, meaning that MIs often impose higher standards than the GSEs. The performance of earlier vintages, such as the 2006 book, compared to the 2009 book of business, illustrates the improvement in the quality of new loans with MI as a result of better risk management.<sup>26</sup>

No longer relying on GSE-defined underwriting standards, MIs have developed independent, reliable and flexible risk management capabilities. Risk management is a specialized expertise, and because they are in a first loss position, MIs are the only player in the entire mortgage origination chain with the financial incentive to employ this expertise. Loan originators are motivated by volume, and GSEs are subject to political and other pressures. MIs have the flexibility to change their risk "box" within the GSEs' standard underwriting guidelines or the QRM underwriting requirements as risk varies in specific risk cells.

The risk that a loan will default is driven by several categories of risk, including: risk characteristics of the borrower, the property, the loan, the quality of the loan origination manufacturing process and macro-economic risks such as declines in housing prices in the market.

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<sup>26</sup> See Exhibits A-4 and A5.

Of the above categories of risk, the risk of housing price decline is the only characteristic that changes over time and varies by location. This presents a challenge in establishing appropriate underwriting guidelines, because the guidelines must be flexible and must change as market conditions change. If there is an increase in the risk of housing price decline, then a corresponding decrease in the other risk characteristics is necessary to prevent an increase in the overall risk of default.

A stark example of the importance of including the risk of housing price decline in the evaluation of a loan is illustrated in Exhibits C-1 and C-2. Due to housing price fluctuations, a loan originated today in Daytona Beach, Florida is more than twice as likely to default as the very same loan originated in South Bend, Indiana. A loan originated today in Daytona Beach, Florida is more than twice as likely to default as the very same loan originated in Daytona Beach, Florida in 2002:

	Daytona Beach		South Bend	
	Classification	Claim Rate	Classification	Claim Rate
2002	Stable	0.9%	Stable	0.9%
Today	High-Risk	2.6%	Stable	0.9%

A single set of fixed underwriting eligibility guidelines will not address the variance in risk over time because the macro-economic conditions change and make those underwriting guidelines no longer applicable or effective. At any given time, the fixed guidelines will either be too tight or too loose.

Instead, the only effective way to prevent an increase in the risk of default when macro-economic risks increase is to employ a mechanism that quickly tightens underwriting guidelines for other risk categories. The dynamic interaction of the risk variables in a changing environment is essential to preventing an increase in the risk of default. MI provides the capability and the motivation to quickly adjust underwriting guidelines as necessary, because its capital is in the first loss position and it will act quickly to make the changes in a responsible manner.

### ***C. MIs Have Financial Incentives to Facilitate Loan Modifications to Avoid Default***

In assessing the risk of mortgage default, it is important to distinguish between delinquency and default on a mortgage loan obligation. A delinquency status reflects a late payment that can be cured as borrowers become current either on their own or with repayment plans and structured modifications. MIs play a prominent role in assisting borrowers with these loan modifications and repayment plans. MIs are financially aligned with borrowers, lenders, investors and ultimately taxpayers to find ways to keep homeowners in their homes. If the delinquent loans cure or are modified, the MI does not pay a claim and retains insurance (and collects

premium) on the now performing loan. MIs thus have a direct financial incentive to assist the borrower in curing their delinquency.

United Guaranty has been very active in preventing borrowers in delinquency from slipping into default and ultimately losing their home. Exhibit D-1 shows United Guaranty and MICA's respective delinquency cure rates which show continued improvement in the reduction of ultimate defaults. Additionally, throughout the crisis, MIs performed a responsible role with government stakeholders in establishing homeowner assistance programs. United Guaranty data support the conclusion that mortgage insurance reduces risk of default and risk of loss.<sup>27</sup>

## **IV. A Revised QRM is Critical To Improved U.S. Housing Policy**

### ***A. The Current Framework of Risk Retention Will Create Perverse Incentives***

Under the proposal, the cost of risk retention will be shouldered by borrowers already struggling to meet down payment requirements, while also adding compliance costs to overburdened originators. Many industry stakeholders have attempted to estimate the costs of risk retention that ultimately will be passed on to the consumer. These estimates vary because of the widely different business models and regulatory structures of originators and securitizers. Some of the estimates range from the low-cost (e.g., 10-15<sup>28</sup> to 75 basis points<sup>29</sup>) applicable to securitizers immune from regulatory-capital requirements to the higher cost (e.g., 100<sup>30</sup> to 300 basis points<sup>31</sup>) applicable to regulated originators and issuers who will shoulder the operational aspects of implementing restrictive criteria as well as the hard dollar capital costs.

The QRM as proposed creates an incentive for high-risk Non-QRM originations. Because of the strict QRM criteria, lenders will have no incentive to work with borrowers to increase downpayments or to require MI on high-LTV mortgages to protect investors, as doing so alone will not win QRM classification. This Non-QRM market might be liquid, as regulators contend, but the liquidity will come only from the large volumes of poorly-underwritten loans funneling through it. Indeed, because risk must be retained for the life of the loan on all loans outside of the rules,

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<sup>27</sup> See Interagency Proposed Rule, *supra* note 1, question 111(a).

<sup>28</sup> [http://www.bankinvestmentconsultant.com/news/FDIC-banks-risk-management-QRM-2673729-1.html?utm\\_source=mortgagenewsclips+test+list&utm\\_campaign=033b317950-RSS\\_EMAIL\\_CAMPAIN&utm\\_medium=email](http://www.bankinvestmentconsultant.com/news/FDIC-banks-risk-management-QRM-2673729-1.html?utm_source=mortgagenewsclips+test+list&utm_campaign=033b317950-RSS_EMAIL_CAMPAIN&utm_medium=email)

<sup>29</sup> Kenneth Harney, *QRM May Spell Mortgage Trouble*, Miami Herald, (Apr. 10, 2011) available at <http://www.miamiherald.com/2011/04/10/2157388/qrm-may-spell-mortgage-trouble.html>.

<sup>30</sup> Mark Zandi, *Reworking Risk Retention* 6/21/11

<sup>31</sup> JP Morgan Securities Inc., *Securitization Outlook* (Dec. 11, 2009) published by JP Morgan Securities.

the proposed definition provides little incentive for lenders to originate an 80.01 LTV purchase mortgage with MI when they can offer a 100 LTV mortgage without MI to be kept in portfolio or a high-LTV loan insured by the Federal Housing Administration (FHA) which is exempt from the risk-retention requirements.

### ***B. Creditworthy Borrowers Should Have Access to Credit***

MI is private capital standing in front of taxpayers as the GSEs wind down.<sup>32</sup> As the housing crisis subsides, the Administration's stated policy is to reduce the market share of the FHA and GSEs. Today, available private MI capital would enable financial markets to originate 1.3 million insured low down payment loans annually for the next three years<sup>33</sup> and represents private capital willing to facilitate prudent lending on higher LTV mortgages, as extraordinary government housing programs are wound down. We believe that improving the stability of the financial system with responsible criteria will ensure that taxpayers will never have to fund another bailout.

Consumer interests will not be served if able and willing borrowers cannot obtain competitive financing and/or must wait years to save the 20 percent downpayment. The implementation of the proposed QRM definition, along with ongoing GSE and FHA changes in guidelines and eligibility, will unnecessarily contract credit and shrink the available pool of creditworthy borrowers, reducing housing demand. Reduced demand at this critical time will slow the housing recovery.

An example of credit contraction has recently occurred in the condominium (condo) markets where the GSEs have reduced their participation in the financing of new and existing loans, citing concerns over delinquency concentration and investment property concentration. This credit contraction has essentially frozen condo sales in affected markets, resulting in declining values and secondary effects to the housing sector of the economy. Mortgage insurers have the ability to provide flexible guidelines, when appropriate, to enable prudent lending in these circumstances.

United Guaranty believes that the exemption for GSE guaranteed business should remain to allow continuity and liquidity to the marketplace during the GSE wind down and the transformation of the housing finance system in the wake of the Dodd-Frank Act.<sup>34</sup> United Guaranty does not believe that servicing standards should be part of the QRM definition as it is outside the intended purpose of the QRM definition and it is addressed in other areas of proposed legislation.

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<sup>32</sup> See Interagency Proposed Rule, *supra* note 1, question 111(a).

<sup>33</sup> Mortgage Insurance Companies of America (MICA), *Statement By MICA* (Mar. 24, 2011) available at: <http://www.privatemi.com/news/statements/20110324.cfm>.

<sup>34</sup> See Interagency Proposed Rule, *supra* note 1, at 24,154.

## Conclusion

In this letter, United Guaranty has provided data demonstrating that the QRM as written imposes unnecessary and restrictive criteria that are not required for prudent lending and eliminates efficient, prudent financing for creditworthy borrowers who lack substantial downpayments. These borrowers can sustain home ownership over time, building families and supporting communities if high-LTV lending is done prudently with MI, and backed by private capital that ensures effective long-term incentive alignment between originators and securitizers on the one hand and borrowers and investors on the other.

These data and the qualitative information we have respectfully provided to the Agencies make clear that the QRM should not be as narrowly drawn as proposed and that private MI must be a criterion for all high-LTV loans provided QRM eligibility.

United Guaranty would be pleased to answer any questions the Agencies may have or to provide additional data supporting the representations made herein.

Sincerely,

  
Eric Martinez, Chief Executive Officer  
United Guaranty Corporation

## Exhibit A-1: QRM Admits High-Risk Loans

### Normal QRM Scenario (Loan A)

**Variable**

80% LTV

36% DTI

700 Credit Score

Loan Purpose: Purchase

Property Type: Single Family

Loan Type: Fixed

Loan Term: 30 years

Originator Type: Retail

Lender Quality Index: Average National Lender

Self Employment: No

Prior Bankruptcy: No

Geographic Risk: Stable (South Bend, IN)

**Normal Economic Environment Claim Rate 0.9%**  
**Severely Stressed Economic Environment**  
**(2006-2008) Claim Rate 4.1%**

### Upper Bound QRM Scenario (Loan B)

**Variable**

80% LTV

36% DTI

660 Credit Score

Loan Purpose: Purchase

Property Type: Urban Condo

Loan Type: Fixed

Loan Term: 30 years

Originator Type: Broker

Lender Quality Index: Below Average

Self Employment: Yes

Prior Bankruptcy: Yes

Geographic Risk: High Risk Area (Daytona Beach, FL)

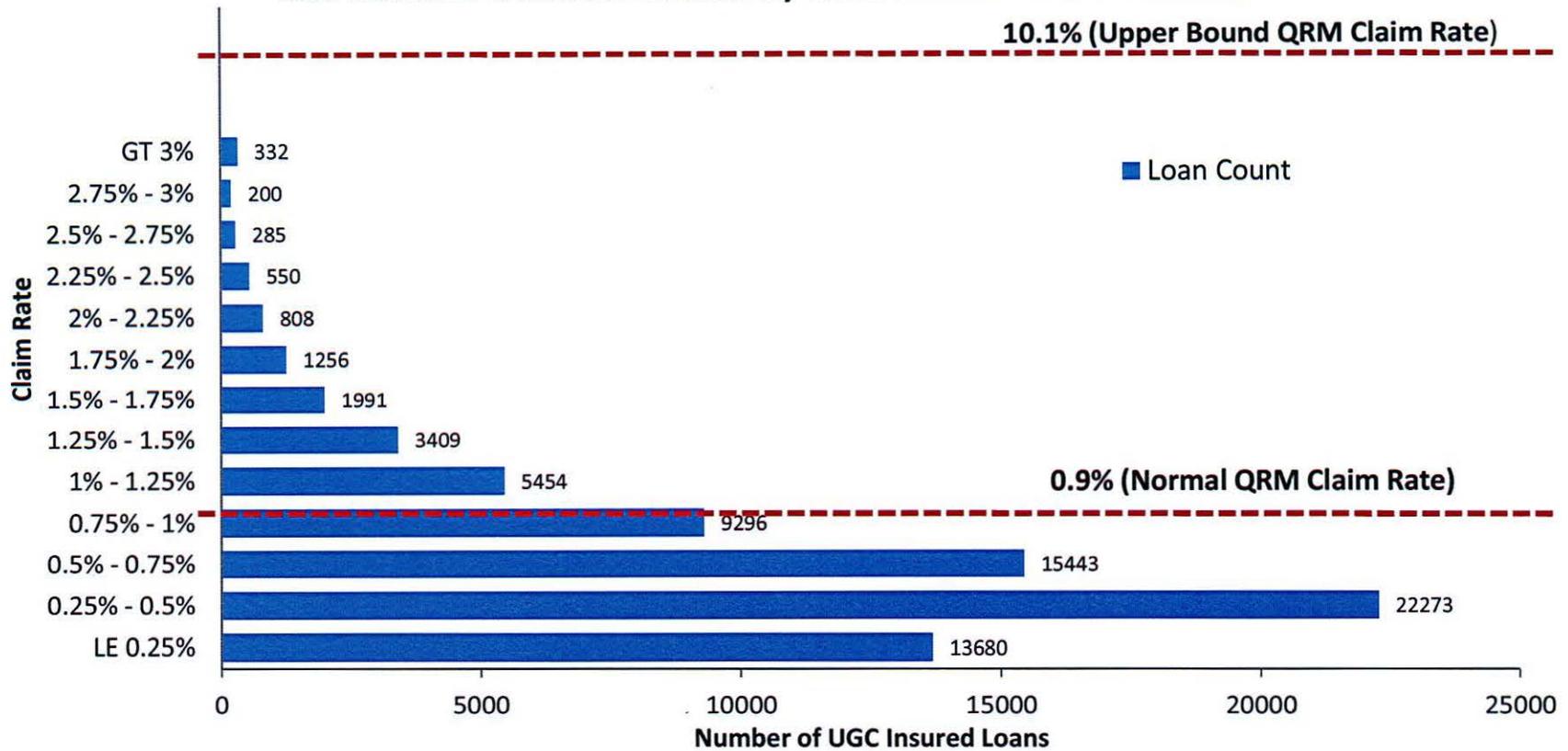
**Normal Economic Environment Claim Rate 10.1%**  
**Severely Stressed Economic Environment**  
**(2006-2008) Claim Rate 35.1%**

Exhibit A-2: QRM Excludes High-Quality Loans

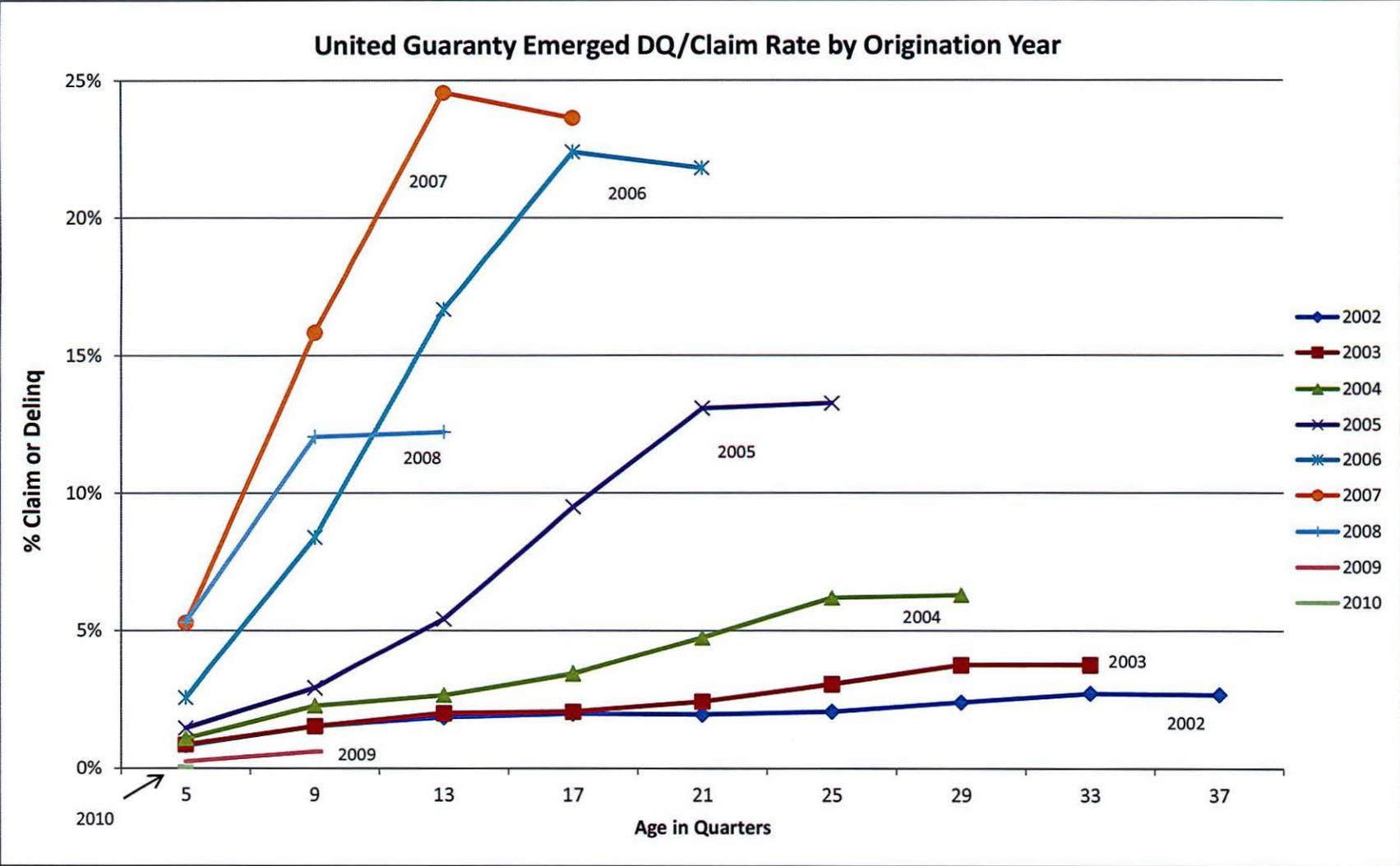
Scenario 1 (Loan C) Violating QRM's LTV Threshold		Scenario 2 (Loan D) Violating QRM's DTI Threshold		Scenario 3 (Loan E) Violating both QRM's LTV & DTI Thresholds	
<u>Variable</u>		<u>Variable</u>		<u>Variable</u>	
97% LTV		80% LTV		97% LTV	
36% DTI		45% DTI		45% DTI	
760 Credit Score		760 Credit Score		740 Credit Score	
Loan Purpose: Purchase		Loan Purpose: Purchase		Loan Purpose: Purchase	
Property Type: Single Family		Property Type: Single Family		Property Type: Single Family	
Loan Type: Fixed		Loan Type: Fixed		Loan Type: Fixed	
Loan Term: 30 years		Loan Term: 30 years		Loan Term: 30 years	
Originator Type: Retail		Originator Type: Retail		Originator Type: Retail	
Lender Quality Index: Above Average		Lender Quality Index: Above Average		Lender Quality Index: Above Average	
Self Employment: No		Self Employment: No		Self Employment: No	
Prior Bankruptcy: No		Prior Bankruptcy: No		Prior Bankruptcy: No	
Geographic Risk: Better than Stable (Topeka, KS)		Geographic Risk: Better than Stable (Topeka, KS)		Geographic Risk: Better than Stable (Topeka, KS)	
Normal Economic Environment Claim Rate	0.5%	Normal Economic Environment Claim Rate	0.2%	Normal Economic Environment Claim Rate	0.8%
Severely Stressed Economic Environment (2006-2008) Claim Rate	1.8%	Severely Stressed Economic Environment (2006-2008) Claim Rate	0.7%	Severely Stressed Economic Environment (2006-2008) Claim Rate	2.8%

### Exhibit A - 3: 77% of UGC Insured Loans Are Of Higher Quality Than QRM Baseline

#### Distribution of UGC Insured Loans by Claim Rate: Jan 2010 - Jun 2011



**Exhibit A-4 UGC Delinquency Emergence Pattern by Origination Year**



**Exhibit A-5: UGC Delinquency Emergence Pattern by Origination Year by Quarter**

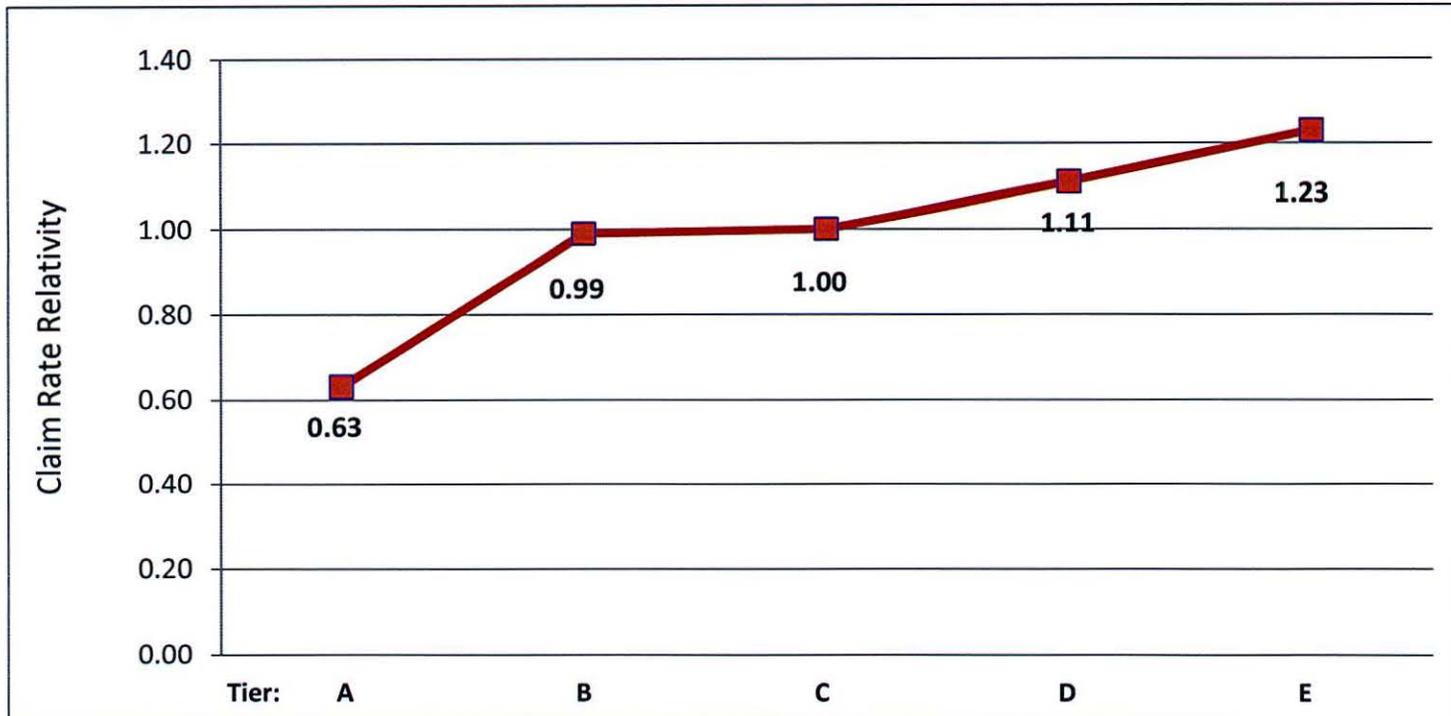
**Delinquency Ratio, Origination Years 2002 - 2010**

Origination Year	Age in quarters											
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	<u>8</u>	<u>9</u>	<u>10</u>	<u>11</u>	<u>12</u>
<b>2002</b>	0.0%	0.2%	0.5%	0.6%	0.9%	1.2%	1.8%	2.2%	2.5%	2.9%	3.4%	3.8%
<b>2003</b>	0.0%	0.2%	0.4%	0.7%	0.9%	1.2%	1.6%	1.9%	1.9%	2.1%	2.5%	3.1%
<b>2004</b>	0.0%	0.3%	0.6%	0.9%	1.2%	1.6%	2.2%	3.1%	2.9%	3.1%	3.5%	3.8%
<b>2005</b>	0.0%	0.3%	0.6%	1.3%	1.4%	1.9%	2.6%	3.2%	3.3%	3.9%	4.8%	6.0%
<b>2006</b>	0.0%	0.6%	1.2%	2.0%	2.8%	4.6%	6.4%	8.5%	9.5%	11.9%	14.4%	17.6%
<b>2007</b>	0.2%	1.1%	2.4%	3.9%	5.3%	7.8%	10.5%	14.3%	16.6%	19.7%	24.0%	27.1%
<b>2008</b>	0.0%	0.9%	2.1%	3.6%	5.1%	6.9%	9.3%	11.4%	12.2%	12.3%	12.3%	11.5%
<b>2009</b>	0.0%	0.1%	0.1%	0.2%	0.2%	0.2%	0.4%	0.5%	0.6%	0.6%		
<b>2010</b>	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%						

**Exhibit B-1: Detail of Early Delinquency Ratio and Lender Quality Score for High Volume Lenders**

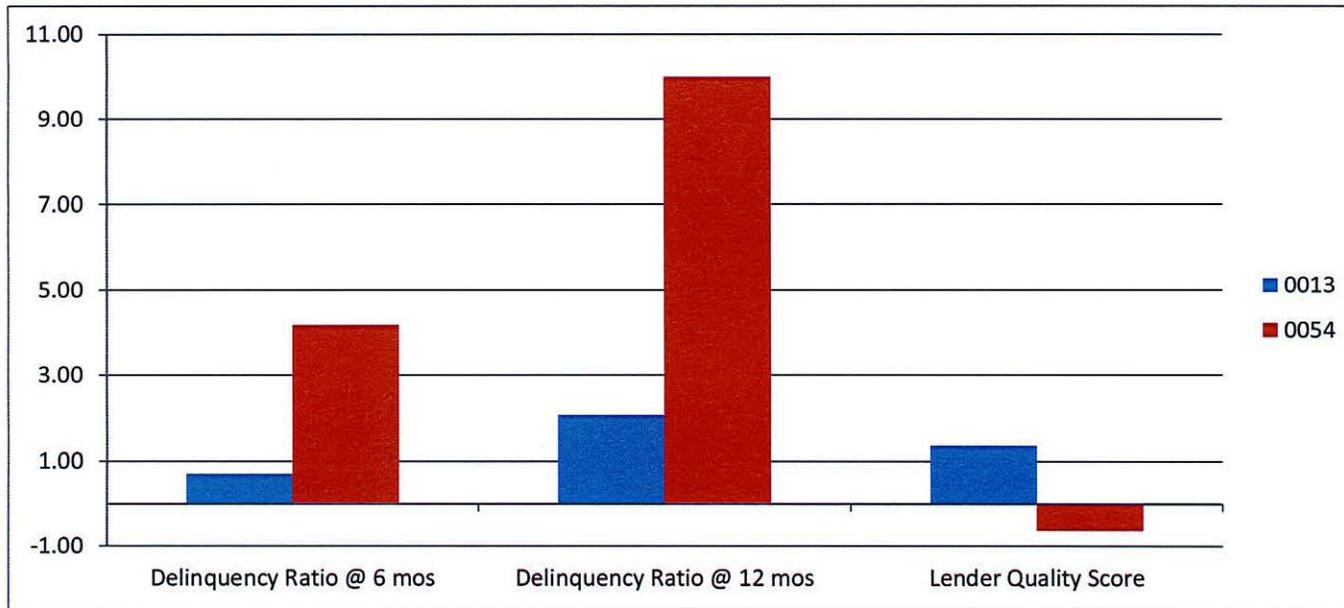
Lender	Delinquency Ratio As of 6 Months 2006-2008	Delinquency Ratio As of 12 Months 2006-2008	Lender Quality Score	Lender Quality Tier
0001	0.00%	0.00%	1.79	A
0002	0.00%	0.00%	1.73	A
0003	0.00%	0.00%	1.65	A
0004	0.00%	0.00%	1.59	A
0005	0.00%	0.48%	1.50	A
0006	0.00%	0.00%	1.49	A
0007	0.00%	0.74%	1.49	A
0008	0.00%	0.00%	1.46	A
0009	0.00%	0.43%	1.45	A
00010	0.30%	0.30%	1.44	A
00011	0.16%	0.32%	1.41	A
00012	0.00%	0.22%	1.40	A
00013	0.71%	2.07%	1.37	A
00014	0.51%	1.80%	1.31	A
00015	0.14%	1.57%	1.30	A
00016	0.27%	1.86%	1.20	A
00017	0.40%	2.06%	1.19	A
00018	1.00%	2.06%	1.18	A
00019	0.95%	2.37%	1.10	A
00020	1.27%	3.27%	1.09	A
00021	0.85%	3.30%	1.02	A
00022	1.22%	3.92%	1.01	A
00023	0.95%	4.19%	0.99	A
00024	1.55%	4.73%	0.97	B
00025	1.82%	5.01%	0.97	B
00026	1.61%	4.30%	0.92	B
00027	0.91%	4.05%	0.89	B
00028	1.49%	2.97%	0.86	B
00029	1.06%	3.95%	0.74	B
00030	1.56%	6.85%	0.67	B
00031	1.97%	4.70%	0.65	B
00032	1.56%	5.16%	0.64	B
00033	2.13%	5.27%	0.58	B
00034	2.46%	6.05%	0.58	B
00035	1.13%	4.54%	0.52	B
00036	2.72%	4.81%	0.50	B
00037	2.70%	5.85%	0.49	C
00039	1.37%	3.58%	0.37	C
00040	2.43%	6.14%	0.35	C
00041	4.23%	7.77%	0.31	C
00042	5.14%	9.38%	0.21	C
00043	2.69%	7.31%	0.15	C
00044	2.60%	5.78%	0.02	C
00045	1.59%	6.80%	0.01	C
00046	3.76%	7.02%	-0.12	C
00047	4.43%	9.92%	-0.13	C
00048	2.81%	7.53%	-0.18	C
00049	3.71%	9.08%	-0.25	C
00050	3.82%	11.55%	-0.28	C
00051	3.23%	7.59%	-0.41	C
00052	3.00%	7.85%	-0.44	C
00053	4.73%	11.50%	-0.53	D
00054	4.17%	10.00%	-0.64	D
00055	4.14%	10.52%	-1.03	E
00056	5.11%	12.13%	-1.19	E
00057	6.09%	13.37%	-1.33	E

**Exhibit B-2 - Comparison of Claim Rate Relativity by Lender Quality Tier**



The claim rate relativity is the indicated variation in claim rate due solely to variation in lender manufacturing quality. Lender performance analysis is critical to the risk evaluation process.

**Exhibit B-3: Comparison of Lenders in Two Different Quality Tiers**



Lender	% Delinquency Ratio @ 6 mos	% Delinquency Ratio @ 12 mos	Lender Quality Score	Lender Quality Tier
0013	0.71	2.07	1.37	A
0054	4.17	10.00	-0.64	D

This Exhibit shows the stark comparison of two different lenders over the same timeframe and using the same underwriting guidelines with the resulting performance of their loans.

**Exhibit B-4: Initial Underwriting Approval Percentages By Lender For Sample Region From Jan - Jun 2011**

Lender	Number of Loan Applications	% Initial Approval
Lender 1	5	80.0%
Lender 2	7	71.4%
Lender 3	19	68.4%
Lender 4	9	55.6%
Lender 5	70	50.0%
Lender 6	12	50.0%
Lender 7	25	48.0%
Lender 8	11	45.5%
Lender 9	9	44.4%
Lender 10	7	42.9%
Lender 11	10	40.0%
Lender 12	5	40.0%
Lender 13	5	40.0%
Lender 14	5	40.0%
Lender 15	13	38.5%
Lender 16	8	37.5%
Lender 17	6	33.3%
Lender 18	6	33.3%
Lender 19	6	33.3%
Lender 20	13	30.8%
Lender 21	7	28.6%
Lender 22	25	28.0%
Lender 23	11	27.3%
Lender 24	12	25.0%
Lender 25	36	22.2%
Lender 26	9	22.2%
Lender 27	9	22.2%
Lender 28	5	20.0%
Lender 29	5	20.0%
Lender 30	5	20.0%
Lender 31	5	20.0%
Lender 32	5	20.0%
Lender 33	5	20.0%
Lender 34	5	20.0%
Lender 35	5	20.0%
Lender 36	5	20.0%
Lender 37	5	20.0%
Lender 38	11	18.2%
Lender 39	11	18.2%
Lender 40	6	16.7%
Lender 41	6	16.7%
Lender 42	13	15.4%
Lender 43	7	14.3%
Lender 44	7	14.3%
Lender 45	31	12.9%
Lender 46	11	0.0%
Lender 47	9	0.0%
Lender 48	6	0.0%
Lender 49	5	0.0%
Lender 50	5	0.0%

## **Exhibit B-5: DU Underwriting Versus MI Underwriting**

### **Loan Details**

Loan Amount: \$323,000  
LTV: 95%  
Location: Rockwall, TX  
Loan Purpose: Purchase  
Note Rate: 5.0%  
FICO: 680

### **DU Underwriting Findings:**

- "The risk profile of this loan casefile appears to meet Fannie Mae's guidelines."
- "This loan casefile appears to meet Fannie Mae's eligibility requirements."
- "The following risk factors represent strengths in the borrower's loan application: loan purpose (purchase)."

### **DU decision: Approve Eligible**

### **United Guaranty Findings:**

- Borrower has multiple and significant late payment instances in 2008 and 2009
- Borrower is currently in credit counseling
- Borrower has a foreclosure / judgment for a construction loan in 2009 for \$10,000; judgment was paid off in 2009
- Notes from credit report that adversely affected borrower score:
  - Serious delinquency, and public record / collection filed
  - Time since delinquency is too recent
  - Length of time since derogatory public record / collection is too short
  - Number of accounts with delinquency

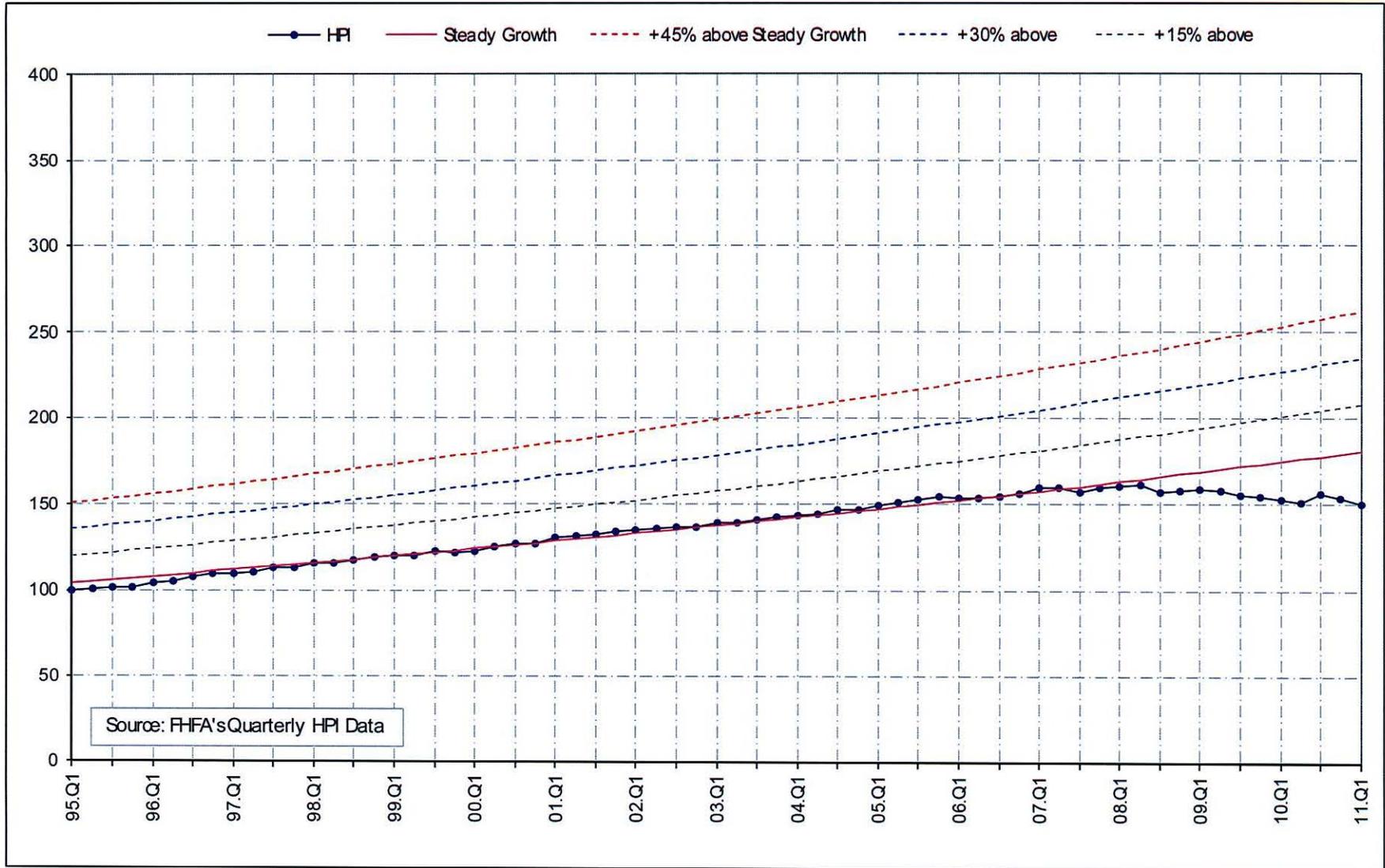
### **United Guaranty decision: Decline**

# Exhibit C-1

South Bend-Mishawaka, IN-MI

GQX = A

Effective Aug. 15, 2011

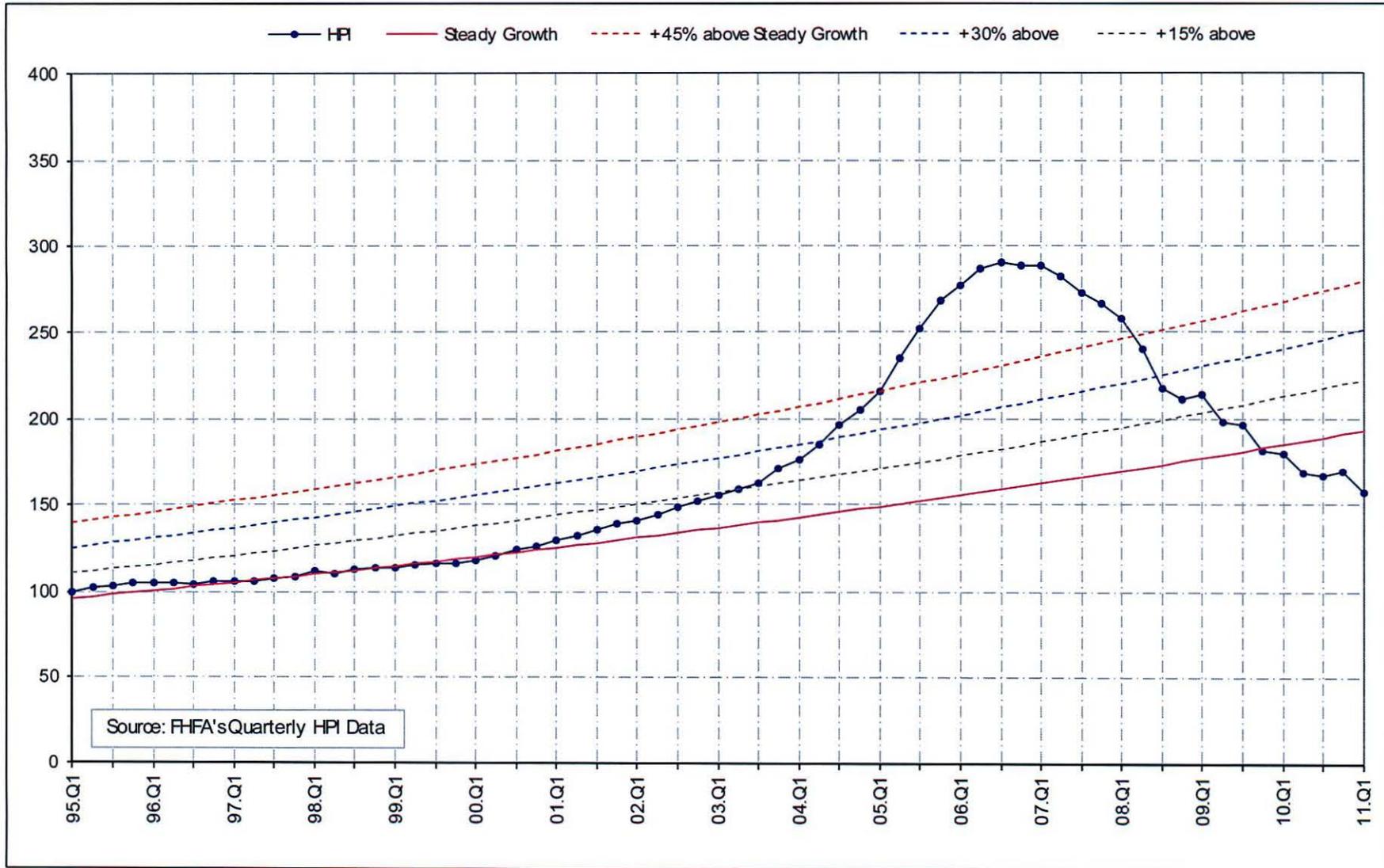


# Exhibit C-2

Deltona-Daytona Beach-Ormond Beach, FL

GQX = D

Effective Aug. 15, 2011

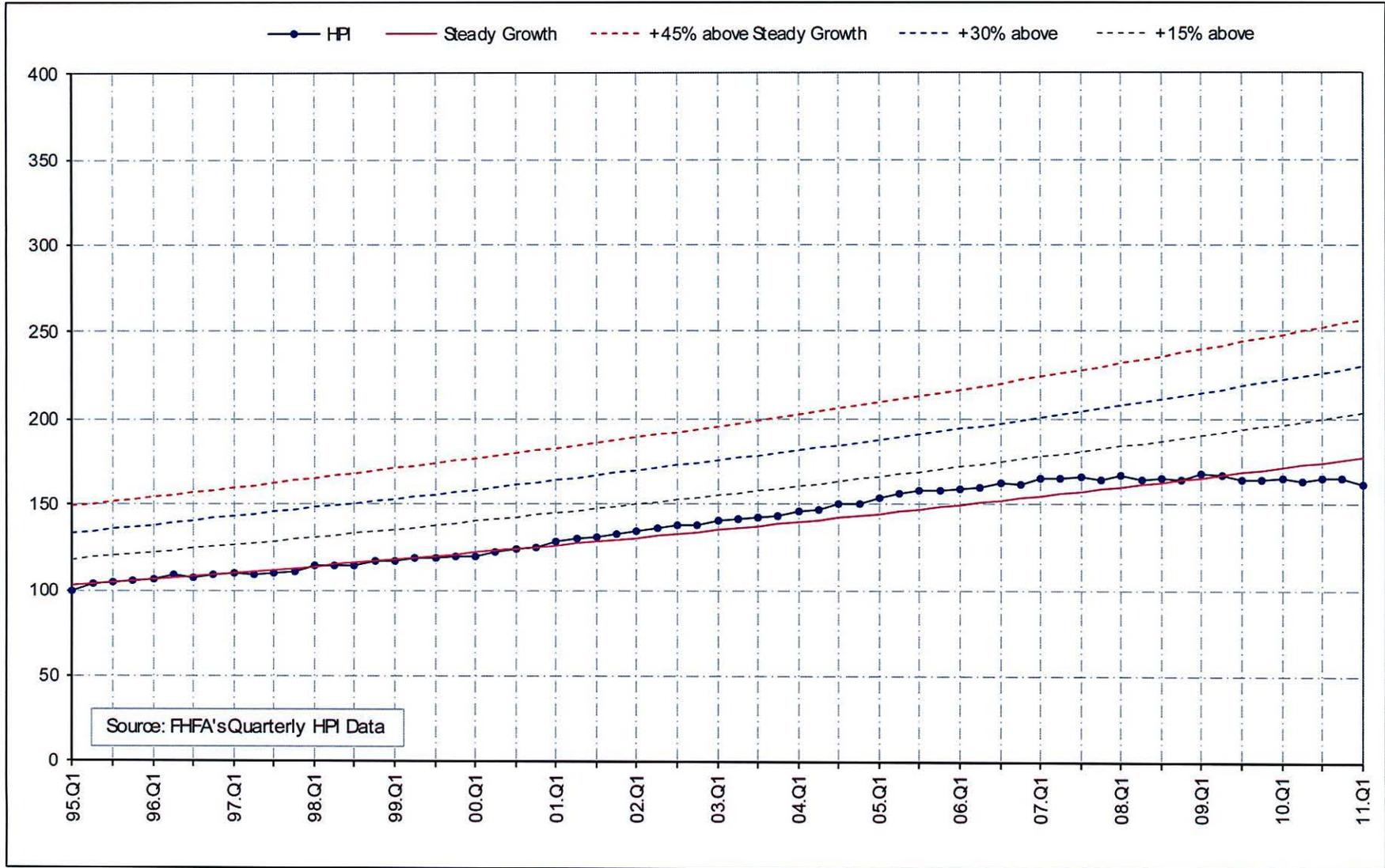


# Exhibit C-3

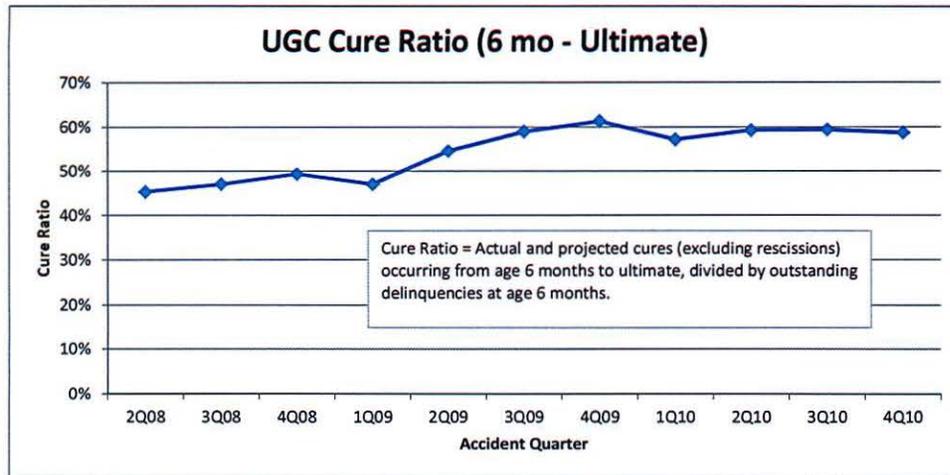
Topeka, KS

GQX = A

Effective Aug. 15, 2011

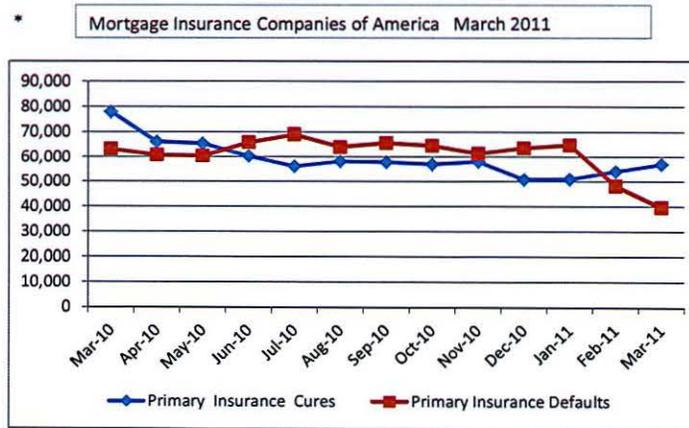


**Exhibit D-1: Loan Delinquency Cure and Cure Ratio Statistics**



UGC works with servicers to assist in home retention wherever possible. Trends continue to show improvement in workout activities as well as reduced delinquencies as shown in the MICA data below.

Mortgage Insurance Companies of America Private Mortgage Insurance Activity March 2011			
Period	Primary Insurance Cures	Primary Insurance Defaults	Ratio
Mar-10	77,909	63,126	123.4%
Apr-10	66,170	60,656	109.1%
May-10	65,436	60,346	108.4%
Jun-10	60,337	65,792	91.7%
Jul-10	56,086	68,862	81.4%
Aug-10	58,094	63,882	90.9%
Sep-10	57,720	65,481	88.1%
Oct-10	56,887	64,450	88.3%
Nov-10	58,015	61,262	94.7%
Dec-10	50,707	63,519	79.8%
Jan-11	50,820	64,687	78.6%
Feb-11	53,944	48,086	112.2%
Mar-11	56,934	39,557	143.9%



\*Note: UGC data was not part of MICA cure reporting in February and March 2011

## UNITED GUARANTY CORPORATION

## Exhibit 2

November 16, 2012

Mr. Robert E. Feldman, Executive Secretary, Federal Deposit Insurance Corporation  
Attention: Comments/Legal ESS  
550 17th Street, N.W.  
Washington, D.C. 20429  
RIN: 3064-AD96

VIA FEDERAL E-RULEMAKING PORTAL

<http://www.regulations.gov>

**Re: Regulatory Capital Rules: Standardized Approach for Risk-Weighted Assets;  
Market Discipline and Disclosure Requirements; Initial Regulatory Flexibility  
Analysis**

Dear Sir:

United Guaranty Corporation (“United Guaranty”) is pleased to comment on the notice of proposed rulemaking entitled Regulatory Capital Rules: Standardized Approach for Risk-weighted Assets; Market Discipline and Disclosure Requirements; Initial Regulatory Flexibility Analysis (“Proposed Rule” or “NPR”), issued by the Federal Deposit Insurance Corporation (the “Agency”).

**Introduction**

Since 1963, United Guaranty has provided insurance products and services to mortgage lenders of all sizes. Subsidiaries of United Guaranty provide private mortgage insurance (“MI”) to protect lenders against mortgage credit losses. At the end of the third quarter of this year, United Guaranty had over \$ 148 billion of first-lien insurance in force in the United States. In addition to MI, United Guaranty offers a wide range of risk management and financial services to help lenders protect their investments. United Guaranty is a subsidiary of American International Group, Inc. (“AIG”).

United Guaranty fully supports the goal of revising and harmonizing the rules for calculating risk-weighted assets to enhance risk sensitivity and to address the weaknesses identified over

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recent years, and of proposing alternatives to credit ratings for calculating risk weighted assets.<sup>1</sup> However, United Guaranty firmly believes that the Agency should allow banking organizations to recognize MI for the purposes of calculating the loan to value (“LTV”) ratio, when the mortgage insurer is financially sound and the underlying risk is properly evaluated. Small and community banks routinely originate loans to be held in portfolio and these institutions rely on mortgage insurance as an easy and effective way to mitigate their risk of loss. Small lenders are accustomed to and can easily place mortgage insurance on the loans that they originate on a loan by loan basis, and this process is much easier to execute as compared to other structured credit enhancement options that larger institutions may employ.

In addition to easy execution, MI provided by a financially strong mortgage insurer provides superior protection against the risk of loss as compared to merely holding additional capital. First, mortgage insurers have a strong incentive to effectively manage risk and to identify high-quality mortgages because their capital is in the first-loss position (generally the first 25% of the loan balance at default). In addition to being independent risk managers, mortgage insurers also validate the accuracy of the information in the underwriting file by providing a “second look” at the loan file data. And finally, mortgage insurers actively mitigate the losses associated with loans in default by assisting borrowers with loss mitigation alternatives such as modifications or foreclosure alternatives.

Smaller lenders and community banks already face a proportionately higher burden when allocating capital for legal and regulatory compliance. Increasing the capital requirements on all banks for high LTV loans will exacerbate the competitive advantage larger lenders have in the efficient use of capital and competitive pressures may ultimately price the smaller lenders out of the mortgage market despite their intrinsic advantage of local market knowledge and significance.

United Guaranty’s comments are presented in two sections.<sup>2</sup> Section I focuses on the criteria for evaluating the financial strength of a mortgage insurer. Section II focuses on the regulatory impact of the Category 1 and Qualified Mortgage Rules on the MI business model.

**I. Criteria for Evaluating the Financial Strength of a Mortgage Insurer****1. The Agency should evaluate a mortgage insurer’s capital base utilizing a risk-based methodology under a severe stress scenario.**

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<sup>1</sup> Regulatory Capital Rules: Standardized Approach for Risk-weighted Assets; Market Discipline and Disclosure Requirements at 1.

<sup>2</sup> See also AIG’s comment on the Regulatory Capital Rules: Standardized Approach for Risk-weighted Assets; Market Discipline and Disclosure Requirements, dated October 22, 2012.

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Historically, state insurance regulators measured the adequacy of capital for a mortgage insurer by its risk-to-capital ratio (“RTC”), with a maximum allowable RTC of 25-to-1. While the RTC measure was adequate in many economically stressful environments (such as those in the 1980s and early 1990s),<sup>3</sup> the severe stress during the recent housing market downturn demonstrated the weakness of relying solely on this measure of capitalization, as several mortgage insurers have exceeded this maximum – some of which have been placed into run-off, others of which have received temporary waivers from state regulators in order to continue writing new business to boost their capital levels.<sup>4</sup> United Guaranty believes that the RTC measure is too simplistic, in part because the ratio fails to account for variances in the underlying risk of the insured loan portfolio. The recent historic housing downturn was exacerbated by the increased underlying risk associated with faulty loan products that relaxed documentation requirements and did not require evaluation of a borrower’s ability to repay the loan, as well as fraud and misrepresentation. By failing to consider these factors, the RTC measure resulted in similar capital requirements for mortgage insurers underwriting full documentation loans compared to mortgage insurers underwriting lower documentation loans. The RTC measure did not adequately measure the risks assumed by the industry from changing underwriting standards.

Rather than relying solely on the RTC insurance regulatory measure, mortgage insurers should be evaluated utilizing the stress test methodologies already recognized by federal agencies in conjunction with an evaluation of the underlying insurance risk. Specifically, a mortgage insurer should generate (i) a comprehensive, forward-looking capital plan that accounts for the credit quality of its insured loan portfolio and the adequacy of its reserves, and calculates its minimum capital requirement under defined economic scenarios, and (ii) a risk management self-assessment based on consistent criteria.

Once the federal banking agencies agrees to the prudential standards on “how” to measure the financial strength of a mortgage insurer (described in more detail below), the question remains as to “who” should do the evaluation.

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<sup>3</sup> The U.S. housing market in the 1980s and early 1990s experienced a rolling series of predominantly regional recessions, beginning with the farm and Rust Belt states in the early 1980s, followed by the energy-producing states in the mid-1980s, and finally New England and California in the early 1990s (see generally David C. Wheelock, “What Happens to Banks When Housing Prices Fall? U.S. Regional Housing Busts of the 1980s and 1990s,” Federal Reserve Bank of St. Louis Review 88, no. 5 (September/October 2006), 413-429). Some of the most severe conditions of this period occurred in the “oil patch” states of Arkansas, Louisiana, Mississippi, and Oklahoma, where 30-year, fixed-rate, first-lien mortgages on owner-occupied single family properties originated in 1983 and 1984 had a 10-year cumulative default rate of 14.9% (see “The Role of Private Mortgage Insurance in the U.S. Housing Finance System”, Promontory Financial Group, LLC, January 2011, page 36).

<sup>4</sup> See 2Q 2012 Statutory Filings (Quarterly Statement as of June 30, 2012) for Genworth Mortgage Insurance Corporation and for Mortgage Guaranty Insurance Corporation.

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One option, which is more accommodating for smaller institutions, would be for supervisors to determine the extent that banks could reduce capital requirements for mortgages insured by approved mortgage insurers. There are two paths that this could take:

1. Mortgage insurers could submit their capital plans and risk management self-assessments to the newly established Model Validation Council (“Council”) established by the Board of Governors of the Federal Reserve System<sup>5</sup> on a periodic basis. The Council would determine the extent that a bank could reduce capital requirements due to mortgage insurance for each mortgage insurance provider based on the Council’s independent evaluation.
2. A supervisory assessment could be conducted as an adjunct to the existing Shared National Credit (“SNC”) program. Under the SNC program, bank examiners currently assess the creditworthiness of obligors that create exposure for multiple banking organizations. A supervisory assessment of mortgage insurers that provide credit support that is relied upon by multiple institutions would be a logical extension of this program.

Another option is for mortgage insurers to provide banks with their capital plans and risk management self-assessments, or other information that would facilitate their review of the counterparty exposure associated with the mortgage insurer. Banks could rely on the capital plans and risk assessments that conform to the prudential standards, but could also conduct appropriate due diligence, based on the size of the institution and their regulatory examination requirements, as is customary with respect to counterparty evaluations of other vendors.

Unlike the homogenous evaluation and capital requirements under RTC, the capital plan should include a risk-based evaluation of the insured loan portfolio to determine whether the mortgage insurer is holding sufficient capital based on the underlying risk factors, including, but not limited to:

- LTV ratio;
- Credit score;
- Debt-to-income ratio (“DTI”);
- Property type (*e.g.*, single family, condo, manufactured home);
- Loan type: fixed versus ARM;
- Loan term;
- Origination channel (*e.g.*, retail, correspondent, broker);
- Quality of lender manufacturing process;
- Self-employed indicator; and

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<sup>5</sup> See description of Model Validation Council at <http://www.federalreserve.gov/aboutthefed/mvc.htm>.

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- Prior bankruptcy indicator.

The risk of default varies widely depending on the presence or absence of these predictive variables. Mortgage insurers should be required to maintain more capital against loans that contain higher risk traits. Compare the following two examples:

**Loan A:** 90% LTV, 780 credit score, 30% DTI, purchase mortgage for a single family residence, 30-year fixed mortgage originated in the retail channel by a lender with an average quality manufacturing process, no prior bankruptcies and not self-employed. The claim rate<sup>6</sup> in an extreme stressed economic environment (like the loans originated in the 2006-2008 period) is 2.05%.

**Loan B:** 95% LTV, 680 credit score, 45% DTI, refinanced mortgage for a single family residence, 30-year fixed mortgage originated in the broker channel by a broker with an average quality manufacturing process, borrower filed for a prior bankruptcy and is self-employed. The claim rate in an extreme stressed economic environment is 28.19%.

It is clear that Loan A presents a lower risk of default than Loan B, which has excessive risk layering that produces a much higher expected claim rate. Under the risk-based approach set forth in this letter, the mortgage insurer should hold more capital against Loan B than against Loan A, based on the loan level evaluation of the risk of default.

Consideration should likewise be given to the adequacy of reserves. A mortgage insurer must have appropriate reserves, which are comprised of: reserves to cover short-term expected claims (loss reserves or case basis reserves); unearned premium reserves; and contingency reserves which amount to 50% of net earned premiums that must be maintained for ten years to cover losses during times of severe housing market stress. The adequacy of a mortgage insurer's reserves is a key indication of its claims-paying ability; therefore, United Guaranty recommends that mortgage insurers be required to obtain an opinion from an independent actuarial firm substantiating the adequacy of the mortgage insurer's reserves as a part of its capital plan.

Finally, the capital plan should evaluate whether the mortgage insurer's balance sheet is diversified and the relative liquidity of the assets. Since a mortgage insurer is required to be monoline, thereby concentrating its risk exposure, diversification allows the mortgage insurer to better withstand market corrections. For example, reinsurance from strong counterparties, parental support agreements from a strong parent holding company and catastrophe bonds provide mechanisms for a mortgage insurer to diversify its balance sheet and adequately manage

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<sup>6</sup> Claim rate refers to the expected probability of a claim being filed on an insured loan and is highly correlated with the risk of default of a loan.

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its risk concentration. Additionally, investments in affiliates, which are highly illiquid and unlikely to be converted into cash at their book value, should be discounted.

In conclusion, requiring mortgage insurers to submit capital plans, including a risk-based evaluation of the insured loan portfolio, will enable the banking agencies to evaluate whether a mortgage insurer would be able to meet regulatory capital ratios above the minimum levels and pay claims in full over the course of the stress scenario horizon.

2. The mortgage insurer must have robust risk management systems in place to ensure proper pricing and risk evaluation at a loan level.

Having a strong balance sheet, even under stress scenarios, may not be enough to ensure the claims paying ability of a mortgage insurer. The balance sheet is a lagging indicator of financial strength, and mortgage insurance contracts are long-term guarantees. A mortgage insurer must have robust risk management systems and pricing to ensure perpetual financial strength. While some judgment is necessary to evaluate a mortgage insurer's risk management, United Guaranty believes that subjectivity can be minimized by establishing consistent criteria to define effective risk management. The Agency should require a mortgage insurer to submit a risk management self-assessment as a part of its capital plan, verifying that the mortgage insurer (i) has established and adheres to formal risk tolerances and that such tolerances encompass all key risks, particularly concentrations that are not inherently unfavorable, such as geography; (ii) performs an independent underwriting assessment, and screens for fraud on a loan-by-loan basis; and (iii) appropriately prices the insurance based on underlying risk factors. A risk-based pricing approach that properly prices the risk profile of the loan as well as catastrophic risk will provide a mortgage insurer with sufficient reserves to address another severe stress scenario.

The ability to manage credit risk effectively represents a critical factor to the sustainability of the mortgage insurer's balance sheet, but also a source of considerable value for banks and the housing finance system more generally. Importantly, mortgage insurers are in a first-loss position, and this "skin in the game" effectively aligns mortgage insurers with the rest of the mortgage value chain, including borrowers, originators, investors, and servicers. Thus, MI is not only hard private capital at risk to ensure incentive alignment from borrowers to investors, but the mortgage insurer is the only party in the mortgage origination chain that takes a second look at the loans to ensure compliance with prudent underwriting standards, and to prevent fraudulent loans from ever entering the system. A mortgage insurer can provide a robust second underwrite (prior to loan closing) utilizing risk-based management approaches and third-party fraud screening reviews. Managing credit risk is the primary business of a mortgage insurer and validating the loan information and risk profile prior to loan closing is a key risk management

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approach. With proper front-end verification, the mortgage insurer can prevent some credit losses from ever being incurred.

Based on United Guaranty's observations during the recent housing downturn, we believe that the current delegated underwriting model, which is based on the representations and warranties of the mortgage system participants relating to the accuracy of the data, is flawed.<sup>7</sup> This representations and warranties model allows bad credit to enter the system and results in unnecessary litigation and uncertainty as the mortgage system participants argue and litigate to determine which party bears fault. The Federal Housing Finance Agency ("FHFA") recently announced the Representation and Warranty Framework<sup>8</sup> that attempts to solve for this uncertainty by relieving lenders of certain repurchase obligations for loans with 36 months of consecutive, on-time payments. In United Guaranty's view, this proposed framework fails to solve for the underlying issue relating to the accuracy of the information at origination, which is critical to properly evaluating the risk profile of the loan. In contrast, mortgage insurers are uniquely positioned to validate the information at the time of origination. Further, providing an additional review on the front-end of the loan origination process not only validates the accuracy of the information, but should greatly reduce repurchase risk, rescissions and denials. A recent FHFA report supported this conclusion, noting that "mortgage insurers now control risk from new loans through tightened underwriting standards and restrictions on insuring properties in higher risk markets."<sup>9</sup> Only mortgage insurers provide this second look.

While it may not be necessary to review every document in every loan file, a prudent MI underwriting process cannot be accomplished through the exclusive use of automated underwriting systems. A complete and accurate loan file, and the ability to review and evaluate the loan information, are critical components of a prudent risk review process. And mortgage insurers have the proper incentives and specialized risk expertise to review loans submitted for MI critically to ensure compliance with underwriting criteria. The risk that a loan will default is driven by several categories of risk, including risk characteristics of the borrower, the property and the loan, the quality of the loan origination manufacturing process and macroeconomic risks such as declines in housing prices. The dynamic interaction of these risk variables in a changing environment is essential to preventing an increase in the risk of default.

To demonstrate the value of the second underwrite and risk management expertise provided by mortgage insurers, United Guaranty commissioned a study by Milliman, Inc. to evaluate the

<sup>7</sup> The FHFA has also identified the flaws in this model. See FHFA Letter to Congress (July 31, 2012), page 6, available at [http://www.fhfa.gov/webfiles/24112/PF\\_LettertoCong73112.pdf](http://www.fhfa.gov/webfiles/24112/PF_LettertoCong73112.pdf).

<sup>8</sup> See FHFA's New Release "FHFA, Fannie Mae and Freddie Mac Launch New Representation and Warranty Framework (September 11, 2012) at [http://www.fhfa.gov/webfiles/24366/Reps\\_and\\_Warrants\\_Release\\_and\\_FAQs\\_091112.pdf](http://www.fhfa.gov/webfiles/24366/Reps_and_Warrants_Release_and_FAQs_091112.pdf)

<sup>9</sup> See FHFA 2010 Report to Congress (June 13, 2011) page 20, available at: <http://www.fhfa.gov/webfiles/21570/FHFA2010RepToCongress61311.pdf>.

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average industry default rates by origination years for high-LTV loans with MI compared to high-LTV loans without MI. The results of this study statistically validate that the second underwrite and the risk management expertise provided by mortgage insurers lower the default rate of mortgages, all else being equal.<sup>10</sup> For example, the average default rate for high-LTV purchase loans without MI originated in 2009 is 8.6%; the average default rate for high-LTV purchase loans with MI originated in 2009 is only 0.9%.<sup>11</sup> Stated another way, a high-LTV loan that did not receive the benefit of the second underwrite and the mortgage insurer's risk management expertise is more than nine times more likely to default than a high-LTV loan with MI (see Exhibit A for additional data demonstrating the empirically lower default loss curves for loans originated in 2009 through 2011 that shows that the mortgage insurance industry is prudently underwriting loans and managing risk at a higher level compared to the industry as a whole). Effective risk management and the second underwrite provided by mortgage insurers reduces the frequency of default for mortgage loans and promotes the resilience of banking organizations and the banking system generally.

3. The MI company must have effective loss mitigation programs that assist delinquent borrowers.

Mortgage insurers have substantial expertise in developing and implementing effective loss mitigation programs that help keep borrowers in their homes. United Guaranty is a key supporter of the U.S. government's Home Affordable Refinance Program ("HARP") and Home Affordable Modification Program ("HAMP"). United Guaranty has helped over 37,000 people refinance with HARP (totaling more than \$7.3 billion in loans – including \$1.7 billion in 2011 and \$3.5 billion in the first nine months of 2012). In addition to HARP refinances, United Guaranty has helped more than 21,000 additional families modify their mortgages and stay in their homes during the first nine months of 2012 alone. A mortgage insurer's loss mitigation expertise directly reduces a bank's exposure to losses stemming from defaulted mortgage loans. A mortgage insurer's loss mitigation expertise is particularly important to smaller institutions that may not have the same level of resources to devote to loss mitigation activities as do large institutions.

4. A financially sound mortgage insurer that effectively manages risk and loss mitigation provides superior double default protection as compared to simply holding additional capital for credit risk mitigation.

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<sup>10</sup>See pgs. 21-24 of "Basel III Risk-Weighted Assets Comment Letter: Mortgage Insurance Analysis as of March 2012" dated October 11, 2012 by Milliman, Inc., which updates a previous study by Milliman, Inc. on the benefit of the second underwrite titled "Mortgage Insurance Loan Performance Analysis as of March 31, 2011" dated July 28, 2011.

<sup>11</sup> Id. at Appendix Exhibit 3, Page 1.

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Despite the stresses of the recent historic housing crisis, mortgage insurers have cumulatively paid more than \$39 billion in claims from 2007 through the first half of 2012.<sup>12</sup> It is important to note that this represented the most stressful economic period the U.S. has experienced since the Great Depression, with the housing sector hit particularly hard. So despite the general departure from prudent risk management that occurred prior to the financial crisis, the MI business model required companies to hold significant contingency reserves and the mortgage insurers still paid the majority of claims owed. Even the weakest mortgage insurers continue to pay claims (though at a reduced level with a potential future deferred payment obligation)<sup>13</sup> which directly reduces the loss severity to the banking organization. The MI industry continues to recapitalize and has proven to be stronger than any self-insurance model. This historic benefit alone should be sufficient justification to allow banks some level of credit for MI. For a financially sound mortgage insurer that effectively manages risk and mitigates potential losses, banks should clearly be able to take full credit for MI in calculating LTV.

**II. Impact of Category 1 and Qualified Mortgage Rules on the MI Business Model****1. The Proposed Category 1 Definition and the QM Rules Minimize the Underlying Risk of Loans**

The Basel III rules propose to apply relatively low risk weights for residential mortgage exposures that do not have product features associated with higher credit risk (defined as Category 1 loans), and higher risk weights for nontraditional loans that present greater risk.<sup>14</sup> The proposed Category 1 definition and the proposed Qualified Mortgage (“QM”) rules to be finalized by the Consumer Financial Protection Bureau (“CFPB”), are quite similar and as a threshold matter, United Guaranty encourages the agencies to base risk weights on whether a loan fits the definition of a QM, rather than creating an additional regulatory distinction. The QM rules, like the proposed Category 1 definition, exclude higher risk loan products such as loans with terms that exceed 30 years, interest-only features, balloon payments and annual rates of interest that increase more than 2% in a 12-month period or more than 6% over the life of the loan. Furthermore, under QM, the lender must apply underwriting standards that take into account documented and verified income to determine the borrower’s ability to repay the loan. The QM rules, like the Category 1 definition, will lower the credit risk of originated mortgages and safeguard against material deterioration in underwriting standards and risk tolerances,

<sup>12</sup> United Guaranty estimated the cumulative paid claims from 2007-2011 based on the gross paid losses reported in competitors’ statutory financial statements and for the first half of 2012 based on direct paid losses, as reported for their primary U.S. mortgage guaranty insurance company.

<sup>13</sup> See 2Q 2012 Statutory Filings (Quarterly Statement as of June 30, 2012) for Republic Mortgage Insurance Company and for PMI Mortgage Insurance Company.

<sup>14</sup> Regulatory Capital Rules: Standardized Approach for Risk-weighted Assets; Market Discipline and Disclosure Requirements, page 29.

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thereby supporting relatively low risk weights for lower risk loans (QM loans), and higher risk weights for higher risk loans. Importantly, relying on either the QM rules or the Category 1 definition will reduce the origination of higher risk loans that have a higher rate of default, further supporting a financially sound mortgage insurer's ability to pay all losses incurred.

## 2. The MI Business Model Could Have Withstood Losses if the Loans Originated were Limited to QM Loans

In light of the proposed regulatory overlays governing the underwriting of residential mortgage loans under Category 1 of the Proposed Rules and the QM rules, United Guaranty commissioned a study with Milliman, Inc. to:

1. Estimate the default risk profiles of QM loans<sup>15</sup> compared to loans not limited by the QM definition; and
2. Estimate the required RTC ratio to cover paid losses and other required obligations at various levels of confidence for a mortgage insurer insuring only QM loans.

First, Milliman, Inc. utilized industry data and actuarial models to estimate the default risk profiles and required capital levels for a mortgage insurance company insuring only QM loans. Strikingly, the estimated historical mean ultimate default rate for QM loans is 7.4%, which is less than half the estimated historical mean ultimate default rate of 16.7% for loans not filtered for QM requirements. In addition, the estimated default rate under extreme economic conditions (99<sup>th</sup> percentile) for QM loans is 18.4%, which is significantly less than the corresponding estimated 99<sup>th</sup> percentile default rate of 44.8% for loans not filtered for QM requirements.<sup>16</sup> These results illustrate that mortgage insurance risk under QM is inherently less risky compared to all loans evaluated in the study.

Next, based on the default risk profile associated with QM loans and Milliman, Inc.'s proprietary mortgage insurance capital model, Milliman, Inc. ran simulated trials to project whether a mortgage insurer would be required to make additional capital contributions to cover such losses. Assuming the mortgage insurer has \$500 million<sup>17</sup> in initial capital, and the mortgage insurer receives the benefit of diversification across 15 books of business, even under severe stress scenarios, a mortgage insurer that insured only QM loans at today's premium rates would not

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<sup>15</sup> See "Basel III Risk-Weighted Assets Comment Letter: Mortgage Insurance Analysis as of March 2012," Milliman, Inc., p. 4. For the purposes of this study, Milliman, Inc. defined Qualified Mortgages as having the following characteristics: maximum 97% LTV, credit score greater than or equal to 620; fully documented; fully amortizing; original term of 360 or less; period rate reset cap of 2% or less; and lifetime rate reset cap of 6% or less.

<sup>16</sup> Id. at 5.

<sup>17</sup> Fannie Mae and Freddie Mac have historically required this level of initial capitalization prior to approving a mortgage insurer as "eligible" under its Eligibility Guidelines.

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require capital contributions of any amount in 97% of the simulated trials. Milliman, Inc. simulated 10,000 trials for the analysis. A mortgage insurer with a RTC ratio of 30-to-1 would not require additional capital contributions in 99.0% of the trials. A mortgage insurer with a RTC ratio of 25 to 1 (the regulatory minimum) would not require additional capital contributions in 99.5% of the trials.

<b>TABLE 3</b> <b>RISK-TO-CAPITAL RATIO COMPARISON</b> <b>NO REQUIRED CAPITAL OVER CONTINGENCY RESERVE, 20% EXPENSE RATIO,</b> <b>3% INVESTMENT INCOME, 35% TAX RATE</b> <b>MUTIPLE-BOOK ANALYSIS ON \$10 BILLION OF ORIGINAL NIW OF QUALIFIED MORTGAGES</b> <b>PER YEAR</b> <b>(\$ THOUSANDS)</b>						
Confidence Level	Average Coverage Percentage: 25% Original Risk: \$37.5 Billion Initial Amount of Capital: \$500 Million					
	Premium Rate 0.75%			Premium Rate 0.70%		
	Additional Contributed Capital*	Risk to Contributed Capital Ratio	Risk to Capital Ratio**	Additional Contributed Capital*	Risk to Contributed Capital Ratio	Risk to Capital Ratio**
80%	0	NA	NA	0	NA	NA
90%	0	NA	NA	0	NA	NA
95%	0	NA	NA	0	NA	NA
97.5%	0	NA	NA	211,877	177.0	52.7
99.0%	555,779	67.5	35.5	777,770	48.2	29.3
99.5%	1,029,656	36.4	24.5	1,272,977	29.5	21.2
99.9%	1,931,488	19.4	15.4	2,165,954	17.3	14.1
<b>Percent of Trials with Zero Capital Contributions</b>		<b>98.0%</b>	<b>98.0%</b>		<b>97.0%</b>	<b>98.0%</b>

\* Contributed capital in excess of the \$500 million of initial capital

\*\* Calculated as Original Risk divided by contributed capital plus \$500 million

As illustrated in the above chart,<sup>18</sup> United Guaranty believes the current framework for regulating and measuring a mortgage insurer’s capital strength would likely have worked as intended if the credit quality of insured mortgages had not changed dramatically. This study

<sup>18</sup> “Mortgage Insurance Analysis as of March 2012” at 7.

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should not only bolster the Agency's confidence that a financially sound mortgage insurer will be well-positioned to pay the losses it owes, but it also illustrates the necessity of evaluating the underlying risk characteristics of the insured loan portfolio. A mortgage market where the majority of loans originated will meet the definition of a QM will undoubtedly safeguard against material deterioration in underwriting standards and risk tolerances. Assuming the mortgage insurer is financially strong and adequately manages its risk, the data and qualitative information provided herein makes clear that banks should be allowed to fully recognize MI for the purposes of calculating the LTV.

**Conclusion**

In this letter, United Guaranty has provided data illustrating the value of mortgage insurance when insurance is provided by a mortgage insurer that is financially sound and the underlying risk is properly managed and evaluated. Mortgage insurers provide more value than merely holding additional capital; mortgage insurers are independent risk managers and partners in loss mitigation. And given the easy execution, mortgage insurance is clearly the credit enhancement solution that is best suited for both small and large lenders.

United Guaranty appreciates the opportunity to comment on the NPR and would welcome further dialogue with the Agency regarding the appropriate framework to measure the strength of mortgage insurers.

Sincerely,

United Guaranty Corporation

Cc: Andreas Lehnert - Deputy Director, Office of Financial Stability Policy and Research, FRB  
Wayne Passmore - Associate Director, Division of Research and Statistics, FRB  
Charles Taylor - Deputy Comptroller for Capital and Regulatory Policy, OCC  
Marty Pfinsgraff, Deputy Comptroller for Credit and Market Risk, OCC

**EXHIBIT A**

**MILLIMAN, INC. MORTGAGE INSURANCE ANALYSIS  
AS OF MARCH 2012**



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**BASEL III RISK-WEIGHTED ASSETS COMMENT LETTER:  
MORTGAGE INSURANCE ANALYSIS AS OF MARCH 2012**

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**BASEL III RISK-WEIGHTED ASSETS COMMENT LETTER:  
MORTGAGE INSURANCE ANALYSIS AS OF MARCH 2012**

**TABLE OF CONTENTS**

<i>Section</i>	<i>Page</i>
INTRODUCTION AND BACKGROUND .....	1
SCOPE OF ANALYSIS .....	2
EXECUTIVE SUMMARY .....	4
APPROACH TO ANALYSIS.....	8
QUALIFICATIONS, LIMITATIONS AND DISCLOSURES.....	18
LIMITED DISTRIBUTION OF RESULTS .....	20
APPENDIX: COMPARISON OF PMI TO NON-PMI LOANS .....	21

# UNITED GUARANTY CORPORATION

## BASEL III RISK-WEIGHTED ASSETS COMMENT LETTER: MORTGAGE INSURANCE ANALYSIS AS OF MARCH 2012

### INTRODUCTION AND SUMMARY OF RESULTS

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The Office of the Comptroller of the Currency, Treasury, the Board of Governors of the Federal Reserve System, the Federal Deposit Insurance Corporation (“Agencies”) published a notice for public rulemaking, Regulatory Capital Rules: Standardized Approach for Risk-weighted Assets; Market Discipline and Disclosure Requirements (“Standardized NPR”), that seeks comment on proposed changes to the Agencies’ general risk-based capital requirements for determining risk-weighted assets for banking institutions. This report will concentrate on the proposal for excluding the consideration of private mortgage insurance in calculating the loan-to-value ratio at origination (“LTV”) in determining risk-weights for residential mortgage assets.

Risk-weights are used by bank regulators and others in the industry to evaluate the capital adequacy ratio for a bank as proposed by Basel II. The capital adequacy ratio is calculated as the ratio of a bank’s core capital divided by risk-weighted assets. A lower risk-weight indicates a lower level of risk and results in lower levels of required capital.

The current methodology under the Basel II framework for residential mortgages assigns a risk-weight between 20 and 150 percent of a mortgage dependent upon the following factors: the presence of government guarantees; the LTV ratio of the mortgage; the lien of the mortgage; and the current status of the mortgage (i.e. current or past due). Under the current methodology, a bank could consider loan-level private mortgage insurance in determining the LTV of the mortgage. For example, if a loan had an LTV ratio of 90% with private mortgage insurance coverage, the LTV ratio of the mortgage for determining risk-weights could be reduced to less than 90% because of the coverage provided by the mortgage insurer. Mortgage insurers provide first-loss coverage up to a pre-determined limit that reduces the realized loss to the investor of the mortgage if the mortgage defaults.

The Standardized NPR proposes risk-weights between 50 and 200 percent of a mortgage dependent upon expanded criteria from the current framework that includes additional underwriting adjustments and requirements at origination of the loan. The Standardized NPR specifically excludes the recognition of primary mortgage insurance when calculating the LTV ratio of a residential mortgage exposure. According to the Standardized NPR, “The agencies believe that, due to the varying degree of financial strength of mortgage providers, it would not be prudent to recognize [private mortgage insurance] for purposes of the general risk-based capital rules<sup>1</sup>.”

This report analyzes the credit risk assumed by mortgage insurers under a hypothetical prospective mortgage market as defined by “qualified mortgages” created by the Truth in Lending Act pursuant to section 1412 of the Dodd-Frank Wall Street Reform and Consumer Protection Act. Using recent premium rates and other assumptions, Milliman simulates the required risk-to-capital ratio for a mortgage insurer insuring only “qualified mortgages” to estimate the amount of capital contributions required to support the assumed risk. Milliman’s analysis indicates that the credit risk assumed by mortgage insurers will be significantly reduced in a “qualified mortgage” market compared to the historical risk assumed by mortgage insurers. Furthermore, under the assumptions in the model, mortgage insurers would require capital contributions in approximately 1% of the simulated trials under a 75 basis point premium rate scenario and 3% of the simulated trials under a 70 basis point premium rate.

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<sup>1</sup> Note: mortgage insurers are regulated by the Department of Insurance for each state and are not subject to capital requirements as proposed by Basel II.

## **BACKGROUND AND SCOPE OF ANALYSIS**

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Private mortgage insurance (“PMI”) protects mortgage lenders and investors from potential credit losses stemming from borrower defaults. This credit protection reduces realized credit losses on defaulted mortgages to banks that portfolio the loans and facilitates the sale and transfer of mortgages in the secondary market. The second underwrite provided by the mortgage insurers enhances the quality of the mortgages insured by private mortgage insurers and results in a lower default frequency on insured loans compared to similar loans not insured by private mortgage insurers<sup>2</sup>.

Mortgage guaranty insurers manage mortgage default risk by diverting accumulated premium revenues and capital built up during relatively strong mortgage markets to cover claim losses in relatively weak mortgage markets. Default risk diversification is obtained geographically, temporally, and across levels of borrower credit risk. At the geographic level, insurers achieve diversification by writing business nationally, thereby enabling them to withstand severe regional economic downturns. On the temporal level, insurers are subject to stringent minimum surplus and reserve requirements - including contingency reserve requirements - imposed by state insurance regulators. Mortgage insurers are generally required to hold a risk-to-capital ratio of at least 25 to 1 (for every \$25 dollars of risk in force, the mortgage insurer must hold at least \$1 of capital) to cover unexpected losses. Contingency reserve requirements generally cause insurers to retain premiums earned during periods of economic expansion in order to cover claim losses incurred during periods of protracted economic recession. Geographic and temporal diversification provide a natural hedge against systematic risk inherent in mortgage guaranty insurance; that is, a mortgage guaranty insurance company with prudent pricing and capitalization can reasonably anticipate that sufficient diversification both geographically and temporally will be adequate in protecting the company against mild to severe economic downturns.

During the expansion years of the real estate and mortgage market from 2000 through 2007, the mortgage industry developed and originated alternative mortgage products such as no documentation loans, negative amortization loans, “teaser rate” loans, and others that fueled an expansion in mortgage credit. These products facilitated growth in the housing market and house prices. In 2006 and 2007, mortgages started to default and housing prices began a steep decline that contributed to large losses in the mortgage industry. As a result of these losses, some mortgage insurers became insolvent, breached the 25 to 1 capital requirement, or experienced a significant drain on capital. The mortgage insurance industry responded to these losses by increasing their underwriting and risk management processes. Examples of these enhancements include increased documentation requirements, implementation of higher FICO score and lower LTV limits, refined risk-based premiums, and other actions to mitigate their risk.

The United States government and its regulators have also responded to the recent mortgage crisis by issuing a series of proposals to govern the mortgage market and help prevent a similar crisis from recurring in the housing market. Proposed governing rules for mortgage lending, such as “qualified mortgages” created by the Truth in Lending Act pursuant to section 1412 of the Dodd-Frank Wall Street Reform and Consumer Protection Act, will influence or prohibit the types and features of mortgages that will be originated. Mortgages that meet these proposed requirements have historically been associated with lower levels of default risk compared to mortgages that do not meet the proposed requirements.

The proposed requirements that will govern future mortgage lending along with risk management actions taken by the mortgage insurance industry may decrease the amount of credit risk assumed by the mortgage insurance industry. Using historical data of mortgage performance, this report will analyze the primary drivers of risk for a mortgage insurer after the implementation of these proposed requirements for mortgage lending.

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<sup>2</sup> The appendix to this report provides a comparison of the cumulative default rate for loans insured by mortgage insurers compared to similar loans not insured by mortgage insurers for recent origination years

At the time this report was written, the definition of a “qualified mortgage” as defined by the Truth in Lending Act or other mortgage reform proposals have not been finalized; however, the Agencies have issued NPR’s summarizing the current considerations for a “qualified mortgage” and other reforms. Milliman reviewed these NPR’s and current underwriting guidelines within the mortgage insurance industry to develop a definition of “Qualified Mortgages” for this report.

Milliman has been retained by United Guaranty Corporation (“UGC”) to independently compare the credit risk profile of Qualified Mortgages to the credit risk profile of an unfiltered dataset of mortgages (“All Loans”). In addition to this comparison, Milliman was retained to simulate a probability distribution of the amount of capital required above cumulative earned premium to cover future obligations for a mortgage insurer that insures only Qualified Mortgages. Milliman defined contributed capital as the amount of capital contributed in excess of premium to meet future obligations with consideration for the timing of cash flows.

Milliman ran the simulation model under a single-book assumption and a multiple-book assumption. A single-book model projects the performance of a portfolio of mortgages originated in a single calendar (i.e. a single book of business) year over a period of 15 projection years. The single book simulation was designed to estimate the amount of capital needed to cover losses without consideration of other sources and uses of funds such as investment income, expenses or taxes.

The single-book analysis does not take into consideration the operating aspects of a mortgage insurance company such as the starting capital position of the company, investment income, expenses, taxes, or diversification. A mortgage insurance company obtains a diversification benefit through writing business across many book years. Therefore, Milliman also created a multiple-book simulation model that takes these aspects into consideration. The multiple-book model projects the performance of 15 consecutive books of business over a period of 15 projection years. The multiple-book model tracks the simulated sources and uses of funds for a mortgage insurance company that insures only Qualified Mortgages.

The results contained in this report are developed from publicly available data sources and do not specifically represent the risk or performance of loans insured by UGC.

## **EXECUTIVE SUMMARY**

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Milliman relied on data from CoreLogic's LoanPerformance Servicing Database to develop this analysis. The data includes loan-level performance data and underwriting characteristics for loans originated between 1998 and 2012 with performance through March 31, 2012. Milliman used this data to project ultimate default rate distributions and cash flow timing assumptions for All Loans and Qualified Mortgages. Milliman appended mortgage insurer premium rates and average coverage levels to each loan based on the underwriting characteristics of the loans. The aggregate data was filtered for loans with the following characteristics:

### ***All Loans***

- Loans with a complete performance history;
- Loans with an original combined loan-to-value ratio at origination greater than 80%;
- Loans not insured by the Federal Housing Administration;
- Loans with a valid value for FICO score and combined loan-to-value ratio at origination;
- First lien loans;
- Non-construction loans; and
- Loans with a valid origination date.

Milliman defined Qualified Mortgages as a subset of All Loans that have the following characteristics:

### ***Qualified Mortgage***

- Loans with a combined loan-to-value ratio at origination less than or equal to 97%;
- Loans with a FICO score greater than or equal to 620;
- Full documentation loans;
- Fully amortizing loans (i.e. no interest only loans or negative amortization loans);
- Original term of 360 months or less;
- Periodic rate reset cap of 2% or less; and
- Lifetime rate reset cap of 6% or less.

Milliman estimated the ultimate default rate for All Loans and Qualified Mortgages by origination quarter for origination quarters from 1998 Q1 through 2011 Q4. Milliman fit a gamma distribution to the ultimate default rates for each set of loan cohorts to estimate a probability distribution of the potential ultimate default rate outcomes. The table below provides a summary of the empirical data and gamma fits by cohort:

<b>TABLE 1 ULTIMATE DEFAULT RATE DISTRIBUTION BY COHORT</b>				
<b>Confidence Level</b>	<b>All Loans</b>		<b>Qualified Mortgages</b>	
	<b>Empirical Data (%)</b>	<b>Gamma Fit (%)</b>	<b>Empirical Data (%)</b>	<b>Gamma Fit (%)</b>
10%	5.0	3.5	3.1	1.9
20%	5.9	5.9	3.6	2.9
30%	7.7	8.2	3.8	3.9
40%	11.2	10.7	4.4	5.0
50%	14.4	13.4	5.1	6.1
60%	15.5	16.5	6.3	7.3
70%	17.3	20.4	8.3	8.9
80%	28.6	25.6	12.5	11.0
90%	40.2	34.2	16.5	14.3
95%	41.0	42.5	18.0	17.5
99%	44.8	61.2	18.4	24.6
<b>Mean Ultimate Default Rate</b>	<b>16.7</b>	<b>16.7</b>	<b>7.4</b>	<b>7.3</b>
<b>Standard Deviation</b>	<b>12.2</b>	<b>13.2</b>	<b>5.0</b>	<b>5.3</b>
2007 Ultimate Default Rate	38.2	NA	18.1	
2007 Percentile	88.7	92.8	96.2	95.6

The mean ultimate default rate for Qualified Mortgages is less than half of the mean ultimate default rate for All Loans in the database. The mean ultimate default rate for All Loans is 16.7% compared to 7.3% for Qualified Mortgages. The ultimate default rate under severe economic conditions as measured by the 99<sup>th</sup> percentile ultimate default rate for Qualified Mortgages is significantly less than the comparable ultimate default rate for All Loans. Using the gamma fit to estimate the tail risk, the 99<sup>th</sup> percentile ultimate default rate for All Loans and Qualified Mortgages is 61.2% and 24.6%, respectively. This means the 1 out of 100 tail event based on the gamma distribution fit to historical data would have resulted in over 60 out of 100 loans defaulting; however, under the new proposed Qualified Mortgage requirements, the 1 out of 100 tail event would have resulted in 25 out of 100 mortgages defaulting.

#### *Single-Book Simulation*

Using a cash flow simulation model developed specifically for mortgage insurance companies, Milliman estimated the capital contributions required to support the simulated losses associated with a single-book of \$10 billion of original loan volume (\$2.5 billion of original risk under 25% mortgage insurance coverage) of only Qualified Mortgages. The single book simulation was designed to estimate the amount of capital needed to cover losses alone, without consideration of other sources and uses of funds such as investment income, expenses or taxes. Milliman ran the single-book model assuming average premium rates of 75 basis points and 70 basis points. Milliman estimated historical premium rates for each loan analyzed in this study using industry rate cards; the average premium rate for Qualified Mortgages originated in 2011 ranged between 70 and 75 basis points.

Milliman analyzed the risk-to-capital ratio from the simulations. The risk-to-capital ratio is equal to the original risk of a given book divided by the simulated contributed capital. Original risk is equal to the amount of new insurance written times the coverage percent of the insured cohort. This ratio conveys approximately how much capital is required to meet future obligations at a given level of confidence. For example, if the risk to capital ratio is 25 to 1 at the 95% confidence level, then in order to have met cash requirements in 95% of the simulated trials, the insurer needs to add capital equal to 4% (1 / 25) of the original risk.

The results of the simulations are summarized in the following table:

<b>TABLE 2</b> <b>RISK TO CAPITAL RATIO COMPARISON</b> <b>NO REQUIRED CAPITAL OVER CONTINGENCY RESERVE, NO EXPENSES,</b> <b>NO INVESTMENT INCOME, NO TAXES</b> <b>SINGLE-BOOK ANALYSIS ON \$10 BILLION OF ORIGINAL NIW OF QUALIFIED MORTGAGES</b> <b>(\$ THOUSANDS)</b>				
Confidence Level	Average Coverage Percent: 25% Original Risk: \$2.5 Billion Initial Amount of Capital: \$0			
	Premium Rate 0.75%		Premium Rate 0.70%	
	Contributed Capital	Risk to Capital Ratio	Contributed Capital	Risk to Capital Ratio
80%	0	NA	0	NA
90%	0	NA	5,067	493.4
95%	47,263	52.9	71,236	35.1
97.5%	114,669	21.8	138,738	18.0
99.0%	200,877	12.4	223,519	11.2
99.5%	267,074	9.4	292,444	8.5
99.9%	435,668	5.7	464,215	5.4
<b>Percent of Trials with Zero Capital Contribution</b>		<b>92.0%</b>		<b>89.0%</b>

The last row of the table shows the percent of trials that resulted in a zero capital contribution; in other words, the percent of trials where the cumulative earned premium was adequate to cover cumulative paid losses at any given time. In the single-book analysis, nearly 90% of the trials resulted in zero contributed capital under both sets of premium rates. Therefore, under current premium rates for Qualified Mortgages, 9 out of 10 books of business would not require capital contributions from the mortgage insurer. If capital contributions are required, the simulation analysis indicates a risk-to-capital ratio of 35 to 1 would cover unexpected losses at a 95% confidence level using the lower premium rate of 70 basis points.

*Multiple-Book Simulation*

Milliman estimated the capital contributions required to support the potential losses associated with 15 books of Qualified Mortgages for a newly capitalized mortgage insurer after a 15 year period. Each book was assumed to have \$10 billion of original loan volume (\$2.5 billion of original risk under 25% mortgage insurance coverage). This assumption is based on a recent review of industry market share and volume trends. The multiple-book model is designed to simulate the number of times a mortgage insurer would require capital contributions if only Qualified Mortgages were insured and how much capital would be contributed in each case. The multi-book simulation includes various assumptions outlined in the body of this report that were selected to represent the starting financial position and ongoing expenses for a newly capitalized mortgage insurer. Milliman assumed an initial capital level of \$500 million based on capital requirements for newly organized mortgage insurance companies. Capital is not contributed in the model until the \$500 million on initial capital is depleted.

Milliman assumed an 85% correlation between successive book years for ultimate default rates and prepayment speeds. The results of the simulations are summarized in the following table:

<b>TABLE 3</b> <b>RISK TO CAPITAL RATIO COMPARISON</b> <b>NO REQUIRED CAPITAL OVER CONTINGENCY RESERVE, 20% EXPENSE RATIO,</b> <b>3% INVESTMENT INCOME, 35% TAX RATE</b> <b>MUTIPLE-BOOK ANALYSIS ON \$10 BILLION OF ORIGINAL NIW OF QUALIFIED MORTGAGES</b> <b>PER YEAR</b> <b>(\$ THOUSANDS)</b>						
Confidence Level	Average Coverage Percent: 25% Original Risk: \$37.5 Billion Initial Amount of Capital: \$500 Million					
	Premium Rate 0.75%			Premium Rate 0.70%		
	Contributed Capital*	Risk to Contributed Capital Ratio	Risk to Capital Ratio**	Contributed Capital*	Risk to Contributed Capital Ratio	Risk to Capital Ratio**
80%	0	NA	NA	0	NA	NA
90%	0	NA	NA	0	NA	NA
95%	0	NA	NA	0	NA	NA
97.5%	0	NA	NA	211,877	177.0	52.7
99.0%	555,779	67.5	35.5	777,770	48.2	29.3
99.5%	1,029,656	36.4	24.5	1,272,977	29.5	21.2
99.9%	1,931,488	19.4	15.4	2,165,954	17.3	14.1
<b>Percent of Trials with Zero Capital Contributions</b>		<b>98.0%</b>	<b>98.0%</b>		<b>97.0%</b>	<b>98.0%</b>

\* Contributed capital in excess of the \$500 million of initial capital

\*\* Calculated as Original Risk divided by contributed capital plus \$500 million

In the multiple-book analysis, at least 97% of the trials resulted in zero contributed capital under both sets of premium rates. Fewer trials resulted in capital contributions under the multiple book analysis because the mortgage insurance company starts out with \$500 million in initial capital, and the mortgage insurer receives temporal diversification across 15 books of business. If capital contributions are required, the simulation analysis indicates a risk-to-capital ratio of 52.7 to 1 would be adequate to cover unexpected losses at a 97.5% confidence level and a risk-to-capital ratio of approximately 30 to 1 would be adequate to cover unexpected losses at a 99.0% confidence level using the lower premium rate of 70 basis points. The risk-to-capital ratio mentioned in the text includes the \$500 million in initial capital. The 95% confidence level did not require capital contributions.

## APPROACH TO ANALYSIS

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### *Source of Data*

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 2012 (the last month of observation for this study is March 2012). 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 gave 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.

The resulting dataset contained 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 purpose of this study is to compare the credit risk profile of Qualified Mortgages to All Loans and to estimate the amount of capital required for mortgage insurers that insure only Qualified Mortgages. Milliman defined the All Loans population and Qualified Mortgage population as follows:

### *All Loans*

- Loans with an original combined loan-to-value ratio at origination greater than 80%;
- Loans not insured by the Federal Housing Administration;
- Loans with a valid value for FICO score and combined loan-to-value ratio at origination;
- First lien loans;
- Non-construction loans; and
- Loans with a valid origination date.

Milliman defined Qualified Mortgages as a subset of All Loans that have the following characteristics:

*Qualified Mortgage*

- Loans with a combined loan-to-value ratio at origination less than or equal to 97%;
- Loans with a FICO score greater than or equal to 620;
- Full documentation loans;
- Fully amortizing loans (i.e. no interest only loans or negative amortization loans);
- Original term of 360 months or less;
- Periodic rate reset cap of 2% or less; and
- Lifetime rate reset cap of 6% or less.

The table below provides the loan and default counts as of March 31, 2012 for each cohort used in this study. The CoreLogic Data does not provide a claim indicator within the dataset, so Milliman developed a definition of default. Default was defined as any terminated loan that reached a 90-day delinquency status or worse and subsequently did not cure from the delinquency. If a loan did cure, Milliman determined whether the loan missed any payment after the cure; if the loan missed payments after the cure the loan was categorized as a default<sup>3</sup>.

<b>TABLE 4 LOAN COUNT SUMMARY BY COHORT</b>			
<b>Cohort</b>	<b>Number of Loans</b>	<b>Number of Defaults</b>	<b>Default Rate as of March 2012</b>
All Loans	7,042,718	566,480	8.04%
Qualified Mortgages	2,699,258	87,209	3.23%

The data includes 7.0 million loans for the All Loans population and 2.7 million loans for the Qualified Mortgage population. Across all years, Qualified Mortgages represent 38% of the loan population by count. The default rate-to-date on the All Loans population across all years is 8.04%, and the default rate-to-date on the Qualified Mortgage population across all years is 3.23%. The default rate-to-date on Qualified Mortgages is 40% of the default rate-today for All Loans ( $0.40 = 3.23 / 8.04$ ).

Exhibit 1 provides summaries of the loan count and amount by origination quarter for All Loans and Qualified Mortgages. Exhibit 1 also provides the percent of loans that are Qualified Mortgages for each origination quarter. In origination quarters 2006 Q1 and 2006 Q2 the percent of loans that are Qualified Mortgages fell to a low of 17% by loan amount; after 2008 the percent of loans that were Qualified Mortgages averaged approximately 50% by loan amount.

Milliman appended home price appreciation data to the loan-level database using the Federal Housing Finance Agency (FHFA) home price indices at the core-based statistical area (CBSA) with actual home price indices as of December 31, 2011. Milliman relied on Moody's Economy.com home price index forecasts for home price index values after December 31, 2011.

***Ultimate Default Rate Projections***

The CoreLogic Data contains performance information through March 31, 2012; therefore, Milliman projected ultimate default rates by origination quarter for the All Loans cohort and Qualified Mortgage cohort using actuarial methods. The section below provides a description of the methodologies used to estimate the ultimate default rates.

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<sup>3</sup> This definition of default may result in a higher default rate compared to a mortgage insurance claim indicator, particularly in years with positive home price appreciation.

### *A Priori (Econometric) Default Rates*

Milliman developed a priori default rates<sup>4</sup> for each loan in the All Loans dataset as of March 31, 2012. These default rates were derived through an examination of the characteristics of each individual loan in the loan-level data. Milliman's a priori default rate model is a composite default rate calculation that combines three significant attributes of mortgage credit risk to estimate the frequency of borrower defaults. The three attributes are:

1. Credit worthiness of the borrower;
2. Underwriting characteristics of the loan; and
3. Macroeconomic influences.

Milliman developed baseline a priori default rates to estimate the default rate of a mortgage loan based upon the credit worthiness of the borrower. The credit worthiness of borrowers is estimated using a combination of two borrower attributes: FICO score and loan-to-value ratio (LTV). Below is a summary of Milliman's view regarding these two borrower characteristics.

- § *FICO Score*: Borrowers with low FICO scores are deemed to present a larger credit risk; therefore, borrowers with low FICO scores are assigned a higher default rate; and
- § *LTV*: Mortgages supported by lower collateral investment by the borrower could indicate a lower level of assets and/or relative earnings power compared to borrowers with high collateral investment; in addition, borrowers with a high LTV loans are subject to greater risk of a future negative equity position resulting from declines in home price appreciation or the costs associated with the disposition of a delinquent property. Therefore, higher LTV loans are assigned a higher default rate.

Milliman adjusts its baseline a priori default rates to account for the presence of various underwriting characteristics of the loan. Milliman selected risk factor adjustments to the baseline a priori default rates based on a review of historical performance of loans with particular risk factors relative to the performance of loans without the risk factor. The underwriting adjustments are applied using a logistic model.

The equation for the probability of a given response outcome in a logistic model is:

$$P_i = e^{\sum \beta_i X_i} / (1 + e^{\sum \beta_i X_i}), \text{ where the } X_i \text{ are the independent covariates with } \beta_i \text{ as their associated coefficients.}$$

For purposes of generating the adjustments to the a priori default rates, the underwriting loan characteristics considered were: amortization, interest-only option or negative amortization features, loan purpose, property type, occupancy type, documentation type, loan size, and loan term. Below is a summary of Milliman's view regarding these loan characteristics based on Milliman's review of historical mortgage loan performance:

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<sup>4</sup> Prior to any experience consideration. A default rate for a given cohort of loans is defined as the sum of original loan balance on defaults for that particular cohort divided by the sum of total original loan balance.

- § *Amortization:* Hybrid mortgages and ARMs are subject to interest rate risk and to potential payment fluctuations with the market. Borrowers with a fixed-rate mortgage are locked into an interest rate for the life of the loan and qualify for their mortgage at known debt-to-income ratios. Hybrid and ARM borrowers may face higher mortgage debt obligations at the rate reset period if the mortgage payment increases without a corresponding proportional increase in borrower income, thereby resulting in an increased probability of default. Accordingly, Milliman has assigned a larger risk factor for ARMs;
- § *Interest Only/Option ARM/Neg-Am:* Borrowers with loans that have payment options such as only paying interest (as opposed to paying principal and interest) present a larger credit risk; thus, Milliman assigned a larger risk factor to these types of loans;
- § *Loan Purpose:* Cash-out refinance loans can be indicative of financial stress on the borrower; loans of this type are assigned a larger risk factor than purchase or term-refinance loans. Industry data also indicates rate/term refinance loans are associated with higher default rates compared to purchase loans; therefore, Milliman assigns a higher risk factor to rate/term refinance loans compared to purchase loans;
- § *Property Type:* Loans for 2-4 family homes and manufactured housing have exhibited a greater propensity for default based on industry data and are assigned larger risk factors;
- § *Occupancy Type:* There is an increased likelihood of default with investor-owned loans because, under adverse economic conditions, an individual's loyalty to his/her investment property is significantly lower than their loyalty to their primary residence. The same relationship holds true for second homes, although not to such a severe degree. Therefore, Milliman has assigned larger risk factors to these types of loans;
- § *Documentation Type:* Loans made with reduced documentation are more likely to default than those with full documentation provided at closing. Additionally, loans with no documentation (i.e., no income or asset verification) have a significantly greater chance of defaulting when compared to a full documentation loan. Milliman has assigned a larger risk factor to loans in these categories compared to full documentation loans;
- § *Loan Size:* Larger loans have exhibited a greater propensity for default based on industry data. This propensity is thought to be due to the more volatile nature of home prices as they get larger and further away from the mainstream market. Therefore, loans above the conforming loan limit are assigned a larger risk factor; and
- § *Loan term:* Loans with a term less than 30 years are associated with lower historical default rates compared to loans with a term of 30 years; therefore, Milliman assigned a smaller risk factor to these loans. Loans with a term greater than 30 years could be an indication of an affordability product for borrowers; these loans are associated with higher historical default rates compared to loans with a term of 30 years. Milliman assigns a greater risk factor to loans with a term greater than 30 years.

In addition to the underwriting qualities of a mortgage loan, certain economic variables can have a significant impact on mortgage credit risk. Consequently, Milliman has developed an economic-driven default adjustment model, which incorporates specific Home Price Index (HPI) scenarios. The model is calibrated to adjust default rates for a given loan based on location of the collateralizing property and historical and future HPI assumption inputs. For purposes of incorporating HPI, the location of the property is identified at the Core Based Statistical Area (herein referred to as "CBSA", but also commonly referenced as "metropolitan statistical area or "MSA") level. In the event that the loan level data does not indicate that the property is in a CBSA, the property state is used.

To calculate future HPI, Milliman used a settlement pattern that varies by age over twenty future quarters, as generated from industry data. A future weighted-average estimate of home price appreciation/depreciation is then calculated by applying a Milliman selected settlement pattern, based on an analysis of loss emergence in quarters and the corresponding future forecasted HPI for each defined scenario. Milliman then calculated the change in home price from loan origination to this weighted-average home price. The motivation behind using a distribution of resolution dates (as opposed to using a single fixed quarter in the future) was to reflect a probability associated with reaching resolution at different points in time in the future.

After calculating each of the three components described above, Milliman calculated a combined a priori default rate for each loan in the All Loans dataset. These a priori default rates serve as an input for the Bornhuetter-Ferguson projection methods discussed below.

#### *Ultimate Default Rate Selection*

After analyzing the loan-level characteristics and selecting a priori default rates, Milliman relied on judgment and a variety of standard actuarial methodologies to select ultimate default rates by book quarter. Three standard actuarial methodologies were considered in calculating ultimate default rate indications.

The first methodology to be illustrated is the loss development factor (“LDF”) method. As a group of loans age, their collective cumulative defaults change. Their collective cumulative default rate similarly changes. This change in value over time is referred to as loss (or default) development. The LDF method is a traditional actuarial approach that relies on historical changes in losses (or defaults) from one evaluation point to another to project the current default rate to an ultimate default rate. Development patterns that have been exhibited by more mature (older) years, along with historical experience, are used to estimate the projected development of the less mature (more recent) years. This method is used with actual cumulative default rates through the first quarter of 2012. Milliman used the historical cohort performance data to develop the unique loss development patterns for All Loans and Qualified Mortgages separately; the loss development pattern for each cohort of loans is similar. As an example of the methodology, the selected loss development factors for the All Loans cohort are shown on Exhibit 2, Page 1. The ultimate default rate derivation for this cohort using the LDF method is shown on Exhibit 2, Pages 2-3. For origination quarter 2007 Q4, the ultimate default rate (49.03%) is equal to the cumulative default rate-to-date (14.25%) multiplied by the cumulative LDF factor (3.441).

In addition to the paid LDF method, Milliman also used the unadjusted and adjusted Bornhuetter-Ferguson (“B-F”) method to project ultimate default rates. These methods are commonly used to provide a more stable estimate of ultimate default rates in situations where loss development is volatile, substantial and/or immature. The B-F method calculates an indicated future default rate. The indicated future default rate is calculated directly as the product of the selected a priori ultimate default rate (estimated based on loan characteristics of the loans and the economic risk adjustments discussed above) and a future default percent factor. The future default percent factor is derived from the LDF selection described in the LDF method. The estimated future default rate is added to the cumulative default rate to date to derive an estimated ultimate default rate. Exhibit 2, Pages 4-5 detail the unadjusted B-F ultimate default rate methodology for the All Loans cohort. Using the 2007 Q4 origination quarter as an example, the indicated unadjusted B-F ultimate default rate (34.82%) is equal to the cumulative default rate-to-date (14.25%) plus the indicated unadjusted future default rate (20.57%), where the indicated unadjusted future default rate (20.57%) is calculated as the product of the a priori ultimate default rate (29.00%) and the future default percent, as determined by one minus the inverse of the cumulative LDF factor ( $1 - 1/3.441$ ).

The adjusted B-F method is identical to the unadjusted B-F method with the exception of an adjustment to the a priori ultimate default rate. The a priori ultimate default rate used in the adjusted B-F method is derived from the selected a priori ultimate default rate, adjusted by an actual-to-expected persistency factor. This persistency adjustment is incorporated to allow for a projection of losses that reflects the variability associated with loan termination rates. The actual persistency is equal to the current loan amount for loans in force for a given origination quarter divided by the original loan amount for loans originated in an origination book quarter. The average historical persistency, also known as the a priori cumulative persistency, is estimated by Milliman using prepayment patterns developed from the Public Securities Association (PSA). The PSA level was selected by examining historical runoff triangles and selecting a long-term average persistency rate for each cohort. The PSA selection for the All Loans cohort is shown on Exhibit 2, Page 6. After applying the adjustment factor to the a priori ultimate default rate, the unadjusted and adjusted B-F methods are identical. The adjusted B-F methodology is demonstrated on Exhibit 2, Pages 7-8 for the All Loans cohort. For origination quarter 2007 Q4, the indicated adjusted B-F ultimate default rate (31.88%) is equal to the cumulative default rate-to-date (14.25%) plus the indicated adjusted future default rate (17.63%), where the indicated adjusted future default rate is calculated as the product of the adjusted a priori ultimate default rate (24.85%) and the future default percent, as determined by one minus the inverse of the cumulative LDF factor (1-1/3.441). The adjusted a priori ultimate default rate (24.85%) is calculated as the unadjusted a priori ultimate default rate (29.00%) times the actual percent in force (48.59%) divided by the expected percent in-force (56.69%).

After considering each of the ultimate default rate indications for each cohort, Milliman made ultimate default rate selections by origination quarter for All Loans; the selected ultimate default rates are summarized on Exhibit 2 Pages 9-10.

Exhibit 3 provides documentation for the development of the selected ultimate default rates for the Qualified Mortgage cohort.

### ***Default Probability Distribution Comparison***

Milliman fit probability distributions to the estimated ultimate default rates. Milliman selected a gamma distribution for both All Loans and Qualified Mortgages. Exhibit 4 Page 1 provides summaries of the distribution for each cohort. The exhibit compares the empirical ultimate default rate distribution against the fitted ultimate default rate distribution for each cohort. The exhibit also shows the calculated percentile of the 2007 ultimate default rate for each cohort. For the time period reviewed, mortgages originated in 2007 typically represent the origination year with the highest level of ultimate default rates.

For All Loans the average ultimate default rate for loans originated in 2007 was 38.2%; this represents the 92.8% percentile under the gamma fit. For Qualified Mortgages the average ultimate default rate for loans originated in 2007 was 18.1%; this represents the 95.6% percentile under the gamma fit. The mean of the All Loans distribution and Qualified Mortgage distributions are 16.7% and 7.3%, respectively. The mean ultimate default rate for Qualified Mortgages is less than half the mean ultimate default rate for All Loans. Exhibit 4 Pages 2 through 5 show the charts of the incremental and cumulative distribution fit for each cohort.

### ***Premium Rate Comparison***

Milliman estimated a mortgage insurance premium rate for each loan in the data. The mortgage insurance premium rates were estimated using publicly available premium rate cards from the mortgage insurance industry from 2007 through 2011. Loans originated prior to 2007 were assigned a premium rate from the 2007 rate cards. Milliman determined the appropriate premium rate for each loan by matching the loan's origination year to the mortgage insurance industry premium rates in effect for that year. For example, if a loan was originated in 2008, the loan would be assigned a premium rate from rate cards published in 2008. If a loan was originated in 2011, the loan would be assigned a premium rate from rate cards published in 2011. The mortgage insurance industry updated premium rates frequently

during this time period to reflect the current risks insured by the mortgage insurance industry. Exhibit 5 Page 1 provides a time series trend of the weighted average premium rate from 1998 through 2011. The exhibit segments the premium rate into the premium rate for Qualified Mortgages (red line), Non-Qualified Mortgages (blue line), and All Loans (black line). Historically, mortgage insurers charged a lower premium rate for Qualified Mortgages compared to Non-Qualified Mortgages. Recent origination quarters show the largest differentiation between premium rates for these two cohorts of loans. For all loans, premium rates have generally increased over the 2007 to 2011 time period.

Exhibit 5 Page 2 provides a chart of the average mortgage insurance coverage percent for Qualified Mortgages (red line), Non-Qualified Mortgages (blue line), and All Loans (black line). Qualified Mortgages originated in 2011 had an average coverage percent of approximately 25%.

### ***Simulation Methodology***

Milliman developed a Monte Carlo simulation model to estimate the capital required to support the potential losses associated with Qualified Mortgages. The cash flow model uses the assumptions discussed below to estimate the financial position of a mortgage insurance company across development years under different ultimate default rate and prepayment speed scenarios. The model takes into consideration specific characteristics of a mortgage insurance company such as contingency reserve requirements, payment timing patterns, and others. The model simulates 10,000 trials of the annual financial position of a mortgage insurance company for operating years 1 through 30.

Milliman assumed an average coverage percent of 25%, and Milliman ran the simulation model assuming annual premium rates of 70 and 75 basis points. As shown on Exhibit 5 Page 1, the average premium rate for Qualified Mortgages originated in 2011 ranged between 70 and 75 basis points. Milliman assumed a payout of simulated losses using the loss development factors derived in the *Ultimate Default Rate Projections* section of this report. Ultimate default rates were simulated in the model using the gamma distribution for Qualified Mortgages discussed in the *Default Probability Distribution Comparison* section of this report.

In the model, premiums are received until coverage is terminated, and premiums are assumed to be earned through the life of the policies. Written premiums by book year decrease for each successive calendar year until all loans are terminated or defaulted for a given book. The simulation model uses PSAs to quantify the tendency of a group of loans to remain in a book of business and persist to pay premium from year to year. Milliman gave consideration to current industry prepayment trends in the data when selecting PSA speeds. Milliman made a PSA selection of 375% PSA based on historical mortgage insurance prepayment speeds and the inherent correlation of prepayment speeds with the selected mean default rate. A 375% PSA expresses a monthly series of annual conditional prepayments rates, beginning at 0.70% per year in the first month and increasing by 0.70% per year in each successive month until month 30, when the series levels out at 20.89% per year until maturity. For the simulation, future prepayment speeds follow a log-normal distribution with means equal to the mean selected PSA for each cohort and a coefficient of variation equal to 40%. Note these PSAs were used solely for projecting future premium levels. Prepayment speeds were assumed to be 70% negatively correlated with the simulated ultimate default rate. Therefore, high simulated default rates typically correspond to low prepayment speeds and vice versa.

Milliman defined contributed capital as the amount of capital contributed in excess of cumulative premium to meet future obligations with consideration for the timing of cash flows. Milliman did not 'reimburse' the mortgage insurer for contributed capital with future profits if future premium exceeded future paid obligations.

Milliman extracted the simulated ultimate default rate, the loss ratio, amount of contributed capital, and calculated the risk-to-capital ratio for each trial. The risk-to-capital ratio is equal to the original risk of a given book divided by the simulated contributed capital. Original risk is equal to the amount of new insurance written times the coverage percent of the insured cohort. This ratio conveys approximately

how much capital is required to meet future obligations at a given level of confidence. For example, if the risk to capital ratio is 25 to 1 at the 95% confidence level, then in order to have met cash requirements in 95% of the simulated trials, the insurer needs to add capital equal to 4% (1 / 25) of the original risk.

#### *Single-book Simulation*

Milliman estimated the capital contributions required to support the potential losses associated with a single-book of Qualified Mortgages on \$10 billion of original loan volume (\$2.5 billion of original risk under 25% mortgage insurance coverage). Capital contributions were calculated in each development year and aggregated for development years 1 through 15 to determine the cumulative amount of contributed capital for each trial. Milliman assumed each book of business was completely run-off after a 15 year period. Milliman defined contributed capital as the amount of capital contributed in excess of cumulative premium to meet future obligations with consideration for the timing of cash flows. Future obligations included paid losses and contingency reserve accumulation. The single book analysis was designed to measure how frequently capital was required in addition to premium to support paid losses for an individual book of business without consideration of the operating aspects of a mortgage insurance company. Consequently, Milliman did not allow for dividends in the model and assumed investment income perfectly offset operating expenses and taxes.

#### *Multiple-Book Simulation*

The single-book analysis does not take into consideration the operating aspects of a mortgage insurance company such as the starting capital position of the company, investment income, expenses, taxes, or diversification. A mortgage insurance company obtains a diversification benefit through writing business across many book years. These aspects are important because mortgage insurers accumulate capital from low ultimate default rate books that may be used to offset capital drain during high ultimate default rate books. Furthermore, investment income, expense, and tax assumptions capture cash flows that impact the capital base. Milliman created a multiple-book simulation model that takes these aspects into consideration.

Milliman estimated the capital contributions required to support the potential losses associated with 15 books of Qualified Mortgages for a newly capitalized mortgage insurer 15 years after the first book of business. Milliman assumed each book of business was completely run-off after a 15 year period. Each book was assumed to have \$10 billion of original loan volume (\$2.5 billion of original risk under 25% mortgage insurance coverage). This assumption is based on a recent review of industry market share and volume trends. The multiple-book model is designed to simulate the number of times a mortgage insurer would require capital contributions if only Qualified Mortgages were insured and how much capital would be contributed in each case. The multi-book simulation did not allow for dividends and includes the following assumptions:

- \$500 million in starting capital;
- 20% Expense Ratio (% of written premium);
- 35% Tax Rate; and
- 3% Investment Yield on Assets.

Milliman assumed an 85% correlation between successive book years for ultimate default rates and prepayment speeds.

These assumptions were selected to represent the starting financial position and expenses for a newly capitalized mortgage insurer and do not represent assumptions for UGC.

Milliman developed the investment yield assumption based on professional judgment and experience. A 3% investment yield may or may not be appropriate for any given mortgage insurer, and Milliman is not able to assess the reasonability of an interest rate of 3% for a mortgage insurer's investment portfolio

without performing a substantial amount of additional work beyond the scope of this report. As such, Milliman expresses no opinion on the appropriateness of the selected interest rate.

Capital contributions were calculated in each development year and aggregated for all development years to determine the cumulative amount of contributed capital for each trial. Milliman defined contributed capital as the amount of capital contributed in excess of cumulative premium and investment income to meet future obligations with consideration for the timing of cash flows. Capital is not contributed in the model until the \$500 million on initial capital is depleted. Future obligations included paid losses, contingency reserve accumulation, taxes, and expenses. Milliman did not allow for dividends in the model.

### ***Simulation Results***

Exhibit 6 provides a summary of the simulation results. Exhibit 6 Page 1 provides the results for the single-book simulation, and Exhibit 6 Page 2 provides the results for the multiple-book simulation.

#### ***Single-book Simulation Results***

Exhibit 6 Page 1 lists the simulated risk-to-capital ratio at different percentiles. An  $\alpha$ -percentile is the value at which  $\alpha\%$  of the trials resulted in risk-to-capital ratios equal to or greater than the  $\alpha$ -percentile simulated risk-to-capital ratio<sup>5</sup>. For example, the 95th percentile risk-to-capital ratio under the 70 basis point premium rate is 35.1; therefore, 95% of the trials (or 9,500 out of the 10,000 trials) resulted in risk-to-capital ratios at or above 35.1. In other words, for 9,500 trials a mortgage insurance company with an initial risk-to-capital ratio of 35.1 would **not** need capital contributions to cover paid losses.

In the exhibit, the set of columns on the far left shows the simulated ultimate default rates under 75 basis point and 70 basis point premium rates. The ultimate default rate is not influenced by the premium rate, so these two columns are identical. This column provides information on the number of defaults expected at each level of confidence. Milliman assumed a 100% loss severity in the model. The set of columns to the right of the ultimate default rate distributions shows the simulated loss ratio. The loss ratio, equal to paid losses divided by earned premium, provides for a test of premium adequacy. A ratio above 1 indicates ultimate losses were greater than earned premium, and a ratio less than 1 indicates ultimate losses were less than earned premium. The third set of columns shows the dollar amount of contributed capital at each level of confidence. The risk-to-capital ratio is shown in the far right set of columns. The risk-to-capital ratio is equal to the contributed capital divided by the original risk.

The box underneath the simulated percentile tables shows the percent of trials that resulted in a zero capital contribution; in other words, the percent of trials where the premium rate was adequate to cover paid losses. In the single-book analysis, nearly 90% of the trials resulted in zero contributed capital. Therefore, under current premium rates for Qualified Mortgages, 9 out of 10 books of business would not require capital contributions from the mortgage insurer.

#### ***Multiple-book Simulation Results***

Exhibit 6 Page 2 summarizes the results of the multiple-book simulation. The multiple-book exhibit adds additional columns for the risk-to-capital ratio. The first column for the risk-to-capital ratio, labeled "Risk to Contributed Capital Ratio", calculates the risk-to-capital ratio as ratio of original risk divided by the amount of required capital in excess of the \$500 million of initial capital for the mortgage insurer. The second column for the risk-to-capital ratio, labeled "Risk to Capital Ratio", calculates the risk-to-capital ratio as the ratio of original risk divided by sum of the contributed capital plus the \$500 million in initial capital.

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<sup>5</sup> The difference between the ultimate default rate percentiles for Qualified Mortgages on Table 1 and the simulated ultimate default rate percentiles on Exhibit 6 Page 1 is the percentiles on Table 1 are from the converged gamma fit while the percentiles from Exhibit 6 Page 1 are developed from 10,000 random simulations.

In the multiple-book simulation, approximately 97% of the trials resulted in zero capital contributions in excess of the \$500 million of initial capital under both the 75 and 70 basis point premium rate assumptions. The reason for the greater number of trials that resulted in zero capital contributions is twofold: first, the mortgage insurer begins the simulation with \$500 million in initial capital and second, the temporal diversification benefit.

The ultimate default rate percentiles in this Exhibit show the average simulated default rate for each of the 15 books of business; the value of the ultimate default rate percentiles are lower than the ultimate default percentiles for the single-book simulation. For example, the 99<sup>th</sup> percentile ultimate default rate for the multiple-book simulation is 19.1%; this compares to a 99<sup>th</sup> percentile ultimate default rate for the single-book simulation of 24.7%. The difference represents the temporal diversification benefit for mortgage insurers. Some books of business for a mortgage insurer will experience severe default rates; however, it is unlikely that all 15 books of business for a mortgage insurance company will result in severe default rates. Therefore, the average ultimate default rate is lower in the tail of the multiple-book simulation compared to the single-book simulation.

The 97.5th percentile risk-to-capital ratio under the 70 basis point premium rate is 52.7 including the \$500 million in initial capital; therefore, 97.5% of the trials (or 9,750 out of the 10,000 trials) resulted in risk-to-capital ratios at or above 52.7. In other words, for 9,750 trials a mortgage insurance company with an initial risk-to-capital ratio of 52.7 would **not** need capital contributions to cover paid losses for multiple-books of Qualified Mortgages. The 95% confidence level did not require capital contributions.

## **QUALIFICATIONS, LIMITATIONS AND DISCLOSURES**

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In performing this analysis, we have relied on data and other information available to us through CoreLogic's LoanPerformance databases and publicly available mortgage insurance rate cards. 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.

The simulated losses discussed in this report are developed using publicly available data of Qualified Mortgages as defined above originated between 1998 and 2011. The ultimate loss rate distributions were not developed to fit any particular mixture of mortgages, notwithstanding the data filters discussed in this report, and may not reflect additional underwriting criteria that may be imposed by a mortgage insurance company. Furthermore, the data used to develop the distributions may not reflect the mix of business written by any given mortgage insurance company. For example, the data used to develop the distributions may have higher or lower average FICO scores compared to the business written by a mortgage insurer. The results presented in this report could differ, perhaps materially, if the mix of business written by a mortgage insurer is different from the mix of business used in this analysis.

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 projections is not only possible, but is in fact, probable. We have attempted to reflect this variability by providing a range of projected outcomes under various scenarios. However, there is no assurance that the actual ultimate outcomes will fall within the range provided. The sources of this variation are numerous: future national or regional economic conditions, mortgage prepayment speeds, and legislative changes could affect the performance of a mortgage insurer.

A simulation model illustrates the projected impact of actual results varying from projected results due to estimated variability inherent in the insurance process. This variability is referred to as process risk. Our simulation does not reflect the variation of actual results from projections due to parameter risk or specification risk. Parameter risk refers to the risk or uncertainty associated with the selection of the parameters underlying the applicable projection model. Specification risk refers to the risk or uncertainty surrounding the selection of the type of model used for the forecast. We have not attempted to quantify the impact of parameter or specification risk. Additionally, Milliman's analysis is limited to the variability of losses and premiums. Other risks, including but not limited to: operational, asset, liquidity, legal, regulatory and strategic, are outside the scope of our analysis.

The uncertainty associated with our estimates is also magnified by the nature of mortgage insurance. Mortgage insurance results 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 underwritten in a given year is generally insured over several calendar years. Therefore, adverse economic conditions in a given calendar year could affect results not only for the current underwriting year, but also for prior underwriting years. Future economic developments that give rise to additional delinquencies and losses will impact ultimate losses. Loss 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 forecast a mortgage insurers future financial position. The unsettled economic environment may worsen, causing more future claims than currently forecasted. Potentially offsetting the economic factors are government-led initiatives which could have a stabilizing impact on the key variables that typically drive the level of future premiums and losses.

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 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 amount of required capital needed to cover unexpected losses for Qualified Mortgages. Unexpected losses are losses incurred in excess of losses expected to be covered by earned premium. Performance data used in our analysis was evaluated as of March 31, 2012.

### *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 UGC.

### *Scope*

Our estimates of each cohort's capital requirements with mortgage insurance business under a run-off scenario are characterized as statistically-defined estimates (mean, median, nth percentile) and Monte Carlo simulation distributions.

Our estimates are on an undiscounted with respect to the time value of money.

Our estimates do not include Unallocated Loss Adjustment Expenses (ULAE). ULAE typically includes other claims administration expenses.

**LIMITED DISTRIBUTION OF RESULTS**

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Milliman's work is prepared solely for the internal business use of United Guaranty Corporation. 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. United Guaranty Corporation 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 United Guaranty Corporation subject to Milliman's prior review and approval, which shall not be unreasonably withheld or delayed. United Guaranty Corporation 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 United Guaranty Corporation upon mutual agreement of United Guaranty Corporation 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 United Guaranty Corporation in connection with any offering, prospectus, securities filing, or solicitation of investment. Professional reviewers engaged by United Guaranty Corporation 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.

Any reader of this report must possess a certain level of expertise in areas relevant to this analysis to appreciate the significance of the assumptions and the impact of these assumptions on the illustrated results. The reader should be advised by, among other experts, actuaries or other professionals competent in the area of actuarial projections of the type in this report, so as to properly interpret the projection results.

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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 United Guaranty Corporation on this assignment.

Respectfully submitted,



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Michael C. Schmitz, FCAS, MAAA  
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KAB/JBG/sbs

October 22, 2012

## **APPENDIX: COMPARISON OF RELATIVE DEFAULT PERFORMANCE FOR PRIVATELY INSURED MORTGAGES TO NON-INSURED MORTGAGES**

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Mortgage guaranty insurance protects mortgage lenders and investors from potential credit losses stemming from borrower defaults. This credit protection reduces realized credit losses on defaulted mortgages for banks that hold mortgage loans in their portfolio and facilitates the sale and transfer of mortgages in the secondary market. Additionally, the second underwrite provided by the mortgage insurers enhances the quality of the mortgages insured by private mortgage insurers and results in a lower default frequency on insured loans compared to similar loans not insured by private mortgage insurers.

Milliman published a study on the benefit of the second underwrite titled Mortgage Insurance Loan Performance Analysis as of March 31, 2011 dated July 28, 2011. The study demonstrated that loans with mortgage insurance defaulted at a lower rate than loans not insured by private mortgage insurers, all else equal. The study was performed on loans originated between 2002 and 2007, and the results of the study were statistically significant. This appendix provides an update to this study using recent empirical default rates from the CoreLogic database for more recent origination years. The CoreLogic Servicing database has fields that identify loans with and without private mortgage insurance.

Milliman analyzed the same data described in this report to evaluate the benefit of the second underwrite provided by mortgage insurers. The data indicates that after 2008, the mortgage insurance industry was more selective in the loans it underwrote and insured, and loans with private mortgage insurance defaulted at a lower rate compared to similar Non-insured mortgage loans.

During the period in which the studied loans were originated, the private mortgage insurance companies delegated approval authority to the Freddie Mac and Fannie Mae ("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. Milliman segmented the loans into three cohorts: all loans in the dataset, GSE loans, and Non-GSE loans. The loans used in the appendix exclude loans insured by the Federal Housing Administration.

For this analysis Milliman defined a default as any loan that reached a 90-day delinquency status or worse. Milliman wanted to review the relative performance of privately insured loans compared to Non-insured loans for recent origination years. Using the definition of default described in this report would reduce the number of default incidence in the data for recent origination years because the default definition described in the report is conditional on the loan being terminated.

The table on the next page summarizes the relativity of the cumulative default rate for all loans insured by private mortgage insurers (PMI Loans) to similar loans not insured by private mortgage insurers (Non-PMI Loans) for all loans in the dataset, GSE loans, and Non-GSE loans.

<b>TABLE 5</b>			
<b>Default Rate Relativity (PMI to Non-PMI)</b>			
<b>All Loan Purposes</b>			
<b>Origination Year</b>	<b>All Loans</b>	<b>GSE Loans</b>	<b>Non-GSE Loans</b>
1998	0.98	1.29	0.30
1999	0.84	1.05	0.57
2000	0.57	0.65	0.56
2001	0.63	0.74	0.54
2002	0.70	0.89	0.81
2003	0.95	1.25	0.64
2004	0.81	1.11	0.88
2005	0.63	0.86	0.70
2006	0.60	0.69	0.64
2007	0.70	0.90	0.73
<b>2008</b>	<b>0.54</b>	<b>0.74</b>	<b>0.69</b>
<b>2009</b>	<b>0.16</b>	<b>0.31</b>	<b>0.19</b>
<b>2010</b>	<b>0.39</b>	<b>0.39</b>	<b>0.51</b>
<b>2008-2010 Average</b>	<b>0.36</b>	<b>0.48</b>	<b>0.46</b>
Average of All Years	0.65	0.83	0.60

The average default rate across all years and all loans is 0.65 for PMI loans compared to Non-PMI Loans. Default rate relativities less than 1 indicate the cumulative default rate on PMI loans is lower than the cumulative default rate on Non-PMI loans. For the 2008 through 2010 origination years the average default rate relativity is 0.36 [0.36 = (0.54 + 0.16 + 0.39) / 3] for all loans. In other words, loans originated between 2008 and 2010 that are insured by private mortgage insurers are defaulting at a rate of approximately 36% of the default rate for similar loans not insured by private mortgage insurers.

The default rate relativity is higher for GSE loans compared to all loans with an average default rate relativity of 0.83. For the 2008 through 2010 origination years the average default rate relativity for GSE loans is 0.48 [0.48 = (0.74 + 0.31 + 0.39) / 3]. The lower default rate relativity for recent origination years indicates that private mortgage insurers have been more effective in managing credit risk for GSE loans compared to loans not insured by private mortgage insurers.

The average default rate relativity across all years for Non-GSE loans is 0.60. For the 2008 through 2010 origination years the average default rate relativity for Non-GSE loans is 0.46 [0.46 = (0.69 + 0.19 + 0.51) / 3]. For Non-GSE loans private mortgage insurers are providing a second underwrite that reduces the incidence of default.

Appendix Exhibit 1 Pages 1 through 3 provides the details for the figures in the above table. For example Appendix Exhibit 1 Page 1 provides a summary of the loan counts and calculations for the All Loans column. The exhibit shows for both Non-PMI loans and PMI loans the origination year of the loans, the number of loans in the cohort, the number of defaulting loans, the default rate, the average FICO score, and the average CLTV for each cohort. The column on the right of the exhibit calculates the default rate relativity as the ratio of the PMI Loans default rate to the Non-PMI Loans default rate. Appendix Exhibit 1 Pages 2 and 3 provide the summaries of the loan counts and calculations for GSE and Non-GSE loans.

Appendix Exhibit 2 provides charts of the cumulative default rate development for PMI Loans and Non-PMI Loans for origination years 2008 through 2010. The cohorts on the charts are: All Loans, GSE Loans, and Non-GSE Loans. The charts demonstrate PMI Loans are consistently performing better than Non-PMI Loans in terms of default incidence for recent originations.

Milliman reviewed the loans counts in the data for GSE loans without PMI. For recent origination years, the majority of GSE loans without PMI are classified as rate or term refinance loans. Milliman thinks a large portion of these loans may be related to governmental programs such as the Home Affordable Refinance Program (“HARP”) and others and may bias the performance difference in PMI loans to Non-PMI loans. Therefore, Milliman re-created the analysis described above using only loans flagged as purchase loans in the data. The table below provides a summary of the results.

<b>TABLE 6</b>			
<b>Default Rate Relativity (PMI to Non-PMI)</b>			
<b>Purchase Loans Only</b>			
<b>Origination Year</b>	<b>Purchase Loans</b>	<b>GSE Purchase Loans</b>	<b>Non-GSE Purchase Loans</b>
1998	0.86	1.16	0.32
1999	0.76	0.98	0.56
2000	0.54	0.62	0.54
2001	0.52	0.62	0.50
2002	0.61	0.84	0.70
2003	0.92	1.35	0.60
2004	0.82	1.20	0.89
2005	0.66	0.93	0.75
2006	0.63	0.74	0.66
2007	0.76	0.86	0.77
<b>2008</b>	<b>0.55</b>	<b>0.83</b>	<b>0.74</b>
<b>2009</b>	<b>0.10</b>	<b>0.47</b>	<b>0.29</b>
<b>2010</b>	<b>0.12</b>	<b>0.28</b>	<b>0.29</b>
<b>2008-2010 Average</b>	<b>0.26</b>	<b>0.52</b>	<b>0.44</b>
Average of All Years	0.60	0.84	0.59

The average default rate across all years and all loans for purchase loans is 0.60 for PMI loans compared to Non-PMI Loans. For the 2008 through 2010 origination years the average default rate relativity is 0.26 [0.26 = (0.55 + 0.10 + 0.12) / 3] for all purchase loans. In other words, purchase loans originated between 2008 and 2010 that are insured by private mortgage insurers are defaulting at a rate of approximately 26% of the default rate for similar loans not insured by private mortgage insurers.

The default rate relativity is higher for GSE purchase loans compared to all purchase loans with an average default rate relativity of 0.84. For the 2008 through 2010 origination years the average default rate relativity for GSE purchase loans is 0.52 [0.52 = (0.83 + 0.47 + 0.28) / 3]. The lower default rate relativity for recent origination years again indicates that private mortgage insurers have been more effective in managing credit risk for GSE purchase loans compared to loans not insured by private mortgage insurers.

The average default rate relativity across all years for Non-GSE purchase loans is 0.59. For the 2008 through 2010 origination years the average default rate relativity for Non-GSE purchase loans is 0.44 [0.44 = (0.74 + 0.29 + 0.29) / 3]. For Non-GSE purchase loans private mortgage insurers are providing a second underwrite that reduces the incidence of default.

Appendix Exhibit 3 Pages 1 through 3 provides the details for the figures in the above table for Purchase Loans, GSE Purchase loans, and Non-GSE Purchase loans, respectively.

Appendix Exhibit 4 provides charts of the cumulative default rate development for purchase loans segmented into PMI Loans and Non-PMI Loans for origination years 2008 through 2010. The cohorts on the charts are: Purchase Loans, GSE Purchase Loans, and Non-GSE Purchase Loans. The charts demonstrate purchase loans with PMI are consistently performing better than purchase loans without PMI in terms of default incidence for recent originations.

United Guaranty Corporation  
Summary of Qualified Mortgage Filter from the Corelogic Servicing Database  
by Origination Period

Origination Period	Loan Count		Percent of Total Number of Loans that are Qualified Mortgages		Loan Amount (\$000's)		Percent of Total Number of Loans that are Qualified Mortgages	
	Total Number of Loans	Number of Loans that are Qualified Mortgages	Number of Loans	Percent of Total Loans that are Qualified Mortgages	Total Loan Amount	Loan Amount for Loans that are Qualified Mortgages	Loan Amount for Loans that are Qualified Mortgages	Percent of Total Loans that are Qualified Mortgages
1998 4	49,611	22,851	22,851	46.1%	5,725,397	2,732,034	2,732,034	47.7%
1999 1	42,547	20,242	20,242	47.6%	4,962,599	2,464,921	2,464,921	49.7%
1999 2	41,766	18,485	18,485	44.3%	4,816,568	2,232,712	2,232,712	46.4%
1999 3	29,921	13,187	13,187	44.1%	3,384,091	1,541,201	1,541,201	45.5%
1999 4	20,526	9,359	9,359	45.6%	2,258,999	1,049,562	1,049,562	46.5%
2000 1	13,209	5,536	5,536	41.9%	1,423,255	594,673	594,673	41.8%
2000 2	14,060	6,226	6,226	44.3%	1,488,966	659,442	659,442	44.3%
2000 3	16,500	8,276	8,276	50.2%	1,800,167	922,617	922,617	51.3%
2000 4	19,922	10,153	10,153	51.0%	2,244,833	1,173,765	1,173,765	52.3%
2001 1	45,921	23,416	23,416	51.0%	5,834,443	3,030,121	3,030,121	51.9%
2001 2	65,084	33,856	33,856	52.0%	8,438,898	4,511,614	4,511,614	53.5%
2001 3	57,734	28,662	28,662	49.6%	7,527,453	3,751,412	3,751,412	49.8%
2001 4	87,637	43,570	43,570	49.7%	11,826,282	5,872,753	5,872,753	49.7%
2002 1	76,998	37,835	37,835	49.1%	10,395,551	5,108,902	5,108,902	49.1%
2002 2	80,358	37,185	37,185	46.3%	10,888,558	5,065,121	5,065,121	46.5%
2002 3	124,631	60,519	60,519	48.6%	17,827,570	8,726,207	8,726,207	48.9%
2002 4	172,257	86,357	86,357	50.1%	25,563,653	12,831,226	12,831,226	50.2%
2003 1	168,196	85,736	85,736	51.0%	25,369,849	12,871,674	12,871,674	50.7%
2003 2	221,225	113,711	113,711	51.4%	34,533,311	17,496,587	17,496,587	50.7%
2003 3	216,445	105,323	105,323	48.7%	33,991,443	16,080,073	16,080,073	47.3%
2003 4	131,287	53,612	53,612	40.8%	20,345,652	7,969,892	7,969,892	39.2%
2004 1	139,650	56,202	56,202	40.2%	22,986,818	8,543,585	8,543,585	37.2%
2004 2	161,797	58,452	58,452	36.1%	27,135,007	8,951,480	8,951,480	33.0%
2004 3	142,506	44,246	44,246	31.0%	24,551,812	6,791,680	6,791,680	27.7%
2004 4	142,820	41,016	41,016	28.7%	26,505,813	6,593,991	6,593,991	24.9%

United Guaranty Corporation  
Summary of Qualified Mortgage Filter from the Corelogic Servicing Database  
by Origination Period

Origination Period	Loan Count		Percent of Total Number of Loans that are Qualified Mortgages	Loan Amount (\$000's)		Percent of Total Number of Loans that are Qualified Mortgages
	Total Number of Loans	Number of Loans that are Qualified Mortgages		Total Loan Amount	Loan Amount for Loans that are Qualified Mortgages	
2005 1	135,002	38,345	28.4%	26,273,959	6,392,548	24.3%
2005 2	191,910	50,259	26.2%	40,668,737	8,696,218	21.4%
2005 3	219,159	59,743	27.3%	48,439,563	10,749,097	22.2%
2005 4	182,415	43,734	24.0%	41,438,093	7,866,798	19.0%
2006 1	166,643	36,482	21.9%	38,243,128	6,617,219	17.3%
2006 2	208,784	42,944	20.6%	47,781,799	8,000,315	16.7%
2006 3	213,740	45,855	21.5%	47,797,681	8,567,663	17.9%
2006 4	221,985	48,760	22.0%	50,998,310	9,457,489	18.5%
2007 1	235,067	52,506	22.3%	54,503,199	10,566,419	19.4%
2007 2	328,919	79,407	24.1%	73,546,025	16,215,588	22.0%
2007 3	270,302	73,134	27.1%	59,052,588	14,745,176	25.0%
2007 4	241,225	87,090	36.1%	52,962,735	18,524,466	35.0%
2008 1	215,990	98,927	45.8%	48,159,892	21,646,510	44.9%
2008 2	183,927	100,765	54.8%	40,110,502	21,735,600	54.2%
2008 3	135,285	66,306	49.0%	28,823,982	14,180,982	49.2%
2008 4	104,383	57,694	55.3%	22,005,413	12,434,001	56.5%
2009 1	94,543	62,619	66.2%	20,549,779	14,189,257	69.0%
2009 2	128,748	73,572	57.1%	28,964,725	17,133,840	59.2%
2009 3	125,941	52,867	42.0%	28,147,816	12,716,120	45.2%
2009 4	128,809	53,282	41.4%	29,066,803	12,925,881	44.5%
2010 1	108,373	41,596	38.4%	24,592,015	10,044,831	40.8%
2010 2	108,889	43,025	39.5%	24,195,057	10,149,633	41.9%
2010 3	144,347	55,854	38.7%	33,081,277	13,441,125	40.6%
2010 4	194,636	87,070	44.7%	45,191,533	20,557,354	45.5%
2011 1	118,853	48,025	40.4%	26,744,387	10,680,775	39.9%
2011 2	104,753	45,375	43.3%	23,142,935	10,076,550	43.5%
2011 3	122,813	62,691	51.0%	27,370,748	14,301,147	52.2%
2011 4	124,669	67,318	54.0%	27,592,861	15,323,035	55.5%
Total	7,042,718	2,699,258	38.3%	1,401,272,530	505,502,887	36.1%

\*Annual rate cap of 2% or less, lifetime rate cap of 6% or less

United Guaranty Corporation  
Capital Analysis using Corelogic Servicing Database  
Loss Development Factors  
All Loans

		Development Quarter																			
		<u>1 - 2</u>	<u>2 - 3</u>	<u>3 - 4</u>	<u>4 - 5</u>	<u>5 - 6</u>	<u>6 - 7</u>	<u>7 - 8</u>	<u>8 - 9</u>	<u>9 - 10</u>	<u>10 - 11</u>	<u>11 - 12</u>	<u>12 - 13</u>	<u>13 - 14</u>	<u>14 - 15</u>	<u>15 - 16</u>	<u>16 - 17</u>	<u>17 - 18</u>	<u>18 - 19</u>	<u>19 - 20</u>	<u>20 - 21</u>
Book Year Dollars	Ave	17.03	3.71	2.49	2.07	1.77	1.76	1.55	1.49	1.39	1.33	1.28	1.23	1.19	1.16	1.14	1.12	1.11	1.10	1.09	1.08
	Ave x H/L	14.86	3.68	2.49	1.99	1.74	1.69	1.53	1.46	1.37	1.32	1.27	1.22	1.19	1.16	1.14	1.12	1.11	1.10	1.09	1.08
	WA	2.74	2.88	2.38	2.00	1.81	1.65	1.49	1.41	1.34	1.28	1.24	1.20	1.17	1.14	1.12	1.11	1.10	1.09	1.09	1.08
	Ave '04-'11	17.27	3.72	2.58	2.00	1.74	1.60	1.47	1.40	1.34	1.27	1.23	1.20	1.17	1.15	1.13	1.12	1.11	1.10	1.09	1.08
	Ave x H/L '04-'11	14.79	3.70	2.58	1.99	1.74	1.59	1.46	1.39	1.33	1.27	1.23	1.19	1.16	1.14	1.12	1.11	1.10	1.10	1.10	1.09
	WA '04-'11	2.60	2.85	2.40	2.02	1.83	1.67	1.50	1.41	1.34	1.29	1.24	1.20	1.18	1.14	1.12	1.11	1.10	1.09	1.09	1.08
Book Year Counts	Ave	14.25	3.50	2.37	2.01	1.75	1.69	1.51	1.46	1.38	1.33	1.29	1.23	1.19	1.16	1.14	1.12	1.11	1.10	1.09	1.08
	Ave x H/L	12.47	3.43	2.36	1.97	1.73	1.66	1.50	1.44	1.37	1.33	1.28	1.23	1.19	1.16	1.14	1.12	1.11	1.10	1.09	1.08
	WA	2.67	2.63	2.23	1.90	1.72	1.59	1.46	1.38	1.33	1.28	1.24	1.20	1.17	1.14	1.12	1.11	1.10	1.09	1.09	1.08
	Ave '04-'11	14.65	3.52	2.42	1.93	1.69	1.56	1.44	1.37	1.32	1.26	1.23	1.19	1.16	1.14	1.12	1.11	1.10	1.09	1.09	1.08
	Ave x H/L '04-'11	12.54	3.43	2.41	1.92	1.70	1.55	1.43	1.36	1.31	1.26	1.22	1.18	1.15	1.14	1.12	1.11	1.10	1.09	1.09	1.08
	WA '04-'11	2.52	2.58	2.24	1.90	1.74	1.60	1.46	1.39	1.33	1.28	1.24	1.20	1.18	1.14	1.12	1.11	1.10	1.09	1.09	1.08
Selection:		14.08	4.47	2.80	2.16	1.84	1.65	1.52	1.43	1.36	1.31	1.26	1.23	1.20	1.18	1.16	1.14	1.13	1.12	1.10	1.09
		Development Quarter																			
		<u>21 - 22</u>	<u>22 - 23</u>	<u>23 - 24</u>	<u>24 - 25</u>	<u>25 - 26</u>	<u>26 - 27</u>	<u>27 - 28</u>	<u>28 - 29</u>	<u>29 - 30</u>	<u>30 - 31</u>	<u>31 - 32</u>	<u>32 - 33</u>	<u>33 - 34</u>	<u>34 - 35</u>	<u>35 - 36</u>	<u>36 - 37</u>	<u>37 - 38</u>	<u>38 - 39</u>	<u>39 - 40</u>	<u>40 - 41</u>
Book Year Dollars	Ave	1.07	1.06	1.06	1.05	1.05	1.05	1.04	1.04	1.03	1.03	1.03	1.03	1.02	1.02	1.02	1.02	1.02	1.01	1.01	1.01
	Ave x H/L	1.07	1.06	1.06	1.05	1.05	1.05	1.04	1.04	1.03	1.03	1.03	1.03	1.02	1.02	1.02	1.02	1.02	1.01	1.01	1.01
	WA	1.07	1.07	1.07	1.07	1.06	1.06	1.05	1.05	1.05	1.04	1.04	1.04	1.03	1.03	1.02	1.02	1.02	1.02	1.01	1.01
	Ave '04-'11	1.08	1.07	1.07	1.06	1.06	1.06	1.05	1.04	1.04	1.04	1.03	1.03	1.02	1.02	1.02	1.02	1.02	1.01	1.01	1.01
	Ave x H/L '04-'11	1.08	1.08	1.08	1.07	1.07	1.06	1.06	1.05	1.05	1.05	1.05	1.04	1.04	1.02	1.02	1.02	1.02	1.01	1.01	1.01
	WA '04-'11	1.08	1.07	1.07	1.07	1.07	1.06	1.06	1.06	1.06	1.06	1.05	1.05	1.05	1.05	1.02	1.02	1.02	1.02	1.01	1.01
Book Year Counts	Ave	1.07	1.06	1.06	1.05	1.05	1.05	1.04	1.04	1.04	1.03	1.03	1.03	1.03	1.02	1.02	1.02	1.02	1.02	1.01	1.01
	Ave x H/L	1.07	1.06	1.06	1.05	1.05	1.05	1.04	1.04	1.04	1.03	1.03	1.03	1.02	1.02	1.02	1.02	1.02	1.02	1.01	1.01
	WA	1.07	1.07	1.07	1.06	1.06	1.05	1.05	1.05	1.04	1.04	1.04	1.03	1.03	1.03	1.02	1.02	1.02	1.02	1.01	1.01
	Ave '04-'11	1.08	1.07	1.07	1.06	1.06	1.06	1.05	1.04	1.04	1.04	1.03	1.03	1.02	1.02	1.02	1.02	1.02	1.01	1.01	1.01
	Ave x H/L '04-'11	1.08	1.07	1.07	1.06	1.06	1.06	1.05	1.05	1.05	1.05	1.05	1.04	1.04	1.02	1.02	1.02	1.02	1.01	1.01	1.01
	WA '04-'11	1.08	1.07	1.07	1.07	1.07	1.06	1.06	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.02	1.02	1.02	1.02	1.01	1.01
Selection:		1.09	1.08	1.07	1.06	1.06	1.05	1.05	1.04	1.04	1.04	1.03	1.03	1.03	1.03	1.02	1.02	1.02	1.02	1.01	1.01
		Development Quarter																			
		<u>41 - 42</u>	<u>42 - 43</u>	<u>43 - 44</u>	<u>44 - 45</u>	<u>45 - 46</u>	<u>46 - 47</u>	<u>47 - 48</u>	<u>48 - 49</u>	<u>49 - 50</u>	<u>50 - 51</u>	<u>51 - 52</u>	<u>52 - 53</u>	<u>53 - 54</u>	<u>54 - 55</u>	<u>55 - 56</u>	<u>56 - 57</u>	<u>57 - 58</u>	<u>58 - 59</u>		
Book Year Dollars	Ave	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.00	1.00							
	Ave x H/L	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01							
	WA	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.02	1.01	1.01								
	Ave '04-'11																				
	Ave x H/L '04-'11																				
	WA '04-'11																				
Book Year Counts	Ave	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.00							
	Ave x H/L	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01							
	WA	1.02	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.02	1.02	1.01								
	Ave '04-'11																				
	Ave x H/L '04-'11																				
	WA '04-'11																				
Selection:		1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**United Guaranty Corporation**  
 Capital Analysis using Corelogic Servicing Database  
 All Loans  
 Paid LDF-Method

Book Year	A		B		C = A * B
	Cumulative Default Rate as of 03/31/2012	LDF	Indicated Ultimate Default Rate		
1998 4	4.65%	1.040	4.84%		
1999 1	4.89%	1.044	5.11%		
1999 2	6.01%	1.049	6.30%		
1999 3	7.56%	1.055	7.98%		
1999 4	8.29%	1.061	8.80%		
2000 1	9.66%	1.068	10.32%		
2000 2	11.35%	1.075	12.20%		
2000 3	10.37%	1.083	11.24%		
2000 4	9.31%	1.093	10.17%		
2001 1	5.49%	1.103	6.06%		
2001 2	5.04%	1.114	5.62%		
2001 3	5.48%	1.127	6.17%		
2001 4	4.43%	1.141	5.05%		
2002 1	4.71%	1.156	5.44%		
2002 2	5.05%	1.173	5.92%		
2002 3	4.10%	1.193	4.89%		
2002 4	3.63%	1.214	4.41%		
2003 1	3.61%	1.238	4.47%		
2003 2	3.48%	1.264	4.40%		
2003 3	3.92%	1.294	5.07%		
2003 4	5.15%	1.327	6.83%		
2004 1	5.64%	1.365	7.69%		
2004 2	6.42%	1.407	9.03%		
2004 3	8.42%	1.455	12.24%		
2004 4	10.22%	1.508	15.41%		

**United Guaranty Corporation**  
 Capital Analysis using Corelogic Servicing Database  
 All Loans  
 Paid LDF-Method

Book Year	A	B	C = A * B
	Cumulative Default Rate as of 03/31/2012	LDF	Indicated Ultimate Default Rate
2005 1	12.02%	1.569	18.86%
2005 2	14.66%	1.639	24.04%
2005 3	17.20%	1.719	29.56%
2005 4	20.68%	1.810	37.44%
2006 1	22.10%	1.916	42.35%
2006 2	20.92%	2.039	42.65%
2006 3	20.70%	2.183	45.18%
2006 4	21.07%	2.352	49.56%
2007 1	19.79%	2.553	50.52%
2007 2	17.89%	2.794	49.99%
2007 3	15.82%	3.085	48.79%
2007 4	14.25%	3.441	49.03%
2008 1	9.72%	3.883	37.73%
2008 2	6.04%	4.438	26.79%
2008 3	4.50%	5.148	23.14%
2008 4	3.04%	6.072	18.47%
2009 1	2.26%	7.305	16.53%
2009 2	1.40%	8.991	12.63%
2009 3	1.03%	11.369	11.68%
2009 4	0.67%	14.847	9.89%
2010 1	0.60%	20.167	12.06%
2010 2	0.42%	28.762	11.95%
2010 3	0.26%	43.647	11.21%
2010 4	0.16%	71.858	11.35%
2011 1	0.27%	132.276	35.47%
2011 2	0.14%	286.338	39.07%
2011 3	0.02%	801.215	14.33%
2011 4	0.00%	3583.482	2.08%

**United Guaranty Corporation**  
 Capital Analysis using Corelogic Servicing Database  
 All Loans  
 Unadjusted BF Method

Book Year	A	B	C = A * (1-1/LDF)	D = B + C
	Unadjusted A Priori Ultimate Default Rate	Cumulative Default Rate as of 03/31/2012	Indicated Future Rate as of 03/31/2012	Unadjusted BF Indicated Ultimate Default Rate
1998 4	9.97%	4.65%	0.38%	5.03%
1999 1	10.87%	4.89%	0.46%	5.35%
1999 2	12.05%	6.01%	0.57%	6.57%
1999 3	14.17%	7.56%	0.74%	8.30%
1999 4	15.34%	8.29%	0.88%	9.17%
2000 1	16.25%	9.66%	1.03%	10.69%
2000 2	16.91%	11.35%	1.18%	12.53%
2000 3	16.89%	10.37%	1.30%	11.67%
2000 4	15.92%	9.31%	1.35%	10.66%
2001 1	13.23%	5.49%	1.23%	6.73%
2001 2	13.65%	5.04%	1.40%	6.44%
2001 3	13.16%	5.48%	1.48%	6.96%
2001 4	11.91%	4.43%	1.47%	5.89%
2002 1	12.60%	4.71%	1.70%	6.41%
2002 2	13.59%	5.05%	2.01%	7.06%
2002 3	12.00%	4.10%	1.94%	6.04%
2002 4	10.98%	3.63%	1.94%	5.57%
2003 1	10.92%	3.61%	2.10%	5.71%
2003 2	10.78%	3.48%	2.25%	5.74%
2003 3	11.15%	3.92%	2.53%	6.45%
2003 4	13.34%	5.15%	3.29%	8.44%
2004 1	14.97%	5.64%	4.00%	9.64%
2004 2	16.84%	6.42%	4.87%	11.29%
2004 3	19.73%	8.42%	6.17%	14.58%
2004 4	22.99%	10.22%	7.75%	17.97%

**United Guaranty Corporation**  
 Capital Analysis using Corelogic Servicing Database  
 All Loans  
 Unadjusted BF Method

Book Year	A	B	C = A * (1-1/LDF)	D = B + C
	Unadjusted A Priori Ultimate Default Rate	Cumulative Default Rate as of 03/31/2012	Indicated Future Rate as of 03/31/2012	Unadjusted BF Indicated Ultimate Default Rate
2005 1	24.74%	12.02%	8.98%	20.99%
2005 2	29.33%	14.66%	11.44%	26.10%
2005 3	30.86%	17.20%	12.90%	30.10%
2005 4	35.21%	20.68%	15.76%	36.44%
2006 1	37.60%	22.10%	17.98%	40.08%
2006 2	38.01%	20.92%	19.37%	40.29%
2006 3	38.79%	20.70%	21.02%	41.72%
2006 4	38.30%	21.07%	22.02%	43.09%
2007 1	40.03%	19.79%	24.35%	44.14%
2007 2	36.37%	17.89%	23.35%	41.25%
2007 3	33.97%	15.82%	22.96%	38.78%
2007 4	29.00%	14.25%	20.57%	34.82%
2008 1	23.51%	9.72%	17.45%	27.17%
2008 2	20.53%	6.04%	15.90%	21.94%
2008 3	21.54%	4.50%	17.36%	21.85%
2008 4	20.41%	3.04%	17.05%	20.09%
2009 1	13.63%	2.26%	11.76%	14.03%
2009 2	13.88%	1.40%	12.34%	13.74%
2009 3	16.46%	1.03%	15.01%	16.04%
2009 4	16.66%	0.67%	15.54%	16.20%
2010 1	17.37%	0.60%	16.51%	17.11%
2010 2	16.62%	0.42%	16.05%	16.46%
2010 3	15.36%	0.26%	15.01%	15.27%
2010 4	13.96%	0.16%	13.77%	13.93%
2011 1	17.01%	0.27%	16.88%	17.15%
2011 2	15.66%	0.14%	15.61%	15.74%
2011 3	12.43%	0.02%	12.41%	12.43%
2011 4	11.19%	0.00%	11.18%	11.18%

United Guaranty Corporation  
Capital Analysis using Corelogic Servicing Database  
All Loans  
Conditional Prepayment Rate

	Development Quarters														
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	<u>8</u>	<u>9</u>	<u>10</u>	<u>11</u>	<u>12</u>	<u>13</u>	<u>14</u>	<u>15</u>
<u>Amount Based</u>															
Average	6.3%	8.0%	10.1%	12.0%	12.6%	13.4%	14.5%	15.3%	15.3%	15.6%	16.3%	15.8%	15.2%	15.5%	15.7%
Average x H/L	5.9%	7.5%	9.7%	11.5%	12.2%	12.9%	14.0%	14.9%	15.0%	15.3%	16.1%	15.5%	14.9%	15.2%	15.5%
Weighted Average	7.5%	8.9%	10.4%	11.7%	12.2%	12.3%	12.7%	13.4%	13.7%	14.4%	15.2%	15.2%	15.9%	16.3%	16.7%
<u>Count Based</u>															
Average	5.9%	7.3%	9.2%	10.9%	11.5%	12.2%	13.3%	14.0%	14.0%	14.4%	15.0%	14.8%	14.4%	14.7%	15.0%
Average x H/L	5.6%	6.9%	8.9%	10.5%	11.1%	11.8%	12.9%	13.7%	13.8%	14.1%	14.8%	14.4%	14.1%	14.5%	14.8%
Weighted Average	7.3%	8.8%	10.4%	11.8%	12.4%	12.6%	12.9%	13.5%	13.6%	14.2%	14.9%	15.0%	15.6%	15.9%	16.3%
<u>Amount Based</u>	<u>16</u>	<u>17</u>	<u>18</u>	<u>19</u>	<u>20</u>	<u>21</u>	<u>22</u>	<u>23</u>	<u>24</u>	<u>25</u>	<u>26</u>	<u>27</u>	<u>28</u>	<u>29</u>	<u>30</u>
Average	15.1%	14.0%	13.5%	14.0%	13.4%	12.1%	11.4%	11.7%	11.6%	11.3%	11.7%	11.8%	11.7%	10.8%	10.6%
Average x H/L	14.7%	13.6%	13.2%	13.6%	13.0%	11.9%	11.3%	11.6%	11.6%	11.2%	11.4%	11.4%	11.3%	10.6%	10.3%
Weighted Average	17.0%	16.3%	16.1%	17.2%	16.3%	15.2%	14.7%	16.0%	16.0%	15.5%	15.3%	16.1%	16.3%	16.0%	15.6%
<u>Count Based</u>															
Average	14.6%	13.5%	13.1%	13.4%	12.8%	11.7%	11.0%	11.2%	11.0%	10.7%	10.9%	10.9%	10.8%	10.0%	9.7%
Average x H/L	14.2%	13.1%	12.6%	12.8%	12.2%	11.3%	10.8%	11.0%	10.9%	10.4%	10.4%	10.4%	10.3%	9.7%	9.4%
Weighted Average	16.7%	16.0%	15.6%	16.1%	15.4%	14.3%	13.6%	14.5%	14.5%	14.1%	14.0%	14.5%	14.6%	14.4%	13.9%
<u>Amount Based</u>	<u>31</u>	<u>32</u>	<u>33</u>	<u>34</u>	<u>35</u>	<u>36</u>	<u>37</u>	<u>38</u>	<u>39</u>	<u>40</u>	<u>41</u>	<u>42</u>	<u>43</u>	<u>44</u>	<u>45</u>
Average	10.8%	10.1%	9.5%	8.7%	8.8%	8.1%	7.7%	7.4%	7.9%	8.2%	8.1%	8.1%	8.3%	7.8%	7.8%
Average x H/L	10.4%	9.7%	9.0%	8.4%	8.4%	7.8%	7.6%	7.0%	7.2%	8.1%	7.8%	7.1%	7.2%	7.2%	7.3%
Weighted Average	15.9%	17.2%	17.1%	15.3%	15.2%	13.7%	11.9%	11.1%	12.7%	12.1%	12.1%	12.1%	11.5%	10.5%	11.1%
<u>Count Based</u>															
Average	9.8%	9.3%	8.6%	7.9%	8.0%	7.5%	7.2%	6.9%	7.5%	7.3%	7.1%	7.6%	7.8%	7.2%	7.1%
Average x H/L	9.4%	8.8%	8.2%	7.6%	7.6%	7.2%	6.9%	6.5%	6.8%	7.0%	6.5%	6.3%	6.4%	6.3%	6.3%
Weighted Average	14.3%	15.4%	15.1%	13.4%	13.4%	12.3%	10.9%	10.3%	11.8%	10.9%	10.9%	11.3%	10.5%	9.6%	10.0%
<u>Amount Based</u>	<u>46</u>	<u>47</u>	<u>48</u>	<u>49</u>	<u>50</u>	<u>51</u>	<u>52</u>	<u>53</u>	<u>54</u>	<u>55</u>	<u>56</u>	<u>57</u>	<u>58</u>	<u>59</u>	<u>60</u>
Average	7.6%	8.9%	8.1%	8.5%	9.9%	10.7%	5.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Average x H/L	7.3%	8.8%	8.4%	9.1%	9.8%	10.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Weighted Average	10.2%	12.5%	11.7%	13.2%	15.3%	18.7%	12.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
<u>Count Based</u>															
Average	6.8%	8.2%	7.6%	7.7%	9.2%	10.5%	4.9%								
Average x H/L	6.2%	7.7%	7.5%	8.1%	8.4%	9.2%									
Weighted Average	9.0%	11.5%	10.9%	11.9%	14.2%	18.6%	11.2%								
	<u>Dollar Based</u>	<u>Count Based</u>													
	CPR	CPR													
Average of Wtd Average 9-36	15.8%	14.8%													
Selected Long-Term CPR		16%													
Selected Long-Term PSA		267%													
	9	11	13	15	17	19	21	23	25	27	29	31	33	35	37
St Dev CPR	11%	10%	10%	11%	10%	9%	7%	5%	4%	5%	5%	6%	6%	5%	4%
CV	81%	67%	66%	65%	61%	50%	44%	30%	29%	34%	32%	35%	32%	33%	34%
Average of Wtd Average 9-36		47%	46%												
Selected CV	40%														

**United Guaranty Corporation**  
Capital Analysis using Corelogic Servicing Database  
All Loans  
Adjusted Paid BF Method

Book Year	A A Priori Ultimate	B Actual Percent In-force as of 03/31/2012	C Expected Percent In-force as of 03/31/2012	D = B / C	E = A * D	F Cumulative Default Rate as of 03/31/2012	G = E*(1-1/LDF) Indicated Future Default Rate as of 03/31/2012	H = F + G Adjusted BF Indicated Ultimate Default Rate
1998 4	9.97%	13.89%	11.80%	117.65%	11.73%	4.65%	0.45%	5.10%
1999 1	10.87%	12.04%	12.33%	97.69%	10.62%	4.89%	0.45%	5.34%
1999 2	12.05%	12.18%	12.88%	94.55%	11.39%	6.01%	0.53%	6.54%
1999 3	14.17%	11.32%	13.45%	84.17%	11.92%	7.56%	0.62%	8.18%
1999 4	15.34%	13.73%	14.05%	97.73%	15.00%	8.29%	0.86%	9.15%
2000 1	16.25%	14.30%	14.68%	97.43%	15.83%	9.66%	1.00%	10.67%
2000 2	16.91%	17.14%	15.33%	111.79%	18.91%	11.35%	1.32%	12.67%
2000 3	16.89%	14.65%	16.01%	91.47%	15.45%	10.37%	1.19%	11.56%
2000 4	15.92%	13.44%	16.73%	80.35%	12.79%	9.31%	1.08%	10.39%
2001 1	13.23%	11.01%	17.47%	63.01%	8.34%	5.49%	0.78%	6.27%
2001 2	13.65%	9.99%	18.25%	54.71%	7.47%	5.04%	0.77%	5.81%
2001 3	13.16%	11.26%	19.07%	59.04%	7.77%	5.48%	0.87%	6.35%
2001 4	11.91%	13.93%	19.91%	69.93%	8.33%	4.43%	1.03%	5.45%
2002 1	12.60%	12.55%	20.80%	60.34%	7.60%	4.71%	1.03%	5.73%
2002 2	13.59%	13.03%	21.73%	59.97%	8.15%	5.05%	1.20%	6.25%
2002 3	12.00%	15.71%	22.70%	69.22%	8.30%	4.10%	1.34%	5.44%
2002 4	10.98%	18.84%	23.71%	79.48%	8.73%	3.63%	1.54%	5.17%
2003 1	10.92%	23.24%	24.76%	93.86%	10.25%	3.61%	1.97%	5.58%
2003 2	10.78%	29.74%	25.87%	114.98%	12.39%	3.48%	2.59%	6.07%
2003 3	11.15%	32.75%	27.02%	121.20%	13.51%	3.92%	3.07%	6.99%
2003 4	13.34%	28.61%	28.22%	101.36%	13.52%	5.15%	3.34%	8.48%
2004 1	14.97%	34.11%	29.48%	115.71%	17.32%	5.64%	4.63%	10.27%
2004 2	16.84%	34.72%	30.79%	112.74%	18.98%	6.42%	5.49%	11.91%
2004 3	19.73%	34.05%	32.17%	105.85%	20.88%	8.42%	6.53%	14.94%
2004 4	22.99%	40.45%	33.60%	120.39%	27.68%	10.22%	9.33%	19.55%

**United Guaranty Corporation**  
Capital Analysis using Corelogic Servicing Database  
All Loans  
Adjusted Paid BF Method

Book Year	A A Priori Ultimate	B Actual Percent In-force as of 03/31/2012	C Expected Percent In-force as of 03/31/2012	D = B / C	E = A * D	F Cumulative Default Rate as of 03/31/2012	G = E*(1-1/LDF) Indicated Future Default Rate as of 03/31/2012	H = F + G Adjusted BF Indicated Ultimate Default Rate
2005 1	24.74%	42.24%	35.10%	120.34%	29.77%	12.02%	10.80%	22.82%
2005 2	29.33%	44.73%	36.66%	122.02%	35.78%	14.66%	13.95%	28.62%
2005 3	30.86%	45.79%	38.29%	119.57%	36.89%	17.20%	15.43%	32.63%
2005 4	35.21%	43.12%	40.00%	107.81%	37.96%	20.68%	16.99%	37.67%
2006 1	37.60%	43.95%	41.78%	105.18%	39.55%	22.10%	18.91%	41.01%
2006 2	38.01%	43.51%	43.64%	99.69%	37.90%	20.92%	19.31%	40.23%
2006 3	38.79%	42.67%	45.59%	93.61%	36.31%	20.70%	19.68%	40.37%
2006 4	38.30%	46.63%	47.62%	97.92%	37.50%	21.07%	21.56%	42.63%
2007 1	40.03%	51.05%	49.74%	102.63%	41.08%	19.79%	24.99%	44.78%
2007 2	36.37%	50.00%	51.96%	96.24%	35.00%	17.89%	22.48%	40.37%
2007 3	33.97%	47.40%	54.27%	87.35%	29.67%	15.82%	20.06%	35.87%
2007 4	29.00%	48.59%	56.69%	85.71%	24.85%	14.25%	17.63%	31.88%
2008 1	23.51%	52.69%	59.21%	88.98%	20.92%	9.72%	15.53%	25.25%
2008 2	20.53%	49.96%	61.85%	80.78%	16.58%	6.04%	12.85%	18.88%
2008 3	21.54%	40.07%	64.61%	62.01%	13.36%	4.50%	10.76%	15.26%
2008 4	20.41%	49.47%	67.49%	73.30%	14.96%	3.04%	12.50%	15.54%
2009 1	13.63%	73.50%	70.49%	104.26%	14.21%	2.26%	12.26%	14.53%
2009 2	13.88%	81.64%	73.63%	110.87%	15.39%	1.40%	13.68%	15.09%
2009 3	16.46%	81.07%	76.91%	105.41%	17.35%	1.03%	15.82%	16.85%
2009 4	16.66%	84.43%	80.34%	105.09%	17.51%	0.67%	16.33%	16.99%
2010 1	17.37%	86.71%	83.79%	103.48%	17.98%	0.60%	17.09%	17.68%
2010 2	16.62%	87.50%	86.97%	100.61%	16.72%	0.42%	16.14%	16.56%
2010 3	15.36%	92.89%	89.87%	103.36%	15.88%	0.26%	15.52%	15.77%
2010 4	13.96%	95.79%	92.44%	103.62%	14.47%	0.16%	14.27%	14.43%
2011 1	17.01%	95.34%	94.66%	100.72%	17.13%	0.27%	17.00%	17.27%
2011 2	15.66%	95.59%	96.52%	99.04%	15.51%	0.14%	15.46%	15.59%
2011 3	12.43%	98.03%	97.99%	100.04%	12.43%	0.02%	12.42%	12.43%
2011 4	11.19%	99.42%	99.06%	100.36%	11.23%	0.00%	11.22%	11.22%

United Guaranty Corporation  
Capital Analysis using Corelogic Servicing Database  
All Loans  
Ultimate Default Rate Selections  
Evaluation as of 03/31/2012

Book Year	Original Loan Amount (\$000s)	Percent of loans that are Qualified Mortgages (Amount)	Original Loan Count	Percent QM (Count)	Cum. Default Rate as of 03/31/2012	LDL Method Default Rate	Indicated Ultimate Unadjusted BF Default Rate	Indicated Ultimate Adjusted BF Default Rate	Selected Ultimate Default Rate
1998 4	5,725,397	48%	49,611	46%	4.65%	4.84%	5.03%	5.10%	4.84%
1999 1	4,962,599	50%	42,547	48%	4.89%	5.11%	5.35%	5.34%	5.11%
1999 2	4,816,568	46%	41,766	44%	6.01%	6.30%	6.57%	6.54%	6.30%
1999 3	3,384,091	46%	29,921	44%	7.56%	7.98%	8.30%	8.18%	7.98%
1999 4	2,258,999	46%	20,526	46%	8.29%	8.80%	9.17%	9.15%	8.80%
2000 1	1,423,255	42%	13,209	42%	9.66%	10.32%	10.69%	10.67%	10.32%
2000 2	1,488,966	44%	14,060	44%	11.35%	12.20%	12.53%	12.67%	12.20%
2000 3	1,800,167	51%	16,500	50%	10.37%	11.24%	11.67%	11.56%	11.24%
2000 4	2,244,833	52%	19,922	51%	9.31%	10.17%	10.66%	10.39%	10.17%
2001 1	5,834,443	52%	45,921	51%	5.49%	6.06%	6.73%	6.27%	6.06%
2001 2	8,438,898	53%	65,084	52%	5.04%	5.62%	6.44%	5.81%	5.62%
2001 3	7,527,453	50%	57,734	50%	5.48%	6.17%	6.96%	6.35%	6.17%
2001 4	11,826,282	50%	87,637	50%	4.43%	5.05%	5.89%	5.45%	5.05%
2002 1	10,395,551	49%	76,998	49%	4.71%	5.44%	6.41%	5.73%	5.44%
2002 2	10,888,558	47%	80,358	46%	5.05%	5.92%	7.06%	6.25%	5.92%
2002 3	17,827,570	49%	124,631	49%	4.10%	4.89%	6.04%	5.44%	4.89%
2002 4	25,563,653	50%	172,257	50%	3.63%	4.41%	5.57%	5.17%	4.41%
2003 1	25,369,849	51%	168,196	51%	3.61%	4.47%	5.71%	5.58%	4.47%
2003 2	34,533,311	51%	221,225	51%	3.48%	4.40%	5.74%	6.07%	4.40%
2003 3	33,991,443	47%	216,445	49%	3.92%	5.07%	6.45%	6.99%	5.07%
2003 4	20,345,652	39%	131,287	41%	5.15%	6.83%	8.44%	8.48%	6.83%
2004 1	22,986,818	37%	139,650	40%	5.64%	7.69%	9.64%	10.27%	7.69%
2004 2	27,135,007	33%	161,797	36%	6.42%	9.03%	11.29%	11.91%	9.03%
2004 3	24,551,812	28%	142,506	31%	8.42%	12.24%	14.58%	14.94%	12.24%
2004 4	26,505,813	25%	142,820	29%	10.22%	15.41%	17.97%	19.55%	15.41%

United Guaranty Corporation  
Capital Analysis using Corelogic Servicing Database  
All Loans  
Ultimate Default Rate Selections  
Evaluation as of 03/31/2012

Book Year	Original Loan Amount (\$000s)	Percent of loans that are Qualified Mortgages (Amount)	Original Loan Count	Percent QM (Count)	Cum. Default Rate as of 03/31/2012	LDL Method Default Rate	Indicated Ultimate Unadjusted BF Default Rate	Indicated Ultimate Adjusted BF Default Rate	Selected Ultimate Default Rate
2005 1	26,273,959	24%	135,002	28%	12.02%	18.86%	20.99%	22.82%	22.82%
2005 2	40,668,737	21%	191,910	26%	14.66%	24.04%	26.10%	28.62%	28.62%
2005 3	48,439,563	22%	219,159	27%	17.20%	29.56%	30.10%	32.63%	32.63%
2005 4	41,438,093	19%	182,415	24%	20.68%	37.44%	36.44%	37.67%	37.67%
2006 1	38,243,128	17%	166,643	22%	22.10%	42.35%	40.08%	41.01%	41.01%
2006 2	47,781,799	17%	208,784	21%	20.92%	42.65%	40.29%	40.23%	40.23%
2006 3	47,797,681	18%	213,740	21%	20.70%	45.18%	41.72%	40.37%	40.37%
2006 4	50,998,310	19%	221,985	22%	21.07%	49.56%	43.09%	42.63%	42.63%
2007 1	54,503,199	19%	235,067	22%	19.79%	50.52%	44.14%	44.78%	44.78%
2007 2	73,546,025	22%	328,919	24%	17.89%	49.99%	41.25%	40.37%	40.37%
2007 3	59,052,588	25%	270,302	27%	15.82%	48.79%	38.78%	35.87%	35.87%
2007 4	52,962,735	35%	241,225	36%	14.25%	49.03%	34.82%	31.88%	31.88%
2008 1	48,159,892	45%	215,990	46%	9.72%	37.73%	27.17%	25.25%	25.25%
2008 2	40,110,502	54%	183,927	55%	6.04%	26.79%	21.94%	18.88%	18.88%
2008 3	28,823,982	49%	135,285	49%	4.50%	23.14%	21.85%	15.26%	15.26%
2008 4	22,005,413	57%	104,383	55%	3.04%	18.47%	20.09%	15.54%	15.54%
2009 1	20,549,779	69%	94,543	66%	2.26%	16.53%	14.03%	14.53%	14.53%
2009 2	28,964,725	59%	128,748	57%	1.40%	12.63%	13.74%	15.09%	15.09%
2009 3	28,147,816	45%	125,941	42%	1.03%	11.68%	16.04%	16.85%	16.85%
2009 4	29,066,803	44%	128,809	41%	0.67%	9.89%	16.20%	16.99%	16.99%
2010 1	24,592,015	41%	108,373	38%	0.60%	12.06%	17.11%	17.68%	17.68%
2010 2	24,195,057	42%	108,889	40%	0.42%	11.95%	16.46%	16.56%	16.56%
2010 3	33,081,277	41%	144,347	39%	0.26%	11.21%	15.27%	15.77%	15.77%
2010 4	45,191,533	45%	194,636	45%	0.16%	11.35%	13.93%	14.43%	14.43%
2011 1	26,744,387	40%	118,853	40%	0.27%	35.47%	17.15%	17.27%	17.27%
2011 2	23,142,935	44%	104,753	43%	0.14%	39.07%	15.74%	15.59%	15.59%
2011 3	27,370,748	52%	122,813	51%	0.02%	14.33%	12.43%	12.43%	12.43%
2011 4	27,592,861	56%	124,669	54%	0.00%	2.08%	11.18%	11.22%	11.22%
Total	1,401,272,530	36%	7,042,718	38%	9.67%	25.83%	23.56%	23.29%	22.89%
							Average		16.68%
							Average x H/L		16.37%
							Avg L5 Years		20.61%

United Guaranty Corporation  
Capital Analysis using Corelogic Servicing Database  
Loss Development Factors  
QM Loans Only

Development Quarter		1 - 2	2 - 3	3 - 4	4 - 5	5 - 6	6 - 7	7 - 8	8 - 9	9 - 10	10 - 11	11 - 12	12 - 13	13 - 14	14 - 15	15 - 16	16 - 17	17 - 18	18 - 19	19 - 20	20 - 21
Book Year Dollars	Ave	8.25	3.70	2.51	1.92	1.71	1.72	1.48	1.42	1.40	1.31	1.25	1.23	1.19	1.16	1.15	1.14	1.11	1.10	1.10	1.09
	Ave x H/L	6.32	3.46	2.42	1.91	1.69	1.65	1.46	1.41	1.34	1.30	1.25	1.22	1.19	1.16	1.15	1.13	1.11	1.10	1.09	1.09
	WA	1.95	2.10	2.06	1.92	1.71	1.55	1.44	1.41	1.36	1.32	1.25	1.20	1.17	1.15	1.13	1.13	1.13	1.11	1.10	1.10
	Ave '04-'11	7.77	3.65	2.58	1.88	1.68	1.53	1.41	1.36	1.32	1.28	1.23	1.21	1.18	1.16	1.15	1.14	1.13	1.11	1.11	1.11
	Ave x H/L '04-'11	4.67	3.33	2.45	1.87	1.68	1.52	1.40	1.36	1.31	1.27	1.22	1.20	1.17	1.15	1.15	1.14	1.13	1.11	1.11	1.11
	WA '04-'11	1.79	1.97	2.06	1.97	1.73	1.59	1.47	1.44	1.38	1.34	1.26	1.21	1.17	1.15	1.14	1.14	1.14	1.12	1.12	1.12
Book Year Counts	Ave	5.77	3.20	2.50	1.99	1.71	1.67	1.49	1.44	1.40	1.33	1.28	1.23	1.20	1.16	1.15	1.13	1.12	1.10	1.09	1.09
	Ave x H/L	4.95	3.09	2.38	1.94	1.69	1.58	1.47	1.41	1.35	1.31	1.27	1.22	1.19	1.16	1.15	1.13	1.12	1.10	1.09	1.09
	WA	1.91	2.03	2.00	1.91	1.69	1.54	1.43	1.39	1.35	1.31	1.25	1.20	1.17	1.15	1.13	1.13	1.12	1.10	1.10	1.09
	Ave '04-'11	5.10	3.22	2.54	1.90	1.69	1.53	1.41	1.36	1.32	1.28	1.23	1.21	1.17	1.15	1.15	1.13	1.13	1.11	1.11	1.10
	Ave x H/L '04-'11	3.68	3.06	2.37	1.90	1.68	1.51	1.40	1.35	1.31	1.27	1.22	1.20	1.17	1.15	1.15	1.13	1.13	1.11	1.11	1.10
	WA '04-'11	1.73	1.87	1.96	1.95	1.72	1.58	1.46	1.42	1.37	1.33	1.26	1.21	1.17	1.15	1.14	1.14	1.14	1.12	1.12	1.12
Selection:		18.74	5.26	3.13	2.35	1.97	1.74	1.59	1.48	1.40	1.34	1.30	1.26	1.23	1.20	1.18	1.16	1.14	1.13	1.12	1.10
Development Quarter		21 - 22	22 - 23	23 - 24	24 - 25	25 - 26	26 - 27	27 - 28	28 - 29	29 - 30	30 - 31	31 - 32	32 - 33	33 - 34	34 - 35	35 - 36	36 - 37	37 - 38	38 - 39	39 - 40	40 - 41
Book Year Dollars	Ave	1.08	1.07	1.07	1.06	1.06	1.05	1.05	1.05	1.04	1.03	1.03	1.03	1.02	1.02	1.02	1.01	1.01	1.01	1.01	1.01
	Ave x H/L	1.07	1.07	1.07	1.06	1.05	1.05	1.05	1.04	1.04	1.03	1.03	1.03	1.02	1.02	1.02	1.01	1.01	1.01	1.01	1.01
	WA	1.09	1.08	1.08	1.07	1.07	1.06	1.06	1.05	1.05	1.04	1.04	1.03	1.03	1.02	1.02	1.02	1.01	1.01	1.01	1.01
	Ave '04-'11	1.10	1.09	1.09	1.08	1.08	1.08	1.07	1.07	1.06	1.06	1.04	1.00								
	Ave x H/L '04-'11	1.10	1.10	1.10	1.09	1.09	1.09	1.08	1.08	1.07	1.07										
	WA '04-'11	1.11	1.10	1.11	1.10	1.10	1.09	1.09	1.09	1.08	1.09	1.09									
Book Year Counts	Ave	1.08	1.07	1.06	1.06	1.06	1.05	1.05	1.04	1.04	1.03	1.03	1.03	1.02	1.02	1.02	1.02	1.01	1.01	1.01	1.01
	Ave x H/L	1.08	1.07	1.07	1.06	1.05	1.05	1.05	1.04	1.04	1.03	1.03	1.03	1.02	1.02	1.02	1.02	1.01	1.01	1.01	1.01
	WA	1.08	1.07	1.07	1.06	1.06	1.06	1.05	1.05	1.04	1.04	1.04	1.04	1.03	1.03	1.02	1.02	1.02	1.01	1.01	1.01
	Ave '04-'11	1.10	1.09	1.08	1.08	1.08	1.08	1.06	1.06	1.06	1.06	1.04	1.00								
	Ave x H/L '04-'11	1.10	1.09	1.09	1.08	1.08	1.08	1.07	1.07	1.07	1.07										
	WA '04-'11	1.11	1.10	1.10	1.09	1.09	1.09	1.08	1.08	1.08	1.09	1.08									
Selection:		1.09	1.09	1.08	1.07	1.06	1.06	1.05	1.05	1.04	1.04	1.04	1.03	1.03	1.03	1.03	1.02	1.02	1.02	1.02	1.02
Development Quarter		41 - 42	42 - 43	43 - 44	44 - 45	45 - 46	46 - 47	47 - 48	48 - 49	49 - 50	50 - 51	51 - 52	52 - 53	53 - 54	54 - 55	55 - 56	56 - 57	57 - 58	58 - 59		
Book Year Dollars	Ave	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.00	1.00								
	Ave x H/L	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01								
	WA	1.01	1.02	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.02	1.01									
	Ave '04-'11																				
	Ave x H/L '04-'11																				
	WA '04-'11																				
Book Year Counts	Ave	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.02	1.01	1.01	1.00							
	Ave x H/L	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.02	1.01	1.01								
	WA	1.01	1.02	1.01	1.02	1.01	1.01	1.01	1.01	1.01	1.02	1.01									
	Ave '04-'11																				
	Ave x H/L '04-'11																				
	WA '04-'11																				
Selection:		1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**United Guaranty Corporation**  
 Capital Analysis using Corelogic Servicing Database  
 QM Loans Only  
 Paid LDF-Method

Book Year	A	B	C = A * B
	Cumulative Default Rate as of 03/31/2012	LDF	Indicated Ultimate Default Rate
1998 4	3.08%	1.038	3.19%
1999 1	3.00%	1.042	3.13%
1999 2	3.76%	1.047	3.94%
1999 3	4.19%	1.053	4.41%
1999 4	5.83%	1.059	6.17%
2000 1	6.51%	1.066	6.94%
2000 2	7.87%	1.073	8.45%
2000 3	6.90%	1.082	7.46%
2000 4	6.46%	1.091	7.05%
2001 1	3.85%	1.102	4.24%
2001 2	3.28%	1.114	3.66%
2001 3	3.69%	1.127	4.15%
2001 4	3.04%	1.142	3.48%
2002 1	3.10%	1.158	3.59%
2002 2	3.03%	1.176	3.56%
2002 3	2.28%	1.197	2.72%
2002 4	2.16%	1.219	2.64%
2003 1	2.16%	1.245	2.69%
2003 2	2.01%	1.274	2.56%
2003 3	2.07%	1.306	2.71%
2003 4	2.65%	1.342	3.55%
2004 1	2.81%	1.383	3.89%
2004 2	2.64%	1.429	3.77%
2004 3	3.34%	1.481	4.94%
2004 4	4.02%	1.541	6.19%

**United Guaranty Corporation**  
 Capital Analysis using Corelogic Servicing Database  
 QM Loans Only  
 Paid LDF-Method

Book Year	A	B	C = A * B
	Cumulative Default Rate as of 03/31/2012	LDF	Indicated Ultimate Default Rate
2005 1	4.43%	1.609	7.13%
2005 2	5.09%	1.687	8.58%
2005 3	5.68%	1.776	10.10%
2005 4	6.89%	1.880	12.95%
2006 1	7.91%	2.000	15.81%
2006 2	7.77%	2.141	16.65%
2006 3	7.27%	2.307	16.77%
2006 4	6.97%	2.504	17.45%
2007 1	7.77%	2.740	21.28%
2007 2	7.39%	3.026	22.34%
2007 3	8.09%	3.374	27.28%
2007 4	8.86%	3.806	33.73%
2008 1	5.86%	4.348	25.48%
2008 2	3.76%	5.038	18.96%
2008 3	2.78%	5.935	16.52%
2008 4	1.66%	7.123	11.80%
2009 1	0.89%	8.738	7.82%
2009 2	0.46%	10.993	5.03%
2009 3	0.35%	14.250	4.97%
2009 4	0.19%	19.146	3.55%
2010 1	0.12%	26.871	3.23%
2010 2	0.10%	39.810	3.81%
2010 3	0.05%	63.179	3.21%
2010 4	0.05%	109.748	5.02%
2011 1	0.17%	215.756	37.45%
2011 2	0.09%	507.642	43.99%
2011 3	0.01%	1587.455	16.24%
2011 4	0.00%	8348.026	0.00%

**United Guaranty Corporation**  
 Capital Analysis using Corelogic Servicing Database  
 QM Loans Only  
 Unadjusted BF Method

Book Year	A	B	C = A * (1-1/LDF)	D = B + C
	Unadjusted A Priori Ultimate Default Rate	Cumulative Default Rate as of 03/31/2012	Indicated Future Rate as of 03/31/2012	Unadjusted BF Indicated Ultimate Default Rate
1998 4	2.98%	3.08%	0.11%	3.19%
1999 1	3.15%	3.00%	0.13%	3.13%
1999 2	3.69%	3.76%	0.17%	3.93%
1999 3	4.23%	4.19%	0.21%	4.40%
1999 4	4.52%	5.83%	0.25%	6.08%
2000 1	4.59%	6.51%	0.28%	6.80%
2000 2	4.71%	7.87%	0.32%	8.19%
2000 3	5.03%	6.90%	0.38%	7.28%
2000 4	5.23%	6.46%	0.44%	6.90%
2001 1	4.94%	3.85%	0.46%	4.31%
2001 2	5.33%	3.28%	0.54%	3.83%
2001 3	5.33%	3.69%	0.60%	4.29%
2001 4	4.89%	3.04%	0.61%	3.65%
2002 1	5.13%	3.10%	0.70%	3.80%
2002 2	5.54%	3.03%	0.83%	3.86%
2002 3	5.53%	2.28%	0.91%	3.18%
2002 4	5.59%	2.16%	1.01%	3.17%
2003 1	5.88%	2.16%	1.16%	3.32%
2003 2	6.10%	2.01%	1.31%	3.32%
2003 3	6.13%	2.07%	1.44%	3.51%
2003 4	6.95%	2.65%	1.77%	4.42%
2004 1	7.41%	2.81%	2.05%	4.87%
2004 2	7.84%	2.64%	2.35%	4.99%
2004 3	8.94%	3.34%	2.90%	6.24%
2004 4	9.94%	4.02%	3.49%	7.51%

**United Guaranty Corporation**  
Capital Analysis using Corelogic Servicing Database  
QIM Loans Only  
Unadjusted BF Method

Book Year	A	B	C = A * (1-1/LDF)	D = B + C
	Unadjusted A Priori Ultimate Default Rate	Cumulative Default Rate as of 03/31/2012	Indicated Future Rate as of 03/31/2012	Unadjusted BF Indicated Ultimate Default Rate
2005 1	10.50%	4.43%	3.97%	8.40%
2005 2	11.20%	5.09%	4.56%	9.65%
2005 3	12.01%	5.68%	5.25%	10.93%
2005 4	13.62%	6.89%	6.38%	13.27%
2006 1	15.18%	7.91%	7.59%	15.49%
2006 2	15.36%	7.77%	8.19%	15.96%
2006 3	15.22%	7.27%	8.62%	15.89%
2006 4	15.56%	6.97%	9.35%	16.31%
2007 1	16.23%	7.77%	10.31%	18.07%
2007 2	15.79%	7.39%	10.57%	17.96%
2007 3	15.72%	8.09%	11.06%	19.15%
2007 4	14.51%	8.86%	10.70%	19.56%
2008 1	12.00%	5.86%	9.24%	15.10%
2008 2	10.75%	3.76%	8.62%	12.38%
2008 3	10.28%	2.78%	8.55%	11.33%
2008 4	9.61%	1.66%	8.26%	9.92%
2009 1	6.97%	0.89%	6.17%	7.07%
2009 2	5.87%	0.46%	5.34%	5.80%
2009 3	5.41%	0.35%	5.03%	5.38%
2009 4	5.10%	0.19%	4.84%	5.02%
2010 1	5.23%	0.12%	5.03%	5.15%
2010 2	4.58%	0.10%	4.47%	4.56%
2010 3	4.97%	0.05%	4.89%	4.94%
2010 4	4.91%	0.05%	4.87%	4.91%
2011 1	4.26%	0.17%	4.25%	4.42%
2011 2	3.73%	0.09%	3.72%	3.81%
2011 3	3.45%	0.01%	3.45%	3.46%
2011 4	3.32%	0.00%	3.32%	3.32%

United Guaranty Corporation  
Capital Analysis using Corelogic Servicing Database  
QM Loans Only  
Conditional Prepayment Rate

	Development Quarters														
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	<u>8</u>	<u>9</u>	<u>10</u>	<u>11</u>	<u>12</u>	<u>13</u>	<u>14</u>	<u>15</u>
<u>Amount Based</u>															
Average	7.4%	9.1%	11.3%	13.2%	14.1%	14.8%	15.9%	16.6%	16.5%	16.6%	17.0%	16.5%	16.3%	16.8%	17.0%
Average x H/L	7.1%	8.7%	10.9%	12.7%	13.6%	14.4%	15.4%	16.1%	15.9%	16.0%	16.4%	15.8%	15.5%	16.2%	16.6%
Weighted Average	8.5%	10.1%	11.5%	12.8%	14.4%	14.4%	14.6%	15.5%	15.7%	16.0%	15.8%	15.0%	15.1%	16.2%	16.1%
<u>Count Based</u>															
Average	6.6%	8.2%	10.2%	11.9%	12.7%	13.4%	14.4%	15.1%	15.1%	15.3%	15.7%	15.3%	15.2%	15.7%	15.8%
Average x H/L	6.4%	7.8%	9.8%	11.4%	12.2%	13.0%	13.9%	14.6%	14.5%	14.6%	15.1%	14.5%	14.4%	15.1%	15.4%
Weighted Average	8.1%	9.8%	11.3%	12.9%	14.5%	14.5%	14.5%	15.2%	15.1%	15.0%	15.0%	14.4%	14.3%	15.1%	15.0%
<u>Amount Based</u>	<u>16</u>	<u>17</u>	<u>18</u>	<u>19</u>	<u>20</u>	<u>21</u>	<u>22</u>	<u>23</u>	<u>24</u>	<u>25</u>	<u>26</u>	<u>27</u>	<u>28</u>	<u>29</u>	<u>30</u>
Average	16.1%	15.4%	15.0%	14.7%	14.3%	13.9%	13.1%	13.5%	13.4%	13.0%	13.5%	13.9%	13.9%	12.6%	12.5%
Average x H/L	15.8%	15.1%	14.6%	14.4%	13.8%	13.6%	12.8%	13.2%	13.3%	12.9%	13.4%	13.7%	13.8%	12.5%	12.4%
Weighted Average	15.3%	14.7%	14.0%	13.8%	13.7%	13.2%	13.2%	14.3%	14.7%	14.8%	14.9%	16.0%	17.3%	17.2%	16.9%
<u>Count Based</u>															
Average	15.1%	14.4%	14.0%	13.8%	13.4%	13.0%	12.2%	12.5%	12.3%	11.9%	12.2%	12.6%	12.5%	11.5%	11.3%
Average x H/L	14.9%	14.1%	13.6%	13.5%	13.0%	12.7%	12.0%	12.3%	12.3%	11.8%	12.1%	12.4%	12.4%	11.4%	11.2%
Weighted Average	14.4%	13.8%	13.1%	12.8%	12.7%	12.2%	12.0%	12.7%	13.1%	13.1%	13.3%	14.2%	15.2%	15.1%	14.9%
<u>Amount Based</u>	<u>31</u>	<u>32</u>	<u>33</u>	<u>34</u>	<u>35</u>	<u>36</u>	<u>37</u>	<u>38</u>	<u>39</u>	<u>40</u>	<u>41</u>	<u>42</u>	<u>43</u>	<u>44</u>	<u>45</u>
Average	12.7%	12.2%	11.4%	10.5%	10.9%	10.0%	9.9%	9.2%	9.5%	10.2%	10.1%	10.1%	11.8%	10.3%	11.2%
Average x H/L	12.5%	12.1%	11.3%	10.4%	10.8%	9.9%	9.9%	9.0%	9.0%	10.2%	9.8%	8.9%	10.0%	9.3%	10.3%
Weighted Average	17.2%	18.4%	18.6%	17.4%	17.2%	15.4%	14.0%	12.4%	14.0%	13.8%	13.9%	14.7%	14.8%	12.7%	14.5%
<u>Count Based</u>															
Average	11.4%	11.0%	10.3%	9.5%	9.8%	9.3%	9.0%	8.6%	8.9%	9.4%	9.1%	9.5%	11.1%	9.8%	10.3%
Average x H/L	11.3%	10.9%	10.2%	9.4%	9.7%	9.1%	8.9%	8.4%	8.3%	9.1%	8.5%	8.0%	9.0%	8.6%	8.9%
Weighted Average	15.3%	16.3%	16.2%	15.0%	15.0%	13.9%	12.5%	11.6%	12.9%	12.5%	12.7%	13.7%	13.6%	12.2%	13.1%
<u>Amount Based</u>	<u>46</u>	<u>47</u>	<u>48</u>	<u>49</u>	<u>50</u>	<u>51</u>	<u>52</u>	<u>53</u>	<u>54</u>	<u>55</u>	<u>56</u>	<u>57</u>	<u>58</u>	<u>59</u>	<u>60</u>
Average	10.8%	12.8%	11.9%	11.7%	13.3%	13.5%	8.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Average x H/L	10.1%	12.1%	12.2%	13.1%	14.2%	16.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Weighted Average	13.1%	16.0%	15.8%	16.5%	19.4%	22.5%	16.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
<u>Count Based</u>															
Average	9.6%	11.8%	11.2%	10.7%	12.3%	13.6%	7.2%								
Average x H/L	8.8%	10.7%	11.2%	11.8%	12.2%	14.0%									
Weighted Average	11.8%	14.9%	14.9%	15.1%	18.2%	23.0%	15.1%								
	<u>Dollar Based</u>	<u>Count Based</u>													
	CPR	CPR													
Average of Wtd Average 9-36	15.7%	14.2%													
Selected Long-Term CPR		16%													
Selected Long-Term PSA		267%													
	9	11	13	15	17	19	21	23	25	27	29	31	33	35	37
St Dev CPR	13%	12%	13%	12%	11%	9%	8%	6%	5%	5%	6%	6%	6%	5%	5%
CV	80%	75%	85%	76%	73%	63%	61%	41%	33%	33%	33%	34%	30%	32%	35%
Average of Wtd Average 9-36		53%	53%												
Selected CV	40%														

**United Guaranty Corporation**  
Capital Analysis using Corelogic Servicing Database  
QM Loans Only  
Adjusted Paid BF Method

Book Year	A A Priori Ultimate	B Actual Percent In-force as of 03/31/2012	C Expected Percent In-force as of 03/31/2012	D = B / C	E = A * D	F Cumulative Default Rate as of 03/31/2012	G = E*(1-1/LDF) Indicated Future Default Rate as of 03/31/2012	H = F + G Adjusted BF Indicated Ultimate Default Rate
1998 4	2.98%	13.87%	11.80%	117.53%	3.50%	3.08%	0.13%	3.20%
1999 1	3.15%	10.90%	12.33%	88.41%	2.79%	3.00%	0.11%	3.12%
1999 2	3.69%	10.46%	12.88%	81.21%	3.00%	3.76%	0.14%	3.90%
1999 3	4.23%	8.43%	13.45%	62.67%	2.65%	4.19%	0.13%	4.32%
1999 4	4.52%	9.52%	14.05%	67.76%	3.06%	5.83%	0.17%	6.00%
2000 1	4.59%	10.71%	14.68%	72.96%	3.35%	6.51%	0.21%	6.72%
2000 2	4.71%	10.88%	15.33%	70.99%	3.34%	7.87%	0.23%	8.10%
2000 3	5.03%	9.10%	16.01%	56.84%	2.86%	6.90%	0.22%	7.12%
2000 4	5.23%	9.54%	16.73%	57.01%	2.98%	6.46%	0.25%	6.71%
2001 1	4.94%	9.20%	17.47%	52.66%	2.60%	3.85%	0.24%	4.09%
2001 2	5.33%	7.60%	18.25%	41.62%	2.22%	3.28%	0.23%	3.51%
2001 3	5.33%	8.93%	19.07%	46.82%	2.49%	3.69%	0.28%	3.97%
2001 4	4.89%	12.36%	19.91%	62.05%	3.03%	3.04%	0.38%	3.42%
2002 1	5.13%	11.40%	20.80%	54.82%	2.81%	3.10%	0.38%	3.48%
2002 2	5.54%	11.27%	21.73%	51.86%	2.87%	3.03%	0.43%	3.46%
2002 3	5.53%	13.91%	22.70%	61.27%	3.39%	2.28%	0.56%	2.83%
2002 4	5.59%	17.49%	23.71%	73.78%	4.12%	2.16%	0.74%	2.91%
2003 1	5.88%	21.91%	24.76%	88.48%	5.21%	2.16%	1.02%	3.18%
2003 2	6.10%	29.46%	25.87%	113.89%	6.95%	2.01%	1.49%	3.50%
2003 3	6.13%	34.07%	27.02%	126.11%	7.73%	2.07%	1.81%	3.88%
2003 4	6.95%	29.68%	28.22%	105.17%	7.31%	2.65%	1.86%	4.51%
2004 1	7.41%	34.95%	29.48%	118.54%	8.79%	2.81%	2.43%	5.25%
2004 2	7.84%	34.62%	30.79%	112.43%	8.81%	2.64%	2.65%	5.29%
2004 3	8.94%	34.09%	32.17%	105.97%	9.47%	3.34%	3.08%	6.41%
2004 4	9.94%	44.23%	33.60%	131.63%	13.09%	4.02%	4.59%	8.61%

**United Guaranty Corporation**  
Capital Analysis using Corelogic Servicing Database  
QM Loans Only  
Adjusted Paid BF Method

Book Year	A A Priori Ultimate	B Actual Percent In-force as of 03/31/2012	C Expected Percent In-force as of 03/31/2012	D = B / C	E = A * D	F Cumulative Default Rate as of 03/31/2012	G = E*(1-1/LDF)	H = F + G
2005 1	10.50%	45.87%	35.10%	130.71%	13.72%	4.43%	5.19%	9.62%
2005 2	11.20%	47.31%	36.66%	129.05%	14.45%	5.09%	5.88%	10.97%
2005 3	12.01%	49.79%	38.29%	130.01%	15.61%	5.68%	6.82%	12.51%
2005 4	13.62%	47.47%	40.00%	118.68%	16.17%	6.89%	7.57%	14.46%
2006 1	15.18%	47.27%	41.78%	113.12%	17.17%	7.91%	8.59%	16.49%
2006 2	15.36%	44.62%	43.64%	102.23%	15.70%	7.77%	8.37%	16.14%
2006 3	15.22%	42.22%	45.59%	92.61%	14.10%	7.27%	7.99%	15.25%
2006 4	15.56%	48.77%	47.62%	102.41%	15.93%	6.97%	9.57%	16.54%
2007 1	16.23%	51.08%	49.74%	102.68%	16.67%	7.77%	10.59%	18.35%
2007 2	15.79%	51.11%	51.96%	98.37%	15.53%	7.39%	10.40%	17.78%
2007 3	15.72%	48.47%	54.27%	89.32%	14.04%	8.09%	9.88%	17.97%
2007 4	14.51%	49.29%	56.69%	86.95%	12.62%	8.86%	9.30%	18.16%
2008 1	12.00%	54.89%	59.21%	92.70%	11.12%	5.86%	8.56%	14.43%
2008 2	10.75%	51.99%	61.85%	84.05%	9.04%	3.76%	7.24%	11.01%
2008 3	10.28%	42.04%	64.61%	65.07%	6.69%	2.78%	5.56%	8.35%
2008 4	9.61%	49.82%	67.49%	73.83%	7.10%	1.66%	6.10%	7.76%
2009 1	6.97%	73.43%	70.49%	104.16%	7.26%	0.89%	6.43%	7.33%
2009 2	5.87%	81.06%	73.63%	110.09%	6.47%	0.46%	5.88%	6.34%
2009 3	5.41%	78.19%	76.91%	101.66%	5.50%	0.35%	5.11%	5.46%
2009 4	5.10%	81.12%	80.34%	100.97%	5.15%	0.19%	4.88%	5.07%
2010 1	5.23%	82.36%	83.79%	98.29%	5.14%	0.12%	4.95%	5.07%
2010 2	4.58%	83.23%	86.97%	95.70%	4.39%	0.10%	4.28%	4.37%
2010 3	4.97%	91.06%	89.87%	101.32%	5.03%	0.05%	4.95%	5.00%
2010 4	4.91%	95.03%	92.44%	102.80%	5.05%	0.05%	5.00%	5.05%
2011 1	4.26%	92.87%	94.66%	98.11%	4.18%	0.17%	4.16%	4.34%
2011 2	3.73%	93.38%	96.52%	96.75%	3.61%	0.09%	3.60%	3.69%
2011 3	3.45%	97.67%	97.99%	99.68%	3.44%	0.01%	3.44%	3.45%
2011 4	3.32%	99.54%	99.06%	100.49%	3.34%	0.00%	3.34%	3.34%

**United Guaranty Corporation**  
Capital Analysis using Corelogic Servicing Database  
QM Loans Only  
Ultimate Default Rate Selections  
Evaluation as of 03/31/2012

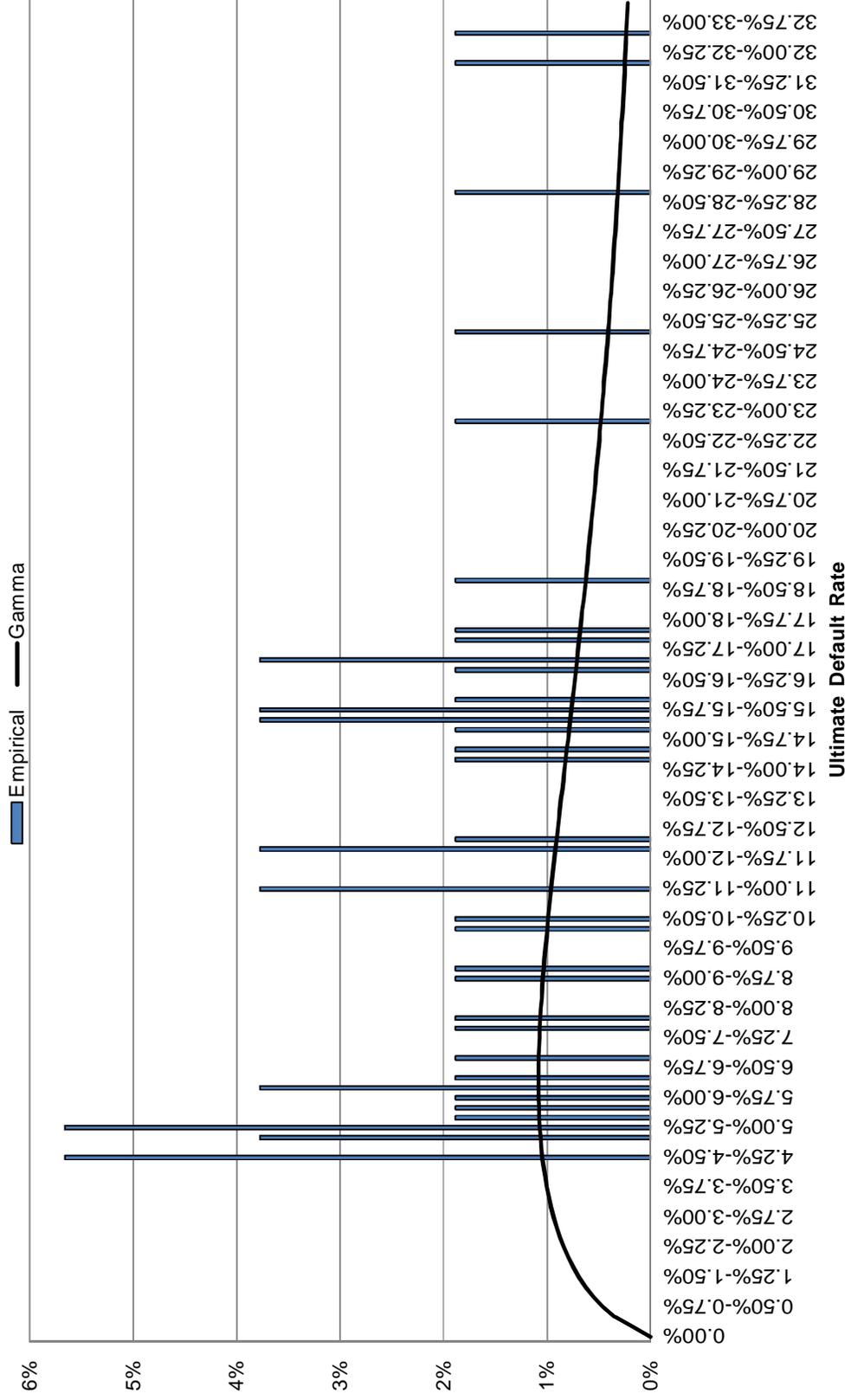
Book Year	Original Loan Amount (\$000s)	Percent of loans that are Qualified Mortgages (Amount)	Original Loan Count	Percent QM (Count)	Cum. Default Rate as of 03/31/2012	LDF Method Default Rate	Indicated Ultimate Unadjusted BF Default Rate	Indicated Ultimate Adjusted BF Default Rate	Selected Ultimate Default Rate
1998 4	2,732,034	100%	22,851	100%	3.08%	3.19%	3.19%	3.20%	3.19%
1999 1	2,464,921	100%	20,242	100%	3.00%	3.13%	3.13%	3.12%	3.13%
1999 2	2,232,712	100%	18,485	100%	3.76%	3.94%	3.93%	3.90%	3.94%
1999 3	1,541,201	100%	13,187	100%	4.19%	4.41%	4.40%	4.32%	4.41%
1999 4	1,049,562	100%	9,359	100%	5.83%	6.17%	6.08%	6.00%	6.17%
2000 1	594,673	100%	5,536	100%	6.51%	6.94%	6.80%	6.72%	6.94%
2000 2	659,442	100%	6,226	100%	7.87%	8.45%	8.19%	8.10%	8.45%
2000 3	922,617	100%	8,276	100%	6.90%	7.46%	7.28%	7.12%	7.46%
2000 4	1,173,765	100%	10,153	100%	6.46%	7.05%	6.90%	6.71%	7.05%
2001 1	3,030,121	100%	23,416	100%	3.85%	4.24%	4.31%	4.09%	4.24%
2001 2	4,511,614	100%	33,856	100%	3.28%	3.66%	3.83%	3.51%	3.66%
2001 3	3,751,412	100%	28,662	100%	3.69%	4.15%	4.29%	3.97%	4.15%
2001 4	5,872,753	100%	43,570	100%	3.04%	3.48%	3.65%	3.42%	3.48%
2002 1	5,108,902	100%	37,835	100%	3.10%	3.59%	3.80%	3.48%	3.59%
2002 2	5,065,121	100%	37,185	100%	3.03%	3.56%	3.86%	3.46%	3.56%
2002 3	8,726,207	100%	60,519	100%	2.28%	2.72%	3.18%	2.83%	2.72%
2002 4	12,831,226	100%	86,357	100%	2.16%	2.64%	3.17%	2.91%	2.64%
2003 1	12,871,674	100%	85,736	100%	2.16%	2.69%	3.32%	3.18%	2.69%
2003 2	17,496,587	100%	113,711	100%	2.01%	2.56%	3.32%	3.50%	2.56%
2003 3	16,080,073	100%	105,323	100%	2.07%	2.71%	3.51%	3.88%	2.71%
2003 4	7,969,892	100%	53,612	100%	2.65%	3.55%	4.42%	4.51%	3.55%
2004 1	8,543,585	100%	56,202	100%	2.81%	3.89%	4.87%	5.25%	3.89%
2004 2	8,951,480	100%	58,452	100%	2.64%	3.77%	4.99%	5.29%	3.77%
2004 3	6,791,680	100%	44,246	100%	3.34%	4.94%	6.24%	6.41%	4.94%
2004 4	6,593,991	100%	41,016	100%	4.02%	6.19%	7.51%	8.61%	6.19%



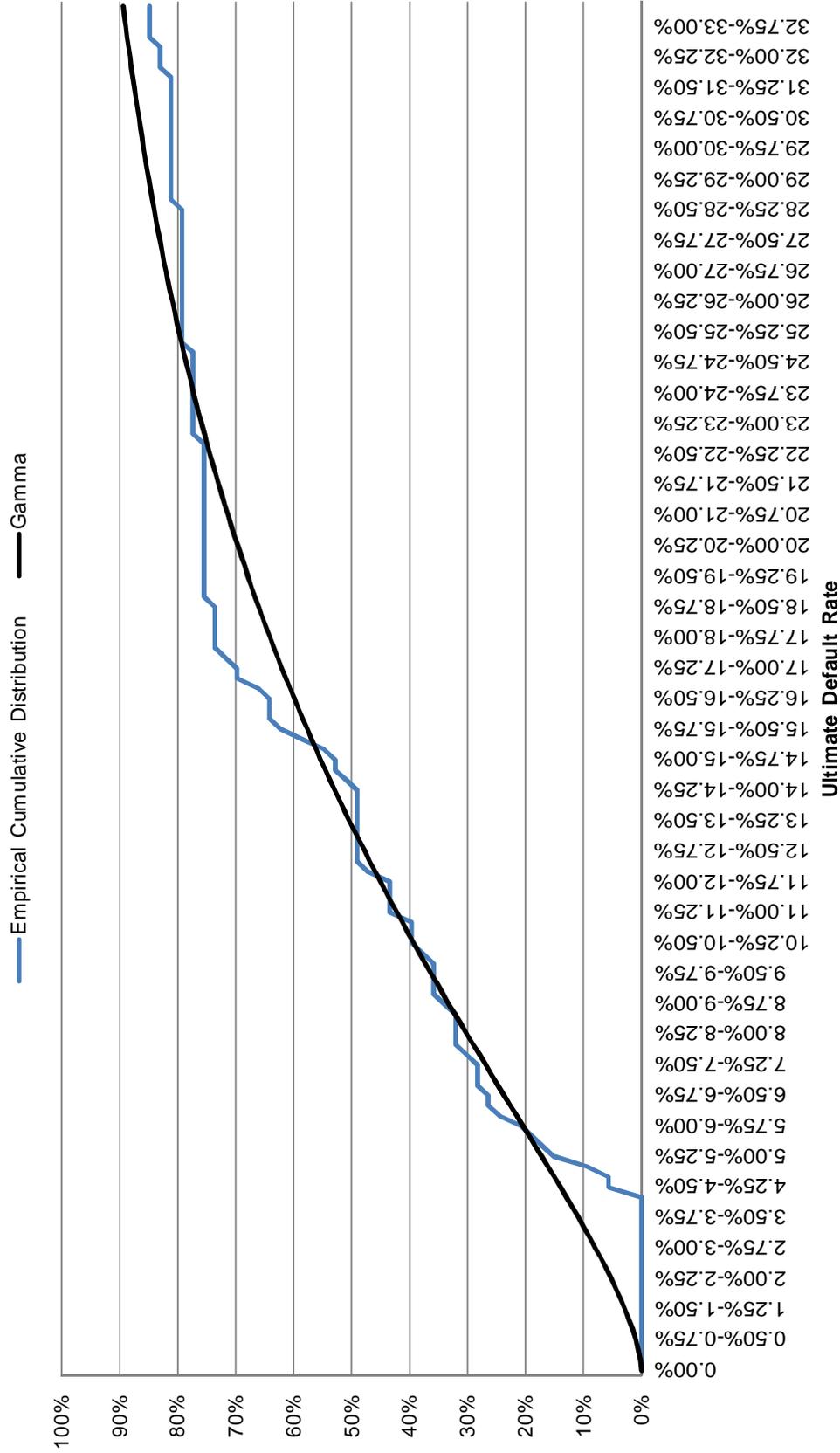
**United Guaranty Corporation**  
 Capital Analysis using Corelogic Servicing Database  
 Ultimate Default Rate Distribution by for All Loans and QM Loans  
 Corelogic Servicing Data 1998-2012

Confidence Level	All Loans		QM Loans Only	
	Empirical	Gamma Fit	Empirical	Gamma Fit
10%	5.0%	3.5%	3.1%	1.9%
20%	5.9%	5.9%	3.6%	2.9%
30%	7.7%	8.2%	3.8%	3.9%
40%	11.2%	10.7%	4.4%	5.0%
50%	14.4%	13.4%	5.1%	6.1%
60%	15.5%	16.5%	6.3%	7.3%
70%	17.3%	20.4%	8.3%	8.9%
80%	28.6%	25.6%	12.5%	11.0%
90%	40.2%	34.2%	16.5%	14.3%
95%	41.0%	42.5%	18.0%	17.5%
99%	44.8%	61.2%	18.4%	24.6%
Average Ultimate Default Rate or Distribution Mean	16.7%	16.7%	7.4%	7.3%
Standard Deviation	12.2%	13.2%	5.0%	5.3%
2007 Ultimate Default Rate	38.2%		18.1%	
2007 Ultimate Default Rate Percentile	88.7%	92.8%	96.2%	95.6%

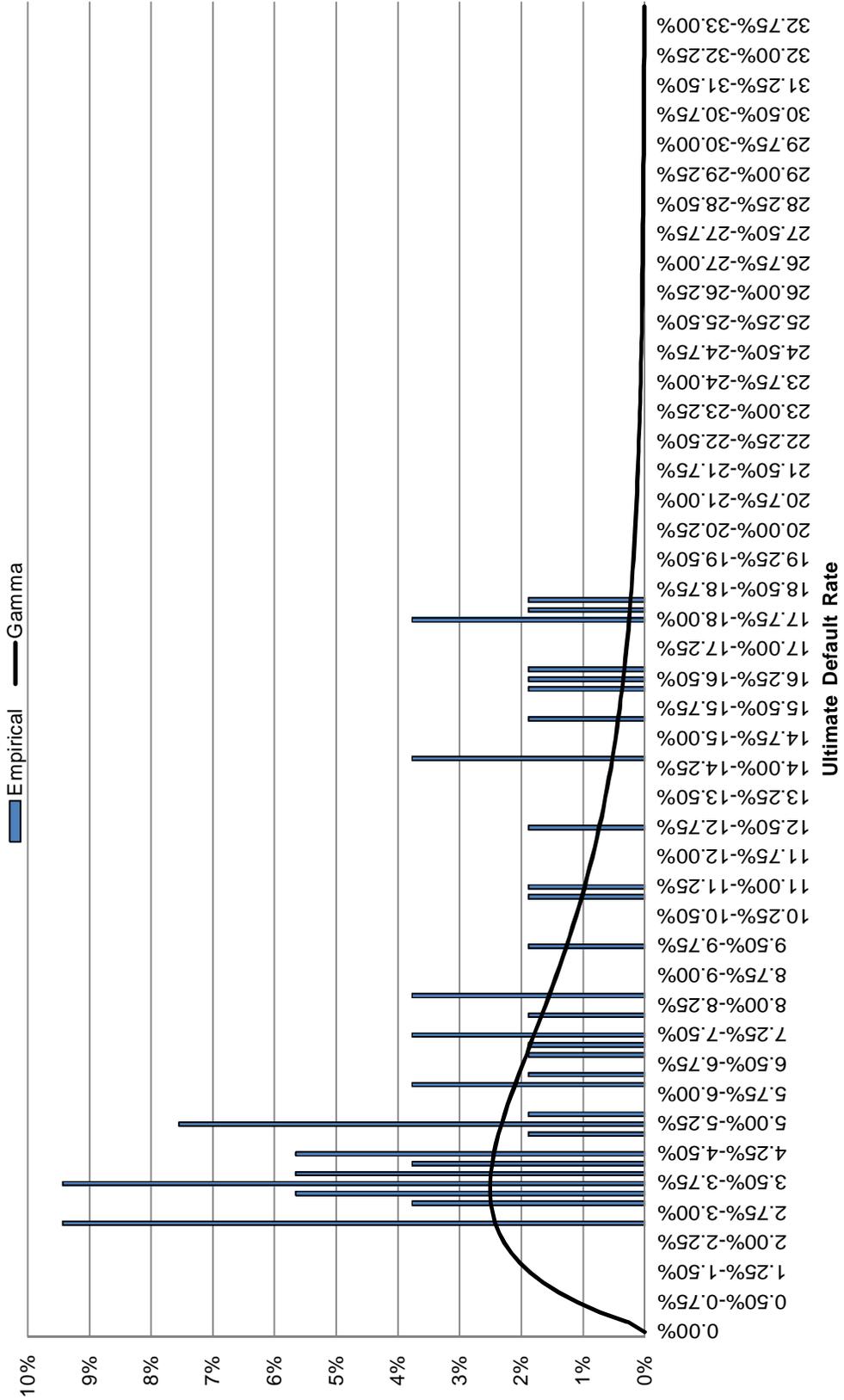
United Guaranty Corporation  
Gamma Distribution Fit  
Capital Analysis using Corelogic Servicing Database  
Cohort: All Loans  
Incremental Default Rate Distribution  
Distribution Mean = 16.7 Percent



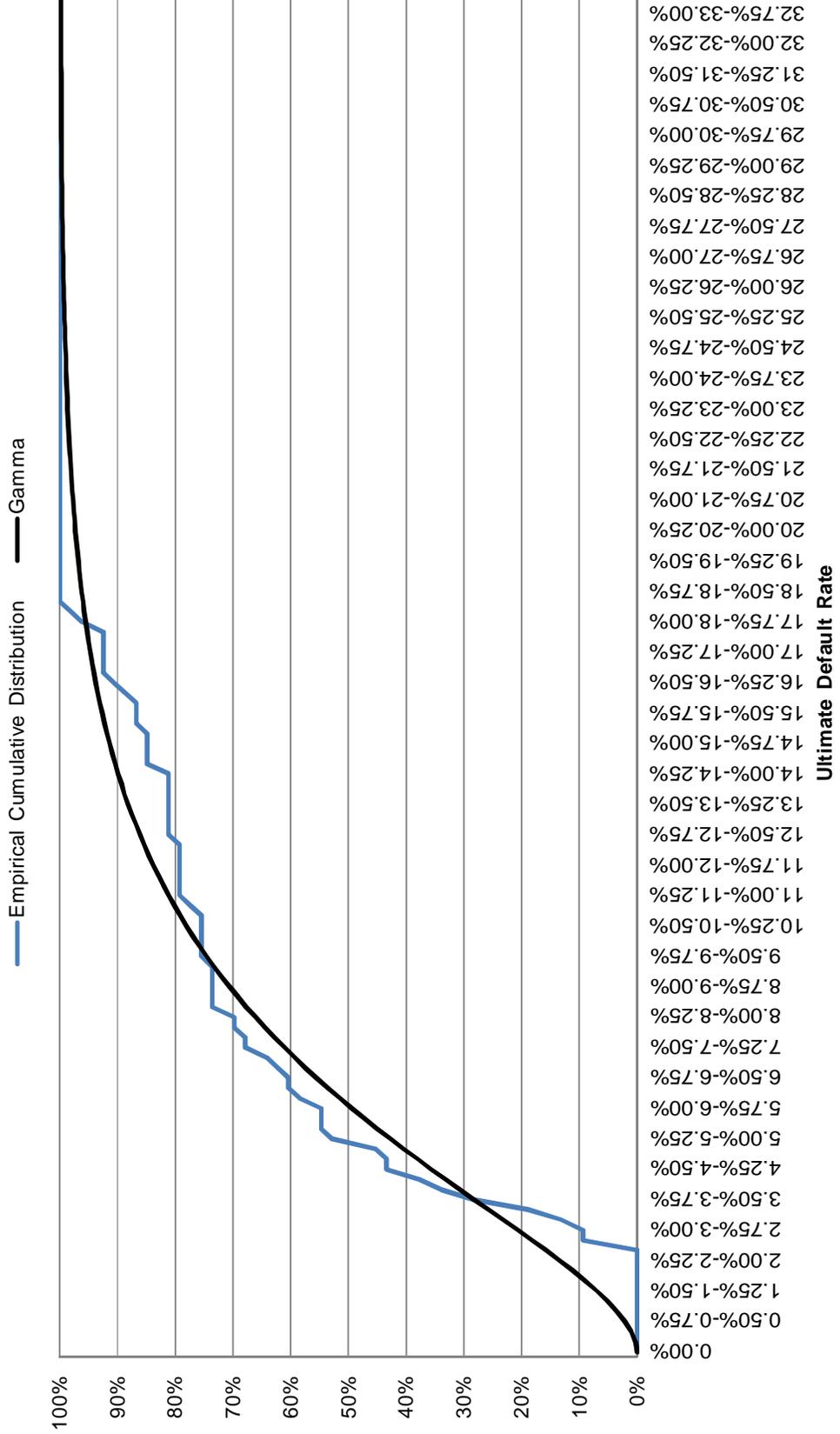
United Guaranty Corporation  
Gamma Distribution Fit  
Capital Analysis using Corelogic Servicing Database  
Cohort: All Loans  
Cumulative Default Rate Distribution  
Distribution Mean = 16.7 Percent



United Guaranty Corporation  
Gamma Distribution Fit  
Capital Analysis using Corelogic Servicing Database  
Cohort: QM Loans Only  
Incremental Default Rate Distribution  
Distribution Mean = 7.3 Percent

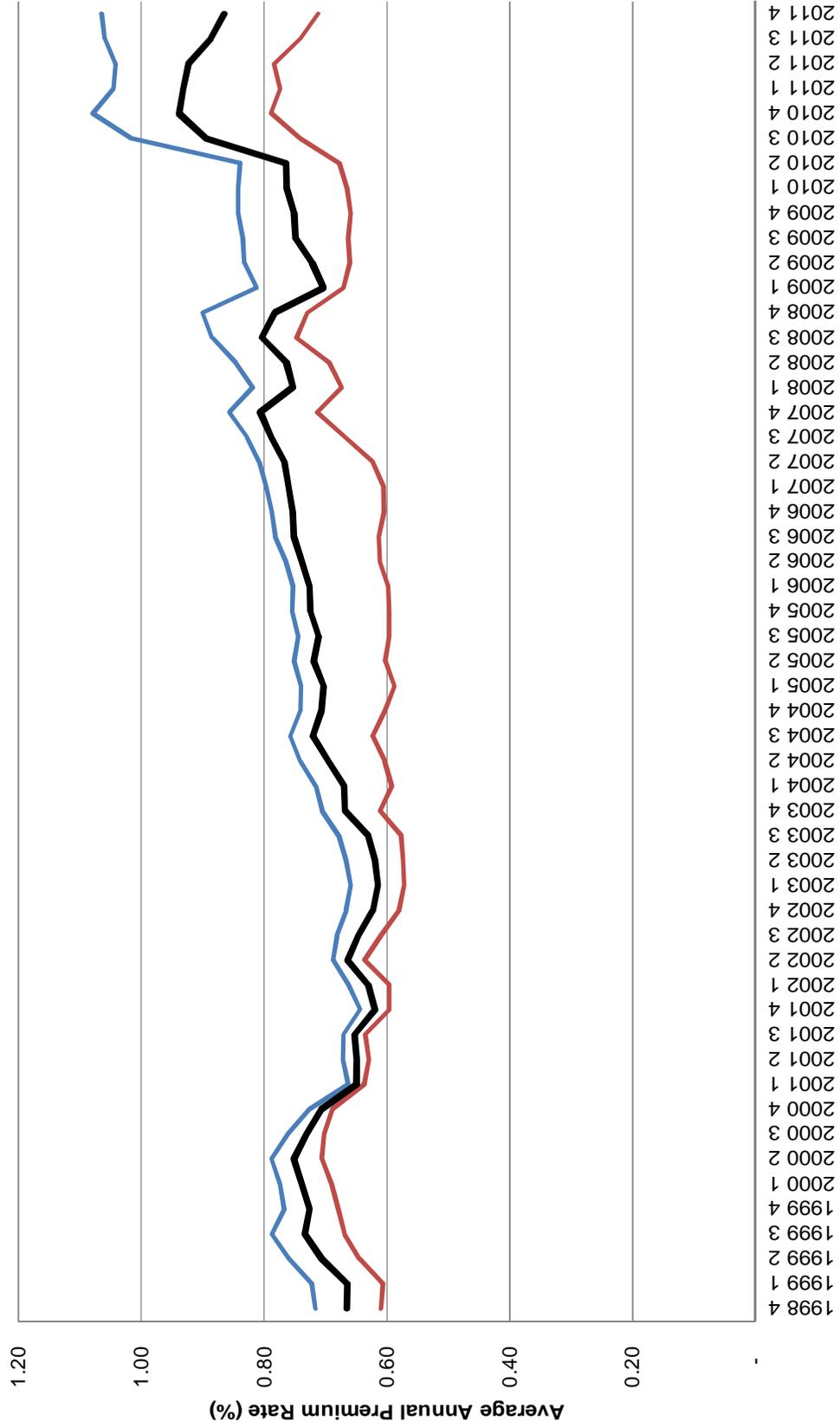


United Guaranty Corporation  
Gamma Distribution Fit  
Capital Analysis using Corelogic Servicing Database  
Cohort: QM Loans Only  
Cumulative Default Rate Distribution  
Distribution Mean = 7.3 Percent



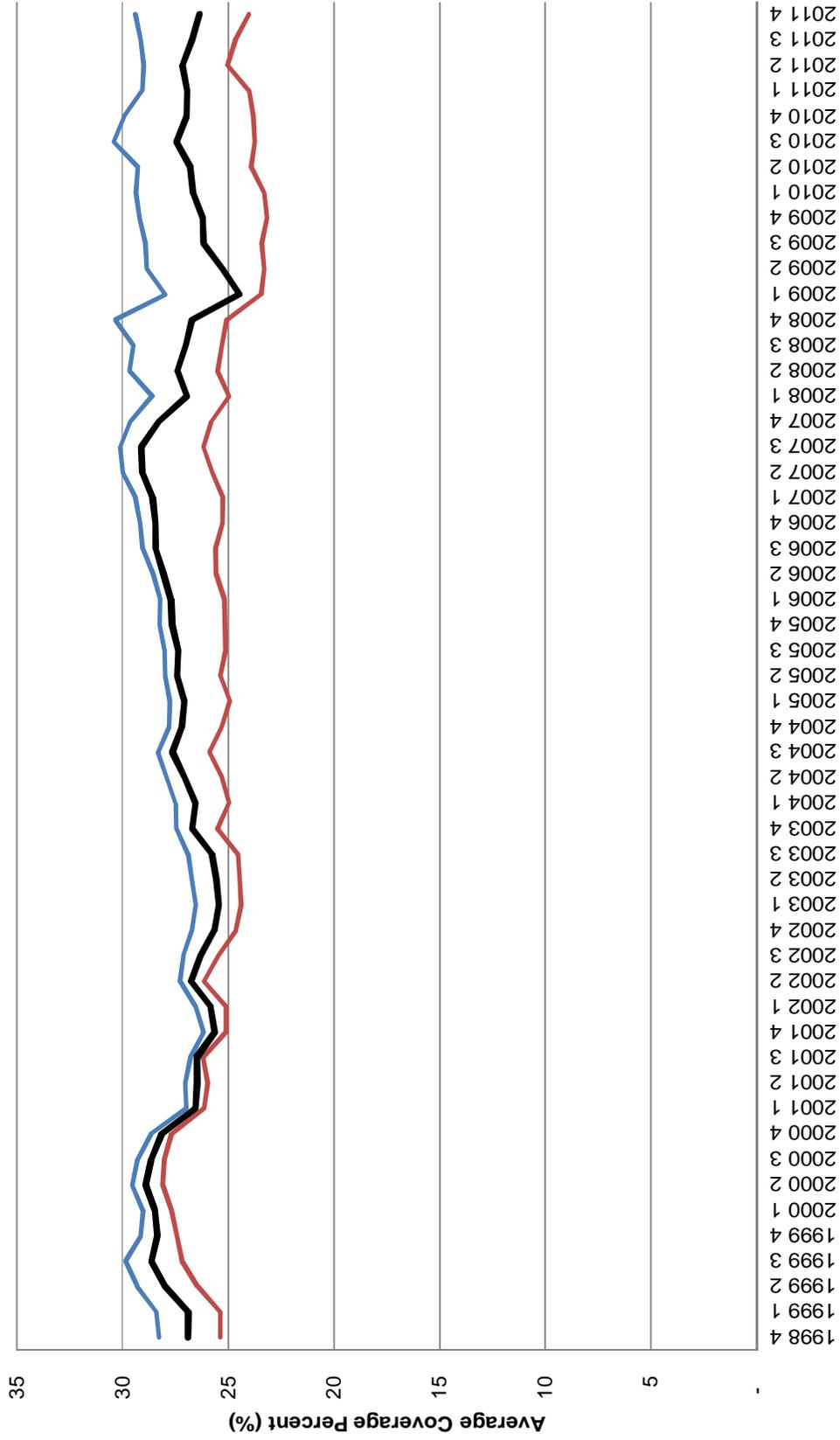
United Guaranty Corporation  
 Comparison of Average Mortgage Insurance Premium Rate  
 Capital Analysis using Corelogic Servicing Database  
 Non-Qualified Mortgage to Qualified Mortgages  
 by Origination Period

— Non-Qualified Mortgages — Qualified Mortgages — All Loans



**United Guaranty Corporation  
Comparison of Average Mortgage Insurance Coverage Percent  
Capital Analysis using Corelogic Servicing Database  
Non-Qualified Mortgage to Qualified Mortgages  
by Origination Period**

— Non-Qualified Mortgages — Qualified Mortgages — All Loans



**United Guaranty Corporation**  
 Capital Analysis using Corelogic Servicing Database  
 Risk to Capital Ratio Comparison: Qualified Mortgages  
 No Required Capital Over Contingency Reserve, No Expenses, No Investment Income, No Taxes  
 Single Book Analysis  
 (\$000's)

	Ultimate Default Rate		Loss Ratio		Contributed Capital		Risk to Capital Ratio	
Premium Rate	0.75%	0.70%	0.75%	0.70%	0.75%	0.70%	0.75%	0.70%
Coverage Percent	25%	25.0%	25%	25.0%	25%	25.0%	25%	25.0%
Original NIW	10,000,000	10,000,000	10,000,000	10,000,000	10,000,000	10,000,000	10,000,000	10,000,000
Original Risk	2,500,000	2,500,000	2,500,000	2,500,000	2,500,000	2,500,000	2,500,000	2,500,000
Confidence Level								
10%	1.9%	1.9%	17.6%	18.8%	0	0	NA	NA
20%	3.0%	3.0%	25.6%	27.5%	0	0	NA	NA
30%	4.0%	4.0%	32.5%	34.8%	0	0	NA	NA
40%	5.0%	5.0%	39.2%	42.0%	0	0	NA	NA
50%	6.1%	6.1%	46.3%	49.6%	0	0	NA	NA
60%	7.4%	7.4%	54.1%	57.9%	0	0	NA	NA
70%	9.0%	9.0%	63.4%	67.8%	0	0	NA	NA
80%	11.1%	11.1%	75.6%	80.8%	0	0	NA	NA
90%	14.4%	14.4%	95.0%	101.6%	0	5,067	NA	493.4
95%	17.5%	17.5%	113.3%	121.2%	47,263	71,236	52.9	35.1
97.5%	20.9%	20.9%	131.5%	140.8%	114,669	138,738	21.8	18.0
99.0%	24.7%	24.7%	152.2%	162.7%	200,877	223,519	12.4	11.2
99.5%	27.4%	27.4%	170.6%	182.5%	267,074	292,444	9.4	8.5
99.9%	34.9%	34.9%	209.5%	224.1%	435,668	464,215	5.7	5.4
Average	7.3%	7.3%	52.4%	56.1%	7,943	10,197	314.7	245.2
<b>Percent of Trials Resulting in Zero Capital Contribution</b>					<b>92%</b>	<b>89%</b>	<b>92%</b>	<b>89%</b>

**United Guaranty Corporation**  
 Capital Analysis using Corelogic Servicing Database  
 Risk to Capital Ratio Comparison: Qualified Mortgages  
 No Required Capital Over Contingency Reserve, 20% Expense Ratio, 3% Investment Yield, 35% Tax Rate  
 Multi Book Analysis  
 (\$000's)

	Ultimate Default Rate		Loss Ratio		Contributed Capital		Risk to Contributed Capital Ratio*		Risk to Capital Ratio**	
Premium Rate	0.75%	0.70%	0.75%	0.70%	0.75%	0.70%	0.75%	0.70%	0.75%	0.70%
Coverage Percent	25%	25.0%	25%	25.0%	25%	25.0%	25%	25.0%	25%	25.0%
Total NIW for All Books							150,000,000	150,000,000	150,000,000	150,000,000
Original Risk for All Books							37,500,000	37,500,000	37,500,000	37,500,000
Confidence Level										
10%	3.1%	3.1%	20.8%	22.3%	0	0	NA	NA	-	-
20%	4.1%	4.1%	26.9%	28.8%	0	0	NA	NA	-	-
30%	4.9%	4.9%	32.3%	34.5%	0	0	NA	NA	-	-
40%	5.8%	5.8%	37.3%	40.0%	0	0	NA	NA	-	-
50%	6.6%	6.6%	42.1%	45.1%	0	0	NA	NA	-	-
60%	7.6%	7.6%	47.4%	50.7%	0	0	NA	NA	-	-
70%	8.7%	8.7%	53.6%	57.4%	0	0	NA	NA	-	-
80%	10.1%	10.1%	61.8%	66.2%	0	0	NA	NA	-	-
90%	12.4%	12.4%	73.7%	78.9%	0	0	NA	NA	-	-
95%	14.5%	14.5%	85.4%	91.5%	0	0	NA	NA	-	-
97.5%	16.6%	16.6%	96.4%	103.2%	0	211,877	NA	177.0	-	52.7
99.0%	19.1%	19.1%	109.1%	116.9%	555,779	777,770	67.5	48.2	35.5	29.3
99.5%	20.8%	20.8%	119.7%	128.2%	1,029,656	1,272,977	36.4	29.5	24.5	21.2
99.9%	25.3%	25.3%	138.8%	148.6%	1,931,488	2,165,954	19.4	17.3	15.4	14.1
Average	7.3%	7.3%	45.3%	48.6%	14,605	21,383	2,567.6	1,753.7	72.9	71.9
Percent of Trials Resulting in Zero Capital Contribution					98%	97%	98%	97%	98%	97%

\* Contributed capital in excess of the \$500 million of initial capital  
 \*\* Calculated as Original Risk divided by contributed capital plus \$500 million

United Guaranty Corporation  
Comparison of Empirical Cumulative Default Rates  
Corelogic Servicing Database  
All Loans  
Data as of March 2012

Origination Year	Non-PMI Loans				PMI Loans				Default Rate Relativity (PMI / Non-PMI)		
	Loan Count	90-Day or Worse Default Count	Default Rate	Average FICO*	Average CLVT**	Loan Count	90-Day or Worse Default Count	Default Rate		Average FICO*	Average CLVT**
1998	40,065	3,623	9.0%	693	93	9,546	843	8.8%	697	91	0.98
1999	102,156	12,516	12.3%	686	93	32,604	3,356	10.3%	694	92	0.84
2000	38,986	8,150	20.9%	680	94	24,705	2,927	11.8%	694	93	0.57
2001	150,014	16,020	10.7%	697	92	106,362	7,130	6.7%	703	91	0.63
2002	265,973	24,943	9.4%	702	92	188,271	12,409	6.6%	703	91	0.70
2003	455,758	41,407	9.1%	708	91	281,395	24,197	8.6%	705	91	0.95
2004	358,630	57,624	16.1%	710	93	228,143	29,851	13.1%	698	92	0.81
2005	481,150	146,742	30.5%	714	96	247,336	47,669	19.3%	699	93	0.63
2006	517,432	208,399	40.3%	711	96	293,720	71,192	24.2%	695	93	0.60
2007	573,239	209,986	36.6%	708	97	502,274	128,684	25.6%	695	95	0.70
2008	337,577	77,024	22.8%	697	96	302,008	37,145	12.3%	728	92	0.54
2009	343,862	27,740	8.1%	729	93	134,179	1,732	1.3%	756	90	0.16
2010	444,433	10,797	2.4%	736	94	111,812	1,052	0.9%	754	92	0.39
Average Default Rate Relativity Total for all Years	4,440,365	846,543	19.1%	715	95	2,602,353	368,920	14.2%	713	92	0.65 0.74

\*Average FICO score weighted by original loan balance

\*\*Average Combined Loan-to-Value Ratio weighted by original loan balance

United Guaranty Corporation  
Comparison of Empirical Cumulative Default Rates  
Corelogic Servicing Database  
GSE Loans  
Data as of March 2012

Origination Year	Non-PMI Loans				PMI Loans				Default Rate Relativity (PMI / Non-PMI)			
	Loan Count	90-Day or Worse Default Count	Default Rate	Average FICO* CLVT**	Average FICO* CLVT**	Loan Count	90-Day or Worse Default Count	Default Rate		Average CLVT**		
1998	37,558	2,495	6.6%	696	92	9,040	774	8.6%	697	91	1.29	
1999	94,212	8,525	9.0%	689	93	31,281	2,980	9.5%	695	92	1.05	
2000	35,123	5,967	17.0%	685	94	23,640	2,591	11.0%	694	93	0.65	
2001	138,638	11,309	8.2%	700	91	102,205	6,193	6.1%	703	91	0.74	
2002	239,898	15,830	6.6%	706	91	182,254	10,705	5.9%	703	91	0.89	
2003	393,044	23,091	5.9%	710	91	250,206	18,332	7.3%	705	91	1.25	
2004	249,683	24,106	9.7%	712	93	195,616	21,012	10.7%	697	93	1.11	
2005	244,809	46,546	19.0%	718	96	192,350	31,370	16.3%	699	93	0.86	
2006	235,990	75,605	32.0%	716	98	217,416	48,001	22.1%	693	94	0.69	
2007	324,737	101,428	31.2%	718	98	429,097	105,281	24.5%	694	95	0.79	
2008	133,650	20,963	15.7%	735	95	274,795	31,998	11.6%	728	92	0.74	
2009	192,379	7,852	4.1%	748	92	130,296	1,637	1.3%	756	90	0.31	
2010	249,928	5,058	2.0%	748	93	88,155	695	0.8%	754	92	0.39	
Average Default Rate Relativity												0.83
Total for all Years	2,887,632	350,178	12.1%	725	94	2,263,123	281,808	12.5%	714	93	1.03	

\*Average FICO score weighted by original loan balance

\*\*Average Combined Loan-to-Value Ratio weighted by original loan balance

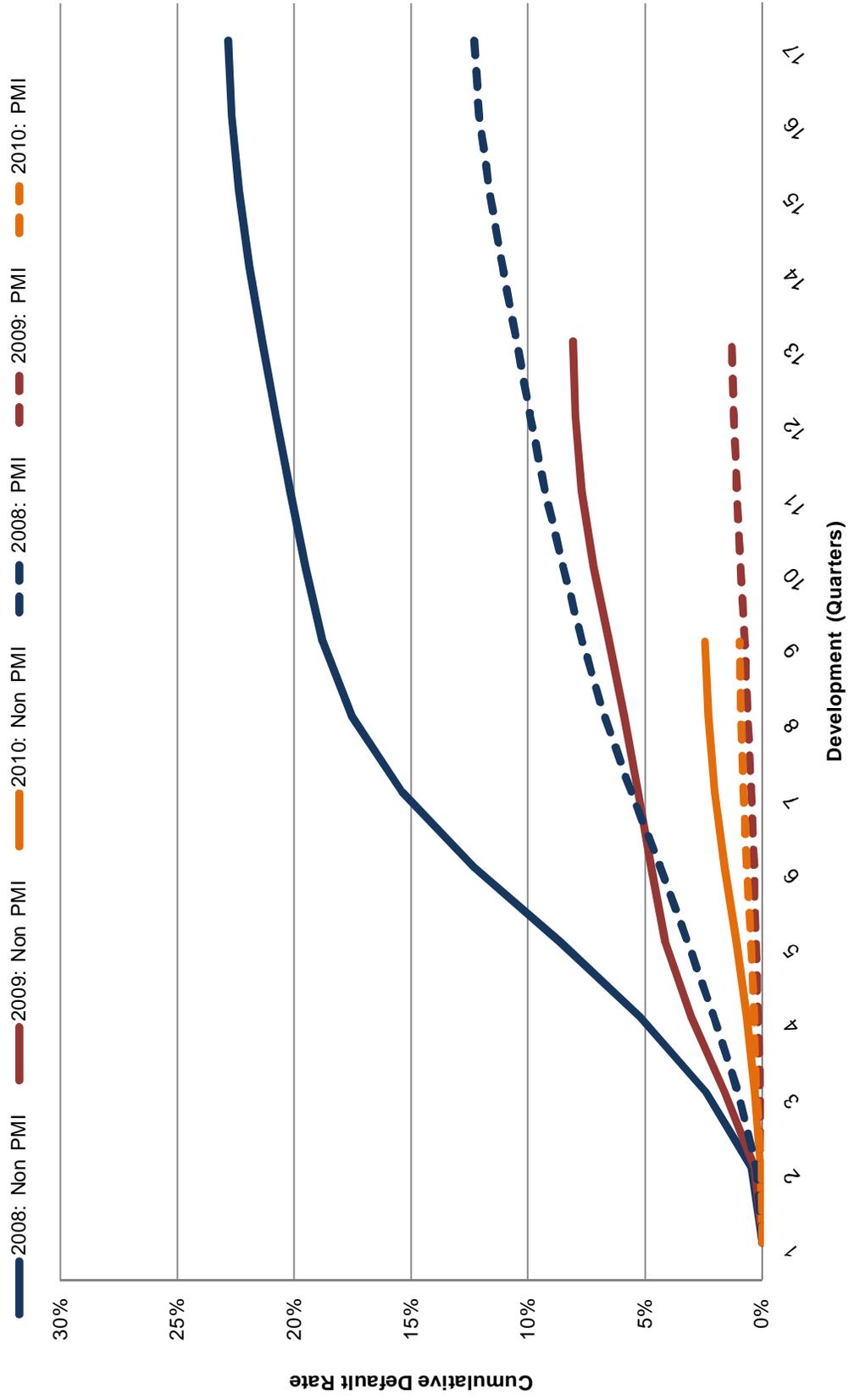
United Guaranty Corporation  
Comparison of Empirical Cumulative Default Rates  
Corelogic Servicing Database  
Non-GSE Loans  
Data as of March 2012

Origination Year	Non-PMI Loans				PMI Loans				Default Rate Relativity (PMI / Non-PMI)		
	Loan Count	90-Day or Worse Default Count	Default Rate	Average FICO* CLVT**	Average FICO* CLVT**	Loan Count	90-Day or Worse Default Count	Default Rate		Average FICO* CLVT**	
1998	2,507	1,128	45.0%	640	97	506	69	13.6%	697	90	0.30
1999	7,944	3,991	50.2%	629	98	1,323	376	28.4%	679	92	0.57
2000	3,863	2,183	56.5%	624	99	1,065	336	31.5%	694	94	0.56
2001	11,376	4,711	41.4%	649	97	4,157	937	22.5%	698	92	0.54
2002	26,075	9,113	34.9%	667	96	6,017	1,704	28.3%	702	92	0.81
2003	62,714	18,316	29.2%	698	93	31,189	5,865	18.8%	709	91	0.64
2004	108,947	33,518	30.8%	707	94	32,527	8,839	27.2%	704	92	0.88
2005	236,341	100,196	42.4%	711	95	54,986	16,299	29.6%	702	91	0.70
2006	281,442	132,794	47.2%	707	95	76,304	23,191	30.4%	700	92	0.64
2007	248,502	108,558	43.7%	697	96	73,177	23,403	32.0%	701	93	0.73
2008	203,927	56,061	27.5%	668	97	27,213	5,147	18.9%	728	91	0.69
2009	151,483	19,888	13.1%	695	96	3,883	95	2.4%	758	89	0.19
2010	194,505	5,739	3.0%	719	96	23,657	357	1.5%	752	92	0.51
Average Default Rate Relativity											
Total for all Years	1,552,733	496,365	32.0%	701	96	339,230	87,112	25.7%	710	92	0.60
											0.80

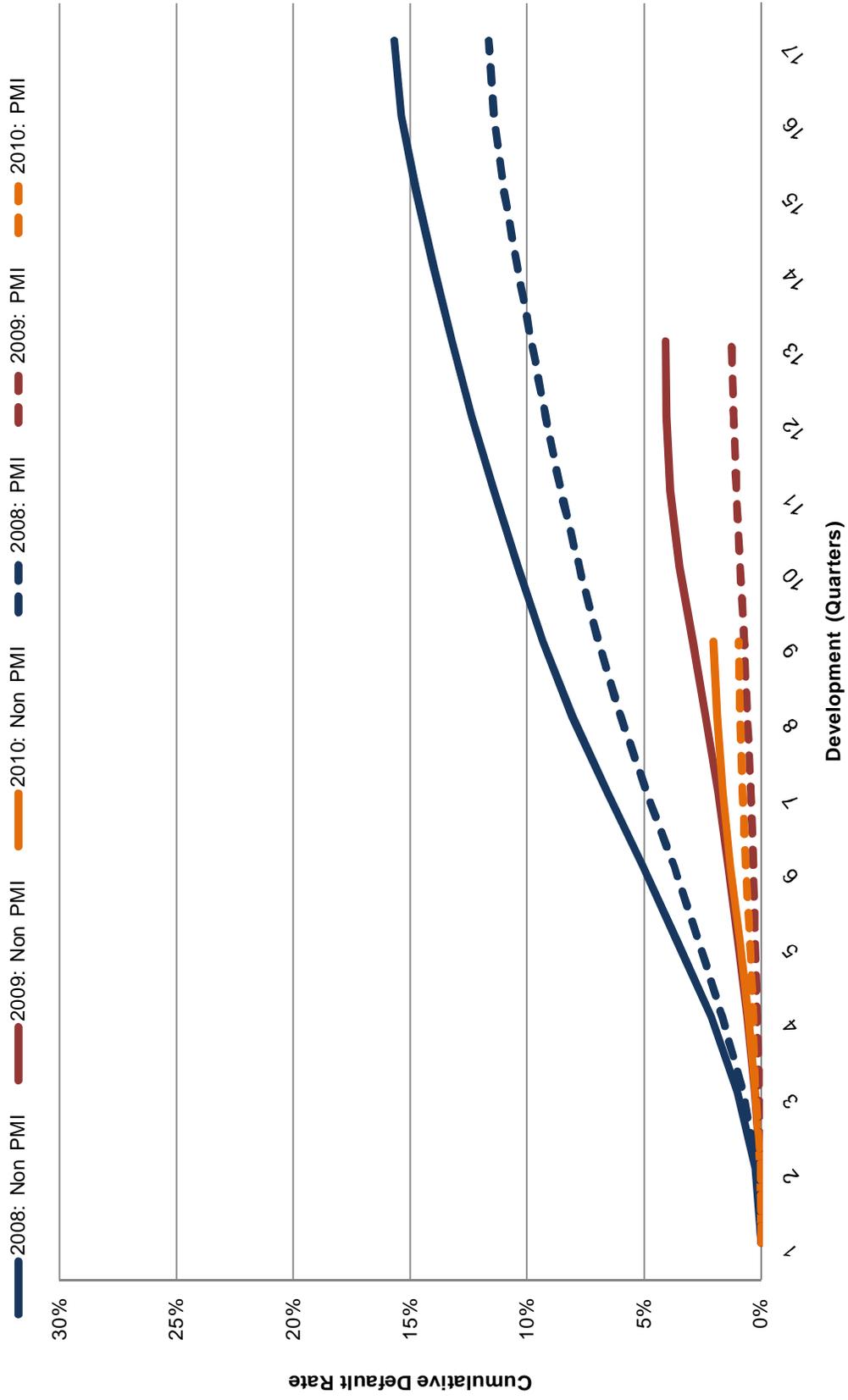
\*Average FICO score weighted by original loan balance

\*\*Average Combined Loan-to-Value Ratio weighted by original loan balance

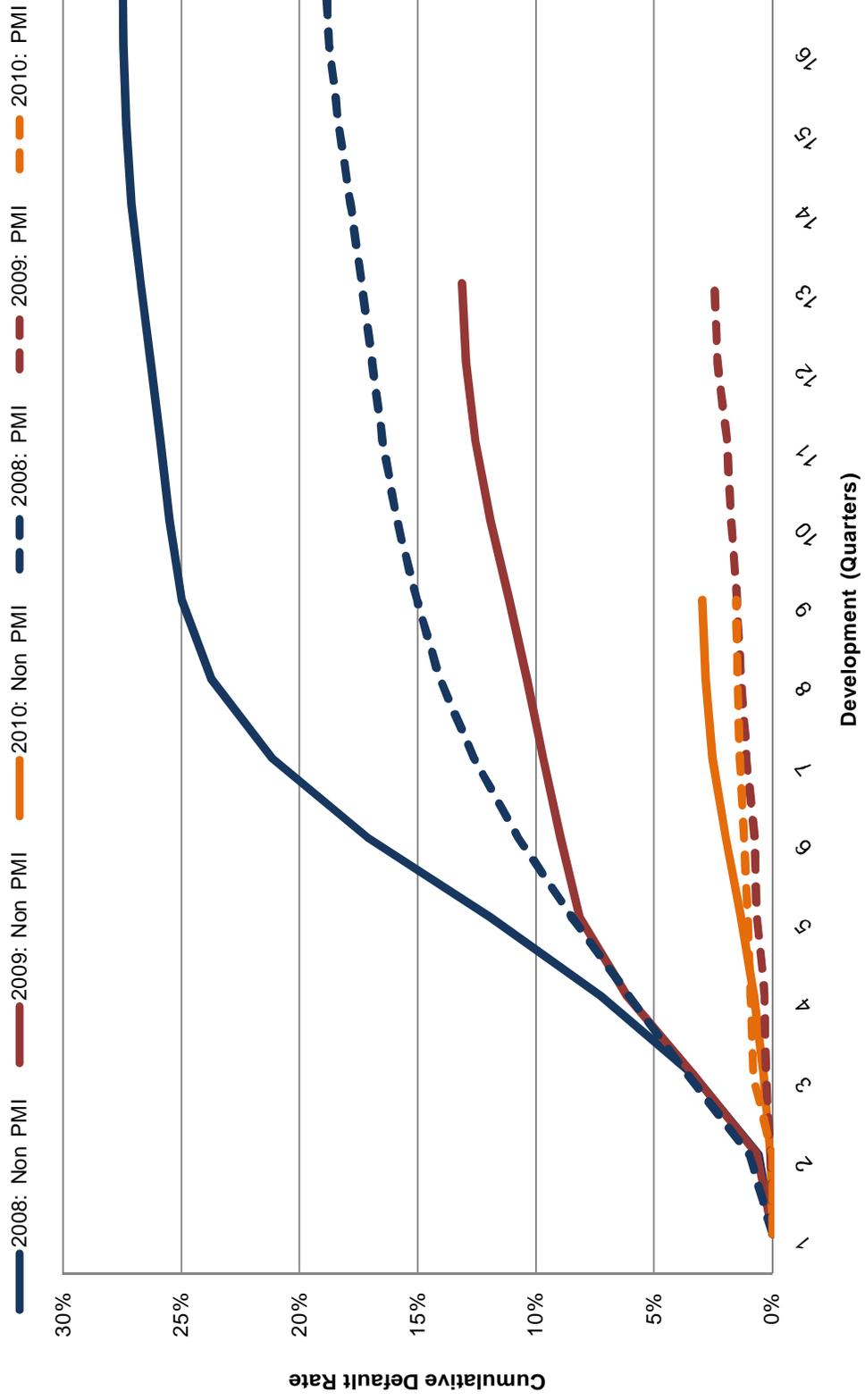
United Guaranty Corporation  
Corelogic Servicing Database  
Cumulative 90-Day or Worse Default Rate Development  
by Loan Origination Year  
All Loans



United Guaranty Corporation  
Corelogic Servicing Database  
Cumulative 90-Day or Worse Default Rate Development  
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GSE Loans



United Guaranty Corporation  
Corelogic Servicing Database  
Cumulative 90-Day or Worse Default Rate Development  
by Loan Origination Year  
Non-GSE Loans



United Guaranty Corporation  
Comparison of Empirical Cumulative Default Rates  
Corelogic Servicing Database  
Purchase Loans  
Data as of March 2012

Origination Year	Non-PMI Loans				PMI Loans				Default Rate Relativity (PMI / Non-PMI)		
	Loan Count	90-Day or Worse Default Count	Default Rate	Average FICO*	Average CLVT**	Loan Count	90-Day or Worse Default Count	Default Rate		Average FICO*	Average CLVT**
1998	26,740	2,750	10.3%	694	94	6,928	616	8.9%	697	93	0.86
1999	80,693	10,525	13.0%	686	95	27,197	2,701	9.9%	696	93	0.76
2000	35,156	7,342	20.9%	681	95	22,803	2,552	11.2%	695	93	0.54
2001	95,677	11,625	12.2%	698	93	72,671	4,579	6.3%	705	93	0.52
2002	154,813	16,856	10.9%	702	93	112,963	7,563	6.7%	704	93	0.61
2003	221,937	22,924	10.3%	710	94	150,952	14,296	9.5%	706	94	0.92
2004	244,152	40,169	16.5%	714	94	160,705	21,663	13.5%	700	94	0.82
2005	343,077	102,253	29.8%	719	96	175,253	34,554	19.7%	703	94	0.66
2006	366,650	136,849	37.3%	717	97	215,614	50,923	23.6%	697	95	0.63
2007	381,404	125,169	32.8%	715	97	363,057	90,602	25.0%	697	96	0.76
2008	209,965	42,199	20.1%	704	96	208,532	23,052	11.1%	730	93	0.55
2009	116,187	9,981	8.6%	709	96	76,575	662	0.9%	758	90	0.10
2010	113,359	3,420	3.0%	713	97	54,213	202	0.4%	761	91	0.12
Average Default Rate Relativity Total for all Years	2,427,636	532,186	21.9%	713	96	1,720,707	254,295	14.8%	714	94	0.60 0.67

\*Average FICO score weighted by original loan balance

\*\*Average Combined Loan-to-Value Ratio weighted by original loan balance

United Guaranty Corporation  
Comparison of Empirical Cumulative Default Rates  
Corelogic Servicing Database  
GSE Purchase Loans  
Data as of March 2012

Origination Year	Non-PMI Loans				PMI Loans				Default Rate Relativity (PMI / Non-PMI)			
	Loan Count	90-Day or Worse Default Count	Default Rate	Average FICO* CLVT**	Average FICO* CLVT**	Loan Count	90-Day or Worse Default Count	Default Rate		Average FICO* CLVT**		
1998	24,687	1,823	7.4%	697	94	6,591	567	8.6%	697	93	1.16	
1999	73,602	6,934	9.4%	691	94	26,137	2,401	9.2%	696	93	0.98	
2000	31,456	5,258	16.7%	686	94	21,875	2,271	10.4%	695	93	0.62	
2001	87,684	8,005	9.1%	702	93	70,108	3,993	5.7%	705	93	0.62	
2002	135,907	9,794	7.2%	707	93	109,496	6,656	6.1%	704	93	0.84	
2003	185,425	11,208	6.0%	712	93	133,230	10,901	8.2%	706	94	1.35	
2004	159,572	14,836	9.3%	716	94	136,864	15,278	11.2%	699	94	1.20	
2005	168,399	30,362	18.0%	724	96	138,698	23,240	16.8%	702	95	0.93	
2006	166,795	49,555	29.7%	723	98	164,736	36,162	22.0%	694	96	0.74	
2007	218,505	61,018	27.9%	725	98	313,335	75,484	24.1%	696	97	0.86	
2008	83,530	10,337	12.4%	739	94	189,802	19,542	10.3%	731	93	0.83	
2009	18,404	325	1.8%	759	91	75,320	626	0.8%	758	90	0.47	
2010	11,136	86	0.8%	761	92	42,091	88	0.2%	761	90	0.27	
Average Default Rate Relativity												
Total for all Years	1,394,149	209,553	15.0%	720	95	1,499,480	197,239	13.2%	714	94	0.84	
												0.88

\*Average FICO score weighted by original loan balance

\*\*Average Combined Loan-to-Value Ratio weighted by original loan balance

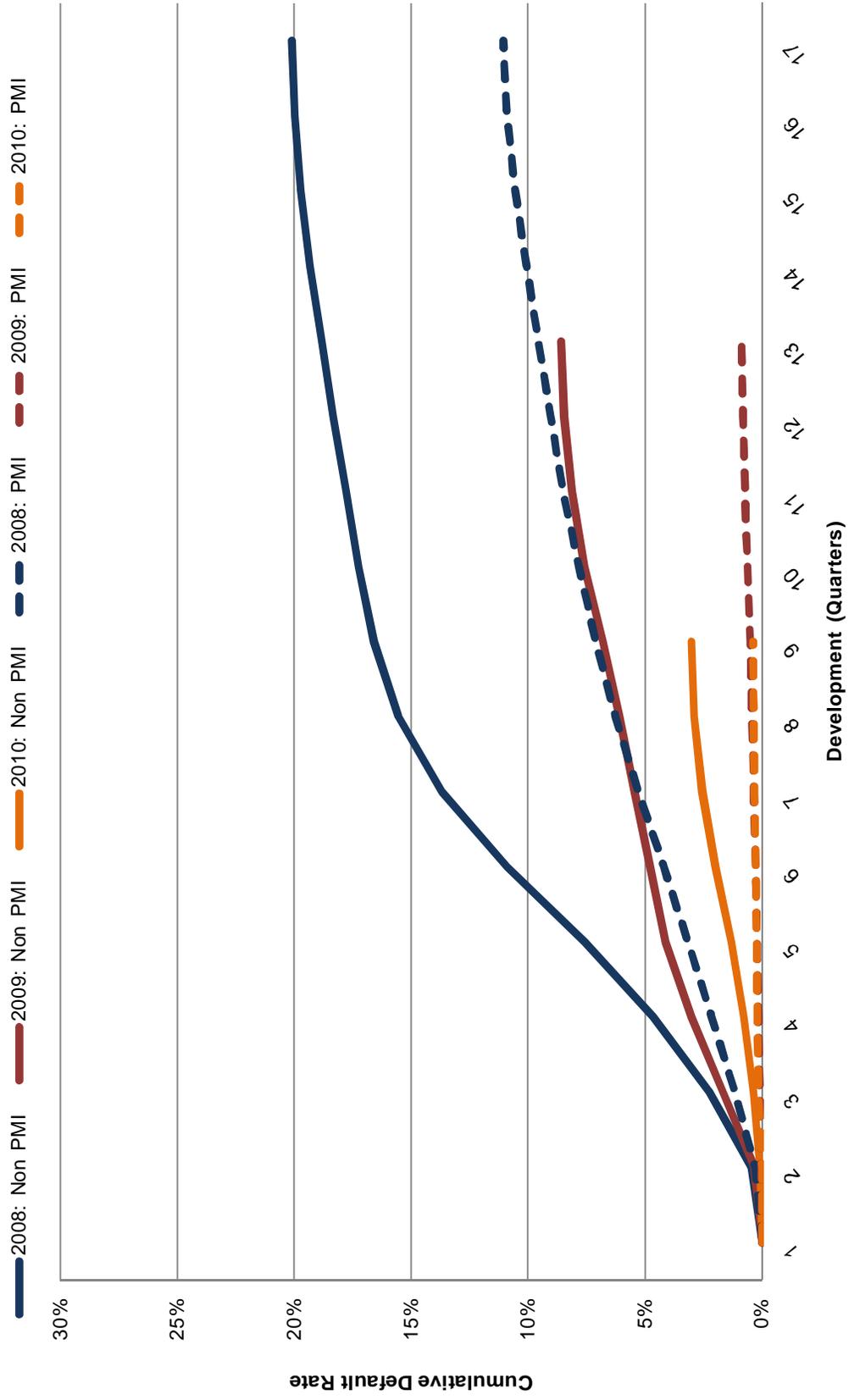
United Guaranty Corporation  
Comparison of Empirical Cumulative Default Rates  
Corelogic Servicing Database  
Non-GSE Purchase Loans  
Data as of March 2012

Origination Year	Non-PMI Loans				PMI Loans				Default Rate Relativity (PMI / Non-PMI)		
	Loan Count	90-Day or Worse Default Count	Default Rate	Average FICO* CLVT**	Average FICO* CLVT**	Loan Count	90-Day or Worse Default Count	Default Rate			
1998	2,053	927	45.2%	639	98	337	49	14.5%	698	92	0.32
1999	7,091	3,591	50.6%	628	98	1,060	300	28.3%	680	93	0.56
2000	3,700	2,084	56.3%	625	100	928	281	30.3%	696	94	0.54
2001	7,993	3,620	45.3%	640	98	2,563	586	22.9%	701	94	0.50
2002	18,906	7,062	37.4%	658	97	3,467	907	26.2%	705	94	0.70
2003	36,512	11,716	32.1%	699	95	17,722	3,395	19.2%	712	93	0.60
2004	84,580	25,333	30.0%	711	94	23,841	6,385	26.8%	708	93	0.89
2005	174,678	71,891	41.2%	716	95	36,555	11,314	31.0%	707	93	0.75
2006	199,855	87,294	43.7%	713	96	50,878	14,761	29.0%	704	94	0.66
2007	162,899	64,151	39.4%	704	97	49,722	15,118	30.4%	703	94	0.77
2008	126,435	31,862	25.2%	679	98	18,730	3,510	18.7%	730	92	0.74
2009	97,783	9,656	9.9%	695	97	1,255	36	2.9%	755	91	0.29
2010	102,223	3,334	3.3%	706	98	12,122	114	0.9%	758	91	0.29
Average Default Rate Relativity											
Total for all Years	1,033,487	322,633	31.2%	705	96	221,227	57,056	25.8%	712	93	0.59
											0.83

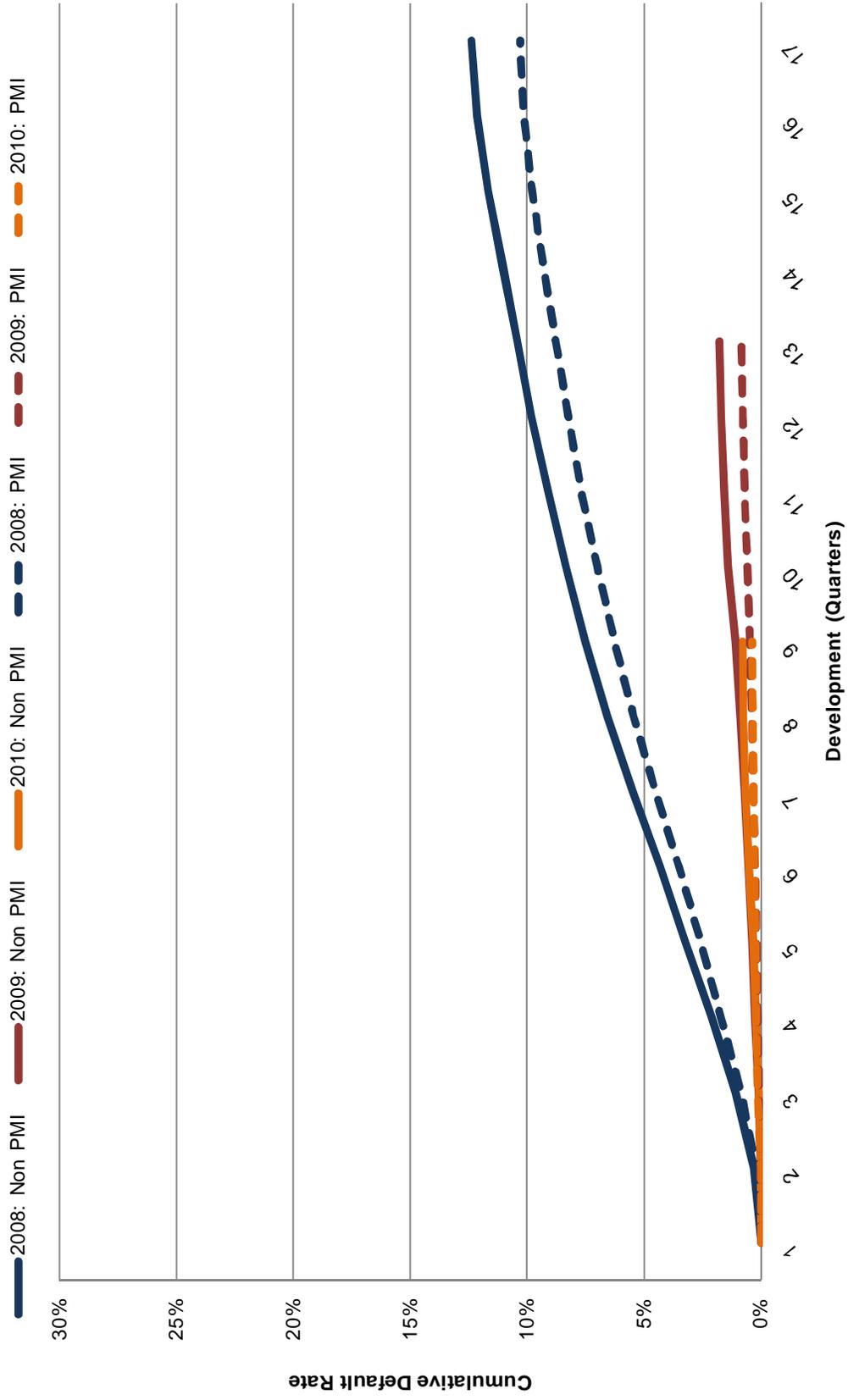
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United Guaranty Corporation  
Corelogic Servicing Database  
Cumulative 90-Day or Worse Default Rate Development  
by Loan Origination Year  
Purchase Loans



United Guaranty Corporation  
Corelogic Servicing Database: Purchase Loans Only  
Cumulative 90-Day or Worse Default Rate Development  
by Loan Origination Year  
GSE Purchase Loans



United Guaranty Corporation  
Corelogic Servicing Database: Purchase Loans Only  
Cumulative 90-Day or Worse Default Rate Development  
by Loan Origination Year  
Non-GSE Purchase Loans

