

Modification Success—*What Have We Learned?*

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Mortgage modification is a topic that has generated a lot of press and a lot of discussion. We find that much of the press and discussion occurs without a thorough understanding of the numbers. In this article, we take a careful look at data on modification volume, types of modifications, and the success rate on each. This careful look at the data allows us to draw policy conclusions from our results. We find the following:

1. There are three key ingredients for successful modification programs: principal reduction, substantial pay relief, and modifying early in the delinquency cycle. Each is a major contributor to modification success. When used in combination, the success rate on modifications has been quite high. The interaction between these ingredients has not received adequate attention.
2. Modification volume is down dramatically, because most non-performing loans that qualify have already received modifications. Activity from here on will consist disproportionately of loans that are now current; this category includes loans that have previously been modified. We expect first time modifications to decrease and re-modification activity to rise.
3. The market's methods for quoting success rates on modifications are overstated. They do not take into account loans that have liquidated or been re-modified.
4. It is difficult to make sweeping statements about modification success over time, due to both the changing composition of modification and the introduction of trial modification periods.

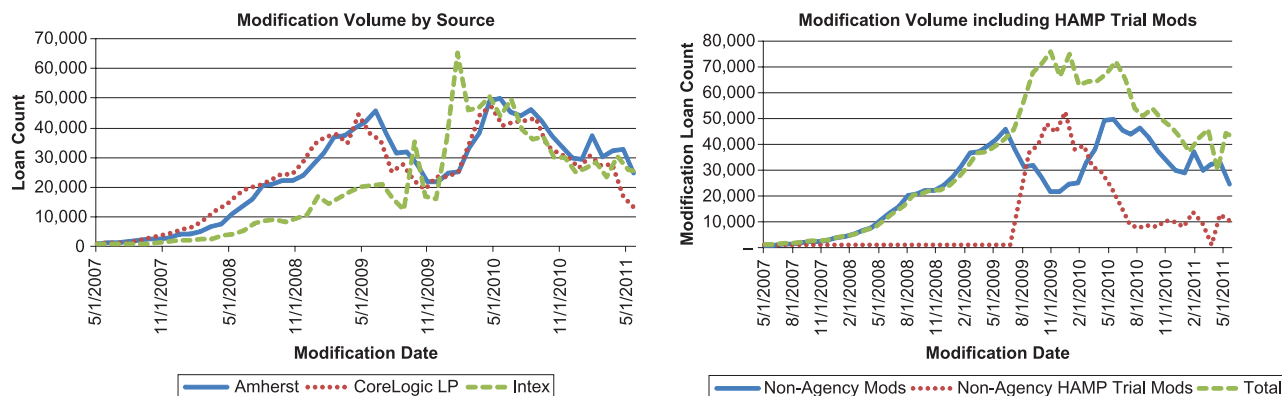
MODIFICATION VOLUME

The left-hand panel of Exhibit 1 shows Amherst modification volume (using our proprietary methodology) versus volumes from CoreLogic LoanPerformance and Intex. Note that all three sources count actual modifications as modifications. The differences lie in the logic for inferring modifications. We are very comfortable with our own logic and will use that to form the basis for the remainder of this article. Note that CoreLogic LoanPerformance provides a reasonable match for our numbers, except for the last few months. We believe this reflects the fact that CoreLogic uses a longer (five-month) window to establish and confirm modifications, thus their last few observations will be subject to upward revision.

This exhibit clearly shows modification volume looking like two hills—increasing through early 2009, declining through Q3 2009, then up again, peaking in mid-2010,

EXHIBIT 1

Modification Volume



Sources: CoreLogic, Amherst Securities.

followed by another decline. The valley in mid-2009 reflects the introduction of the Home Affordable Modification Program, with its three-month trial period. As loans were modified through that trial period (during which a modification did not register), there was a dip in measured activity. The right-hand panel of Exhibit 1 attempts to “correct” for this. We grafted our estimate of private label HAMP modifications onto loan modification estimates from the left part of this exhibit. This analysis clearly double counts as it picks up the permanent HAMP modifications twice. But it also provides a somewhat more accurate picture of modification volume over time, as we include unsuccessful HAMP modifications.

Note that recent modification activity has been lower than for most of 2010. We believe most of the borrowers who are in non-performing status and who qualify for a modification under current programs have already been offered one. Thus, barring a new federal program,

we expect that future modifications will primarily be for borrowers who are current and either going non-performing for the first time or who are re-defaulting because of either an unsuccessful natural cure or an unsuccessful modification. The rate at which borrowers are going two payments behind for the first time is slowing due to credit burnout, dampening future modification activity. We will discuss second modifications later in this article, as we believe this will account for an ever larger percentage of future modification activity.

PERCENTAGE OF LOANS MODIFIED

Exhibit 2 shows the percentage of the universe that has been modified since January 2008. Note that modifications are less common in prime loans (5% of current balances) than in Alt-A or in option ARMS (14%–18% of current balances).

EXHIBIT 2

Modification Statistics, January 2008–May 2011

Product Type	Volume		Mod Statistics					Distribution by Mod Type			For Rate Mods		For Prin Mods
	Unpaid Balance (\$ B)	Loan Count (K)	Ever Mod # (K)	Avg Num Mod	Ever Mod % UPB	Ever Mod % NPL + RPL	Pay Relief (%)	Prin Mod %	Rate Mod %	Cap Mod %	WAC before Rate Mod	WAC after Rate Mod	Balance Reduction for Prin Mod
Prime	281	600	27	1.1	5%	23%	26	5%	78%	17%	6.2	3.4	23.0
Alt A	382	1,497	171	1.2	14%	31%	25	5%	69%	25%	6.9	3.7	23.7
Option ARM	165	411	71	1.2	18%	29%	15	11%	24%	66%	6.6	2.8	22.0
Subprime	376	2,177	707	1.3	38%	51%	24	6%	56%	38%	8.4	4.6	26.5

Sources: CoreLogic, Amherst Securities as of May 2011.

They are most common in subprime (38% of unpaid principal balance modified). Arguably, this is an unfair comparison, as fewer prime loans have either missed two payments or can prove hardship (and hence could be eligible for modification) than is the case for subprime loans. Even if we use the percentage of loans that are either non-performing (NPL, or ≥ 60 days past due) or re-performing (RPL—used to be ≥ 2 payments behind but are presently current or 1 payment behind), we find that the rate of modifications is still lower in prime (23%) than in Alt-A (31%) or option ARMs (29%). The numbers are highest in subprime, where 51% of the non-performing or re-performing loans have been modified. With a large percentage of the RPL/NPL universe already modified, modification activity will naturally taper off.

TRENDS IN MODIFICATION TYPE

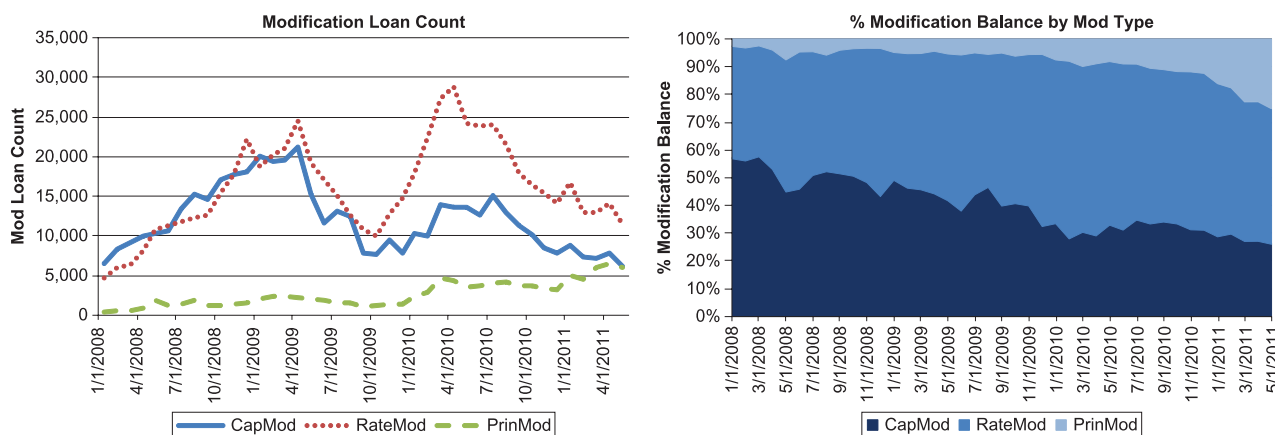
In Exhibit 3 we classify the modifications by type: capitalization, rate, and principal. In a *capitalization modification*, the borrower is brought to current and the delinquent amount is added to the outstanding balance. These modifications may contain term extensions, which lower the payments. In a *rate modification*, the interest rate on the loan is reduced. These modifications usually also include a capitalization element. In a *principal modification*, there is a reduction of principal. They usually include a capitalization of the delinquent payments and may also include a rate reduction. Note that we

cannot distinguish between principal *forbearance* modifications (in which the borrower still owes the money) and principal *forgiveness* (the borrower does *not* owe the amount forgiven). When principal is forborne, there is generally a balloon payment at the end of the loan's life. CoreLogic LoanPerformance has a field intended to capture these balloon payments, but that is not well populated. Exhibit 3 plots the type of modification, by volume (left-hand side) and by share (right-hand side). It clearly shows a decline in the use of capitalization modifications and a rise in principal modifications (albeit the latter is from low levels).

Exhibit 2 shows that in the prime and Alt-A products, the overwhelming majority of modifications are rate modifications. In subprime product, there have been more rate modifications than capitalization modifications, although the latter still represent a sizeable chunk of modification activity. In option ARM products, there have been more capitalization than rate modifications. Across all products, principal modifications are the least used type.

Exhibit 4 breaks down the information in Exhibit 3 by product type. Note that we are showing the modification rate of each product type by unpaid principal balance; thus the modification rate is much lower for prime loans than for Alt-A and option ARMs, with these two categories much lower than for subprime. We used unpaid principal balance as the denominator (instead of the total non-performing balance) for the analysis because there have been some modifications

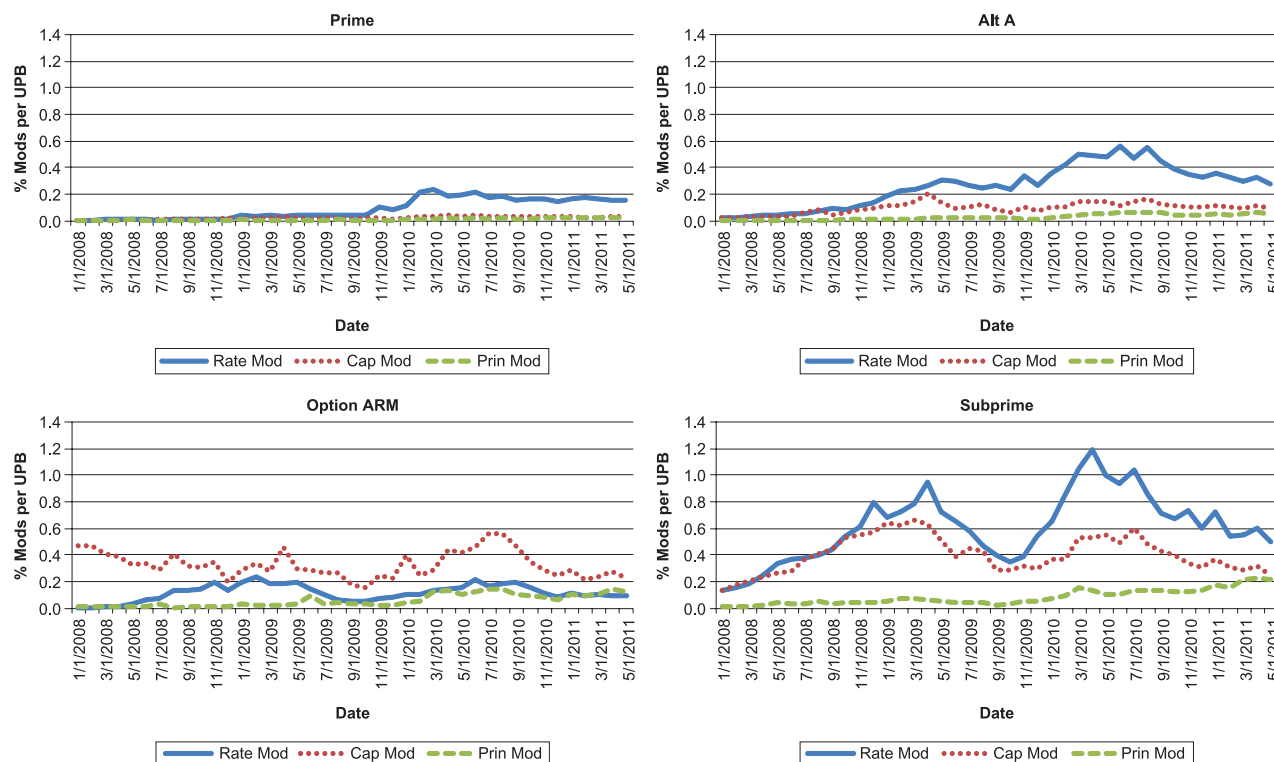
EXHIBIT 3 Types of Modification



Sources: CoreLogic, Amherst Securities.

EXHIBIT 4

Monthly Modification Rate (by type of modification)



Sources: CoreLogic, Amherst Securities.

on loans that were never two payments behind (always performing). Notice that over time for all product types, there are fewer capitalization modifications and more rate and principal modifications.

COMMON MEASURES OF MODIFICATION RE-DEFAULT RATES

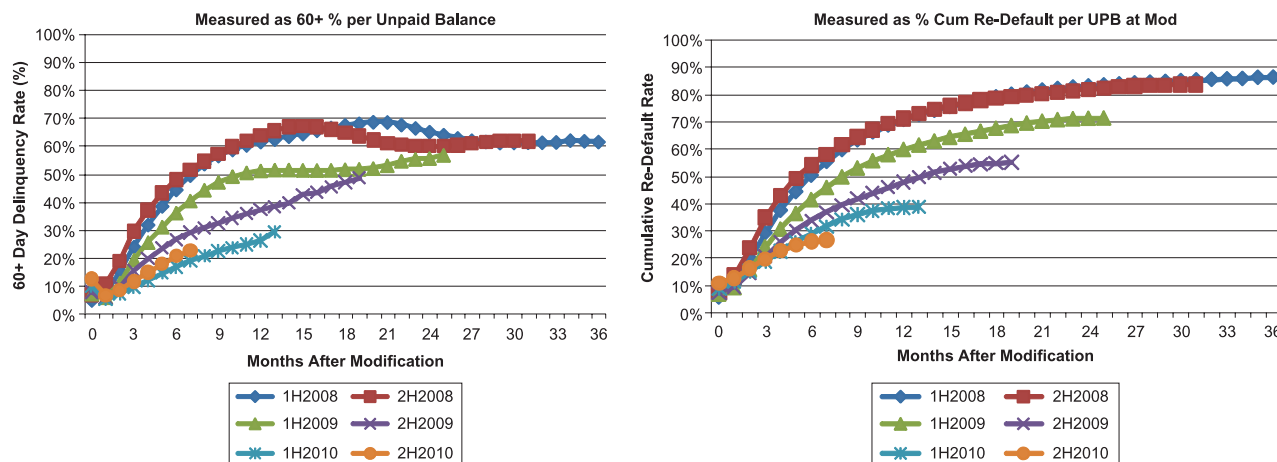
Commonly used measures of modification re-default rates overstate modification success. This can be seen in Exhibit 5, which shows re-default rates by the half year in which the modification occurred. On the left-hand side of the exhibit, we present modification default rates using the market's definition of re-default rates; that is the percentage of the balance currently 60+ delinquent as a percentage of current balance. Note that re-default rates in this section of the exhibit seem to "plateau out" after about 10 months.

We always found this analysis bothersome, as many market participants use it to conclude that if a borrower

does not re-default in the first 10 months (the time the 60+ days DQ curve plateaus out), he is not going to. In fact, this analysis understates modification failure, as it fails to take into account either subsequent liquidations (as these loans have left the pool) or re-modifications (a borrower who failed on the first modification but is now paying on the second modification is counted as a success). On the right-hand side of Exhibit 5, we calculated re-defaults as we believe they should be presented—the cumulative re-default rate of modifications as a percentage of the unpaid balance (UPB) at modification. A re-default is measured when, subsequent to the modifications, the loan again goes two payments behind. Thus, a loan in which the first modification has failed and the borrower is paying on the second is tallied as a failure on the first modification and a success on the second. The re-default also includes loans that have liquidated. The only quibble with looking at re-defaults in this manner is that if a loan were modified then went 60+ delinquent but cured naturally (without a new modification), that would be

EXHIBIT 5

Two Methods of Measuring the Modification Re-Default Rate



Sources: CoreLogic, Amherst Securities as of May 2011.

counted as a failure. However, there are very few of these. Once a modified loan is again two payments behind, it is very rare (<1% chance) for it to cure without a subsequent modification. Omitting failures on first modifications and liquidations will underestimate re-default rates, and this bias will be larger for longer measurement periods. Thus, the difference between the traditional market calculation in Exhibit 5 (looking at the 60+ re-default rate as a percentage of current balance) and the revised methodology (the cumulative re-default rate as a percentage of UPB at modification) is much larger for 2008 and early 2009 modifications than for later modifications, as re-modifications and liquidations only show their face over a longer period. For example, using the traditional definition, the failure rate on H1 2009 modifications is about 54%, whereas using the more accurate definition it is greater than 72%. For H1 2010, the traditional definitions would yield a re-default rate of just about 30%, but we peg the number as closer to 40%. For H2 2010 the difference is about 8% (it's 25% using the traditional calculation and 33% using ours).

The modification success rate appears to be improving year by year. This undoubtedly reflects more pay relief over time, as we will discuss later. It also reflects the introduction of a trial period, which makes any time series analysis harder to interpret. Until mid-to-late 2009, principal and interest was recaptured immediately upon modification; after that, modifications began to be measured and counted only after the

borrower made three consecutive payments (i.e., a borrower survived the trial period). Thus, some of the 2009 and all of the 2010 success ratios are only for loans that actually made three payments.

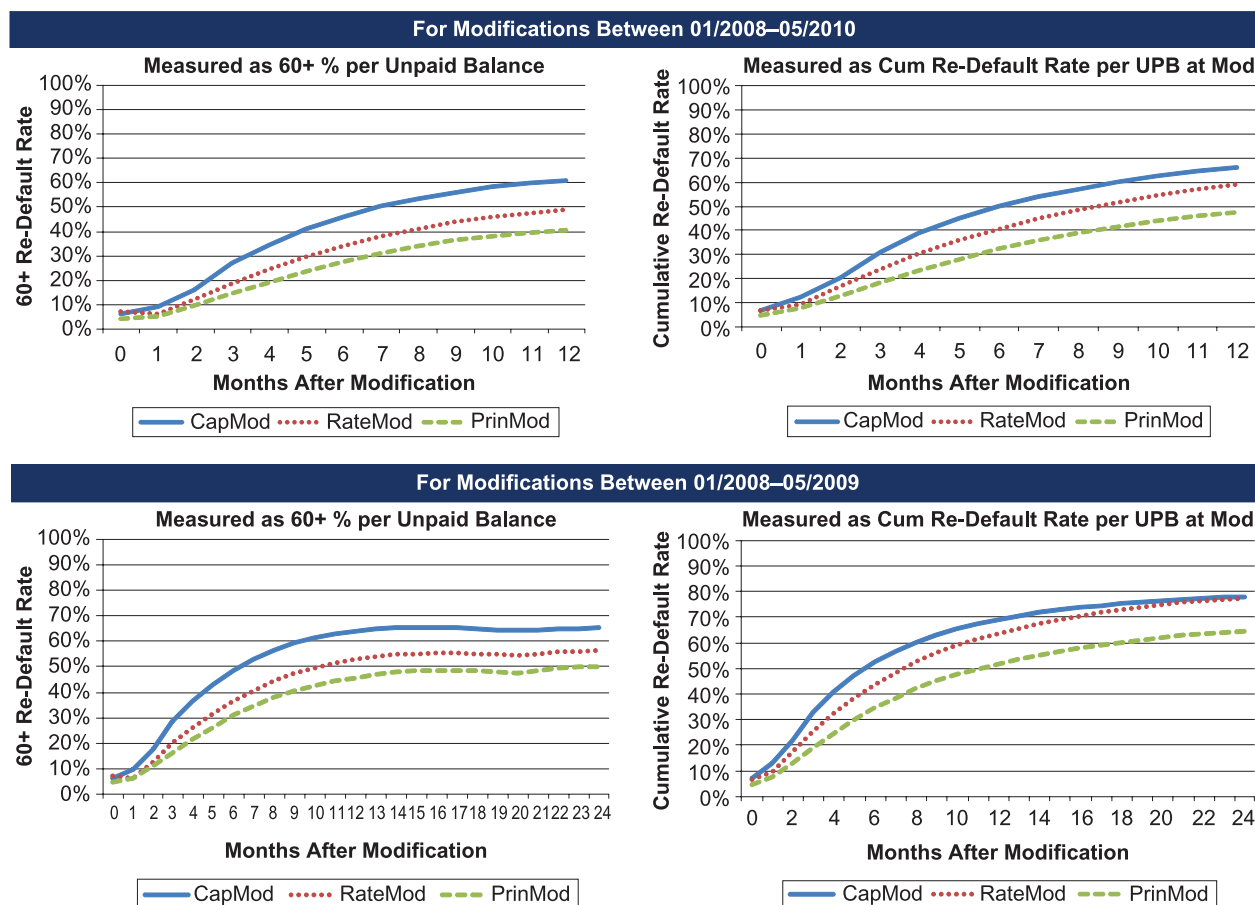
In Exhibit 6 we show the 12- and 24-month modification re-default rates, by modification type. The traditional calculation is shown on the left-hand side; the cumulative re-default method is shown on the right-hand side. For 12-month re-default rates (top section) we used data from January 2008 to May 2010. We cut the data at that point so as to have a full year of history for each modification. For the 24-month pictures (bottom section), we used data from January 2008 to May 2009.

After 12 and 24 months, the re-default rates on capitalization modifications, using the traditional definition (60+ delinquent as percentage of current balance) are 61% and 63%, respectively. Using the cumulative re-default methodology, the modification re-default rates are 66% and 78%. Similarly, for rate modifications, the traditional definition yields re-default rates of 49% and 54% after 12 and 24 months; the revised definition has re-default rates at 59% and 78%. Thus, modification success is overstated by ~5% after one year, and by 10%–15% after two years.

For the remainder of this article, we use only one definition of re-default: cumulative re-defaults as a percentage of UPB at modification.

EXHIBIT 6

Measuring Re-Default Rate by Modification Type



Sources: CoreLogic, Amherst Securities as of May 2011.

SUCCESSFUL MODIFICATION RX #1—REDUCE PRINCIPAL

Exhibit 6 clearly shows that principal reductions are more effective than other types of modifications. To reiterate, that includes principal forbearance and principal forgiveness modifications (we are unable to distinguish between the two). It is reasonable to think that most of these modifications were principal forbearance, as this was the third step in the traditional HAMP waterfall (reduce interest rate to 2%; extend the term; forbear principal). The Principal Reduction Alternative, still a voluntary program, was not implemented until October 2010, so the history on principal forgiveness is very limited. It is reasonable to think that success rates on principal forgiveness modifications would be better

than on forbearance, as the borrower is closer to being re-equified.

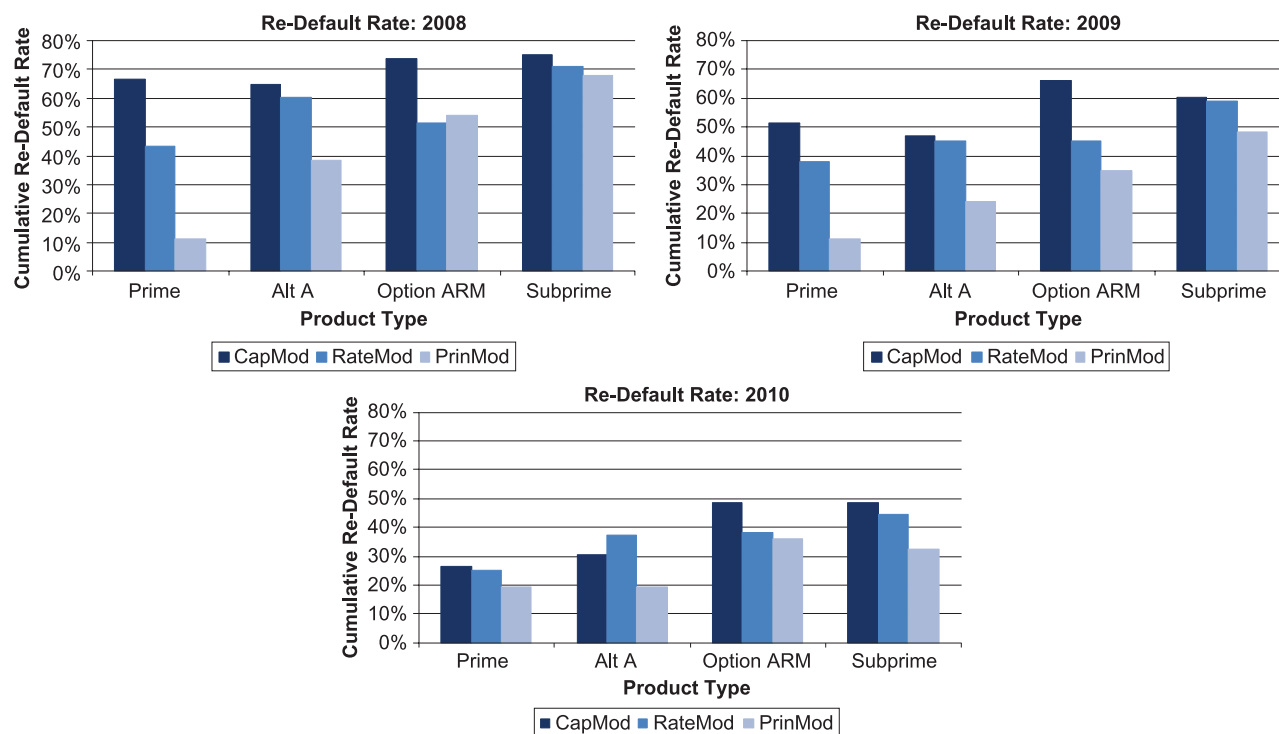
Exhibit 7 shows the 12-month modification re-default rate by product type and modification year. The results are very robust. Principal reductions have much lower re-default rates than other types of modifications. The difference is largest in prime space; these borrowers are more apt to be responsive to a re-equification, and principal reduction is the only way to accomplish that.

SUCCESSFUL MODIFICATION RX #2—MODIFY EARLY

Exhibit 8 shows how delinquent the loans were when they were modified. There was a real shift in 2010 versus earlier years; a much higher percent of loans modified in

EXHIBIT 7

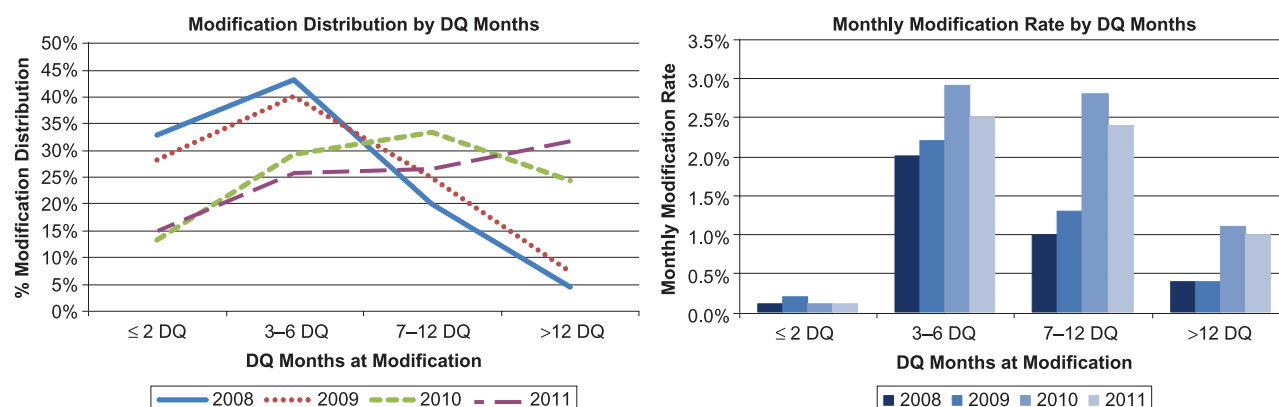
Twelve-Month Re-Default Rate by Modification Type



Sources: CoreLogic, Amherst Securities as of May 2011.

EXHIBIT 8

Modification Timing Trends



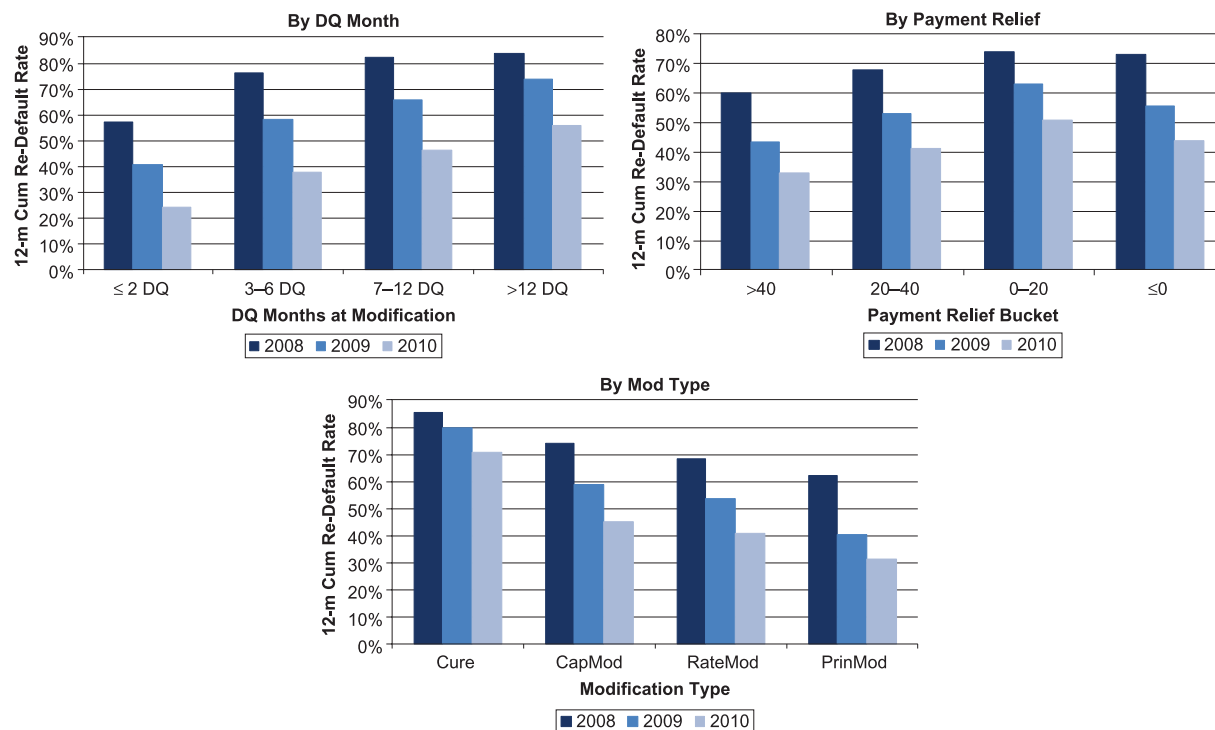
Sources: CoreLogic, Amherst Securities as of May 2011.

2010 were very delinquent at the time of modification. The distribution of modification activity is shown in the left-hand side of Exhibit 8. For 2008 and 2009 loans, about 30% received a modification when they were delinquent

2 months or less; about 41% of the loans were modified when they were 3–6 months delinquent; another 22% at 7–12 months delinquent; with the last 6% of modifications on loans >12 months delinquent. The 2010 modification

EXHIBIT 9

Drivers of Re-Default



Sources: CoreLogic, Amherst Securities as of May 2011.

experience has been very different—13% of the modifications were done on borrowers ≤2 months delinquent; 30% were done on borrowers 3–6 months delinquent; 33% for borrowers 7–12 months delinquent; and 24% of the modifications for borrowers >12 months delinquent. It is important to realize that many 2010 modifications were really trial modifications that began in 2009 but then were made permanent in 2010.

Did this reflect a drop in modification activity on less delinquent loans or rising modification activity on more delinquent loans? The answer is primarily the latter, as shown on the right-hand side of Exhibit 8. This measures the incidence of modification as a percentage of unpaid principal balance for each group of loans. Note the modification rate of loans ≤2 months delinquent in 2010 is marginally higher than in 2008 and lower than in 2009. By contrast, the incidence of modification of more delinquent loans is up considerably. This shift also reflects a delay caused by trial modification.

The evidence is very clear—the earlier a mortgage is modified, the more successful the modification will be.

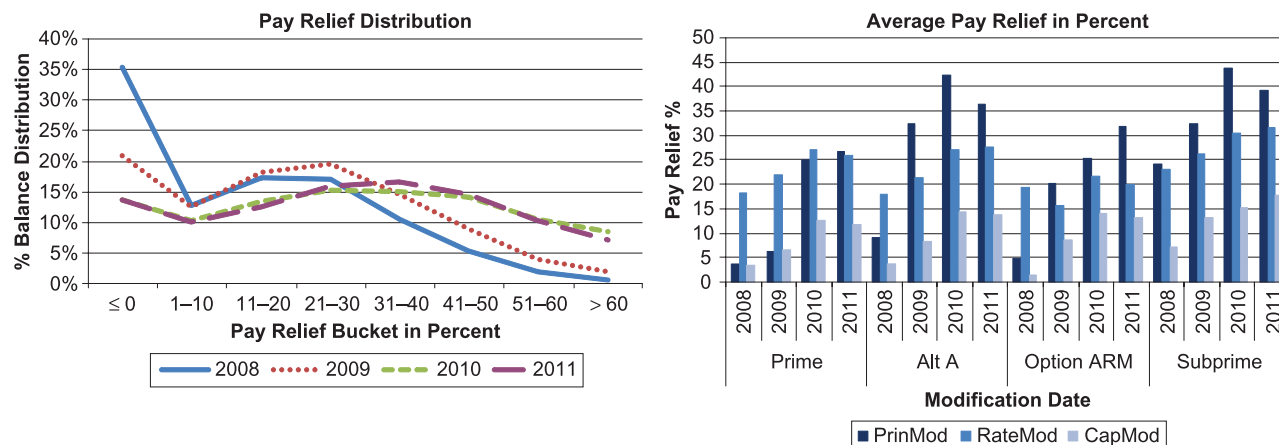
The upper-left panel of Exhibit 9 shows that mortgages modified in 2010 that were zero to two payments past due had a 12-month re-default rate of 24%, versus a 56% re-default rate for loans modified from the >12 month DQ bucket. Realize that a very delinquent loan is much less apt to survive the three-month trial modification, so the success on very delinquent loans will be overstated, as it excludes loans that failed the trial period.

SUCCESSFUL MODIFICATION RX #3—SUBSTANTIAL PAY RELIEF

The single most positive development of HAMP was the blueprint for more sizeable modifications. The legacy is very apparent in Exhibit 10. As shown on the right-hand side of the exhibit (pay relief by type of modification), 2010 modifications were more sizeable than 2009 modifications, which are more sizeable than 2008 modifications (all shown by the distribution of pay relief on the left-hand side of the exhibit). In 2008, 35% of modifications actually had a pay increase; by 2010, that

EXHIBIT 10

Pay Relief Trends



Sources: CoreLogic, Amherst Securities as of May 2011.

number was 14%. Modifications with >50% pay relief were <10% of 2008 and 2009 modifications; that rose to 32% of 2010 modifications. The right-hand side of the exhibit shows the average pay relief by product type and modification year. Again, pay relief for all types of modifications is growing more sizeable over time. For more recent years, principal modifications have more sizeable payment relief than rate modifications. Capitalization modifications generally offer the lowest pay relief.

A close look at Exhibit 10 generates a few questions:

- *Why is there any payment reduction in a capitalization modification?* The reason is that if the term is extended and the delinquent amount is re-capitalized into the principal, there will be some payment relief. The term extension often dominates the re-capitalization.
- *Why do recent principal modifications generally have greater payment reductions than rate modifications when the same was not true for 2008 modifications?* It is important to realize that the HAMP modification waterfall was enacted in early 2009. The waterfall specifies that the first step is to reduce interest to as low as 2%, then extend the term, then forebear principal to meet the 31% DTI target payment. Borrowers who obtain principal forbearance through the HAMP waterfall need a greater payment reduction to get to the 31% DTI. Prior to the introduction of HAMP, there were no uniform set of guidelines.

The upper-right panel of Exhibit 9 shows re-default rates by pay relief bucket. Note that loans that received substantial pay relief have much lower re-default rates than those that received less pay relief.

PUTTING IT ALL TOGETHER

Exhibit 9 shows the success rate of each driver separately—DQ months in the top left section, pay relief in the top right section, and modification type in the lower left. Exhibit 11 puts it all together, combining all three drivers of modification success: *modification type + pay relief + months DQ at modification*. The results are very compelling: When you reduce principal, provide >20% pay relief, plus modify the borrower when he is ≤2 months DQ, the modification success rate is relatively good. For 2010, the 12-month re-default rate for principal modifications with 20–40% pay relief modified when the loan is ≤2 months DQ is 17%. Even in 2008, which did not have any trial periods, the modification success rate of that same bucket was much better than for loans with different modification types, smaller amounts of pay relief, or a larger number of DQ months.

Indeed, the market seems to understand that the type of modification is important, as is the pay relief. More recent modifications contain fewer capitalization modifications and more rate and principal modifications. More recent modifications also contain greater amounts of pay relief than do earlier modifications. The one nega-

EXHIBIT 11

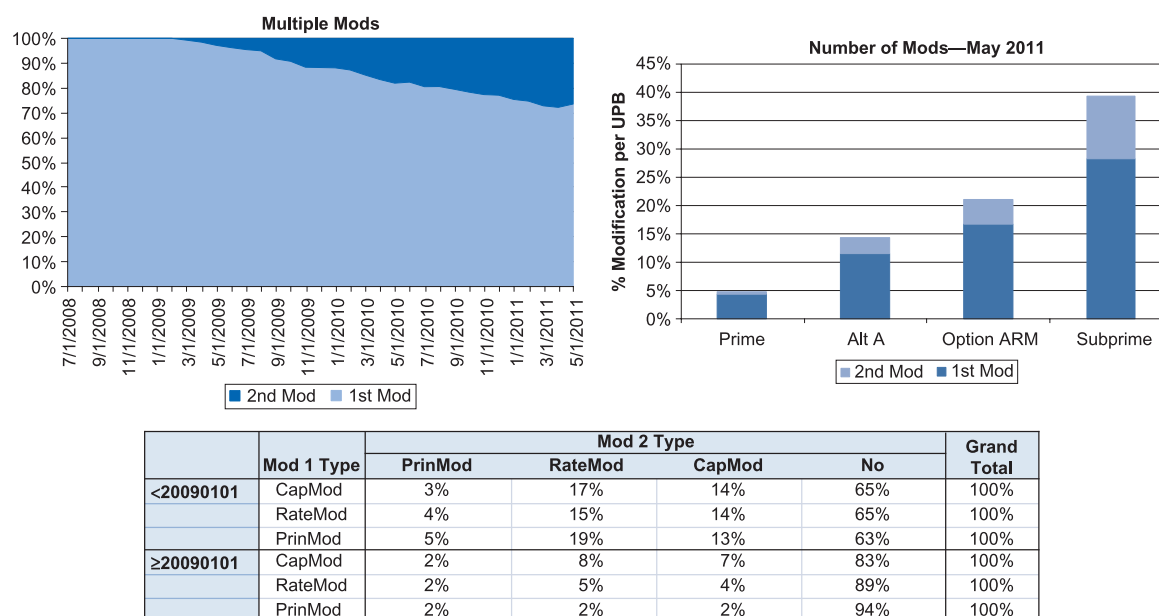
Summary of 12-Month Re-Default Performance

mtm CLTV	Pay Relief	2008				2009				2010			
		≤2 DQ	3–6 DQ	7–12 DQ	>12 DQ	≤2 DQ	3–6 DQ	7–12 DQ	>12 DQ	≤2 DQ	3–6 DQ	7–12 DQ	>12 DQ
PrinMod	>40	39%	61%	72%	73%	20%	32%	40%	54%	11%	19%	28%	36%
	20–40	43%	72%	84%	85%	30%	44%	55%	66%	17%	29%	38%	51%
	0–20	36%	79%	89%	77%	33%	48%	57%	71%	25%	45%	62%	80%
	≤0	38%	60%	75%	65%	37%	34%	45%	66%	37%	25%	44%	63%
RateMod	>40	40%	65%	73%	78%	27%	48%	57%	67%	17%	29%	38%	48%
	20–40	53%	74%	82%	86%	37%	58%	66%	76%	21%	38%	48%	60%
	0–20	55%	81%	87%	87%	49%	64%	71%	78%	29%	46%	55%	66%
	≤0	56%	81%	86%	89%	47%	64%	72%	81%	32%	52%	61%	72%
CapMod	>40	47%	61%	65%	84%	30%	44%	47%	57%	15%	23%	32%	46%
	20–40	56%	73%	79%	84%	44%	59%	65%	71%	24%	39%	50%	56%
	0–20	64%	81%	86%	88%	56%	69%	75%	81%	36%	53%	60%	66%
	≤0	63%	77%	82%	80%	35%	57%	66%	73%	31%	39%	46%	55%

Sources: CoreLogic, Amherst Securities as of May 2011.

EXHIBIT 12

Re-Modification



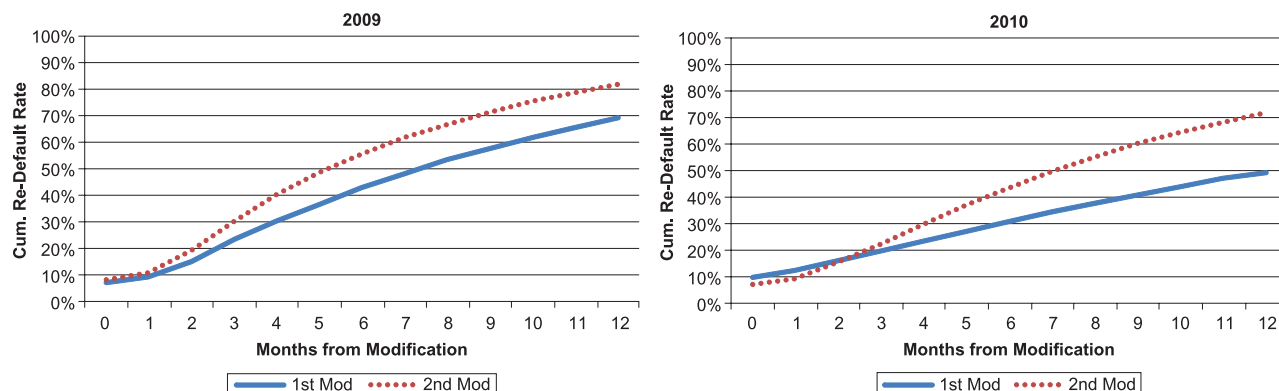
Sources: CoreLogic, Amherst Securities as of May 2011.

tive trend has been a propensity to modify more delinquent loans. We showed that in 2010, when a principal modification with a 20%–40% pay relief is done on a loan ≤2 months DQ, the re-default rate after 12 months is 17%. When the same type of modification and the same amount of pay relief is performed when a loan is >12 months DQ, the re-default rate soars to 51%.

The drivers of a successful modification program are clear: *principal modifications + substantial pay relief + early modification*. When modifications contain all three components, the likelihood of a successful outcome is reasonably good. Let's not lose sight of the ultimate goal of any modification program—to keep borrowers in their home when the NPV modification is positive. Clearly, giving everyone a

EXHIBIT 13

Will Subsequent Modifications Be More Successful?



Sources: CoreLogic, Amherst Securities as of May 2011.

free house would increase modification effectiveness to 100%, but that would definitely be NPV-negative.

MULTIPLE MODIFICATIONS—TRENDS AND BEHAVIOR

Large numbers of early modifications have been re-modified. The upper-left panel of Exhibit 12 shows that close to 25% of modifications are re-modifications, and we expect this number to grow. The upper-right part of the exhibit shows that this has been primarily a sub-prime phenomenon, but we expect that it will spread to the Alt-A and Option ARM sectors. For the purposes of this article, we are counting the original modification as a failure and the subsequent modification as a success or a failure, depending on its current status. Interestingly, as seen in the bottom panel of Exhibit 12, the original modification type bears no relationship to the second modification type.

Our limited sample indicates that after a year, as shown in Exhibit 13, the re-default rate of loans with second modifications is worse than the re-default rate on loans undergoing their first modification. That makes sense—loans with second modifications all had a first modification that failed, thus they should be an adversely selected group. Our sample is limited because in order to have a year of data, we cut the sample off in May 2010, and both modifications had to occur before then. As Exhibit 12 indicates, the explosive growth of second modifications is a more recent phenomenon. We will be monitoring this development closely.

CONCLUSION

Our in-depth look at data on mortgage modifications provides us with several take-aways:

1. Traditional methods of quoting modification success will overstate success. The calculation methods are flawed, and the longer the measurement period, the larger the flaw becomes. Traditional methods fail to account for re-modifications or liquidations.
2. It is very difficult to compare modification successes across time, due to changes in the amount of pay relief and in the introduction of a trial modification period.
3. As first-time modifications taper, re-modifications will become an ever-growing portion of the total.

Most importantly, history provides us with all the information we need to exhibit out how to do a successful modification. It's quite simple—*modify early, provide significant pay relief, and re-equify the borrower through a principal reduction*. With such steps, the modification success rate has historically been very good, and there is no reason to think that will change.

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