How Effective Was the Home Affordable Modification Program in Modifying the Loans of at Risk Homeowners? An Examination of Eight Metropolitan Areas: 2009 - 2012

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ABSTRACT

This paper examines the relative effectiveness of the primary federal mortgage loan modification program – the Home Affordable Modification Program (HAMP) from early 2009 through year-end 2012. It evaluates U.S. Treasury Department and other data sources, and reviews the recent literature on the relative success of the program. The data analysis suggests that HAMP's success rates in a cross-section of metropolitan areas are closely tied to differences in labor market conditions, home price recovery, rates of negative equity, share of borrowers receiving a permanent modification, and the type of modification received. The analysis finds strong evidence that markets most severely impacted by the housing market collapse experienced a comparatively lower rate of permanent modifications.

INTRODUCTION AND PROPOSED RESEARCH

Despite recent indicators of emerging recovery in the housing market nationally toward year end 2012, the problem of default and foreclosure remained a significant drag on the economic recovery and job growth through 2012. This was particularly the case in the most distressed markets nearly six years after the nation's foreclosure crisis began following the unraveling of the subprime mortgage market and the housing market collapse. Numerous efforts at stemming the rapid growth in foreclosure actions were introduced and undertaken at both federal and state levels starting in late 2008 – early 2009.

This discussion is focused on a critical evaluation of the relative success rates of the principal federal loan modification program – The Home Affordable Modification Program (HAMP) from 2009 through 2012. Based upon an analysis of key variables, a central conclusion is that this modification program largely fell short of its potential.

To obtain further insight into which factors may have accounted for the program's relatively uneven impact (success rates), this inquiry examines several variables that are often employed as indicators of the extent of housing market strength across a sample of eight metropolitan areas. These include the share of homes in negative equity, the share of borrowers receiving a permanent modification of either a first or second lien loan relative to total trial modifications, the type of loan modification received, trends in the Case-Shiller home price index, and average unemployment rates as of fourth quarter 2012. While data on rates of successful modification by major lender at the MSA level are uneven and incomplete the national data for the largest lenders is reviewed and discussed here.

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To determine which of these variables may have had a greater effect on the relative success rates of loan modification and where, the sample of metropolitan areas selected seeks to include housing markets that were characterized by different market trends just prior to and following the housing market peak. It is hoped that this inquiry will help to identify the factors that may have contributed to differences in the pace and strength of housing market recovery through 2012.

Thus, the MSAs studied here include a mix of former "bubble" markets, as well as MSAs whose economies were comparatively weak going into the housing market downturn, and one whose market experienced comparatively less of a 'bubble' effect. These include the Miami, Las Vegas, Los Angeles, San Bernardino, Detroit, Chicago, New York and Phoenix metropolitan areas. Data for the nation overall is included for comparison. Five of these MSAs were in markets where the housing bubble was comparatively greater than in the nation as a whole, while two represent areas that had significantly more depressed economies going into the downturn in 2008 and whose housing markets have nonetheless remained weak relative to the nation. Finally, one MSA experienced relatively less housing market inflation prior to the crisis.

Analysis of the available data suggests that these indicators are significantly linked to HAMP's uneven rates of success across these MSAs. Several measures point to evidence of continued economic and housing market weakness through year-end 2012, with the data on rates of permanent loan modification viewed as evidence of much of that continued weakness. Comparatively high rates of unemployment in many of the housing markets most affected by the crisis have been correlated with disproportionately higher rates of delinquency and lower modification success rates over the four-year period. As of year-end 2012, the data suggests that many of the variables examined here continued to constrain the pace of recovery in some housing markets more than in others

OVERVEW OF FEDERAL MODIFICATION PROGRAMS INTRODUCED SINCE 2008

The initial program introduced in late 2008 in the final months of the Bush Administration, known as Hope for Homeowners (H4H), enabled underwater borrowers to refinance into an FHA guaranteed mortgage. H4H relied upon the voluntary participation of lenders and servicers. Prior to 2008, as the first signs of soaring foreclosure rates began to appear principally in the subprime market, efforts which encouraged lenders and servicers to work primarily with subprime borrowers to modify their high interest rate loans into fixed rate loans, also relied upon voluntary participation in such efforts by lenders and loan servicers. Not only did these proposals rely upon lenders' voluntary participation, there was also the obstacle posed by the fact that many of these loans had been securitized. Thus, "In most cases, servicers are restricted from modifying mortgages without investor approval, and obtaining investor approval can be a challenge for the servicer" (Consumer Compliance Outlook, 2009). Reports on such modification efforts by the Subprime Foreclosure Prevention Working Group, discussed later in this paper, reveal mixed outcomes.

In early 2009, in an effort to reach more troubled borrowers, a number of new foreclosure prevention measures began to be introduced, including the Home Affordable Modification Program (HAMP), the Home Affordable Refinance Program (HARP), and 2MP, a program that offered either modification of or extinguishment of second liens for homeowners who had already refinanced their primary loan under HAMP. In February 2009, the U.S. Treasury Department allocated $50 M in TARP funds to help homeowners struggling with their mortgages.

The first of these programs, HAMP and HARP, were created in February 2009 as part of the Homeowner Affordability and Stability Plan in an effort to help homeowners avoid foreclosure either by modifying or refinancing their first mortgages. While these programs, unlike earlier initiatives that relied entirely upon the voluntary participation of lenders and servicers (i.e., Hope for Homeowners enacted in October 2008), HAMP required that all banks and lending institutions that received government assistance under the Troubled Asset Relief Program to "implement loan modifications for eligible loans under HAMP's guidelines" (Consumer Compliance Outlook, 2009).

In October 2011, the Federal Housing Finance Agency (FHFA), Fannie Mae, and Freddie Mac improved upon the existing Home Affordable Refinance Program making it easier for lenders to refinance HARP-eligible mortgages by making refinancing possible for borrowers who owed more on their mortgages than their homes were worth (Fannie Mae, 2012).

However, the same mandate did not apply to non-TARP banks. Nevertheless, this requirement was short-lived. In April of 2009, the Treasury Department announced changes to this mandate, stipulating that Help for Homeowners (H4H) should be the primary source for homeowners seeking a modification before applying under HAMP (Consumer Compliance Outlook, 2009). In essence, the mandate to lender participation was further weakened and the process for homeowners became more bureaucratic.

Another change made to the original HAMP program by the Treasury Department added a second lien modification program, known as 2MP. This program would be available only to borrowers who obtained a second lien on or before January 1, 2009 and who had already attained a first lien modification under HAMP.

Under 2MP, a second lien that met these qualifications would be eligible for either a modification or extinguishment (Consumer Compliance Outlook). However, 2MP appeared to have had limited success in attracting lender participation, with just over 103,000 second lien modifications from the program's inception through December 2012 (U.S. Treasury Dept., December 2012). The principal obstacle was that a second lien modification was not possible unless the borrower had first obtained a first lien modification. The significant numbers of homeowners in negative equity and their concentration within those markets with slower home price appreciation since having reached bottom continued to pose obstacles to gaining access to the second lien modification program.

RESEARCH SUMMARY

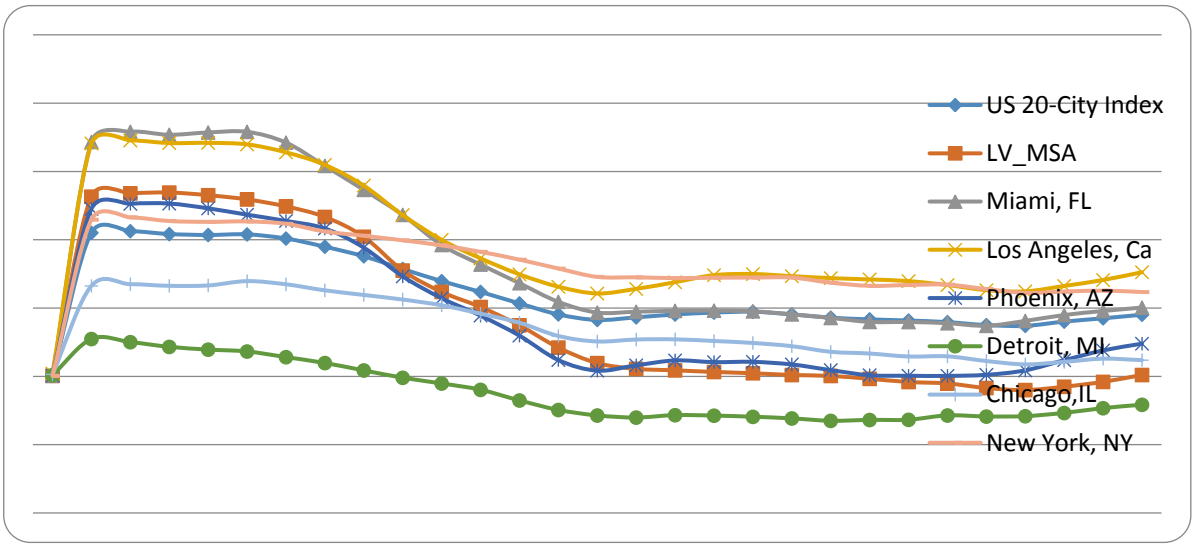
The following discussion considers the relative strength of the previously identified variables in explaining the outcomes of actual loan modifications. Employing data sets on the proportion of successful modifications to total trials, first lien modifications under HAMP from the U.S. Treasury Department, modification type, unemployment data, historical Case-Shiller home price index data, and rates of negative equity, the data analysis here seeks to identify not only which of these variables appears to exert the greatest explanatory power, but which have had the strongest impact over time. Rates of lender participation in modification efforts nationally will be measured in terms of the proportion of successful modifications relative to trials.

Data on the types of modifications undertaken, including principal balance reductions, refinancing into lower interest rate loans and other types are examined here briefly as well. An overview of total successful modifications under 2MP is also discussed. While data on loan modification type does not appear to be available at the MSA level from the Treasury Department data, U.S. level data will be used. The correlation analysis which will be included in a follow-up paper will examine the four year period from January 2009 through December 2012. The picture that emerges suggests that all of the variables examined are potentially significant in explaining the wide variation in the rates of recovery in each of the metropolitan areas.

DATA: Home Price Trends

Since the second half of 2012, several indicators began to point to the beginnings of recovery in the U.S. housing market. Nationally, housing starts on new privately owned units, which peaked in 2005 at 2,068.3 thousand, rose to an annual rate of 780.0 thousand after plummeting to 554.0 thousand in 2009. New single family home sales, which also peaked in 2005 at 1,283.0 thousand have only recently shown evidence of a turnaround since bottoming out in 2011 at 306,000. The number of new home sales in 2012 reflected a small increase to 367.0 thousand, still the lowest annual rate on record since 1982. Existing home sales began to see a modest turnaround from their post-recession low in 2010 to 4,650.0 thousand in 2012 (U.S. Department of Housing and Urban Development, 2012), and the Case-Shiller national composite home price index showed some modest improvement, rising to 135.11 in fourth quarter 2012 after hitting bottom in first quarter 2012 at 124.06 (2012).

Figure 1: Case-Shiller Home Price Index: U.S. 20-City and Metropolitan Areas



Data for the Riverside-San Bernardino CA MSA is not available.

However, despite signs of an emerging housing market in 2012, the turnaround in many of the nation's hardest hit markets continued to lag that of the U.S. overall, and to a significant degree, their recoveries have been measurably weaker.

The seasonally adjusted peak in the national composite home price index based on an analysis of Case-Shiller quarterly data shows that the national market bottomed out in 3rd quarter 2011 after peaking in 1st quarter 2007. Overall, U.S. home prices lost an average of 32.9 percent of their value over this period. Based upon the 20-city composite index, home values lost 33.8 percent of their value from their peak in April 2006 to the trough in January 2012. (Case Shiller, Dec. 2012).The two measures are comparable.

A comparison with peak to trough indices for the eight MSAs relative to the nation reveals comparatively sharper declines in home values from housing market peaks to troughs. In five of these MSAs, the peak to trough decline was noticeably greater than for the nation as a whole. At the same time, the recoveries in four of these same markets significantly lagged the nation based upon the 20-City composite index. Two areas – Los Angeles and New York – began to stabilize.

While Detroit and Chicago experienced considerably less of a bubble market, these MSAs started from relatively more depressed economies relative to the nation and the other markets and they have continued to markedly lag the nation overall. Despite these differences, their housing markets, as well as those of the others and the U.S., had not recovered to their pre-bubble price levels as of December 2012.

Table 1: Market Peak to Trough Percent Changes in Home Price Index

20-City Composite Index	Las Vegas NV	Miami FL	Los Angeles CA	New York NY	Phoenix AZ	Detroit MI	Chicago IL
-33.8%	-61.6%	50.9%	-40.4%	-34.9%	-55.7%	-44.6%	-35.0%

(based on analysis of Case-Shiller home price index data; Case-Shiller data for the Riverside-San Bernardino MSA not available)

Negative Equity

Based upon another critical measure of housing market health – negative equity - most of these markets still demonstrated comparatively weaker recoveries. First, the weakness in permanent modifications appears to be strongly linked to the share of mortgaged housing units still in negative equity.

The problem of negative equity continued to exert a significant impact in the bubble markets – the Las Vegas, Miami, Los Angeles, Phoenix and San Bernardino MSAs. At the end of fourth quarter 2012, an estimated 10.4 million, or 21.5 million residential properties with a mortgage were still in negative equity. (CoreLogic, March 2013). In the U.S. overall, an estimated 21.5 percent of owner occupied homes with a mortgage were in negative equity, while another 23.2 percent were considered "under-equitied," - having less than 20 percent equity at the end of fourth quarter 2012. (Core Logic March 2013). In three of these five markets, the percent of homes in negative equity remained significantly above the U.S. average at year-end 2012. For just two MSAs – Los Angeles and New York – the negative equity percentages were below the national average. Los Angeles fared somewhat better than the national average at 19.6 percent, while the New York market showed considerable strength with just 11.9 percent of mortgaged homes in negative equity. The percent share for the Chicago MSA at 33.3 percent was also measurably greater than the U.S. average although it experienced a comparatively flat market during the housing bubble.

While data for the Detroit and Las Vegas MSAs was not available, statewide data revealed an especially high rate of negative equity for Nevada overall at 52.4 percent. In Michigan overall, the rate was at 31.9 percent.

Table 2: Negative Equity Status as of 4 Quarter 2012.

U.S. and Six Metropolitan Areas	Percent of Mortgaged Owner Occupied Homes in Negative Equity
U.S.	21.5
Miami, FL	40.7
Phoenix, AZ	36.6
Los Angeles, CA	19.6
Riverside-San Bernardino CA	35.7
New York NY	11.9
Las Vegas NV*	**52.4
Chicago IL	33.3
Detroit MI*	31.9

Core Logic, "Core Logic Reports Equity Improves in Fourth Quarter 2012," March 19, 2013. *Data for Las Vegas, NV and Detroit MI MSAs was not available. **Figures represent statewide data; MSA-level data not available.

Rates of Permanent Modification by MSA

Nationally, 851,135 homeowners out of 1,975,649 who had entered a trial modification from the program's inception through December 2012 received a permanent modification of their home mortgage through the Making Home Affordable Modification (U.S. Department of the Treasury, Dec. 2012, Jan. 2013). This number represents a national success rate of 43.1 percent. When compared to the total of 2.2 million applications made through lenders for a HAMP modification, the national success rate falls to 38.7 percent.

A further comparison with total foreclosure data indicates an even smaller successful modification rate. A total of 4.2 million foreclosures nationally were completed from September 2008 through January 2013 (Core Logic, Feb. 2013), suggesting a successful modification rate of just 20.3 percent of all distressed mortgages over this four year period. In these same eight housing markets, permanent modifications through December 2012 averaged 44.4 percent of all trials.

While there is data on completed foreclosures from U.S. Treasury Department reports, the dates for which this data is available are not consistent across the eight MSAs and thus, is not included here.

Table 3: HAMP Activity through December 2012

MSA	Active Permanent Modifications	Rank: Permanent Modification:15 MSAs with highest HAMP Activity	Mod. Rate: % active perm. Mod. To total trials	% of Total U.S. HAMP Activity
U.S Los Angeles Long Beach	**851,135**		**43.1**	**100.0**
Santa Ana CA		**1**	**53.0**	**8.2**
New York White Plains	**56,452**	**2**	**45.5**	**6.8**
Miami, Ft Lauderdale FL	**41,865**	**3**	**45.8**	**5.3**
Chicago IL	**42,292**	**4**	**43.6**	**5.0**
Riverside-San Bernardino CA	**42, 910**	**5**	**47.9**	**5.0**
AZ	**26,951**	**7**	**39.4**	**3.1**
Las Vegas NV	**15,549**	**11**	**39.6**	**1.8**
Detroit MI	**15,521**	**12**	**41.5**	**1.8**
TOTALS	**310,114**	**12**	**44.4 (Avg)**	**37.0**

Sources: U.S. Treasury Department, Making Home Affordable Program Performance Report Through December 2012.

While all eight MSA's were among the top fifteen with the highest HAMP activity through December 2012, and five were in states with the highest levels of HAMP activity – (California, Nevada, Illinois and Florida) – the data overall reveal comparatively week modification success rates. Permanent modifications for these MSAs taken together, averaged 44.4 percent of total trials in these markets, while at 37.0 percent, they accounted for well over one-third of total HAMP activity nationwide over the four-year period.

Despite the challenges in comparing the number of active permanent modifications to total completed foreclosures as a result of the inconsistencies in the dates for reported foreclosure data, a look at the outcome for a couple of these markets with data that is relatively consistent with the four-year period studied here provides some measure of modification success rates relative to total distressed properties. In the Miami MSA, with total foreclosures of 101,900 reported through 2Q 2012, the ratio of active permanent modifications to completed foreclosures was 41 percent. In Detroit, with 131,400 completed foreclosures through 1Q 2013, active permanent modifications totaled just 11.8 percent.

In the New York MSA, the ratio of permanent modifications to completed foreclosures through January 2013 (27,520) was more than two-to-one. In part, this may be due to policies of early intervention

to assist distressed (delinquent) homeowners before the formal foreclosure process began, the enactment of a mandatory 90-day pre-foreclosure filing notice to all delinquent homeowners, which gave struggling homeowners more time to enter into and complete a successful modification and the opportunity to start the process comparatively earlier.

Modification Type

In many cases, some of the nation's largest lenders had relatively low rates of successful permanent modifications while others achieved higher rates of success. Through December 2012, successful second lien modification activity represented a relatively small proportion of total modifications nationally. A total of 103, 272 second liens had entered the 2MP modification program as of year-end 2012. Just 25,573 of these resulted in a full extinguishment of the second lien, while another 6,552 received a partial lien extinguishment. The balance of 69,078 were in active modification status. A total of 2,697 that had entered into a 2MP modification were paid off. The median amount of a fully extinguished second lien was $61,734, while the median amount of a partial second lien extinguishment was $9,347 (Treasury, 2012). In total, just 16 servicers were participating in 2MP modifications through December 2012, representing a fraction of total servicers nationwide.

There is evidence that modification type has also been a factor in the relative success rate of loan modifications (The State Foreclosure Prevention Working Group[1] (Aug. 2010; Querci and Ding (2009). Specifically, there is strong evidence that modifications that feature a principal balance reduction have had relatively higher rates of success. The sum of such modifications at 89, 217 nationally as of year-end 2012was small in comparison with the total number of distressed property owners seeking a HAMP modification. Based on a reading of the U.S. Treasury HAMP reports, one of the principal reasons has had much to do with policy guidelines and limitations under HAMP that were still in effect through year-end 2012. Those guidelines stated that while both GSE and non-GSE loans (i.e. many subprime loans) were eligible to participate in a HAMP modification, GSE policy (Fannie Mae and Freddie Mac) stipulated that servicers can only offer a principal balance reduction – a PRA (or Principal Reduction Alternative) on non-GSE modifications under HAMP (2012). As a share of total active permanent modifications through December 2012, modifications featuring a principal balance alternative constituted just 10.5 percent.

Such successes appear to be reflected in the Treasury Department's own statistics on modifications by servicers. Under the terms of the HAMP Principal Reduction Alternative, servicers of non-GSE loans are required under the terms of the program to evaluate borrowers for a principal reduction (although they are *not required* to do so). The program applies to mortgages with a loan to value (LTV) that is greater than 115 percent. Servicers that do participate are eligible under the program to receive an incentive depending upon the amount of the principal reduced (U.S. Treasury, Dec. 2012 MHA Final Report). According to the December Treasury report, "The terms of the $25 billion settlement of mortgage servicing deficiencies between the five largest mortgage servicers, the Federal government, and 49 state attorneys general[2], have caused servicers to increase use of non-PRA principal reductions".

In fact, modifications that included a principal balance reduction feature began to be offered to a greater extent following the $25 billion mortgage settlement between the 49 state attorneys general, the Federal Government and the five largest mortgage servicers (National Mortgage Settlement, 2012). In addition to the Principal Reduction Alternative offered under the terms of the HAMP program (a HAMP PRA), in which servicers receive a financial incentive to reduce a borrower's principal balance, more servicers began offering this option following the national settlement even though they received no financial incentive to do so. The December 2012 HAMP Servicer Report noted that among the non-GSE loans eligible for a principal reduction and that had begun a trial modification in December 2012, 71 percent included a principal reduction, with 54 percent of these being offered through the HAMP PRA program (2012).

Among all non-GSE loans eligible for a principal reduction under the HAMP program and that entered into a trial modification in December 2012, 71% included a principal reduction feature, including 54% through the HAMP PRA program. (U.S. Treasury, 2012). However, as a percentage of all active permanent loan modifications, these particular modifications constituted 89,217 or 10.5 percent of permanent trial modifications and just 4.5 percent of all HAMP trials initiated through year-end 2012 (U.S. Treasury Department, 2012).

Despite the low rate of principal balance reductions offered over this four-year period, studies such as those by the State Foreclosure Prevention Working Group, which looked at a longitudinal dataset of nine large loan servicers in New York State in 2007, concluded that modifications that included significant reductions in principal balances tended to have lower re-default rates than modifications that did not (August 2010).

Labor Market and Unemployment Rates

Unemployment rates in all but one of these same eight MSAs clearly trended above that for the nation overall through December 2012. Phoenix Arizona is the exception. Peak unemployment rates at the height of the downturn have fallen in all of these markets, but remained considerably higher than the national average at year-end 2012. Continued high rates of unemployment since the official start of the recession in December 2007 have clearly been a significant drag on housing market recovery. In all cases, unemployment did not decline below double digits until December 2012, and in three of these MSAs rates still remained in double digits.

Table 4: Metropolitan Statistical Area and U.S. Unemployment Rates: December 2007 - December 2012

Year	U.S.	LA_CA	Riverside-San San Bern. CA	Phoeniz AZ	Chicago IL	Las Vegas NV	Detroit MI	Miami Fl	NY
Dec-07	5.2	6.3	3.7	5.1	5.3	7.4	4.4	4.8	5.0
Dec-08	8.8	10.2	7.3	7.3	9.3	10.9	7.8	6.9	7.3
Dec-09	11.3	13.8	9.9	10.9	13.4	14.5	10.9	9.9	9.9
Dec-10	11.5	13.7	9.0	9.2	14.3	11.7	11.0	8.8	9.3
Dec-11	10.7	12.4	7.7	9.1	12.6	9.9	9.0	9.1	8.5
Dec-12	9.4	11.0	6.8	8.6	10.0	10.2	8.0	8.8	7.8

Source: U.S. Department of Labor, Bureau of Labor Statistics; New York State Department of Labor

A Note on Lender and Servicer Participation in Modification Efforts

Rates of lender and servicer participation in the various loan modification programs are also linked to the percentage of permanent modifications. While this data does not provide detail at the MSA level, the data on servicer performance for the nation overall is quite detailed in monthly Treasury Department reports. The percentages of successful permanent modifications as a share of total trials for the top five loan servicers since through December 2012 reveals quite mixed outcomes. There is evidence that modification type has also been a factor in the relative success rate of loan modifications.

Table 5: Servicer Loan Modification Activity through December 2012

Lender/Servicer	All HAMP Trials Started	Active Permanent Modifications	Permanent first lien modifications as a share of lender's total trials started	Second lien modifications started (2MP)	Principal Reduction Alternative[1]
Bank of America	342,841	118,446	34.5%	33,599	11,377
Citi Mortgage	141,865	52,741	37.2%	12,895	2,004
J.P. Morgan Chase	330,545	141,928	42.9%	29,218	22,843
Wells Fargo	284,594	121,259	42.6%	15,241	17,524
GMAC Mortgage	76,962	42,594	55.3%	4,548	2,256
Ocwen Loan Serv	112,905	71,331	63.2%	N/A	22,366
One West Bank	65,666	35,323	53.8%	3,334	5,448
Select Portfolio .	64,230	25,311	39.4%	N/A	2,345
Homeward Resid.	51,117	31,579	61.8%	N/A	0
Total-all servicers	**1,1975,649**	**851,135**	**43.1%**	**103,272**	**89,217**

Source: U.S. Treasury Department, December 2012 MHA Report; permanent modifications started.

Review of the Literature: Obstacles to Loan Modification

A number of factors have been identified in the literature regarding the limited impact of loan modification programs. The assessment in much of the literature is that the forces that led to the foreclosure crisis continued to reinforce its effects, most notably posing barriers to successful loan

modification. This lends support for the view that to a significant extent, continued high unemployment, particularly in the hardest hit markets, the negative equity position of many borrowers, and stagnant and/or continued weak recovery in home values continued to weigh on housing market recovery through 2012, preventing higher rates of successful modification. Also noted is the difficulty posed to refinancing of mortgages with second liens.

The large number of mortgages with second liens is identified as posing one of the greatest impediments to refinancing (Been, et. al., 2011, Lee, et. al. 2012, LaCour-Little, 2009). It is estimated that between 40 and 45 percent of new mortgage loans originated at the height of the housing boom (2005-2007) included a second lien or piggyback mortgage which enabled borrowers with less than a 20 percent down payment to purchase a home, particularly in high cost coastal markets and in 'bubble locations.' (Lee, et. al. 2012). Their research documents that both the number of and value of closed end second liens (as opposed to HELOCs) represented a relatively small percentage of originations in 1999 compared with their peak in 2006.

Been, et. al. (2011) point out that HAMP's success was to a significant degree constrained by the presence of a second mortgage. "Second liens significantly complicate modifications because first lien holders may lose their senior status upon modification," and thus first lien holders are reluctant to agree to participate in a modification unless second lien holders agree to subordinate their liens to the newly modified mortgage. As the authors point out, few have chosen to do so. Examining a sample of zip code-level and state data, LaCour-Little et. al.(2009) found that the percentage of piggyback originations from 2001 – 2008 was positively correlated with higher foreclosure rates in subsequent years. Their findings confirm that second liens rose rapidly during the housing boom and are a major contributing factor to underwater mortgages in the face of the sharp decline of home prices after the peak. They specifically looked at whether states and zip codes with a higher proportion of piggyback loans originated during the 2001 - 2006 period were associated with increased rates of delinquency and foreclosure. Their findings pointed to evidence that second liens originated to subprime borrowers were significantly related to higher rates of foreclosure after 2006. The finding did not especially hold for prime second-lien borrowers (LaCour-Little, et. al., 2009). Nevertheless, given the time of their study, it may have been too early to have seen the full effects of declining home equity, which affected large swaths of the home-owning population nationwide, as home prices continued their decline throughout 2010 and 2011.

A broad cross-section of the literature is largely consistent in pinpointing the crisis in the subprime mortgage market beginning in 2006 as the catalyst for much of the larger housing market collapse that followed (Gerardi, et. al. 2008 and 2011, Been, et. al., 2011, Rugh and Massey, 2010, Bromley, 2008, Gerardi and Willen, 2008). Other analyses identify a number of other important factors that coincided with the build-up to the collapse that were at work as well. These include deteriorating loan quality and poor underwriting standards particularly in the subprime market (Been, et. al., 2011), smaller down payments and a run-up in borrowing against home equity while home prices were still rising, coupled with declines in home price appreciation that began well before the crisis (Gerardi, et. al., 2011). At the same time, the

work of the State Foreclosure Prevention Working Group, (which began analyzing a longitudinal dataset of nine large loan servicers in New York State in 2007 - long before the crisis reached its peak) and Quercia and Ding (2009) find a significant relationship between re-default risk and the failure to reduce principal balances in loan modification efforts (SFPWG, Aug. 2010).

Much of the literature also addresses the shortcomings of the various loan modification programs introduced in the wake of the foreclosure crisis. It is noted that the Home Affordable Modification Program (HAMP) in particular, had mixed results, as the available data examined here clearly demonstrates.

In the years immediately prior to the housing market collapse, increasing numbers of borrowers, particularly in the subprime market, were making very small down payments at the time of purchase, and in many cases, putting zero money down. At the same time, many borrowers who had purchased years before the onset of the crisis, had been withdrawing extraordinary amounts of equity while home prices were still rising, (Gerardi et. al. 2011). This created heightened risk – especially in the 'bubble' markets - once home prices stalled and began their steep decline. These two conditions alone would clearly pose challenges to refinancing in a down market. After the market peaked, large numbers of homeowners – both subprime and prime - found themselves in a negative equity position. Until HARP 2.0's recent allowance of refinancing of up to 125 percent of a home's original mortgage (2011), this problem was clearly unaddressed.

Some inquiries, relatively early in the course of the rapid rise in distressed properties, found strong evidence that principal balance reductions were associated with the strongest modification success rates. The State Foreclosure Prevention Working Group (Aug. 2010), analyzing a longitudinal dataset of nine loan servicers, found that modifications that included significant reductions in principal balance tended to have lower re-default rates than their counterparts. This finding led the group to recommend reducing principal balances on loans in areas impacted by significant home price declines (Aug. 2010).

In fact, the changes made to the Treasury Department's guidelines under the terms of the HAMP Principal Reduction Alternative, servicers of non-GSE loans were required to evaluate borrowers for a principal reduction (although they are *not required* to provide such a modification) under the terms of the national mortgage settlement (U.S. Treasury, Dec. 2012 MHA Final Report) with the nation's five largest servicers. As a result, many began to increase the use of non-PRA principal reductions.

Similarly, Querci and Ding (2009) found that borrowers were less likely to re-default on their home mortgage when their monthly payments were reduced through a balance-reducing loan modification. Using data from a large sample of recently modified subprime loans, the authors looked at the question of why some loan modifications were more likely to re-default than others. At the same time, they examined the characteristics of modifications that were more likely to re-default within a short term period. Their findings confirmed that modifications that involved a significant reduction in mortgage payments tended to result in more sustainable short-term modifications, and that re-default rates are further reduced when payment reductions also include a reduction in principal balances.

As noted in the previous discussion however, such modifications have often been the exception. Modifications with a significant reduction in principal balance represented just 20 percent of the loan modifications that the SFPWG studied. In most modifications, the loan amount increased as service charges and late payments were rolled into the loan.

With the onset of the financial crisis in late 2008, the SFPWG concluded that a comprehensive approach to loan modification was necessary. At the time the organization issued its fourth report in January 2010, it was estimated that just four out of ten seriously delinquent borrowers were on track for any kind of loan modification. The authors also concluded that while the HAMP program increased the percentage of borrowers participating in some form of loan modification, the rapidly rising number of such delinquent borrowers meant that HAMP had merely been able to slow the foreclosure crisis, and that its efforts have not been able to keep pace with the rising scale of delinquencies (SFPWG, Jan. 2010).

Conclusions

Based upon this preliminary analysis of eight metropolitan areas and the U.S., available data suggests that in the MSAs examined here, the sharp rise in, and continued high rates of unemployment, continued high negative equity rates, weak rates of housing price recovery, inconsistent and often poor rates of successful loan modification, were all clearly tied to the mixed success rates of the HAMP loan modification program from 2009 through year-end 2012. In some cases, the outcome was reflected in higher rates of completed foreclosures relative to successful permanent loan modifications. At the same time, many MSAs with the highest rates of negative equity at the end of 2012 appear to be significantly correlated with comparatively lower rates of permanent modification relative to trial modifications.

While many modification programs aimed initially at getting borrowers out of ‘high cost’ or subprime loans, many subsequent efforts have fallen short of large scale remediation of loans at high risk of default as a result of the sharp economic downturn, precisely because of the prolonged and slow pace of economic recovery that continued to keep large numbers of properties in negative equity through year end 2012. While the government modification programs have clearly had a degree of success over the past four years, the results have largely been mixed, with significant percentages of modified loans (particularly under HAMP) going back into default.

The other issue concerns the reliance upon the voluntary participation of lenders and servicers in modification efforts from the outset, a factor that is reflected in the mixed outcomes of lender/servicer participation in modification efforts. HAMP relied heavily on the employment of various incentives to encourage lenders to modify the loans of homeowners at risk of default and foreclosure.

The next step will undertake a correlation analysis aimed at more precisely gauging the significance of the variables discussed here to the success rates of government loan modification programs over the 2009 – 2012 period as measured by the rate of permanent modification in each MSA.

The proposed model will examine permanent modification rates as of year-end 2012 as a function of the Case-Shiller home price index (HPI), percent of mortgaged owner-occupied homes in negative equity

(NEGEQ), the annual average unemployment rate (UNEMPL), The share of permanent modifications that featured a principal balance reduction as a share of total permanent HAMP modifications nationally (PRINCRED).

ENDNOTES

1. The Subprime Foreclosure Prevention Working Group consisted of several state attorneys general and state bank supervisors.
2. As part of the nationwide mortgage settlement reached between the U.S. government and the major lenders in 2012, the nation's five largest banks agreed to pay a total of $25 billion to borrowers who lost their homes to foreclosure, and to the states and the federal government to settle investigations linking the country's five largest mortgage servicers to the practice of routinely signing foreclosure related documents without the presence of a notary public and without confirming whether the facts contained in the documents were correct.

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