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Sean MacDonald

*CUNY New York City College of Technology*

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## Could an Alternative Policy Design Have Produced a Stronger Mortgage Modification Outcome for HAMP?

Sean MacDonald, New York City College of Technology

### ABSTRACT

This paper conducts a study of the relative effectiveness of the Home Affordable Modification Program (HAMP) - the primary federal mortgage loan modification program - from early 2009 through 2016. It evaluates U.S. Treasury Department and other data sources, and reviews the recent literature on the relative success of the program. The analysis suggests that HAMP's success rate in modifying mortgage loans was likely constrained by its voluntary design, a structure that enabled lenders and servicers to prioritize the interests of investors in assessing the risks of modification. It then considers the economic issues surrounding the foreclosure issue and presents a theoretical analysis, posing an alternative model illustrating where modification can be cost reducing. Concluding remarks reflect on the importance of promoting economic stability in policy design.

### 1. INTRODUCTION AND RESEARCH OVERVIEW

Despite indicators of emerging recovery in the U.S. housing market at the end of 2012, the problem of default and foreclosure remained a significant drag on economic recovery and job growth through 2012. This was particularly the case in many distressed housing 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 policies to stem the rapid growth in foreclosures were introduced and enacted at both federal and state levels starting in late 2008 and early 2009.

This discussion is focused on a critical evaluation of the relative success rate of the federal Home Affordable Modification Program (HAMP) from March 2009 when the program took effect through 2016 when the program was scheduled to wind down (excluding modifications still in progress; U.S. Treasury, *Making Home Affordable* Q42016). HAMP, whose stated goal is "to offer homeowners who are at risk of foreclosure reduced monthly mortgage payments that are affordable and sustainable over the long-term," has functioned as a voluntary program that relies upon loan servicers to modify the loans of struggling homeowners through lower monthly payments, thus lowering the risk of foreclosure (U.S. Treasury Dept. *Making Home Affordable* 2012).

Despite HAMP's status as the largest of the government mortgage modification programs, the program lead to trial {conditional} modifications for just over 2.5 million borrowers at risk of foreclosure by year-end 2016, the overall success rate as measured by the number of permanent modifications relative to total trial modifications initiated appears to have fallen short of the program's potential.

The central argument made here is that the design of the program, which established rather strict criteria for borrowers to be considered for a modification, and relied on the voluntary participation of lenders/servicers, essentially ensured that many borrowers in need of loan modifications would simply not qualify, limiting participation from the outset. In the years immediately following the banking and financial crisis, lending overall slowed significantly, and servicer resistance to participation in mortgage modification efforts was evident in the comparatively small number of actual loans modified. Despite one of the key requirements established under the Temporary Asset Relief Program – that banks' receiving temporary assistance - must *consider* homeowners for a loan modification, there remained no mandatory requirement that lenders actually modify the loans of homeowners at risk of default and foreclosure. This essentially enabled servicers for the most part to decide which borrowers they would work with, typically those viewed as posing the lowest risk of re-default. Even with the modest servicer incentives introduced later in the program, total permanent modifications as a share of all trial modifications initiated was 38.3 percent nationally as of year-end 2016.

An overview of the structure of the Home Affordable Modification Program, not only provides a framework within which to understand the numerous obstacles facing homeowners seeking modifications, but also reveals the underlying rationale of lenders/servicers in the context of these obstacles.

In early 2009, in an effort to reach growing numbers of troubled borrowers, new foreclosure prevention measures were 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 million in TARP funds to help homeowners struggling with their mortgages.

HAMP and HARP were created as part of the Homeowner Affordability and Stability Plan in an effort to help struggling homeowners avoid foreclosure either by modifying or refinancing their first mortgages. Unlike earlier initiatives such as Help for Homeowners (H4H)<sup>1</sup> that relied entirely upon the voluntary participation of lenders and servicers, HAMP required all banks and lending institutions that received government assistance under the Troubled Asset Relief Program to initiate loan modifications for loans that were eligible under HAMP guidelines (Robinson, 2009). However, while this mandate did not apply to non-TARP banks, it was short-lived. In April of 2009, the Treasury Department stipulated that Help for Homeowners (H4H) should be the primary source for homeowners seeking a modification before applying under HAMP (Robinson, 2009). In essence, the TARP mandate to lender participation was further weakened and the process became more bureaucratic for homeowners. In October 2011, the Federal Housing Finance Agency (FHFA), Fannie Mae, and Freddie Mac improved upon HARP-eligible mortgages by making refinancing possible for borrowers who owed more on their mortgages than their homes were worth (Fannie Mae, 2012).

A further change made to the original HAMP program by the Treasury Department was a second lien modification program, known as 2MP. Participation in 2MP would be limited 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 requirements would be eligible for either modification or extinguishment (Robinson, 2009). However, 2MP appeared to have had limited success in attracting lender participation, with an estimated 163,000 second lien modifications from the program's inception through December 2016 (U.S. Treasury Dept., December 2016). 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 the continued decline in home values posed a major obstacle to gaining access to the second lien modification program. This issue is inextricably connected to the problem of voluntary lender/servicer participation.

Further, HAMP's own guidelines, established a number of requirements stipulating which borrowers could qualify for a HAMP modification. From the program's beginnings in March 2009, borrowers with conventional loans would qualify if they were delinquent 60 or more days on their mortgages. This essentially disqualified hundreds of thousands of borrowers (if not more), particularly those who held subprime loans and were not yet delinquent. These borrowers were among the first to feel the impact of the housing market collapse, and unaffordable mortgages as a result of spiraling interest rates that were built into their initial loan terms. At the same time, conventional loan holders who may have suffered a recent job or income loss, but otherwise had been in good standing on their loan payments were required to be in delinquency to even begin the process of qualifying for a modification that might either reduce their principal balance or their interest rate.

Only in late January 2012 did the Treasury Department announce changes that expanded eligibility to borrowers with non-Government Sponsored Enterprise (GSE) loans (a move that benefited many subprime loan holders), established more flexible debt-income criteria, and allowed non-owner-occupied properties (i.e. those being rented or vacant properties which were being offered for rent) to qualify for a HAMP loan modification. These changes went into effect on June 1, 2012 (U.S. Treasury, 2012).

Nevertheless, it is argued here that the voluntary feature of the government mortgage loan modification programs, and of HAMP in particular, coupled with the somewhat stringent requirements for borrowers to even qualify for a HAMP trial modification during the first four years of the program, was a significant barrier to the achievement of a higher permanent modification success rate and ultimately reduced its impact on the nation's rising foreclosure rate.

This voluntary feature, which is closely tied to the workings of mortgage markets in which investor interests are prioritized, largely limited the program's success rate. There is strong evidence in the literature that this priority took the form of weighing the financial costs of foreclosure versus modification. The findings suggest that foreclosure often resulted not in a reduction of losses but rather increased losses for investors.

Thus, the HAMP program essentially deferred to the principal objectives of lenders and servicers to consider the long-term outcomes for investors of any modification activities.

To obtain further insight into the factors that may have accounted for the program's diminished impact, this inquiry begins with an examination of several variables that have been frequently cited in the literature as constraints on the ability of borrowers to qualify for a loan modification. These challenges include the large number of homes with negative equity, the high-risk nature of many loans, particularly in the subprime market, the type of loan modification received, and the complications posed by the initial requirement that a first lien modification is conditional on the ability to obtain a second lien modification. In many cases, the lender/servicer of the second lien was different from the servicer of the first lien, which complicated the modification process. These challenges are then considered in the light of the literature on the character of mortgage markets which accorded priority to reducing investor losses and which ultimately shaped the decisions of lenders and servicers to refrain from engaging in larger scale modification efforts.

Within the context of a voluntary modification program, the kind of analysis and policy that informed actions taken by lenders in the interest of investors on failing mortgages appears to have clearly resulted in a significantly higher than socially optimal rate of foreclosure. It is apparent that both foreclosure and modification are costly. However, there are clearly differing circumstances in which modification would be the less costly course of action and where foreclosure is cost saving. Is there, from an economic cost-benefit perspective, a rate of foreclosure that is acceptable from the perspective of lenders and investors – where the costs of foreclosure are essentially equal to the costs of preventing them through a loan modification? Under a policy *requiring* lenders/servicers to evaluate applicants for modification, HAMP could have realized a higher rate of success if such parameters had been in place. Thus, this study poses a theoretical model that offers an alternative methodology for assessing the profitability of foreclosure versus modification based upon a framework for more systematically determining where modification can be cost saving for the investor as an alternative to foreclosure. At the same time, the theory considers the particular social and economic circumstances in which modification offers greater benefits for the borrower, the community and the economy overall.

## **2. REVIEW OF THE LITERATURE: OBSTACLES TO LOAN MODIFICATION**

A number of factors have been widely identified in the literature that would appear to pose challenges to the success of loan modification programs. The assessment in much of the literature is that the forces that led to the foreclosure crisis continued to pose barriers to successful loan modification. These factors include the pervasive practice of low doc and no doc loans along with poor underwriting standards and deteriorating loan quality, particularly in the subprime market (Been, et al., 2011; LaCour-Little, et al., 2009); the large numbers of mortgages with second liens (Been, et al, 2011; LaCour-Little, et al., 2009); 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 unfolded (Gerardi, et al, 2011).

This literature considers these dynamics, along with rising and persistent high unemployment in the wake of the crisis, the worsening negative equity position of a growing number of borrowers, and stagnant and/or continued weak recovery in home values as posing significant challenges to attaining higher rates of successful modification.

LaCour-Little, et al (2013), studying a sample of 218,000 ALT-A and subprime home loans originated between 2000 and 2007 and securitized by Bear Stearns, found that the share with full documentation declined quite significantly from 42.4 percent to 21.6 percent over this period, while the share with low documentation increased from 11.5 percent to 69.3 percent. The loans, close to three-quarters of which were ARMs, were found to be associated with a significantly high default risk (2013).

The large number of mortgages with second liens is identified as posing one of the greatest impediments to refinancing (Been, et. al., 2011; LaCour-Little, et. Al. 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 markets where house prices accelerated comparatively rapidly (Haughwout, et. al., 2012). This same research also documents that both the number of and value of closed end second liens as opposed to home equity lines of credit (HELOCs) constituted a relatively small percentage of originations in 1999 compared with their peak in 2006.

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, and Willen, 2008; Gerardi, et al., 2011; Been, et al., 2011; Rugh and Massey, 2010; Bromley, et al., 2008).

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 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 with negative equity.

Other studies examining the mixed success rates of mortgage modification efforts focus on the persistent complications posed by second liens, negative equity, the failure of modifications to reduce principal balances, and the perception that modification poses a relatively greater cost to investors than foreclosure. Also considered are the shortcomings of the various government loan modification programs introduced in the wake of the foreclosure crisis.

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 (pg 382). 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 were 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 experienced increased rates of delinquency and foreclosure. Their findings indicated that second lien originations to subprime borrowers were significantly related to higher rates of foreclosure after 2006. This outcome strongly suggests that borrowers with second liens were likely to be less successful in obtaining a loan modification. However, the findings 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 see the full effects of declining home equity coupled with a second lien, which affected large swaths of the home-owning population nationwide, as unemployment rose and home prices continued to decline throughout 2010 and 2011.

The problem of rapidly deteriorating home equity as housing prices fell posed another hurdle to borrowers hoping to qualify for a loan modification. Not until the introduction of the Home Affordable Refinance Program’s ‘HARP 2.0’ in 2011, which allowed refinancing of up to 125 percent of a home’s original mortgage, was the problem of rising negative equity as a barrier to qualifying for a loan modification directly addressed (U.S. Treasury, 2011).

Other inquiries, conducted 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 for borrowers. The State Foreclosure Prevention Working Group (SFPWG)<sup>2</sup> (Aug. 2010), analyzing a longitudinal dataset of nine loan servicers in New York State in 2007 before the crisis peaked, found that modifications that included significant reductions in the 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 experiencing significant home price declines. However, modifications with a significant reduction in principal balance represented just 20 percent of the loan modifications that the State Foreclosure Prevention Working Group (SFPWG, 2010) studied.

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.<sup>3</sup> Nevertheless, such modifications were often the exception as reflected in the 2010 SFPWG study.

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).

However, despite the compelling evidence that HAMP was at best able to slow the pace of the foreclosure process by gradually qualifying more borrowers for modifications, and the findings of studies that principal balance reductions were clearly most successful in reducing re-default risk and benefitting borrowers, modifications continued to proceed at a relatively slow pace relative to the rising rates of default and foreclosure (SFPWG, 2010; Statistic Brain, 2016) and the share of such modifications that reduced principal balances remained comparatively small.

The numerous obstacles to successful loan modification for countless borrowers in the aftermath of the housing crisis that these studies reveal appear to be linked to a key issue: that the voluntary design of the HAMP program, together with the primary goal of lenders/servicers to prioritize efforts to protect investors – a goal which itself shaped their voluntary participation – posed a significant barrier to a more robust success rate for HAMP. The voluntary structure of the HAMP program in essence deferred to the principal objective of lenders and servicers to consider the long-term outcomes for investors of any modification activities. This is highlighted in several studies that have placed the lower than potential rate of modification in perspective.

Foote et. al., (2010); Adelino, et. al., (2009), White, (2009) and Piekorski (2011) focus on the central issue of potential losses to investors of re-default risk of modified loans in the face of rising job loss and home price depreciation. Foote et. al. (2010) find evidence that the unwillingness of many mortgage servicers to make large scale modifications is linked to the finding that the losses to investors from foreclosure are actually less than from modification, especially when modifications are done ‘en masse’ (2010). This would seem counterintuitive. However, the authors provide evidence that the added risk of borrowers re-defaulting on the modified loan enhances the potential losses to investors from modification vs. foreclosure. Thus, they conclude that foreclosure prevention policies aimed at reducing high debt-to-income ratios and borrowers’ interest rates may not effectively reduce what they point to as the key source of loan defaults – falling home prices and job loss (pg. 91). In other words, perceived re-default risk may have much more to do with plummeting values of the asset – homes -combined with rapidly escalating unemployment across the economy, both of which pose a high re-default risk. From a net present value

perspective, they argue that most “potential modifications are negative-NPV transactions from the standpoint of investors” (120).

Finally, there is the argument that some servicers were better equipped than others by virtue of their organizational capacity to process larger numbers of modifications than were others resulting in uneven outcomes across servicers (Agarwal et. al. (2012). Thus, the success rate of mortgage debt adjustment succeeded in assisting a significantly smaller percentage of households – approximately 30 percent based on the authors’ study - relative to the total who qualified (pg. 4). The authors examine the variance in lender participation in the context of NPV considerations (pg.24). They find that a number of modified loans re-default following modification, while others that were initially delinquent emerge from delinquency without modification (i.e. they are self-cured). Overall, they find that a loan that is delinquent and which does not ‘self-cure’ has a 50 to 60 percent probability of ending up in foreclosure (Argarwal et. al., 2012).

What many of these studies share in common, including those that have analyzed mortgage loan data sets, (Adelino, et. al., 2009, Foote, et. al., 2010, LaCour-Little, 2009) is the conclusion that the securitization process in which mortgage loans are re-sold as investments, was not responsible for the low rate of modifications. Rather, the role of NPV calculations in deciding whether losses from foreclosure will be less than those from modification is central to the decision of a lender/servicer to participate in modifying a loan. The studies reach similar conclusions that confirm the centrality of loss mitigation concerns and therefore offer added insight into the problems associated with voluntary participation in HAMP.

Thus, the many obvious obstacles to obtaining a loan modification discussed in the literature on negative equity, second liens, and loan modification type, can be understood in the larger context of the very risk that modification posed to investors and that lenders/servicers weighed in considering the extent of their participation in modification efforts. Investors were clearly aware of the growing risk posed by rising and stubbornly high unemployment coupled with the deteriorating value of their assets – homes - and their central concern which was to protect the value of that asset. This perceived risk illuminates the pervasive uncertainty about the future direction of the economy that constrained broader participation in HAMP and provides a more far-reaching context within which to understand the program’s limited success.

### **3. SUMMARY OF HAMP OUTCOMES**

An overview of key program outcomes between 2009 through 2011, as housing prices showed signs of reaching a bottom, offers some perspective on the overwhelming hurdles HAMP faced given its built-in constraints as well as the many challenges borrowers confronted in renegotiating their home mortgages. This may place into perspective the risks borrowers were considered to pose in the context of depressed home prices and worsening economic conditions. In 2011 IIQ, 22.1 percent of residential properties with a mortgage - an estimated 10.7 million homes – were still in negative equity nationwide, while more than two-thirds of mortgage holders on such properties were paying above market interest rates (CoreLogic, 2011). This reflected only slight improvement from 2009 IIIQ when 24 percent of properties were in negative equity

(Warren, 2009; CoreLogic, Nov. 2009). That the negative equity rate remained essentially flat for two years following the official end of the recession in June 2009 reveals one of the challenges faced by HAMP as both modification applications and foreclosures also continued to rise.

By year-end 2016, the percentage of mortgaged homes in negative equity declined significantly to 6.2 percent. Interestingly, however, the overwhelming majority of homes with equity at year end 2016 – 96 percent - were concentrated at the higher end of the market, where homes are valued at \$200,000 and over (Core Logic, IVQ 2016).

The negative equity problem was also reflected in home price declines during the crisis and in the years immediately following. The seasonally adjusted S&P Case-Shiller 20-city U.S. national home price index (quarterly) shows that the national market bottomed out in 2012 IQ after peaking in 2006 IIIQ. Over this period, U.S. home prices overall lost 36.9 percent of their value (S&P Case Shiller, 2017). By 2016 IVQ, home prices recovered 27 percent from their pre-recession peak.

The unemployment rate, which peaked at 10.0 percent in October 2009, did not dip below 6 percent until September 2014 (U.S. Bureau of Labor Statistics).

Nationally, 962,209 homeowners out of 2,511,344 who entered into a first lien trial modification from HAMP's inception in March 2009 through December 2016 completed a permanent modification of their home mortgage through the program. In total, 1,683,112 borrowers entered into a trial first lien permanent modification. (U.S. Department of the Treasury, QIV 2016). Among completed modifications, this represents a national success rate of 38.3 percent and 67 percent when cumulative trial modifications are included. 200,552 permanent modifications featured a principal balance reduction through 2016, while 290,279 such modifications were in trial accounting for just 8.0 percent and 11.6 percent, respectively of all first lien trial modifications started.<sup>4</sup> Under HAMP's Home Affordable Foreclosure Alternative, borrowers denied a HAMP modification were required to be considered for a plan enabling them to exit their mortgage obligation through either a deed-in-lieu or a short sale. However, individual investors could impose further eligibility requirements (U.S. Department of the Treasury, QIV 2016) which could have made obtaining this option more of a challenge for some borrowers.

Through December 2016, successful second lien modifications also represented a relatively small proportion of total modifications nationally. As of year-end 2016, 163,140 second liens had entered the 2MP modification program. Just 48,318 of these resulted in a full extinguishment of the second lien, while another 10,470 received a partial lien extinguishment. The remaining 79,343 second liens were in active modification status. Just five servicers accounted for 85 percent of second lien modifications through December 2016 (U.S. Treasury, 2016), representing a fraction of total servicers nationwide.

A further comparison with national foreclosure data indicates an even smaller successful modification rate. More than 6.2 million foreclosures nationally were completed from 2009 through 2016 (Core Logic, March 2017). When compared to the 962,209 distressed mortgage holders who received a permanent loan modification, the percentage of successful modifications drops to 15.5 percent of troubled mortgages over

this seven-year period. The data on completed foreclosures appears to confirm that foreclosure was the overwhelming direction taken relative to modifications.

The percent share of loan modifications among the top seven servicers through December 2016 reveals mixed outcomes. These ranged from a low of 2.7 percent for CitiMortgage, Inc. to a high of just 21 percent for Ocwen Loan Servicing, LLC, a subprime lender. Ocwen also accounted for the largest percentage of modifications featuring a principal balance reduction at nearly 49 percent of the total. These data also highlight the comparatively low percentage – 10.2 percent - that principal balance reductions made up of total modifications (U.S. Treasury, 2016).

HAMP modifications among investor groups include all HAMP Tiers 1 and 2 and Streamline permanent modifications. The data suggest that loans held by the GSEs and by private investors had a larger proportion of permanent modifications compared to loans held in portfolio. The GSEs accounted for 39 percent and private investors 44.1 percent of permanent modifications relative to just 16.9 percent for loans held in portfolio.

The comparatively small number of permanent modifications attained relative to foreclosures from the inception of the Home Affordable Modification Program in early 2009 through year-end 2016 should also be viewed from the perspective of the impact of foreclosures in an economy that experienced a prolonged and steep decline following the housing market collapse. Foreclosures accelerated rapidly from 2007 through 2010, and while the policy response in the form of modification initiatives such as Help for Homeowners and HAMP helped to reduce the impact, the sizeable number of foreclosed properties in communities across the country had a direct impact on already declining property values in those markets. If a servicer or investor is more reluctant to modify a distressed underwater mortgage, the choice to foreclose instead simply exacerbates the problem and adds to a glut of vacated or abandoned properties, further dragging down the value of surrounding homes, increasing the economic costs. This affects all homeowners, not just those struggling to pay their mortgages and as the repercussions in the form of declining household wealth are experienced across the economy, the social and economic costs of foreclosure are magnified.

The following discussion outlines a theoretical framework for understanding the economic issues and pressures that HAMP intended to address in the midst of a foreclosure crisis in which the economic interests of borrowers, servicers and investors were often at odds. The policy structure of the program ultimately resulted in a lower than optimal modification success rate. Given that foreclosures are both costly to prevent and to carry out, the discussion proposes a model for how the modification success rate could have been greater in the context of HAMP's voluntary structure and how the problem of lenders who made risky mortgages that contributed to a large share of the problem might have been addressed differently.

**Table 1: Making Home Affordable Program Activity by Servicer: March 2009 - December 2016**

Servicer	HAMP Tier 1 Permanent Modifications	HAMP Tier 2 Permanent Modifications	Streamline HAMP Permanent Modifications	PRA Permanent Modifications	2MP Modifications	HAF <sup>12</sup> non- GSE Transactions Completed	Servicer Total
Bank of America, N.A.	103,134	8,004	N/A*	5,885	38,499	49,861	205,383
CitiMortgage, Inc.	32,881	3,784	0	3,233	20,341	2,487	62,726
JPMorgan Chase Bank, N.A.	162,915	5,579	2,077	25,441	44,703	38,215	278,860
Nationstar Mortgage LLC	183,837	25,425	1,580	11,225	9,810	11,270	243,147
Ocwen Loan Servicing, LLC	244,433	80,809	13,951	115,433	N/A*	29,128	483,754
Select Portfolio Servicing, Inc.	114,438	27,565	8,503	21,360	N/A*	22,374	194,240
Wells Fargo Bank, N.A.	199,734	12,368	0	30,432	25,032	44,639	312,205
Other Servicers	417,151	33,495	1,449	22,572	24,755	30,982	530,404
<b>Total</b>	<b>1,458,523</b>	<b>197,029</b>	<b>27,560</b>	<b>235,581</b>	<b>163,140</b>	<b>228,956</b>	<b>2,310,719</b>

Source: U.S. Treasury Department, December 2016 MHA Report. (It should be noted here that servicers report all trial modifications as permanent modifications).

\*Servicer does not participate in either Streamline HAMP or HAMP 2MP.

<sup>11</sup> Principal Reduction Alternative

<sup>12</sup> HAF<sup>12</sup>: Home Affordable Foreclosure Alternative (This program offered incentives to homeowners to terminate their mortgage commitment or to sell a rental property through a short sales or a deed-in-lieu of foreclosure).

Notes from "Select HAMP Modification Characteristics" (p. 8, Making Home Affordable: HAMP Program Results: Program Performance Report Fourth Quarter 2016)

\*\*Under HAMP Tier 1, servicers apply the modification steps in sequence until the homeowner's post-modification front-end debt-to-income (DTI) ratio is 31%. The impact of each modification step can vary to achieve the target of 31%.

\*\*Under HAMP Tier 2, servicers apply the modification steps simultaneously to achieve a post-modification DTI that falls within an allowable range (subject to investor restrictions). HAMP Tier 2 applies to non-GSE mortgages only.

\*\*Under Streamline HAMP, seriously delinquent homeowners who have not been able to complete a HAMP application may be eligible to receive mortgage assistance through a combination of modification steps similar to HAMP Tier 2. Unlike Tier 1 and Tier 2, Streamline HAMP does not require that borrowers document their income.

**Table 2: HAMP Permanent Modifications by Investor**

Servicer	All HAMP Permanent Modifications			
	GSE	Private	Portfolio	Total
Bank of America, N.A.	39,182	53,663	18,293	111,138
CitiMortgage, Inc.	15,182	9,223	12,260	36,665
JPMorgan Chase Bank, N.A.	69,483	56,806	44,282	170,571
Nationstar Mortgage LLC	119,528	82,379	8,935	210,842
Ocwen Loan Servicing, LLC	23,257	293,966	21,970	339,193
Select Portfolio Servicing, Inc.	14,654	115,137	20,715	150,506
Wells Fargo Bank, N.A.	80,487	42,034	89,581	212,102
Other Servicers	295,093	89,342	67,660	452,095
<b>Total</b>	<b>656,866</b>	<b>742,550</b>	<b>283,696</b>	<b>1,683,112</b>

Source: U.S. Treasury Department, December 2016 MHA Report (all permanent modifications started are reported by servicers as permanent HAMP modifications).

#### 4. UNDERSTANDING THE ECONOMIC CONFLICTS: A THEORETICAL MODEL

What were the economic issues at the heart of the conflicting interests of borrowers and lenders/servicers and investors? How did the tensions between these competing economic interests result in a less than optimal rate of successful loan modification and a higher rate of foreclosures? How did the structure of HAMP policy contribute to a less than optimal loan modification rate? How might outcomes have been different had policy been structured with the goal of bringing the economic interests of borrowers as well as servicers/investors into closer alignment?

To place the economic issues in perspective, consider the developments that contributed to the crisis. Banks and other lenders, encouraged by an improving economy in the early 2000's and an increased demand for homes made more mortgage loans to buyers. At the same time subprime lending, once a very small portion of the mortgage market grew to constitute 20 percent of all loans at the peak of the housing boom by 2005 from less than 5 percent in 1994 (Doms, et.al.,2007). An expanding range of increasingly exotic mortgages enabled buyers – both prime and subprime – to purchase homes that they otherwise may not have been able to afford. Subprime loans which typically came with a higher rate of interest were particularly attractive to investors in mortgage backed securities as these offered a higher rate of return. The combination of exotic, risky and high interest loans and the increasing demand from investors for more such loans encouraged more risk taking on the part of lenders as more borrowers, including many who would otherwise not qualify were approved for loans, often with little documentation.

As borrower delinquency rates, initially on subprime loans, began to noticeably rise during 2006 into 2007, it was initially believed that the crisis could be contained within the subprime sector but as

delinquencies trended upward even among seemingly solid borrowers with fixed interest loans, it became evident that it could not. With the deteriorating economy shedding jobs at accelerated pace, the foreclosure rate increased rapidly, pointing to the mounting social and economic costs to come. As the housing market collapse unfolded and a full blown financial crisis now threatened the entire economy, investors sought to minimize their losses and many borrowers sought to hold on to their homes. The tension between these competing interests intensified as foreclosure prevention measures were implemented in a number of states. New York, for instance, mandated pre-foreclosure notices to delinquent borrowers and set up housing counseling and other services to assist borrowers at risk of losing their homes. It became clear that a torrent of foreclosed properties hurts not just families, but the viability of entire communities, local property tax revenue, and the entire economy. From the investors' perspective, the overriding interest in protecting the value of their assets and cutting their losses in the face of declining home values left little motivation to modify loans.

The policy response - the Home Affordable Modification Program - seemed to recognize these economic tensions. However, in seeking to align the interests of borrowers and lenders/servicers and the investors they represent, the program fell far short. A higher rate of successful modifications would have been likely if certain program features had not limited the scope of both lender and borrower participation by establishing unrealistic barriers. The requirement that any applicant must already be delinquent on payments by 60 days or more essentially meant that many borrowers in high-cost mortgages had to choose between a greater likelihood of default sometime in the future or deliberately not making mortgage payments and gambling that they could qualify for a modification. Second, had there been no requirement that second lien modifications could only be considered if a first lien modification had first been attained, many more borrowers could have qualified. On the lender/servicer side, the requirement that borrowers be considered for a modification should have applied to *all* lenders, not just those receiving TARP funds. Further, had non-GSE lenders, many of whom were originators of subprime loans, been included in that requirement from the inception of HAMP, a larger pool of loans would have qualified for modification. All of these constraints resulted in far fewer permanent modifications than otherwise would have been possible. A 38.3 percent success rate among more than 2.5 million applicants who qualified and a 15.5 percent rate relative to 6.2 million foreclosures completed over this period is far less than optimal.

Beyond these shortcomings, what might have produced a more effective policy outcome? From the perspective of servicers and the investors holding mortgages, is there a rate of foreclosure where the harm resulting from foreclosures is roughly equivalent to the cost of averting them? Given that the economic costs of foreclosure extend well beyond the impact on the individual borrower and the individual servicer/investor, how could foreclosure rates have been reduced (and modification rates increased) to the point where the social and economic costs associated with foreclosures were in closer alignment with servicer/investor costs of preventing them? The following discussion proposes measures that could be a step in the direction of narrowing that gap.

First, suppose HAMP guidelines had *mandated* that all lenders/servicers participate in the program, considering the cost savings from modification vs. foreclosure based on a cost benefit approach - evaluating the actual costs of each decision. Lender/servicer motivations for foreclosing rather than modifying would be driven by an estimate of the actual costs of carrying out each action. So how can the costs be placed in context? An estimated 11.3 million – 24 percent – of homes with a mortgage were in negative equity in Q3 2009 in the depths of the Great Recession, while the average dollar amount of negative equity at the time was \$70,000 (CoreLogic Q3 2009). The higher the negative equity share, the greater was the probability of receiving a pre-foreclosure notice (CoreLogic Q3 2009) and thus, the greater the probability of foreclosure. It is quite likely, given the 6.2 million foreclosures between 2009 and 2016, that many of these properties ended in foreclosure.

1) Assume that the original mortgage =  $M_0$  and the modified mortgage with principal balance =  $M_1$ . The costs (C) of modification equal total principal balance reduced of the negative equity amount (N).

$$C = M_0 - N = M_1.$$

Assume that  $M_0 = \$300,000$  and negative equity = \$70,000; then  $M_1 \geq \$230,000$ , but  $\leq \$299,999$ .

If it is assumed that the average household mortgage was \$300,000 in 2009 with average negative equity of \$70,000 for the 24 percent of homes with a mortgage this constitutes a loss for the homeowner and the lender, either of whom could be on the losing end as a result. The borrower who can afford to, will continue making the mortgage payments. However, in the case of borrowers who put little money down and purchased a house that their incomes could not support – the question is how much of a mortgage they can afford to pay. If that number lies somewhere between \$230,000 and \$299,999, the lender (or investor holding the mortgage), should have an incentive to negotiate a principal balance reduction. A new mortgage of \$230,000 would mean that both borrower and lender break even since the home is now worth \$230,000.

2) Now suppose the borrower can afford a modified mortgage with a principal balance reduction greater than \$230,000. The borrower is assuming some of the negative equity. Here N assumes a value of \$50,000. In this case, if a principal balance reduction to \$250,000 is negotiated between borrower and lender, the lender attains an asset whose value is \$230,000 and acquires \$20,000, bypassing the expense of a potentially costly foreclosure process. Assuming half of the 11.3 million mortgage holders in negative equity were among those who could afford to pay this new principal balance, 5.65 million foreclosures would be avoided, borrowers would not lose the money already invested in their homes, and investors would retain their assets.

3) Suppose another 3 million borrowers could not afford a mortgage of \$250,000, but could manage a loan payment between \$200,000 and \$230,000, then the costs and benefits of foreclosure – such as the legal costs of carrying out foreclosure actions against borrowers, continued erosion of home values, the costs of preparing documentation, etc. must be weighed, since any renegotiated mortgage less than the property's value would impose a cost on the lender. Assuming these foreclosure costs average \$30,000,

the lender could agree to reduce the principal balance to \$215,000 and potentially save \$15,000 in foreclosure costs. Here, the costs of foreclosure avoidance (F) are still positive and:

$$M_1 = M_0 - N - (30,000 - 15,000) = \$215,000.$$

The balance could be further reduced to as low as \$200,000 for some borrowers and the lender would break even. Overall, such a scenario would potentially avoid another 3 million foreclosures and investors would again retain their assets.

$$M_1 = M_0 - N - (30,000 - 0) = \$200,000.$$

What about the cost to investors? While ultimately, the costs of modification are borne by the investor while benefiting the homeowner, additional requirements stipulating that lender and investor share in the gain from a modified mortgage would ensure the benefits are distributed to both parties. In the case where the lender/servicer gains \$20,000 from a modified loan of \$250,000, half of that acquisition would go to the investor. In the case of the \$215,000 loan, the same requirement would apply. Assuming some modifications result in a principal balance reduction to \$200,000, the investor writes off the loss of \$30,000 in equity at the time the mortgage is modified, but still retains the asset. At the same time, the larger economy benefits from having fewer foreclosed houses on the market to further bring down property values, drain tax revenues and further weaken economic recovery.

However, what about borrowers who are still unable to afford a \$200,000 modified mortgage? Employing the same example, in such cases where foreclosure is more likely, the lender would acquire the property and find a new buyer. However, several questions arise. What kind of loan was made to the borrower (i.e., high interest, interest only, negative amortizing, etc.)? Was little or no documentation required? If the loan was high risk, the lender should be held accountable for contributing to the excessive systemic risk that led to widespread default rates and the plummeting home values, job losses and financial crisis that nearly led to economic collapse.

Originators of high-risk loans, many of which were subprime, would be required to bear some of the costs of their decisions. A number of factors might be weighed in determining that cost. In the case of borrowers who put money down, how much did they pay? How much principal had already been paid? Were any improvements made to the home? In every instance, what is the cost to the homeowner of packing up and moving out? Compensation to displaced homeowners should at the very least be based on such costs borne by the homeowner. Further, the lender would be required to contribute a portion of those costs to state and/or federal level foreclosure prevention programs. If it is assumed that homeowner costs are \$10,000, then the lender pays \$8,000 to the borrower to offset the costs of finding new housing and contributes \$2,000 to the state or federal program. Such measures send a clear message: that contributing to systemic risk requires sharing responsibility and payment of some kind of penalty.

Finally, there were clearly many otherwise creditworthy borrowers who became delinquent and went into default following job loss. As the unemployment rate quickly rose during the Great Recession, the odds that these homeowners would be able to resume payments after just a few months and/or upon finding a

new job were slim. Average unemployment duration was more than 24 weeks in 2009, and averaged 37 weeks over 2010-2012 when the effects of the recession were still being felt (Statista, 2017), making default far more likely.

HAMP included an unemployment program in which homeowners could be approved either for a forbearance plan with some payment required or with no payment required for 12 months, allowing homeowners to seek new employment without losing their homes. However, of the 46,485 applicants who were approved for and started the plans, 24 percent remained current on payments after 12 months (MHA Quarterly Report, Q4 2016). Clearly, this has some positive economic impact. A 2016 study found that ...” foreclosure delay during the recession improved the quality of new employment matches, raised national income by about 0.3 percent and increased homeownership by about 800,000 units (Herkenhoff and Ohanian, 2016).

However, might the success rate have been higher if, in addition to forbearance, unemployed borrowers had been evaluated for a mortgage modification with a principal balance reduction, applying the same guidelines as those detailed above? In this case, once borrowers resume making the resulting lower payments, the end result may have resulted in a lower re-default rate. Given that for another 32 percent of homeowners, the final outcome was bankruptcy, action pending or a charge off, while another 6 percent re-entered the foreclosure process or a deed-in-lieu, principal balance reductions could have produced a stronger forbearance success rate.

## 5. CONCLUSIONS

Clearly the challenges borrowers faced in renegotiating their home mortgages illustrates the risks they were considered to pose in the context of depressed home prices and worsening economic conditions.

The application of a model based on the framework posed here would bring foreclosure prevention into closer alignment with the goal of protecting investors. This actually *requires* lenders/servicers to reach a modification agreement with applicants where possible. The result, where borrowers, lenders/servicers and investors benefit from the outcome not only reduces the social disruptions caused by massive foreclosures, but helps to minimize the larger economic costs, potentially easing the impact of a steep downturn, stabilizing affected communities, and stemming the blight of foreclosed properties in neighborhoods already experiencing eroding home values. At the same time, the property tax base in those communities is stabilized at a time when revenue needs are greatest.

Preventing even a significant percentage of the 6.2 million foreclosures that occurred between 2009 and 2016 could have resulted in significantly less income and wealth loss in the economy, while avoiding the costs of foreclosure incurred both by the homeowner and financial institutions, as well as the various government entities involved in legal processing of foreclosure actions.

The data and the analysis reviewed on HAMP's outcomes in successful permanent modification of distressed home loans suggest that policy design is critical. National policy design must be more robust in

addressing the larger picture, in this case the economy-wide costs of widespread foreclosure both during and in the immediate aftermath of a steep downturn such as the Great Recession. This requires lender/servicer participation and the establishment of a set of guidelines for their participation. Those posed here offer a framework for thinking about such participation. At the very least, this should oblige lenders/servicers to evaluate not only the costs but the immediate and long-term benefits of loan modification. The perspective offered here may offer a starting point for more formal analyses that evaluate sample data on foreclosure outcomes over the course of HAMP's modification program.

#### ENDNOTES

1. Hope for Homeowners (H4H), the initial program introduced in late 2008 in the final months of the Bush Administration, enabled underwater borrowers to refinance into an FHA guaranteed mortgage. H4H relied upon the voluntary participation of lenders and servicers. Prior to 2008, when the first signs of soaring foreclosure rates began to appear principally in the subprime market, efforts which encouraged lenders and servicers to work with subprime borrowers to modify their high variable interest rate loans into fixed rate loans, relied upon voluntary participation in such efforts by lenders and loan servicers.
2. The Subprime Foreclosure Prevention Working Group consisted of several state attorneys general and state bank supervisors.
3. Following 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) with the nation's five largest servicers. As a result, many servicers began to increase the use of non-PRA principal reductions after 2012.
4. Based on the details of 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).

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