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## **Foreclosure Mitigation Efforts in the United States: Approaches and Challenges**

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**Foreclosure Mitigation Efforts in the United States: Approaches and Challenges<sup>1</sup>**

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**Abstract**

Home foreclosure rates have risen in the United States to the highest levels since the Great Depression. With house prices falling, lending standards tightening, unemployment rising, and interest rate resets in the pipeline, foreclosures are projected to go even higher. While most of the time a foreclosure is a suboptimal resolution of a distressed mortgage, a number of features of the mortgage finance system often prevent loan modifications. This paper reviews the impediments to successful mortgage restructuring and proposes a number of ways to improve the situation. The proposals build on the recognition that the key problem is a combination of negative housing equity and unaffordable debt service, and a successful loan modification scheme should address both issues. Given the key role foreclosures play in the adverse housing market dynamics, and several market failures that the paper identifies, the burden of mortgage debt restructuring should be shared by the taxpayer.

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## I. INTRODUCTION

As the U.S. housing bubble burst, serious mortgage delinquency rates have spiked to unprecedented levels, and the words “foreclosure epidemic” have entered everyday discourse. Foreclosures not only lead to human tragedy, but also play a key role in adverse housing market dynamics, financial losses, and broad economic weakness.

Foreclosures are on the rise despite the fact that they lead to substantial loss of value both for the lender and for the borrower, and there appears to be scope for mutually beneficial restructuring of distressed mortgages. Successful, sustainable loan modifications are frequently prevented by numerous impediments, such as deficiencies in the legal framework and coordination and agency problems that arise due to the proliferation of junior liens and securitization. As a result, private sector mitigation efforts have not been sufficient so far to stem the flood of foreclosures, and government actions have also fallen short of the mark.

Market failures and spillovers provide a rationale for government intervention. Key issues driving mortgage delinquency are negative equity and unaffordable payments. We are of the opinion that a major breakthrough cannot be achieved without fiscal support or some forced modifications, and favor the former. On that basis, we recommend a number of adjustments to the existing government-supported loan refinancing program that would make it more attractive to the creditors and would allow more borrowers to qualify. That program could help well over a million distressed non-prime home owners avoid foreclosure at a cost to the government of about \$40 billion. We also suggest a number of other steps aimed at realigning the incentives of mortgage market participants away from foreclosures and several broad measures to support the housing market.

The next section discusses the adverse dynamic in the housing market and linkages to the broader economy and financial markets. Section III reviews delinquency data and considers the reasons for rising delinquency. Section IV discusses why loan modifications are not more common given apparent incentives for both the borrower and the lender to avoid foreclosure. Section V presents the rationale for targeted government intervention in the mortgage market and the objectives of such intervention. Section VI takes a look at the private and public sector actions taken so far and their results. It argues that not enough has been done, and Section VII considers what further measures would help prevent more foreclosures. It analyzes a number of ways forward and presents our proposals. The last section concludes.

## II. FORECLOSURES AND HOME PRICE DYNAMICS

Home price growth accelerated in the United States in the early 2000s, prompted by low interest rates, lax underwriting standards, and demand for mortgage-backed securities (MBS), which helped to flood the mortgage market with liquidity. Growing home prices masked the unsoundness of many mortgages that were made, since the borrowers who could afford the debt service would not walk away from the appreciating assets, while those who

could not would find it easy to refinance or sell the house at a profit. Hence, defaults were low, which emboldened the banks to relax their lending standards even further, increasing accessibility of mortgage finance and hence demand for housing, and thus pushing home prices even higher.

At the crest of the bubble, loans were given to the most marginal borrowers, many of whom proved unable to make even the first monthly payment. As early payment defaults started to mount, and prices of lowest-rated mortgage-backed securities began to fall, market sentiment turned, dampening, and then reversing home price growth. This resulted in losses on ever wider swaths of the mortgages and securities they backed, as many of them were sustainable only if property values continued to appreciate. The feedback loop which had helped amplify growth in home prices was now dragging them down.

Figure 1 depicts this adverse loop in some detail. Falling home prices put more households in the negative equity situation, where their homes are worth less than their mortgages. This creates an incentive for the borrower to walk away from the property, even if debt service is affordable. Such a decision is facilitated by the fact that most mortgages in the United States are *de jure* or *de facto* non-recourse, meaning that the lender cannot go after the defaulting borrower's other assets or income if the collateral is insufficient to cover the debt; and by the apparent change in societal attitudes toward default (Pence, 2006). If the mortgage is not affordable, negative equity makes it impossible for the borrower to refinance or exit the market by selling the house.

Therefore, negative equity leads to rising delinquency and foreclosures. Foreclosures feed back into home prices through the demand channel, the supply channel, and the neighborhood effect.

The demand effect is driven primarily by the availability of credit. Higher delinquency makes the banks reconsider their lending standards. It also imposes losses on the banks, which leaves them less capital to lend. Both of these factors reduce credit availability (making it even harder to refinance and pushing delinquency rates higher). With tighter credit, fewer people qualify for mortgages. This reduces demand for housing, pushing prices down. In addition, a psychological link appears to operate, where price declines seem to lead to expectations of further declines, thus decreasing housing demand. This effect may counterweigh the positive impact that lower home prices should have on housing demand through increased affordability.

Foreclosures and short sales also affect housing supply.<sup>2</sup> As banks put foreclosed properties up for sale, they increase housing inventory, exacerbating the mismatch between demand and

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<sup>2</sup> A short sale is a home sale at a price insufficient to cover the outstanding mortgage, where the lender agrees to accept the receipts from the sale in exchange for releasing the lien.

supply. In addition, foreclosure sales and forced sales by distressed borrowers occur at steep discounts, further undercutting market prices.

When not sold quickly at a discount, foreclosed properties stay unoccupied for extended periods of time, deteriorating and often inviting undesirable activity, pushing down home values in the immediate neighborhood. Various studies put the negative impact of foreclosure on nearby home values between 1 and 9 percent (Lee, 2008).

Empirical literature confirms the negative impact of foreclosures on aggregate home prices. Klyuev (2008) found that the inventory-to-sales ratio is the most significant determinant of house price dynamics in the short run. Foreclosures obviously increase the inventory. Moreover, they exert additional downward pressure on prices. An increase in the ratio of foreclosure starts to the total number of first mortgages by 50 basis points—which is somewhat less than what has been observed in the current crisis—would add 1.5–2 percent per quarter to the rate of home price decline. Calomiris et al (2008) also find that foreclosures have a statistically significant, negative effect on prices.<sup>3</sup> Their estimate of the magnitude of the effect, however, is rather small—but that may reflect the difficulty of identifying “foreclosure shocks” in their system that includes five variables.

Figure 2 embeds the housing loop in the broader mesh of macro-financial linkages. Lower home prices negatively affect household wealth and the accessibility of home equity, leading to decline in private consumption. Lower demand for housing dampens residential investment. The resulting drag on aggregate demand depresses the economy, leading to job and income losses, which in turn feed through to lower demand for homes and higher foreclosure rates. Losses on mortgages and MBS weaken the financial system, contributing to the current financial turmoil, which results in tighter credit and a deteriorating real economy.

The multitude of linkages suggests that the system can be affected at several different points. Indeed, resolute actions by the U.S. authorities have sought to support aggregate demand and ease funding conditions through a variety of actions, including reduction in the Federal Funds rate, various liquidity facilities, fiscal stimulus, and direct intervention in financial institutions. These measures, however, do not substitute for aggressive actions aimed at avoiding preventable foreclosures, as advocated by Chairman Bernanke (2008) and other policymakers, market participants, and analysts. The focus on foreclosures is justified by the fact that the housing market is at the heart of the current crisis; by the high deadweight loss of foreclosures, which suggests the existence of win-win solutions; and by foreclosures being

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<sup>3</sup> They also establish a link that runs in the opposite direction—with lower home prices causing more foreclosures.

one of the most graphic illustrations of human tragedy associated with correcting past market excesses.

### III. RISE IN MORTGAGE DELINQUENCY AND FORECLOSURES

By September 2008, quarterly foreclosure starts had spiked to 1.1 percent of all first-lien mortgages, and 3.0 percent of mortgaged properties were in the process of foreclosure. Both numbers were the worst in the 18 years since these statistics have been published by the Mortgage Bankers Association, and by far exceeded previous cyclical peaks<sup>4</sup> (Figure 3). As Figure 4 demonstrates, while subprime adjustable-rate mortgages (ARMs) clearly lead the wave of foreclosures, performance has deteriorated across mortgage categories. Moreover, elevated levels of serious delinquency (Figure 5) and declining rates at which delinquent loans regain current status (Bank of America, 2008b) indicate that foreclosure rates are likely to continue rising.

The factors behind deteriorating mortgage performance have been widely discussed. Underwriting standards were loosened along several dimensions, including allowing higher leverage and debt service ratios, granting mortgages to borrowers with short or impaired credit histories, relaxing documentation requirements, and using complicated products that many borrowers did not understand. Lax underwriting standards had created vulnerabilities that were exposed when home prices plateaued, ARM “teaser” rates expired, and lending standards tightened.<sup>5</sup>

As home prices fell, highly leveraged mortgage borrowers found themselves in a negative equity situation that reduced financial incentives to continue making their monthly payments. As discussed above, legal and moral consequences of walking away from affordable mortgages appear to be relatively light, and the resulting increase in net wealth may be well worth a blemish on the credit history. In addition, if debt service proves too onerous—because of borrowing too much relative to income, a decline in disposable income, or an increase in payments—high loan-to-value (LTV) ratios and tighter lending standards make it difficult or impossible to refinance into more affordable mortgage products. By various estimates, 8 to 12 million home owners are currently under water, with negative equity totaling about \$600 billion (Hubbard and Mayer, 2008). As home prices continue sliding, these numbers will climb.

Furthermore, many ARMs, particularly in the nonprime categories, are being hit with interest rate shocks, as teaser rates expire, and reference rates rise. The drastic interest rate cuts by

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<sup>4</sup> Foreclosure rates declined by 1 basis points between the second and the third quarters of 2008 because of foreclosure moratoria imposed by a number of states.

<sup>5</sup> Many ARMs incorporated relatively low fixed “teaser” rates during the first few years of the mortgage term, in order to make the payments more affordable.

the Federal Reserve have alleviated reference rate rise concerns somewhat, but, as financial turmoil triggered a dramatic rise in the spread between the LIBOR and the policy rate, the issue has come back to the fore (Figure 6).<sup>6</sup> The interaction with the other two factors is also important, as stricter lender standards and falling home prices make it harder for borrowers facing payment shocks to refinance.

Going forward, these pressures are expected to persist. Most observers expect home prices to slide further, with Case-Shiller futures predicting a 14 percent decline between November 2008 and November 2010 (Figure 7). The LIBOR spreads remain elevated. Furthermore, since the ARM rates are set to adjust periodically, they may climb up once the policy rates are raised—although, unless inflation concerns resurface, this is unlikely to happen until the situation is normalized. Mortgage lending standards continue tightening (Figure 8), and can be expected to stay tight for a protracted period of time. Moreover, with the economy in a recession, loss of income and employment will exacerbate the situation. As a result, absent resolute policy action, delinquency and foreclosure rates are widely anticipated to keep increasing, with FDIC estimating that 4 to 5 million mortgage loans will enter foreclosure over the next two years (Bair, 2008), and some analysts projecting double that number.<sup>7</sup>

#### IV. LOAN MODIFICATIONS: INCENTIVES AND IMPEDIMENTS

It is widely acknowledged that “intelligent” foreclosure avoidance is more likely than not to maximize the net present value (NPV) of seriously delinquent loans (Fitch, 2008).<sup>8</sup> Not only is foreclosure a lengthy process (up to 18 months), but loss severities are high, historically ranging from 30 to 40 percent of the unpaid balance on 1<sup>st</sup> liens, and likely to be higher in the current environment (Figures 9 and 10). Table 1 generates some hypothetical loss severity rates for various combinations of leverage and home price appreciation (HPA). It shows, for example, that the severity for a 90 percent LTV 1<sup>st</sup> lien loan rises from 33 percent in a zero HPA scenario to 71 percent when the HPA is -40 percent.<sup>9</sup>

<sup>6</sup> Most subprime and Alt-A ARMs use 6-month LIBOR as the reference rate.

<sup>7</sup> Before the recent spike, foreclosure starts were running at about 600–700 thousand per year.

<sup>8</sup> Seriously delinquent loans are those that have been delinquent for 60 days or more.

<sup>9</sup> The Table 1 loss severity estimates are based on UBS (2008), which uses the following formula to approximate the proportional loss severity associated with foreclosure for properties with an initial value of \$200,000 or more:

$$\text{Severity} = 1 + \text{P\&I} - ((1 - \text{HPD} - \text{C}) / (1 + \text{S})) / \text{LTV}$$

where P&I is the principal and interest lost during the foreclosure process (UBS assumes 10 percent), HPD is the house price depreciation (from original to new assessment), C is the sum of the foreclosure transaction costs (20 percent), and S accounts for appraisal inflation and the stress discount (15 percent). For properties valued at less than \$200,000, UBS (2008) assumes that transactions costs have a fixed component, so total costs would be \$20,000 plus 10% of the S-deflated value. An implicit assumption in the calculations is that it is legally impossible or too costly to get any “deficiency” payments from the borrower (see Cutts and Green, 2004)).

HPA (percent)	Leverage in terms of loan-to-value ratio (percent)			
	80	85	90	95
0	23	28	33	37
-10	34	38	42	46
-20	45	49	52	55
-40	67	69	71	73
-60	88	90	91	92

Note: Calculations assume that negligible amounts of principal have been repaid at time of sale (see UBS, 2008 for calculation details).

At the same time, mortgage servicers have a number of options short of foreclosure that they can offer delinquent borrowers:

- If the inability to pay is only temporary, the borrower will typically be offered a repayment and forbearance plan.
- If it is a more permanent affordability problem, loan modifications are considered – capitalization of arrears, term extensions, payment forgiveness, interest reductions, and principal forbearance or writedowns.

Servicers use default decision technology to choose the one (if any) that the borrower can just afford and likely stay current, while maximizing the expected NPV to the lender or investors (in the case of securitized loans).<sup>10</sup>

If in none of the modification expected NPVs exceed those of loan liquidation, then the latter will be chosen. If the borrower is willing to work with the servicer, the first choice will be a short sale or deed-in-lieu (of foreclosure).<sup>11</sup> In both cases, the servicer accepts the net proceeds of the property sale as full loan repayment, which can be preferable, given the high costs and long timelines of foreclosure (see below).

Nevertheless, despite the apparently compelling arguments for borrower-friendly loan loss mitigation strategies, about 70 percent of seriously delinquent loans typically end up in foreclosures, many of which may be avoidable. Part of the problem is that lenders and

<sup>10</sup> Bank of America (2008c) points out that the choice of the NPV discount rate may influence the types of loss mitigation offered. Servicers have typically used a flat rate of 6 to 8 percent, but distressed funds are the current marginal investors, and they usually target returns in excess of 10 percent. A higher discount rate will typically favor outcomes that result in a lump-sum payment – e.g., liquidations.

<sup>11</sup> In the deed-in-lieu arrangement, the borrower transfers the title to the house to the lender, and the lender drops the claim against the borrower. The outcome is similar to that of foreclosure, but the process is more expedient and less costly, as the title transfer is voluntary rather than forced, and the borrower avoids a blemish on their credit history.

servicers have been slow to staff up and invest in the technology necessary to deal with the rapidly growing serious delinquencies. Also, it can be difficult to achieve the necessary direct contact with delinquent borrowers, who may be afraid and unaware of their options, think they can get back on track without help, or just think that they are beyond help (Freddie Mac, 2008).<sup>12</sup> Also, if the home is an investment property, and its value has depreciated below the outstanding balance of the mortgage loan(s) (including subordinate liens), the borrower will have little interest in any solution short of writing the principal down to the depreciated property value.

Also, the cost of dealing with subordinate liens could undermine modification efforts. Cordell and others (2008) estimated that 22 percent of subprime mortgage loans outstanding on May 2008 had a junior (“piggyback”) lien at origination, a ratio that is likely much higher for delinquent loans, and when home equity lines of credit are considered (40 percent according to CBO, 2008). In principle, a loan modification may reduce the seniority of the 1<sup>st</sup> lien holder’s claim, unless the junior lien holders agree to re-subordinate, and the latter may try to abuse their position. Subordinate liens can even make short sale problematic because they have to agree to release their liens and take a loss. Furthermore, unless both mortgages are serviced by the same company, it may be difficult to track and negotiate with the junior lien holder.

It should be acknowledged that many affordability problems may be irreparable. Some borrowers may be too far in over their heads, with debt service still exceeding their ability to pay even if the mortgage were reduced to below their current home value. Many of those who took out low- and no-documentation “liar loans” may still not be able to prove their repayment capacity, making lenders reluctant to modify or refinance their loans. Moreover, given the deteriorating situation, the risk of offering a loan modification to a borrower who will redefault has probably risen. Historically, about 30 to 40 percent of modified loans are expected to redefault (Fitch, 2007), but most servicers are now assuming a redefault rate of about 50 percent. Also, they are factoring in the potential impact of further home price depreciation on loss severities on redefaults. It should be noted, however, that the type of modification affects the redefault rate. Credit Suisse (2008a) has shown that redefault rates are significantly lower on ARM rate freezes and principal writedowns, versus “traditional” modifications, some of which actually increase payments (see below).

In addition, servicers are wary of offering modifications to borrowers who can afford to remain current, but who are looking to extinguish negative equity. All investor-owned properties are assumed to be associated with such “ruthless borrowers,” so servicers usually offer to modify only loans against owner-occupied homes. However, mortgages against

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<sup>12</sup> According to HOPE NOW, a typical response rate was 2 to 3 percent for delinquent borrowers who were sent offers to discuss workout solutions. HOPE NOW increased that rate to 17 percent, which was considered quite an accomplishment.

investor-owned homes can be difficult to identify. About eight percent of securitized private label mortgages were designated as against investor-owned homes at origination, but some servicers believe that the true proportion may be closer to 25 percent.

Servicer NPV calculations not only consider the impact of a loan modification on the stream of payments from a particular loan, but also factor in moral hazard. This is particularly relevant for widely publicized “streamlined” modification programs of the sort that will be discussed below, that typically target only seriously delinquent borrowers. Such programs may incentivize current borrowers to stop making payments to become eligible for modifications. This moral hazard risk can be mitigated by setting a fixed date on which serious delinquency is measured, by ensuring that the modifications are just enough to make the payments affordable, or by requiring that the borrower give up something—for example, a share of future HPA—in exchange for a modification.

Moreover, some important servicer incentive issues may be thwarting borrower-friendly loss mitigation efforts, even when they make more sense from an NPV basis. These coordination problems and agency conflicts are discussed next.

### ***Weak servicer incentives to carry out borrower-friendly loss mitigation***

Most nonprime and jumbo mortgages have been securitized into mortgage-backed securities (MBSs) and day-to-day loan management outsourced to independent servicers who may not be adequately incentivized to pursue aggressive loss mitigation strategies. The incentive systems on servicers were designed for, and worked well in, periods of mild housing downturns and modest delinquency rates, but are ill-suited to the current severe downturn.

A servicer’s primary duty is to collect mortgage payments from borrowers and pass them to the mortgage holders (trusts in the case of securitized loans). They also manage the escrow accounts that they hold on behalf of borrowers to pay property taxes and insurance, and they employ various loss mitigation techniques should the borrower default. For all of this, they are paid a fee of about 50 basis points per annum on unpaid loan balances on nonprime loans, plus they keep any late payment fees. Furthermore, because mortgage payments usually come in at the beginning of the month, but are not disbursed to the mortgage holders until later in the month, servicers benefit from interest earned on this “float.”

However, servicing delinquent loans can be expensive. Until delinquency is resolved—that is until payments resume or the mortgage is liquidated—the servicers have to advance payments to the investors. In the case of foreclosures, they also have to fund legal costs in the states where foreclosure filings go through the court system, as well as unpaid taxes and insurance premiums, until the property is foreclosed (this amounts to about 0.75 percent of the unpaid balance according to Bank of America, 2007). Furthermore, in a housing downturn, it is expensive to staff up for large volume labor-intensive loss mitigation.

It is important to note that the servicers get compensated for out-of-pocket expenses (e.g., legal fees, realtor commissions, maintenance, property taxes, insurance of foreclosed properties) but not for additional work, which may make it cheaper and hence preferable for them to do a foreclosure than a loan modification, since they incur mostly reimbursable expenses on the former and non-reimbursable ones on the latter.

On the other hand, servicers do have incentives to avoid loan liquidation, because, with annual servicing costs averaging less than \$100 per loan, servicing current loans is a lucrative business. This may have been an important concern in the past, and lenders and MBS investors usually felt it necessary to impose some limits on modifications in the “pooling and servicing agreements” (PSAs) that govern the relationship between servicers and investors/lenders. At a minimum, they typically limit modifications to when the loan is “either in default or default is reasonably foreseeable” and that “there is a reasonable basis for the servicer to conclude that the borrower will be able to make the scheduled payments as modified” (ASF, 2008).

In addition, some PSAs place quantitative restrictions on modifications. About five percent of all MBS PSAs block modifications altogether, and about 35 percent limit modifications to five percent of the portfolio. Most of these PSAs provide for limit waivers with the consent of a rating agency or credit enhancer (monoline insurer), but a few require investor approval. In cases where loan modifications are prohibited by the PSA, a super majority (i.e., 66 2/3 percent) of bondholders can vote to amend the agreement and allow modifications, but this would be extremely cumbersome.

Aside from the principal-agent conflict between investors and servicers, one has to recognize that investors are not a uniform group. In fact, servicers have found themselves caught between the sometimes competing interests of the different MBS tranche holders (“tranche warfare”).<sup>13</sup> In principle, any actions that maximize cash flows to the underlying loan portfolio should benefit all tranches. However, when a loan is foreclosed, the net proceeds flow immediately towards the early redemptions of some senior tranches, and a higher share of future principal and interest flows may be redirected to those tranches as well. This in turn reduces cash flows to the more junior tranches, held mainly by hedge funds, who have been threatening to sue servicers, and particularly those who are implementing “streamlined” modification programs. Even though the American Securitization Forum (ASF) has issued guidelines that are supposed to shield servicers from being implicated in tranche warfare, the fear of lawsuits may have made servicers “gun shy.”<sup>14</sup> Furthermore, modifications on a large scale would effectively write off the more junior tranches and impair the senior tranches by

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<sup>13</sup> See Box 1 in Kiff and Mills (2007) for more on MBS mechanics.

<sup>14</sup> The ASF issued its *Statement of Principles, Recommendations and Guidelines for the Modification of Securitized Subprime Residential Mortgage Loans* in June 2007, and the *Housing and Recovery Act of 2008* enshrines these guidelines in law for “Hope for Homeowners” modifications (see below).

reducing the amount of credit enhancement, and potentially lead to rating downgrades and forced sales. Hence, even some senior tranche holders may be averse to pool NPV-maximizing loan modifications.

***Private sector modification programs focus on interest reductions and forbearance***

Several major financial institutions—namely, Bank of America, Citigroup and JP Morgan Chase—have introduced large scale “streamlined” foreclosure avoidance programs.<sup>15</sup> They all use similar templates that focus their solutions on affordability rather than negative equity, and require full income documentation (e.g., tax returns and pay stubs). The Bank of America and Citigroup programs will consider principal writedowns if no other solution can get the borrower’s debt-to-income (DTI) ratio down to the target level (Bank of America’s is 34 percent). The Chase program will only consider using principal forbearance as a last resort.

The Chase and Citigroup programs will initially focus on loans held on their own books, whereas it seems that the Bank of America is also applying theirs to loans they service on behalf of securitization trusts, but Chase and Citigroup are seeking “investor approval” to work on the securitized loans. If investors do not agree to go along with such aggressive loan modification programs, their impact will be only marginal, even if offered by more banks, because so many nonprime mortgages have been securitized. Also, if the real problem relates to negative equity, the focus of potential solutions on affordability will have less than the desired impact on foreclosures.

Therefore, the next sections explore the ways in which government intervention might promote more meaningful modification activity. The challenge is to ascertain what portion of potential foreclosures are preventable, and, in particular, to identify and resolve the coordination problems and agency conflicts that exacerbate the situation.

**V. GOVERNMENT INTERVENTION: RATIONALE AND OBJECTIVES**

The coordination problems and agency conflicts described in the previous section and the spillovers between housing market dynamics and the broader economy justify a role for the government in preventing avoidable foreclosures.

The broad coordination failure keeps the number and extent of loan modifications of distressed mortgages well below what appears to be optimal given the high cost of foreclosure both to the borrower and to the lender. Agency conflicts introduced by securitizing most mortgages reduce the number of loan workouts compared to the traditional portfolio loan model. The government may have a role in nudging the market toward larger

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<sup>15</sup> The Bank of America program covers the mortgages underwritten by Countrywide.

scale modifications—through inducement, coercion, or establishment of a standard procedure that could serve as a focal point.

Concerns about home prices swinging far below their equilibrium values present another rationale for government intervention. Klyuev (2008) shows that house price dynamics are highly inertial, and that foreclosures have a negative impact on house prices. While many experts believe that home prices will reach their equilibrium values in 2009,<sup>16</sup> futures predict further substantial declines, reflecting elevated levels of housing inventory and strong downward momentum. A drop in home values below equilibrium would have a large negative impact on the economy and the financial system.

Finally, the neighborhood externality—the impact of foreclosures on the neighborhoods—provides another rationale for government intervention. One could also mention the plight of renters who are evicted from foreclosed investment properties; and the difficulties experienced by state and local governments, which lose property and sales tax revenue in the moribund housing market. Obviously, those revenues cannot be sustained at the bubble-era levels, but the pendulum should be prevented from swinging too much in the opposite direction.

Given these rationales, public intervention in the housing market should pursue three broad objectives: preventing home prices from swinging too far below equilibrium; avoiding the deadweight loss of preventable foreclosures; and ameliorating the impact of foreclosures that do occur. Achieving these objectives would also help stabilize the economy and the financial markets.

In its efforts to support the housing market, the government should be mindful of the fiscal cost of its actions. Given the immensity of the U.S. mortgage market and the extent of the problems, a sizable intervention may cost several percent of GDP. It is also essential to limit moral hazard by avoiding an incentive for borrowers who would otherwise stay current to default on their loans in order to qualify for assistance. This could be done through strict eligibility criteria based on verifiable information and through the requirement that the borrower make some sacrifices to qualify for assistance.<sup>17</sup> Adverse selection is another potential pitfall, given that the lenders and MBS investors would prefer to channel the borrowers with the worst expected performance into government programs while holding onto the more creditworthy ones. It is also important to minimize negative long-term

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<sup>16</sup> Indeed, some suggest that under normally functioning mortgage markets home prices would already be in equilibrium (Mayer and Hubbard, 2008).

<sup>17</sup> Basing eligibility criteria on the borrower's situation as of some point in time before an assistance program becomes operational may be another way to prevent borrowers from taking undesirable actions to qualify. However, given that the delinquency problem is expected to get worse in the near future, this mechanism may reduce the scope of assistance below what is needed.

consequences of government action—such as lower availability of housing finance in the future that could result from forced alteration of mortgage contracts.

The questions of social fairness color the discussion of government assistance. While people generally sympathize with the victims of predatory lending, they are reluctant to help those who lived beyond their means by accumulating mortgage debt, or those who got burned gambling on house price increases. Unfortunately, it is very hard to differentiate clearly between various groups. Should the taxpayers bail out borrowers who were misled into taking on more mortgage than they could afford, perhaps by being convinced that forever-rising home prices would facilitate serial refinancing? In any case, can such homeowners be blamed for reaching for the “American dream” of homeownership, when the housing bubble was making it impossible to do so with conventional mortgage products?

While those who are struggling because they bought “the right house with the wrong mortgage”—which has been the focus of the Bush Administration—should be supported, it may be difficult in practice to distinguish them from those who bought “too much house,” or scooped out too much home equity in cashout refinancing, or those who were not ready for homeownership, or those who could sustain the debt service but chose to walk away from their underwater mortgages.<sup>18</sup> Besides, focusing on moral issues rather than externalities ignores the fact that foreclosures hurt home prices and neighborhoods equally regardless of what the reasons for delinquency are or whether the home is a primary residence or investment property.

Mass foreclosures are not the best way to undo past excesses. The housing bubble pushed many people into unsustainable mortgages. Those who would have qualified for traditional mortgage products had home prices remained close to their equilibrium levels rather than spiking in the early- to mid-2000s should be given an opportunity to retain their homes. However, this criterion may be hard to operationalize. Moreover, even if many of the currently struggling home owners should not be owning those homes in the first place, now that they are there, evicting them all is not optimal—in the same way as it would not be optimal to destroy the surplus housing constructed during the overbuilding boom.

As a result of multiple objectives, numerous complications, and ambivalent societal attitudes, it has not been possible to come up with a “silver bullet”—one plan that would solve all the problems. Instead, what is required is a variety of approaches aimed at removing various obstacles to loan modifications and providing relief to the housing market. Appropriate design is needed to ensure the program’s effectiveness while limiting fiscal costs and negative long-term consequences of government intervention.

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<sup>18</sup> In the same vein, it is not clear how much “punishment” the investors in securities backed by unsound mortgages deserve.

The general criteria identified above help evaluate various approaches for dealing with the foreclosure problem, but are not specific enough to translate easily into program design. It has proved impossible to develop a mechanism that would target only the “deserving” and at the same time have substantial impact. It is essential to address the two proximate causes of delinquency—negative equity and unaffordable mortgage payments. Hence, the approach to loan modifications should be based primarily on who can afford the debt service once the loan terms are normalized and the principal is brought below the current home value rather than on how much a given homeowner had been “wronged.”

Given the magnitude of the foreclosure problem, a meaningful program or a combination of programs should result in sustainable modification of several million loans that otherwise would go into foreclosure. This would help break the adverse feedback loop and indirectly prevent additional delinquency. Given the importance of the issue, the fiscal cost on the order of one percent of GDP would not appear excessive.

## **VI. FORECLOSURE-PREVENTION INITIATIVES TO DATE**

The federal government has introduced or sponsored a number of homeowner “rescue” programs, starting with the FHA Secure program announced in August 2007, and more recently the Hope for Homeowners (H4H) program, which was activated on October 1, 2008. These efforts have met with only very limited success in stemming foreclosures. A number of “grassroots” efforts have been mounted, that have been quite effective in “smoking out” salvageable delinquent borrowers, but they do not have the scale to make a significant impact. Also, some states have imposed foreclosure moratoriums, typically of three-to six months long, but these are just temporary palliatives that are unlikely to be effective in the long run in the absence of a real solution.

FHA Secure, introduced on August 31, 2007 but significantly amended on May 7, 2008, offered stressed homeowners an opportunity to refinance into FHA-insured loans. The lender had to agree to write the loan off (via a “short refinancing”) for an amount not to exceed 97 or 90 percent of the current appraised home value, depending on the borrower’s recent payment record. The 97 percent LTV applied to borrowers who had not missed more than two monthly payments (individually or consecutively) during the previous year, and 90 percent to borrowers who had missed up to three monthly payments. The payments on the new loan were not to exceed 31 percent of income, and the total of all debt payments (home and non-home) were not to exceed 43 percent. Delinquent borrowers had to pay a 2.25 percent up-front mortgage insurance premium (UFMIP) and 55 basis points annually, while current borrowers paid 1.50 and 0.50 percent. The program, however, has not been

successful in overcoming the difficulties identified in the previous section. The number of FHASecure refinancings has been disappointing, and it was phased out at the end of 2008.<sup>19</sup>

The H4H program improves on FHASecure by covering severely delinquent borrowers, and providing incentives for 2<sup>nd</sup> lien write-offs.<sup>20</sup> It applies to mortgages on primary residences originated before January 2, 2008, and to borrowers whose current mortgage payments exceed 31 percent of gross income.<sup>21</sup> The lender has to agree to write the loan off for an amount not to exceed 96.5 percent of the current appraised value, and waive all prepayment penalties and late payment fees. This “short refinancing” is funded by a new 30- or 40-year fixed-rate FHA-insured loan with payments that are at or below 31 percent of income, and ensuring that all debt payments (home and non-home) are at or below 43 percent. For borrowers with higher debt loads, the debt-to-income ratio can be expanded to 38 percent, but, in this case, the new principal amount cannot exceed 90 percent of current appraised value.

The 1<sup>st</sup> lien holder also pays a three percent upfront FHA insurance premium, and the homeowner pays a 1.50 percent annual premium. In addition, if the homeowner sells the house or refinances the new mortgage, the Department of Housing and Urban Development (HUD) gets back some of the “instant” equity (100 percent in the first year, declining to 50 percent after five years), plus, if the property is sold, 50 percent of any net HPA. Also, borrowers are prohibited from taking out new subordinated liens during the first five years, except when necessary to ensure maintenance of property standards.

The Federal Deposit Insurance Corporation (FDIC) has introduced a streamlined modification program for the mortgage loans it picked up from failed mortgage lender/servicer IndyMac. A similar program for Fannie Mae and Freddie Mac guaranteed mortgages was also introduced by the Federal Housing Finance Agency (FHFA). They both

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<sup>19</sup> While since the start of FHASecure, FHA has refinanced over 400,000 mortgages (Bernardi, 2008), reportedly only a few thousand of the new loans have been given to formerly delinquent borrowers, i.e. the group that would not be able to obtain financing under traditional FHA programs.

<sup>20</sup> H4H was part of the *Housing and Recovery Act of 2008* (HERA) signed into law on July 30, 2008, and amended by the *Emergency Economic Stabilization Act of 2008* (EESA) in November 2008. The EESA amendments strengthened the government’s ability to incentivize 2<sup>nd</sup> lien write-offs. Whereas HERA provided for sharing HUD’s share of any house price appreciation with 2<sup>nd</sup> lien holders, EESA allows the government to make upfront payments to 2<sup>nd</sup> lien holders from the H4H program, in lieu of the shared appreciation. On November 19, 2008 HUD formally incorporated the upfront payment into the H4H program.

<sup>21</sup> Also, eligible borrowers cannot own any other residential properties, and they must have made at least six monthly payments since origination. The front-end mortgage payments include those on junior liens, and are based on a fully-indexed, fully-amortizing payment, including property taxes and homeowners insurance. The original H4H program based the 31 percent front-end debt-to-income threshold on the homeowner’s total mortgage payments and gross income on March 1, 2008. EESA amended it to be based on expected payments and income.

use a stepwise decision processes that focuses on affordability, and not negative equity. Firstly, they only consider for modification loans that are seriously delinquent (60 days or more for the FDIC program and 90 days for the FHFA program) to borrowers who own and occupy the property, and who have not filed for bankruptcy. The programs then attempt to find the modification with the minimum NPV impact that achieves a 38 percent DTI.<sup>22</sup> The sequential process used by the FDIC program starts by capitalizing the arrearage into the unpaid balance, and if the resulting payment puts the borrower's DTI over 38 percent, interest rate reductions and amortization term extensions are offered. If the DTI is still over 38 percent, principal forbearance is applied, involving converting a portion of the unpaid balance into a zero interest note due when the mortgage is paid off. Seriously delinquent loans, for which these modifications are insufficient to achieve the DTI targets, can still be considered on a case-by-case basis.<sup>23</sup> Table 2 provides a comparison of the main parameters of the current programs.

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<sup>22</sup> According to the FDIC, "the NPV calculation includes both a cure rate assumption for delinquent loans and a redefault assumption for modified loans." In this case the "cure rate" is the proportion of modified loans that do not redefault. More generally it is defined as the proportion of delinquent loans that go back to being current. As an example of how the NPV calculation might work, Lehman (2008): "cure rates on delinquent loans would need to be about 35% to justify a 1% rate reduction if we assume higher severities on redefaults... and could be as high as 70% if we also account for some perverse incentive of current borrowers to go delinquent."

<sup>23</sup> FDIC inherited a servicing pool of 653,000 1<sup>st</sup> lien mortgages from IndyMac, of which about 60,000 were seriously delinquent. Of these 38,205 were eligible for the modification program, which was started up on August 20, 2008. As of February 1, 9,901 had been modified (Reckard, 2009).

Table 2. Comparison of Government-Sponsored Foreclosure Mitigation Plans/Proposals			
	Hope for Homeowners (H4H)	GSE Streamlined Mod Program (SMP)	FDIC Mod-in-a-Box Proposal
Eligibility criteria	PTI > 31%	90+ days delinquent	60+ days delinquent
New loan payment	PTI < 31/38% and DTI < 43/50%	PTI < 31%	PTI < 31/38%
Principal writedown	LTV ≤ 96.5%	n/a	n/a
Payments to servicer	n/a	\$800	\$1,000
New loan guarantee	100% coverage	n/a	20 to 50% 1/
Lender pays	Up-front 3.00%	n/a	nil
Borrower pays	Annual 1.5% 2/	n/a	nil
HPA sharing	100 to 50% 3/	n/a	nil

PTI: mortgage-related payments (including insurance and property taxes) as a percentage of gross income.  
DTI: all debt-related payments (including those captured in the PTI) as a percentage of gross income  
LTV: loan balance as a percentage of current assessed home value.  
HPA: Home price appreciation.

1/ FDIC would cover 50 percent of default-related losses if the current LTV is less than 100 percent and nothing if the LTV is greater than 150%. A sliding scale from 50% to 20% would apply for LTVs between 100% and 150%. However, redefaults during the first six months and after eight years would not be covered.  
2/ H4H's borrower-paid annual premium has to be incorporated into the new loan payment's 38% PTI ceiling.  
3/ If the homeowner sells the house or refinances the new mortgage, H4H claws back some of the "instant" equity (100 percent in the first year, declining to 50 percent after five years), plus if the property is sold, 50 percent of any net property value appreciation.

Private-sector initiatives to reduce the number of foreclosures have been spearheaded by HOPE NOW—an alliance of servicers, housing counselors, lenders, investors, and mortgage market participants that was created, with the government's encouragement, on October 10, 2007. The alliance includes 26 servicers, representing over 90% of the subprime market and 70% of the prime market. It is aimed at developing a common approach to reaching out to and dealing with homeowners who cannot pay their mortgages. In particular, its members have designed tools for dealing with the payment shocks that occur when the initial “teaser” rates on hybrid ARMs expire.<sup>24</sup> While home prices were rising, borrowers avoided the shocks by refinancing into new teaser-rate ARMs (i.e., “serial refinancing”). However, as a result of recent home price declines, many recent nonprime borrowers owe more than their homes are worth, which makes refinancing impossible. HOPE NOW buys them some time by extending the teaser rate on for five years. As is the case with all such programs, only mortgages backed by owner-occupied residential properties are eligible.

Has the existing mosaic of plans been enough to meaningfully reduce avoidable foreclosures? The flagship public sector program—Hope for Homeowners—got off to a slow start, with only a couple hundred applications and apparently no refinancings in the first month of its existence, prompting the authorities to revise substantially the parameters of the

<sup>24</sup> HOPE NOW Alliance members have agreed to attempt contact with at-risk borrowers 120 days, at a minimum, prior to the initial ARM reset and to inform them of the potential increase in payment and terms of the loan, in an effort to determine if the borrower may face financial difficulty keeping their mortgage current.

program. The revision was recognized as an improvement, but the uptake is still disappointing. Private sector efforts have been more impressive, even though they fall short of what is needed. HOPE NOW reports that the mortgage industry has prevented 2.7 million foreclosures since mid-2007 (HOPE NOW, 2008). This number is based on loan workouts its members report, scaled to the size of the industry. It should be noted, however, that most of the workouts reported are repayment plans, that let the borrower catch up on missed payments, but do not provide relief. The number of loan modifications has been climbing up, but only recently has its monthly rate caught up with that of foreclosure sales (Figure 11). Even on these numbers it is clear that the efforts so far are lagging behind the scale of the foreclosure problem.

Moreover, the definition of a modification used in the above statistics is unclear, and other observers have reported a substantially lower number of loan modifications (Office of the Comptroller of the Currency, 2008). The Conference of State Bank Supervisors found that only about 34 percent of seriously delinquent borrowers were being offered loan modifications, which they viewed as too low (CSBS, 2008). On the other hand, the Mortgage Bankers Association (MBA) found that only about 30 percent of 2007Q3 foreclosure starts were unavoidable—of which 18 percent were on investor properties, 40 percent were redefaults, and 21 percent were to unreachable borrowers (Brinkmann, 2008). In any case, modifications have seldom written down principal, and according to White (2008), in many cases they actually increase outstanding balances and monthly payments (23 percent of modifications).<sup>25</sup> He also found huge variation among servicers in the quantity and quality of modifications, implying that efforts such as HOPE NOW have not produced any uniformity to voluntary workout programs.

As noted above, the three largest U.S. banks have very recently introduced large-scale loan modification programs. Fannie Mae and Freddie have announced a Streamlined Mortgage Modification Plan that targets seriously delinquent borrowers, and most HOPE NOW alliance members have pledged to implement that plan for the loans that they own (but not necessarily for those they service). These are important steps forward. However, by focusing on the loans that are already seriously delinquent, these programs stay behind the curve. In addition, they will likely bypass the non-conforming, securitized mortgages—where the bulk of the problem currently is. Hence, we remain of the opinion that while substantial private and public sector effort has been mounted at preventing avoidable foreclosures, and the outcome would have been even worse without it, more needs to be done.

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<sup>25</sup> The analysis of White (2008) is based on an in-depth analysis of the July 2007 to June 2008 servicer remittance reports to MBS investors. Arrears recasting (which increase payments and balances) and ARM rate freezes accounted for about half of the modifications.

## VII. WHAT ELSE CAN BE DONE?

While the efforts undertaken to date have helped avoid a large number of foreclosures, the market has clearly not turned the corner, and foreclosures continue rising. There is a growing recognition that the tide of foreclosures cannot be stopped without the government inducing or forcing the lenders and servicers to offer more loan modifications and refinancings where debt service is substantially reduced. In addition, the government could help clear a number of bottlenecks in the system.

An effective program should produce over a million sustainable loan modifications, and indirectly prevent more borrowers from falling behind by helping normalize the conditions in the housing market. It should have adequate safeguards against moral hazard to avoid inducing strategic defaults and limit fiscal costs. It would, however, have to rely on the public sector balance sheet, and a cost of around one percent of GDP would not appear unreasonable. The program should be voluntary for lenders, servicers, and investors, but should not allow them to dump only the worst assets on the government.

Building on the efforts to date, further steps would be warranted on six broad fronts: modifying existing government-supported loan modification schemes to make them more acceptable to the lenders and investors; improving the legal framework for dealing with delinquent mortgages; motivating servicers to do more modifications through a combination of incentives and mandates; increasing outreach and counselling assistance for distressed borrowers; providing more resources to the states for alleviating the impact of foreclosures; and stimulating the housing market.

### *The problems with existing loan modification schemes*

The intent of the Hope for Homeowners (H4H) program was to establish a standard loan modification/refinancing mechanism that would create a focal point for the industry more generally, and help solve the coordination problem. The program seems fairly generous to the borrower, but the steep writedown it requires forces lenders to crystalize large losses—comparable to what they would sustain in a foreclosure. In addition, borrowers may be put off by the complexity of the package, and be reluctant to share future home price appreciation with the government. As a result, few applications have been received, making even the CBO's 400,000 modification estimate look overly optimistic, let alone the 1.5 million target set by the program's architects.

Disheartened by the failure of H4H and FHA Secure to provide streamlined and widely-used vehicles for restructuring loans out of foreclosure, most observers have come to the conclusion that voluntary frameworks where the government's role is limited to facilitation will not do the job. Various new proposals have been put forward that rely on substantial fiscal support or some degree of coercion. The next subsections will discuss some of them,

including tweaks to the existing H4H program, and more aggressive options that may involve substantially more costs to taxpayers, and hands-on involvement from the government.

### ***Kickstarting “Hope for Homeowners”***

An important principle that should be followed by any solution is to provide a standard, streamlined mechanism for loan modification through familiar tools, such as the FHFA and FDIC programs discussed above. Not only will following this principle improve the solution’s chances of direct success, but it will provide a template for others to follow.

In addition, any successful solution will have to address the negative equity issue, which will involve offering modifications to borrowers who are not delinquent. However, most of the private-sector programs are affordability-focused, as opposed to equity-focused (see Box 1). They offer workouts only to delinquent (or about to be delinquent) borrowers and they run sequentially through options that are focused almost solely on getting the payments down to affordable levels. H4H is equity-focused, but its eligibility criteria are affordability-based, and implementation is left to servicers who will likely only offer modifications to seriously delinquent borrowers.

Most mortgage analysts acknowledge that negative equity is becoming a primary driver of default risk, and the number of “under water” households is estimated between 8 and 12 million. However, principal writedowns are usually the last option to be considered. Hence, it is not surprising that, although servicers are actively pushing various affordability-focused modification plans, delinquencies and foreclosures continue to rise.

An alternative approach is to remove discretion from the hands of lenders and servicers. Bankruptcy reform discussed below would accomplish that to some extent. More forceful proposals would either create a standard framework for loan modifications that lenders have to accept (Zingales, 2008) or have a third party (a specially instituted trustee) review all distressed mortgages and decide which should be modified, which could be left unchanged, and which would go into foreclosure (Geanakoplos and Koniak, 2008).

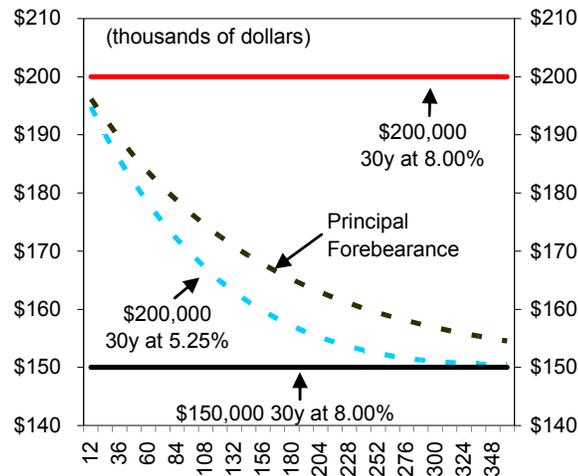
Our preferred route would be to adjust the parameters of the Hope for Homeowners program to provide greater incentives to lenders and securitization trustees to participate. As originally conceived, the program was quite generous to the borrower, but required fairly draconian writedowns on the part of the lenders and investors. The principal had to be written down to 90 percent of the home’s current appraised value, and the lender would have to pay the 3 percent upfront insurance premium. The borrower would be charged a 150 basis point insurance premium on top of the market-determined interest rate—which was expected to be quite high given the shaky collateral and low expected liquidity of MBS backed by these loans that would be the principal source of funds. If the resulting debt service exceeded 31 percent of the borrower’s income, a further principal writedown was required to get the

DTI under the ceiling. In addition, logistical arrangements were quite complicated, with several parties having to be on board before refinancing could be effected. All in all, an H4H refinancing was hardly preferable to foreclosure in terms of expected NPV to the lender. As a result, the impact of the program was virtually nil in the first month of its existence, and it had to be modified.

### Box 1: Affordability- versus equity-focused modifications

To illustrate the difference between affordability- and equity-focused approaches, suppose that on a home now worth \$150,000, the borrower owed \$200,000 on a 30-year 8 percent fixed rate loan. Hence, the current monthly payments are about \$1,468, and if an affordability target pointed to a monthly payment of about \$1,100, the interest rate could be lowered to 5.25 percent (an affordability-focused modification), or the principal could be written down to \$150,000 (equity-focused). However, although these modifications are roughly the same in terms of full-term NPV, the borrower has more equity upside with the principal writedown, and prepayment / refinancing options are reactivated.

Loan mod NPVs at 8 percent by month to prepayment



The impact of moving from full-term NPVs to shorter horizons on comparative NPVs is shown in the figure. If the loans are taken to the full 30-year term, both modifications produce roughly the same \$150,000 NPVs at an 8 percent discount rate (versus \$200,000 on the original loan). However, the NPV impact of the interest rate reduction takes longer to kick in, so its NPV is substantially greater than that of the writedown if the loan is prepaid quickly. Hence, when principal writedowns are offered, some home price appreciation should be clawed back (see main text). The figure also shows that principal forbearance, the worst case option in the FDIC/IndyMac program, actually has higher NPVs than the interest rate reduction.

However, these expected NPVs do not account for default risk, although Credit Suisse (2008a) suggests that default rates on principal writedowns are substantially below those on traditional modifications (20 percent after eight months, versus 30 to 40 percent).

The modifications have gone some way toward making the program more palatable for the lenders and investors. The required principal writedown was somewhat reduced. The loan term was allowed to be extended to 40 years, and the logistics were somewhat simplified by allowing HUD to buy out second lien holders upfront. At the same time, the program has retained the high upfront and annual insurance premia and has taken no action to ensure reasonably low interest rates on the refinanced loans. The impact of the program would be greater if these issues were addressed.

In particular, the government could partially subsidize principal writedowns of underwater loans, by paying the lender or trust half of the principal writedown, capped at five percent of the current assessed value of the underlying home. In most cases, this would result in the payoff to the investors close to the value of the underlying collateral. The government could also lower the mortgage insurance premia. The 300 basis point upfront and 150 basis point annual premia seem steep compared to even the highest existing FHA risk-based premia (225 and 55 basis points to delinquent borrowers when the LTV on the new loan is greater than 95 percent).

Steps could also be taken to ensure that the interest rate on the new loans does not exceed the conforming rate. This will likely require a government subsidy—direct or indirect via purchases of securitized loans by the housing enterprises, the Treasury, or the Fed. Alternatively, the government itself could make loans—via the government-sponsored enterprises—at the conforming rate plus the annual FHA premium. (The economic impact of this would be similar to that associated with the whole loan purchases described in Box 2.)

### **Box 2: Mechanics of whole loan purchases**

The government could direct Fannie Mae and Freddie Mac to purchase unmodified mortgages at the lesser of the unpaid balance or the assessed value of the underlying property, and extinguish any junior loans.<sup>a</sup> In addition to pursuing modifications, the GSEs could be directed to rent the property, possibly, but not necessarily, to the borrower, when affordability targets are unattainable. In order to control adverse selection risk of a purchase program, the purchases could be made conditional on the loans meeting minimum modification criteria—e.g., that the H4H affordability targets can be met without dropping the expected NPV of the new loan below some proportion of the assessed home value.

However, the cost of a purchase program will exceed that of the subsidy program because, even if only H4H modifications are pursued, the government will become responsible for the full amount of the writedown, rather than just the five percent. The full extent of the required principal writedowns cannot be known until the borrower is engaged in the process, but according to some mortgage analysts, writedowns to as little as 80 percent of assessed value may be required on some loans. Such potential cost overruns could be controlled by offering to buy the loans at discounted prices (e.g., 95 percent of assessed value). Valuations could use grid pricing based on zip code-level housing price indices (e.g., Case-Shiller). There are some impediments to the servicer's ability to sell loans out of securitization trusts, and Deutsch (2008) and Kudenholdt (2008) outlines some of the accounting and tax regulation changes that would have to be made to overcome them.

<sup>a</sup> Alternatively, the GSEs could buy the new mortgages with the FHA possibly guaranteeing 2<sup>nd</sup> lien financing for the LTV difference between 80 percent and the written down amount (the GSEs are prohibited from buying mortgages with LTVs greater than 80 percent.)

Although H4H's equity and HPA clawbacks are important safeguards against moral hazard, they may engender inefficient future behavior in the future, such as property sales with the sole purpose of getting out of the sharing contract. It would make sense, therefore, to put a time or quantity limit on the sharing provisions. In particular, the amount of the clawback could be linked to the amount of the original writedown, and it could be phased out after, say, ten years.

Another part of H4H that seems to be holding it back is the need to coordinate three parties, the original lenders (first and junior liens), the borrower and the new (FHA-approved) lender, because the transaction is structured as a short refinancing. This introduces what seem to be unnecessary operational complexities, and leaves the funding availability and interest rate on the new loan to the vagaries of the currently stressed markets. Potentially these transactions could be structured as loan modifications in which the FHA insures the old loan to the new principal balance.

The estimated cost of the revised program, if it insures 1.5 million (\$300 billion) new loans is about \$40 billion, plus the cost of capping loan rates at conforming levels and the servicer subsidy (\$1,000 per modification). The \$40 billion is comprised of \$15 billion for the lender subsidies, plus about \$40 billion to cover redefaults, less \$15 billion of insurance premia.<sup>26</sup> However, these cost estimates do not factor in any home price appreciation clawback, as did the original H4H cost analysis by the Congressional Budget Office, so the \$40 billion cost estimate can be viewed as quite conservative.

According to LoanPerformance, which covers about 90 percent of all securitized nonprime mortgages, about eight percent of nonconforming 1st lien mortgages (by amounts outstanding) were associated with loans to underwater borrowers whose total mortgage-related payments were at least 31 percent of their gross income ("DTI>31"), at the end of August 2008 (Table 3). This implies that about \$350 billion outstanding mortgages would fit the H4H front-end criteria. This number could be smaller if it is applied only to mortgages backed by owner-occupied homes – about 87 percent of loans in the LoanPerformance database.<sup>27</sup>

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<sup>26</sup> The regular FHA premia for high LTV loans (225 basis points upfront plus 55 basis points per annum) were used for this costing exercise, rather than H4H's current premia levels (300 and 150 basis points). It also assumes that 35 percent of the loans redefault in the first year, and the loss rate is 40 percent (on the new written down balance). The insurance premia include the upfront premia on all loans and the NPV of annual premia on the 65 percent expected to remain current calculated over 10 years.

<sup>27</sup> Although only about 13 percent of the loans were recorded as investor-owned, it is widely believed that 25 to 35 percent may be more accurate

	Billions of dollars		Percent Securitized	Percent of outstanding Debt-to-Income > 31%		Billions of dollars Debt-to-Income > 31%	
	Outstanding	Average Loan		Total	Underwater	Abovewater	Underwater
Subprime	936	206,925	77	66	17	454	160
Alt-A	871	344,408	85	38	14	209	125
Jumbo	1,725	557,235	44	17	3	247	43
Total	3,532					910	328

Source: Bank of America Securities LLC estimates based on data from the Board of Governors of the Federal Reserve System, Federal National Mortgage Association (Fannie Mae), Federal Home Loan Mortgage Corporation (Freddie Mac), Inside Mortgage Finance, and LoanPerformance.

Currently, only about 30 percent of underwater loans to borrowers who are paying at least 31 percent of their income towards mortgage-related payments are seriously delinquent, which would bring the scope of the program to about \$100 billion, or about 400,000 mortgages if the servicers only agree to modify seriously delinquent loans. However, over time, most mortgage analysts expect that more delinquencies and foreclosures are coming down the pipeline, particularly given the bleak economic outlook. Hence the program can be expected to come close to its authorized limit.<sup>28</sup> If the subsidy does not kick start H4H, consideration could be given to the government purchasing the loans from lenders and trusts (see Box 2).

Although some of the costs of these programs and others may be offset by the impact of some associated macroeconomic stimulus, this is unlikely to be significant. While reducing mortgage payments for a large share of U.S. homeowners is a form of fiscal stimulus, this manner of distributing money is not targeted at those who are most likely to spend it. Mayer and Hubbard (2008) also count on their program providing an additional housing wealth effect, based on their assessment that U.S. home prices are already close to their equilibrium values—or would be if the mortgage rates declined as little as 0.8 percentage point. Although it would be helpful if the program can stop home prices from falling below equilibrium, Klyuev (2008) suggests that further home price depreciation is needed to get to that point.

### ***Allowing bankruptcy judges to force mortgage modifications***

The rise in delinquency reflects a combination of two problems—negative equity and falling affordability. Negative equity is the result of high initial LTV on many recently made loans; proliferation of second liens which made it easier for households to gear up and to extract home equity; non-amortizing nature of some recent mortgage products; and a decline in home prices. The squeeze on the ability of households to service the loan—the rise in DTI—

<sup>28</sup> The above calculations look at the non-conforming universe. The government-sponsored enterprises, which insure the bulk of conforming mortgages, have recently announced their large-scale loan modification programs. If these efforts prove unsuccessful, some prime, conforming mortgages may need to be refinanced via H4H, in which case that program would have to be enlarged.

resulted from high home values, lax underwriting standards, repeated refinancings, and interest rate resets on adjustable-rate mortgages.

Traditionally, a home owner whose home value has declined below the outstanding mortgage principal would still be expected to service the loan if she has wherewithal to do so. A household that has lost the ability to service the mortgage—because of a job loss, or major illness, or another “life event”—would be able to sell the house and repay the loan if the LTV is below 100 percent. Only if the home is less worth than the mortgage and the home owner has lost the ability to sustain mortgage payments would the lender have to take a loss. The lender could choose to foreclose on the property, accept a short sale or a short payoff, or modify the loan to allow the borrower stay in the house while reducing mortgage payments to an affordable level.

These traditional mechanisms for dealing with shocks affecting home owners have broken down on two fronts. First, some borrowers are walking away from “underwater” mortgages, particularly on investment properties, even if debt service remains manageable. In many cases the lender does not have recourse to the borrower’s other assets or income and is left to suffer the consequences of the borrower’s poor investment decision. Second, for a variety of reasons listed in Section IV, servicers do not offer loan modifications in sufficient numbers to those who can no longer afford their mortgages. The borrowers, on the other hand, cannot have their loans adjusted by the third party, since the U.S. bankruptcy law does not allow judicial modification of the terms of mortgages secured by principal residence. While the intent of this exception is to facilitate the flow of mortgage finance, in the current situation it stands in the way of preserving homeownership.

Removing the non-recourse status of mortgage loans and allowing bankruptcy judges to adjust mortgages terms would weaken considerably the feedback loop in the housing market by decreasing the number of foreclosed properties that lenders dump on the market when home prices fall—be it from unscrupulous home owners who walk away from “underwater” mortgages or from struggling home owners whom the servicers have refused to help. While the Mortgage Bankers Association (2008) claims that changing the bankruptcy law would result in a dramatic increase in the cost and curtailment of the volume of mortgage borrowers, independent research (Levitin, 2009) suggests that the effect is likely to be small. In any case, the removal of non-recourse status should offset much of the perceived cost of allowing cramdowns.

The reform of the bankruptcy code would make it easier for servicers to justify loan modifications to investors by raising the downside risk of not coming to terms with the distressed borrower. It would make the code more uniform by aligning the treatment of principal residence mortgages with that of other secured obligations. Combining this reform—which strengthens debtor rights—with allowing effective enforcement of deficiency judgments (the claims on the difference between the principal of a defaulted loan and the

realized value of collateral) favored by the creditors could generate sufficient political support.

### *Enhancing servicer incentives to pursue borrower-friendly workouts*

We would support a number of measures that modify servicer incentives, which appear skewed toward foreclosures. The government could compensate non-prime servicers for loan modifications as well as H4H refinancings in the amount of about \$1,000—slightly more than what government-sponsored enterprises (GSEs) are currently paying in recognition of greater difficulty in dealing with non-prime borrowers. This would remove the bias stemming from the fact that servicers are compensated for out-of-pocket expenses, such as the cost of foreclosure filing or realtor commissions, but not for the labor cost associated with re-underwriting a modified loan. The temptation to recycle that compensation by repeatedly modifying the same loan should be removed through a limit on the number of times a given loan can be modified in a given period, a requirement that a modification provide a substantial relief (measured by a reduction in monthly payments or in their NPV), and deferring the compensation until the borrower has made at least three payments under the new terms.

Many servicers express concern about being sued if some investors perceive them to pursue loan modifications detrimental to their interests. There is also fear of frivolous lawsuits. HERA has shielded servicers who channel refinancing via H4H, and that was an important step. It would be useful to broaden safe harbor provisions and protect the servicers who follow industry guidelines for modifications—even outside the H4H framework—from lawsuits by disgruntled investors.

Junior lien holders present a major obstacle to successful loan modifications. Some of the problems arise due to their incentives. But others are more logistical in nature, reflecting the lack of information, coordination, or capacity. Modifications involving subordinated liens reportedly proceed more smoothly when both loans are serviced by the same institution, even of behalf of different sets of investors. This argues for the creation of a centralized registry of mortgage loans and MBS, which would make it easier for first and second lien servicers to coordinate. Some consolidation in the servicer industry might also help.

A proposal (Stein, 2008) that the government take over the subprime servicing industry has some merits. Subprime servicers lack capacity to deal adequately with the large volume of delinquent loans, but they have little incentive to build capacity because the prospects for their business are dim for the foreseeable future. This may be a more feasible way to get around some coordination problems in the securitization chain than trying to purchase enough MBS in any given pool to be able to alter the PSA.

Instead of getting directly involved, the government could use its sway and lean on parents of mortgage servicers. Most of the larger servicers are affiliated with large banks (Cordell et al., 2008) which have received capital injections under the *Emergency Economic Stabilization Act of 2008* (“EESA”) and use Fed’s new liquidity facilities. The parents could help the servicers expand their capacity and pay for loan modifications.

### ***Ramping up borrower outreach programs***

As discussed above, servicers report tremendous difficulty they have in contacting delinquent home owners and negotiating loan modifications. The government and the servicers have mounted an impressive outreach effort, with phone and mail campaigns, free counseling, and various seminars and other outreach events. These efforts are laudable and should be intensified, even if it requires government funding. A loan cannot be modified if a contact with the borrower is not made. The borrowers should come to realize that the servicers are able and willing to help them. At the same time, the government should make sure the borrowers have realistic expectations regarding the amount of relief they may get and do not hold out in hope of a better deal in the future if they receive a reasonable loan modification offer.

### ***Funding state and local government purchases and rehabilitation of foreclosed properties***

HERA allocated \$4 billion to be distributed among state and local governments so they could purchase and rehabilitate foreclosed properties, which could be then converting into rental units, or help struggling home owners. It makes sense to channel this kind of relief through subnational governments as they have a better understanding of particular needs in their communities. However, \$4 billion is sufficient to purchase only about 20,000 homes at the current median price. This effort should be scaled up by at least a factor of five.

### ***Giving tax credits against home purchases to directly stimulate the housing market***

Temporary tax credit to families who purchase homes in 2009 would reduce for-sale inventory and support home prices by bringing from the sidelines people who are waiting for prices to bottom out (including investors).<sup>29</sup> By increasing turnover, such a measure would help people move and thus facilitate labor market adjustment. Importantly, it would also help state budgets via increased sale volume and hence higher sales taxes. Unlike the credit introduced in HERA, it should not be limited to first-time buyers, would not require

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<sup>29</sup> The inventory-to-sale ratio is a robust determinant of house price movements in the short run. Both components of the ratio matter when entered separately in regressions. While purchases by existing home owners who then put their old houses up for sale do not reduce the excess supply of housing, higher turnover reduces the time for-sale properties stay on the market. This lowers carrying cost and gives sellers more bargaining power, which is conducive to firmer home prices.

repayment, and could have a higher ceiling. Broadening the scope would stimulate purchase of investment properties and facilitate mobility.

A 5 percent refundable tax credit to home buyers capped at \$10,000 would cost around \$40 billion at current sales rates and more if it succeeds in stimulating turnover. To provide a more immediate incentive, the government contribution could come in the form of a check—e.g., after the first mortgage payment is made—rather than a reduction in the future tax liability. Ordinarily concern would be that a large fraction of this expenditure would subsidize purchases that would occur even without it. However, with the weak aggregate demand, this stimulus to the economy may be welcome, particularly given that a home purchase necessitates other expenses, so the propensity to consume of recent home buyers must be quite high.

Lower mortgage rates should also help stimulate demand for homes, and the government's support for the housing GSEs and its purchases of agency debt and agency MBS appears to be having the desired effect on conforming mortgage rates. A permanent increase in the conforming mortgage limit to the level established by the Economic Stimulus Act for this year should also be considered.

## VIII. CONCLUSIONS

Foreclosures are at the center of an adverse feedback loop, resulting from and feeding into home price declines. Private sector response to date has been insufficient, with too many properties going into foreclosure. Coordination failures and agency problems stemming from prevalence of second mortgages and securitization; the impact of foreclosures on the neighborhoods and, in case of investment properties, on renters; and spillovers between the housing market and the broad economy as well as the financial system justify a role for the government in preventing avoidable foreclosures.

So far public sector response has not been commensurate with the magnitude of the crisis. The Bush Administration focused too narrowly on making sure that only those who “deserved” help could get it and that it avoided the appearance of bailing out reckless lenders or borrowers. Congress has established a program that would provide considerable relief to distressed home owners but did not appeal to the lenders, servicers and investors. As a result, few delinquent borrowers have been able to refinance their mortgages into FHA-insured products.

After analyzing the reasons for the failure of actions taken so far to stem the surge in foreclosure and reviewing a number of ideas, we propose a comprehensive approach to the foreclosure problem that includes the following elements: a strengthened, publicly supported loan refinancing scheme; improved legal framework; more incentives for servicers; intensified outreach effort; aid to states for rehabilitating foreclosed properties; and measures to stimulate the housing market. The first four elements will help prevent avoidable

foreclosures; the fifth will mitigate the impact of foreclosures that do occur; and the last will do a bit of both, by supporting home prices and by helping find new owners for some foreclosed properties.

Proposal	Objective	Fiscal Cost
H4H modification <i>Subsidize writedowns; lower insurance premia; simplify logistics</i>	Reduce foreclosures by making H4H refinancing more attractive for lenders and investors	\$40 billion
Legal reform <i>Allow modification of mortgage terms on principal residences by bankruptcy courts; remove non-recourse status of mortgage loans</i>	Reduce foreclosures by increasing the downside to refusing to modify the loan and by making it harder to walk away from affordable loans	Small
Incentives for servicers <i>Payment for modification; registry of mortgages</i>	Reduce foreclosures by making loan modifications more attractive for servicers	\$ 3 billion
Aid to states <i>Funds for taking off the market, rehabilitating, and renting out foreclosed properties</i>	Reduce neighborhood blight and downward pressure on the prices; provide affordable rental housing	\$20 billion
Temporary subsidy for home purchases	Help stabilize home prices by providing a temporary stimulus to housing demand	\$50 billion

The core of our proposal involves the government providing direct monetary incentives to servicers, lenders and securitization trusts. More specifically, for every completed H4H modification the government would pay servicers \$1,000, and securitization trusts up to five percent of the current assessed value of the underlying property. We also suggest that the lender-paid upfront FHA premium be lowered from 300 to 225 basis points and the borrower-paid premium from 150 to 55 basis points per annum, and the interest rate on the new loans brought down to the conforming rate. Also, although H4H's HPA clawback plays a useful role in controlling front-end moral hazard risk and limiting strategic defaults and prepayments, consideration should be given to either phasing it out after, say, ten years, or linking its size to the amount of the writedown.

Legal reform is essential to improve the protection of both creditor and borrower rights. Borrowers who have the resources to service their mortgage debts should not be allowed to walk away from them. On the other hand, those who are genuinely struggling should have recourse to the legal system if their lender or servicer is not receptive to their pleas. The mortgage industry is very much in favor of eliminating the non-recourse status of mortgage loans, but vehemently opposes allowing bankruptcy judges to modify the terms of loans secured by principal residences. Passing both reforms as a package may be an acceptable political deal for the industry and consumer advocates.

Paying servicers for loan modifications, providing legal protection to servicers who follow approved loan modification procedures, and a number of other steps would help shift servicer incentives toward more modifications and fewer foreclosures. The importance of reaching out to distressed borrowers and educating them about their options cannot be overstated. States and localities could be provided with resources to purchase some of the foreclosed properties, rehabilitate them, if necessary, and use them for low-income, mostly rental, housing. A temporary tax credit to home buyers (or government co-financing) would help stimulate demand for housing, keeping house prices from swinging too much below equilibrium.

The combined cost of these measures is around \$115 billion. The modified H4H has the potential to reach about 1.5 million home-owners, a substantial part of at-risk non-prime borrowers. We hope the modification programs run by Fannie Mae and Freddie Mac will reduce the stress in the conforming segment. We also expect private-sector modifications outside these programs to continue, and this combined effort should significantly reduce the number of foreclosures in the next two years. The measures that we suggest have considerable synergies, and together they can have a major impact in terms of stabilizing home prices, reinvigorating the housing market, preventing avoidable foreclosures, and limiting mortgage-related losses.

A number of proposals are currently debated that are broadly similar to ours. It would be preferable to pick the best among them, but the uncertainty and the complexity of the issues make this a difficult choice. We would not be bothered by coexistence of several loan modification schemes, which could provide more home-preserving options—although it could also create stalemate situations, with the borrower and the servicer preferring different templates.

What worries us more is the proliferation of proposals offering ever more generous support to the borrowers or to the lenders or both. The servicers may not be motivated to offer substantial, sustainable loan modifications, and the borrowers may choose not to accept reasonable offers if each party hopes that a government bailout would provide better terms. As noted above, we do advocate the use of public resources to help resolve the foreclosure crisis, but such support should not be open-ended. Though difficult for political reasons, it is essential to draw a line and present a credible final offer.

Figure 1. Housing Feedback Loop

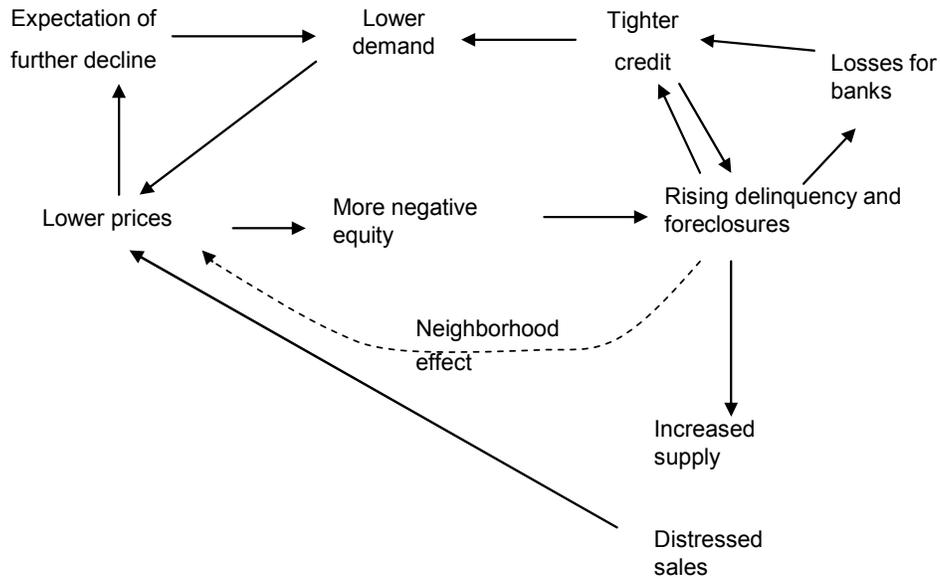


Figure 2. Housing Loop and Macro-Financial Linkages

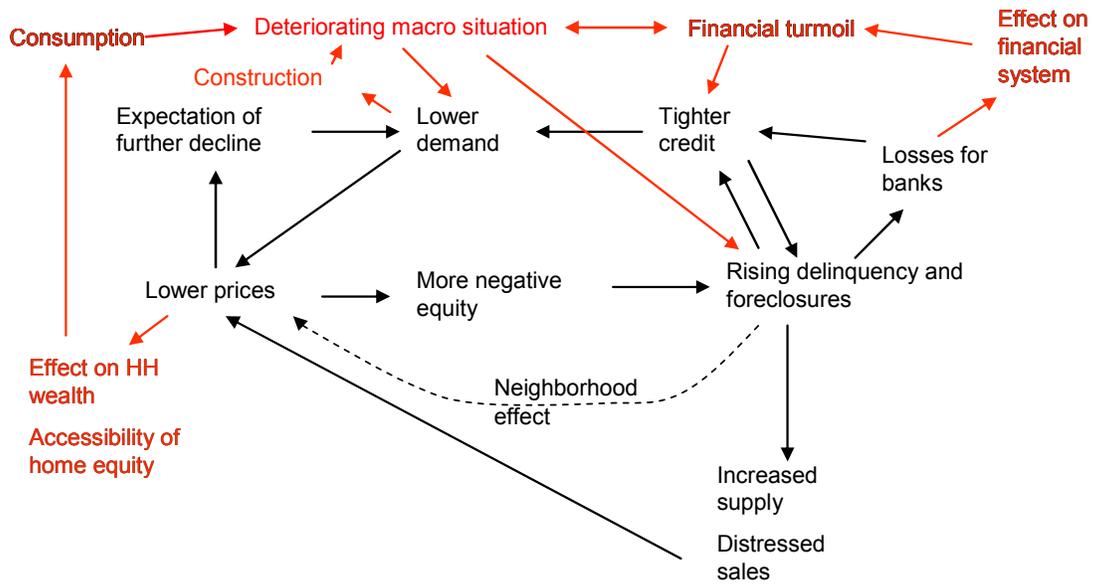
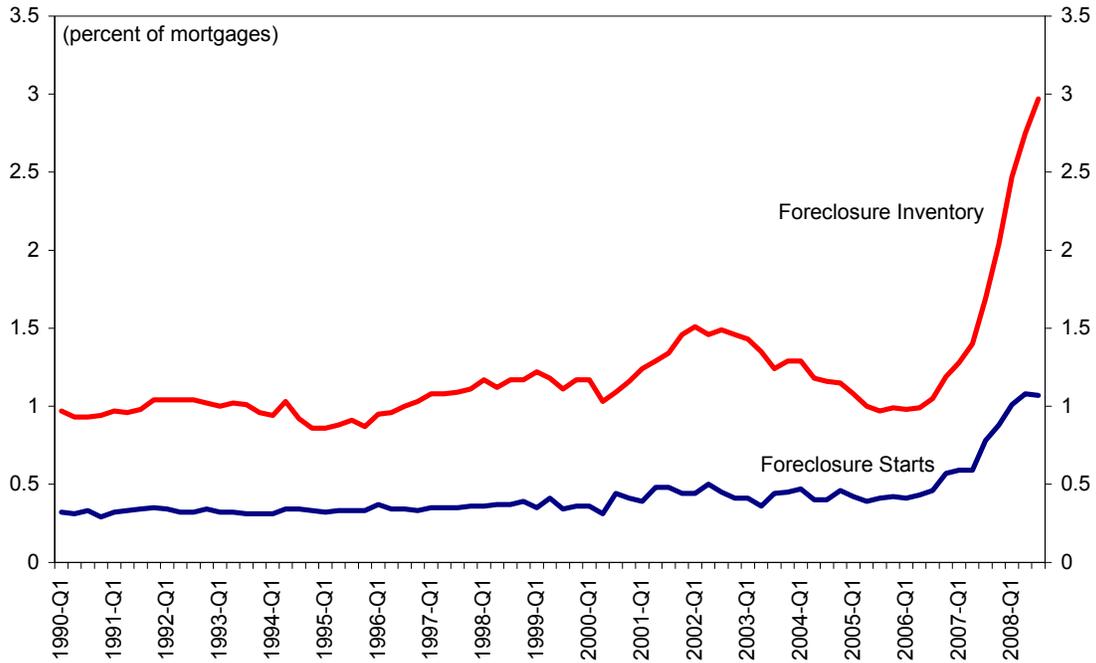
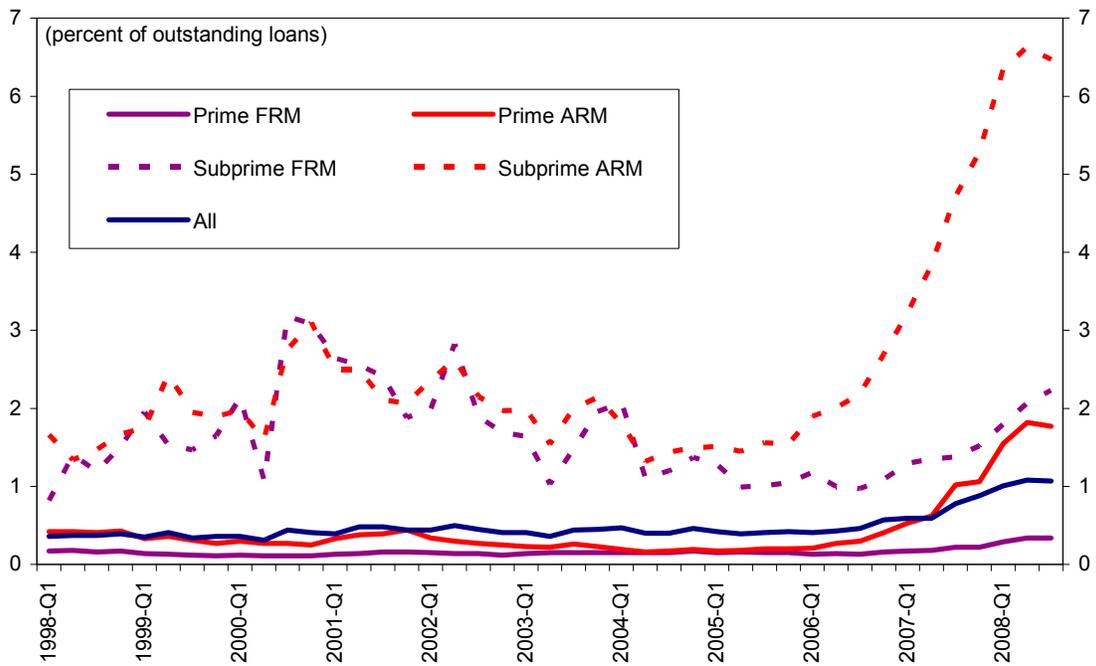


Figure 3. Foreclosure Inventory and Foreclosure Starts



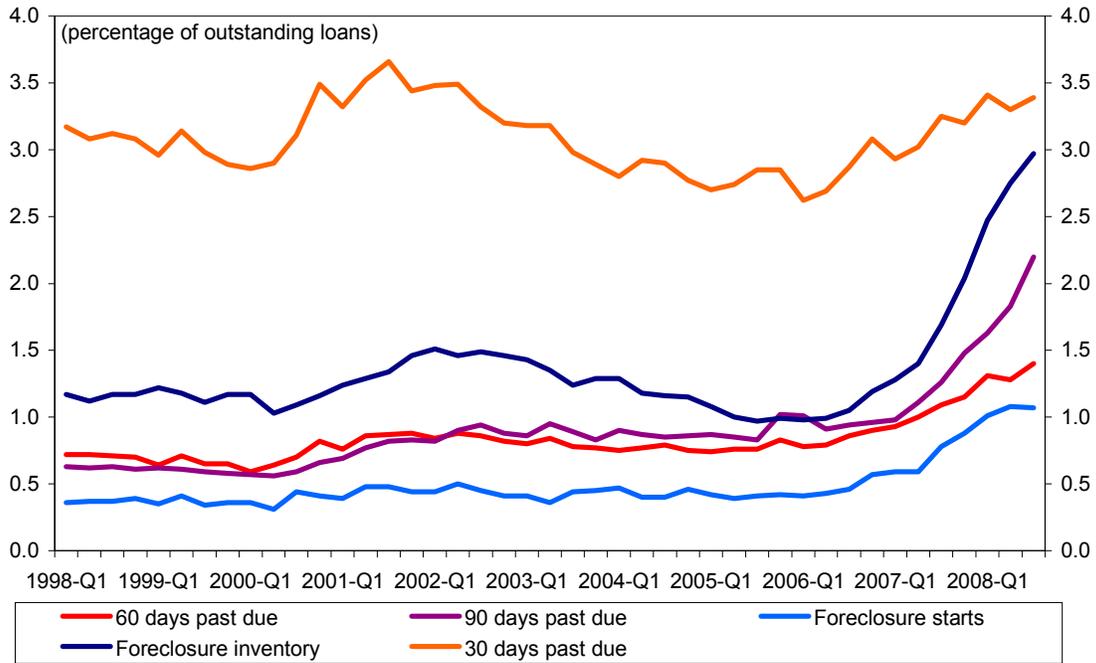
Source: Mortgage Bankers Association.

Figure 4. Foreclosure Starts by Category



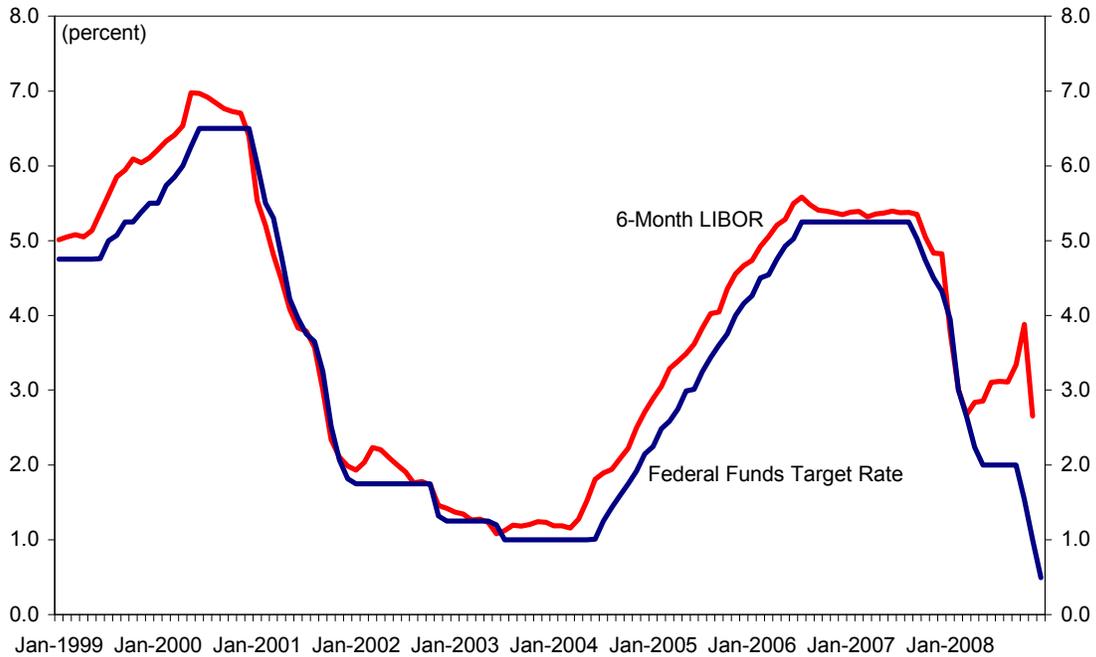
Source: Mortgage Bankers Association.

Figure 5. Mortgage Delinquency Rates



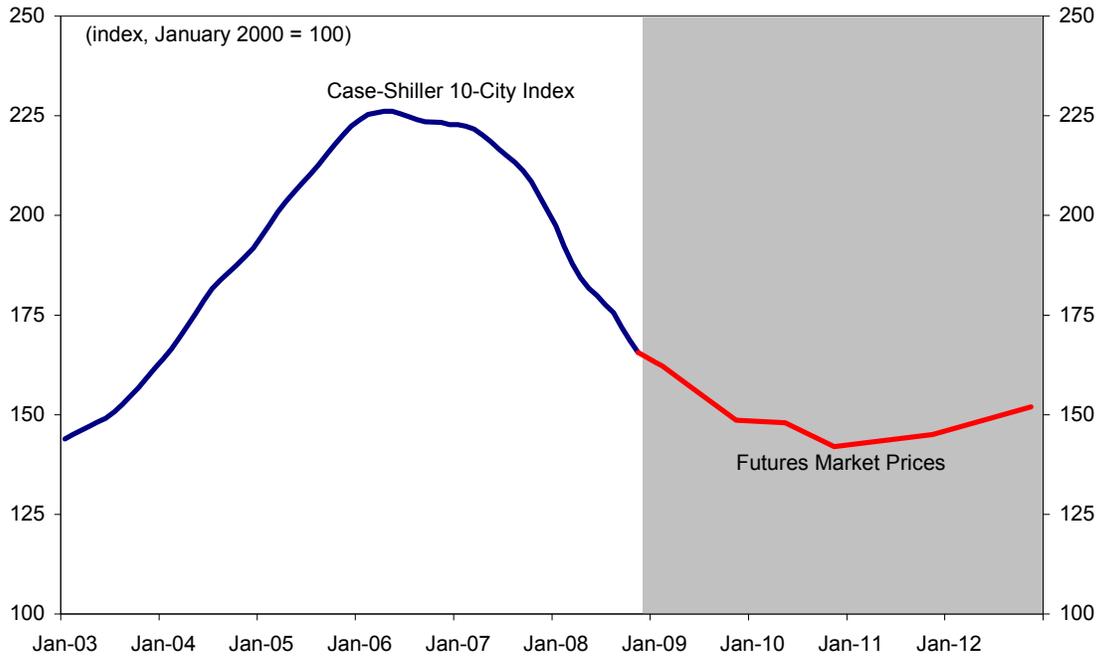
Source: Mortgage Bankers Association.

Figure 6. Federal Funds Target Rate and LIBOR



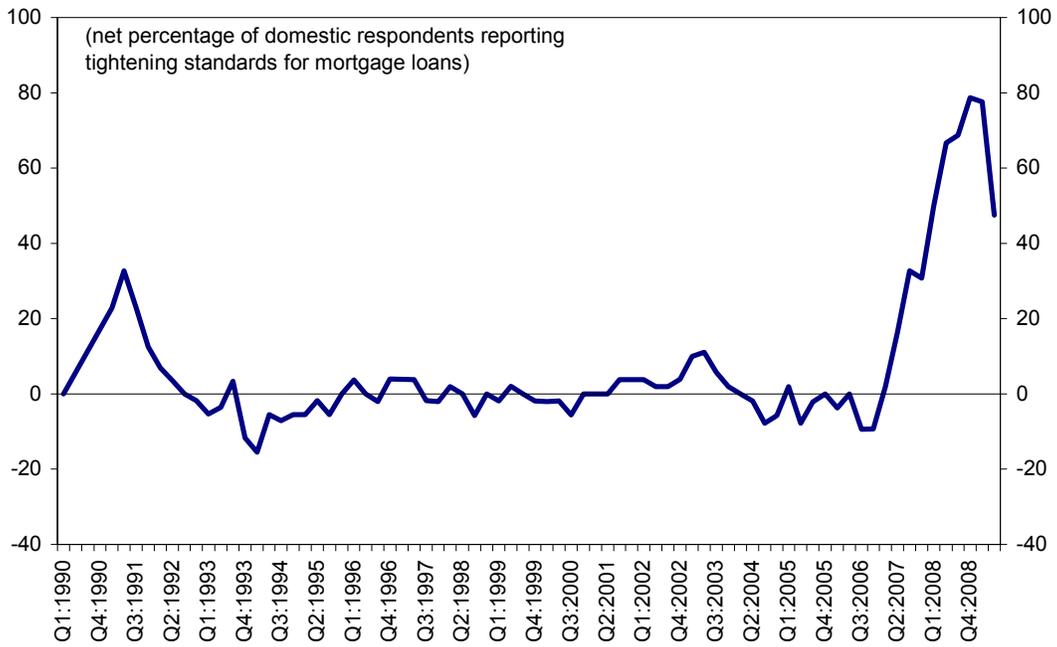
Source: Haver Analytics.

Figure 7. House Prices



Source: Haver Analytics and Bloomberg LP.

Figure 8. Lending Standards for Residential Mortgages



Source: Board of Governors of the Federal Reserve System, Senior Loan Officer Survey.

Figure 9. Loss Severities for H1 2006 ARM Loan Originations By Type

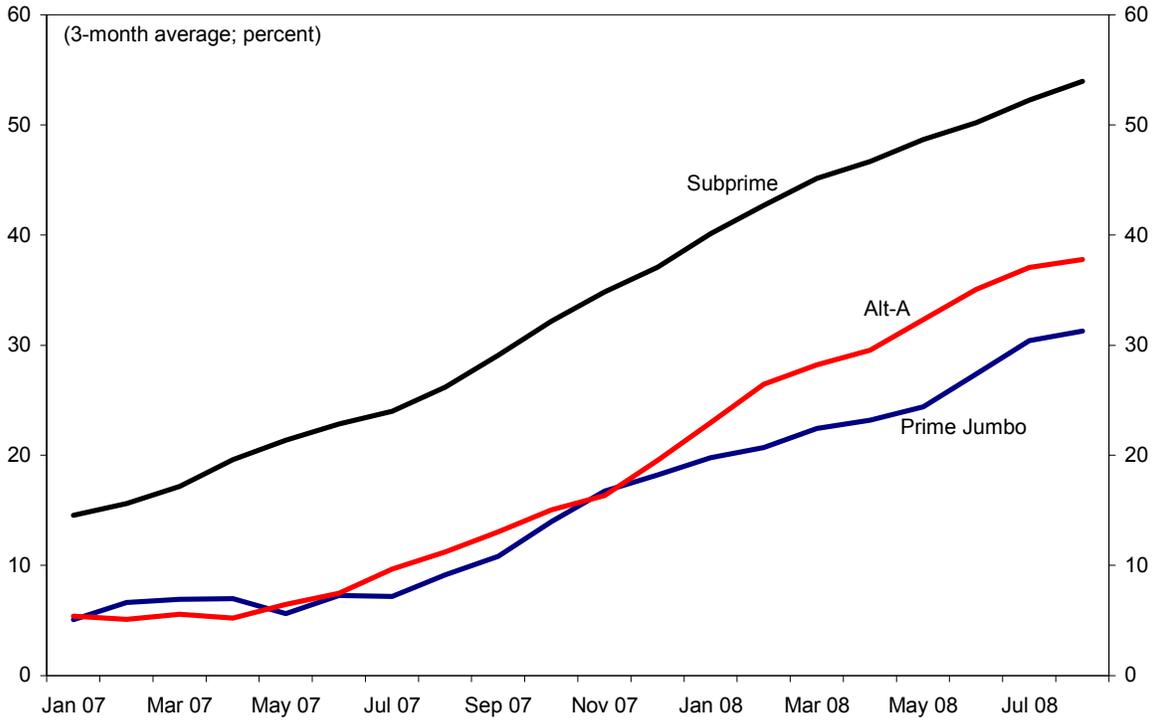


Figure 10. Loss Severities for H1 2006 ARM Loan Originations by State

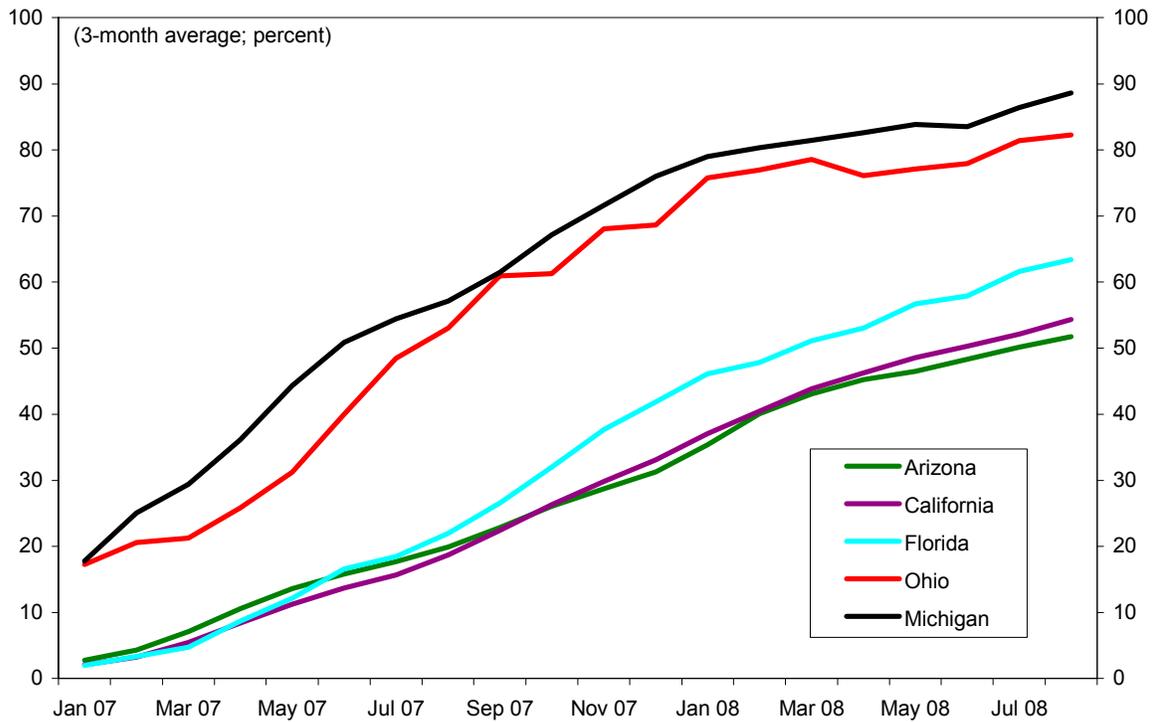
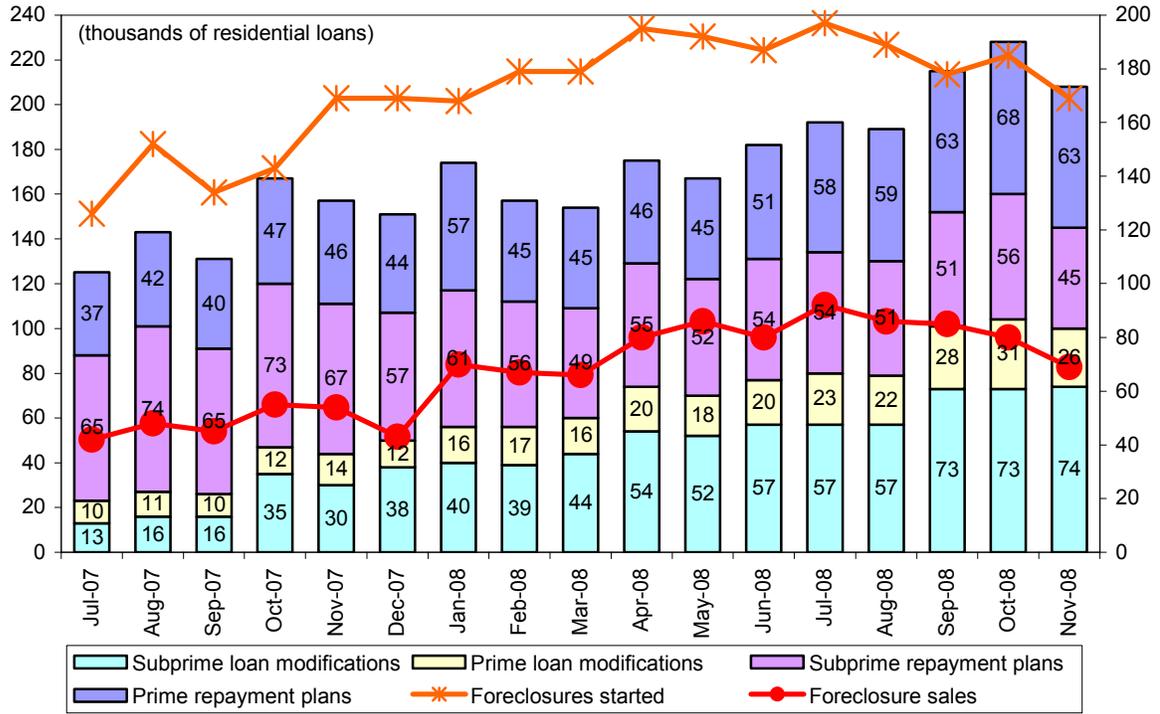


Figure 11. Hope Now Workout Data



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