Joint Center for Housing Studies
Harvard University

Interventions in Mortgage Default: Policies and Practices to Prevent Home Loss and Lower Costs

Amy Crews Cutts and William A. Merrill

March 2008
UCC08-15

The authors are grateful to Jimmy Cheng, Shawn Connell, Steven Geyer, Nathaniel Hoover, Sandy Sweeney, and Robin Toothman for their research assistance, and Bob Kimble and Calvin Schnure for their valuable comments.

Abstract

The implosion of the subprime market in early 2007 caused by the rapid rise in mortgage defaults resulted in significant media and political attention focused on saving homeowners from foreclosure and the possible loss of their home. While the default problem in the prime segment of the market is much less severe, the issues around how to keep borrowers in their homes affect all market segments, not just subprime loans. In particular, what do we know about defaults and what causes them? Is there an ideal cost-benefit timeframe for the foreclosure process? What are the costs associated with foreclosure? Where will the next gains in default servicing come from to maximize the potential for borrowers to keep their homes?

We find that a large number of borrowers never speak with servicers when they are unable to make their mortgage payments, and that the longer they wait to do so, the less likely they are to recover from their problems and keep their home. Default counseling for delinquent borrowers is a cost-effective strategy for increasing borrower contact rates, and thus for increasing the share of borrowers who are underwritten for a successful home-retention workout with lower recidivism rates once a workout is in place.

We find that the foreclosure process varies widely across states and that the costs associated with foreclosure rise significantly with the length of the foreclosure timeline. Most importantly, we find that the likelihood a borrower will reinstate her loan out of foreclosure falls as the length of time in the foreclosure process increases – by our estimates, states with excessively long foreclosure timelines could increase the probability of successful reinstatement by 3 to 9 percentage points by shortening their statutory timelines to match the national median timeline. Timelines that give the borrowers too much time in the legal foreclosure process tip the balance from the threat of imminent home loss from foreclosure towards the benefit of "free" rent for the duration of the process, providing an incentive for borrowers to forego reinstatement of the loan even if they have the means to do so. By the same reasoning, some very short timeline states may find that lengthening their legal foreclosure timelines may improve cure rates out of foreclosure.

1. Introduction

The implosion of the subprime market in early 2007 caused by the rapid rise in mortgage defaults resulted in significant media and political attention focused on saving homeowners from foreclosure and the possible loss of their home. While the default problem in the prime segment of the market is much less severe, the issues around how to keep borrowers in their homes affect all market segments, not just subprime loans. In particular, what do we know about defaults and what causes them? Is there an ideal cost-benefit timeframe for the foreclosure process? What are the costs associated with foreclosure? Where will the next gains in default servicing come from to maximize the potential for borrowers to keep their homes?

In this study we examine these issues focusing on the prime side of the market, and in particular, prime conventional (that is, not government insured) and conforming (meeting the underwriting guidelines of Freddie Mac or Fannie Mae) loans, but also consider some of aspects from the subprime and Alt-A segments of the mortgage market.

The primary issue is one of incentives – if the borrower values the home and if the benefits of continued ownership exceed the costs, then her interests are aligned with that of the lender. The servicer acts as an agent of the investor, and to align his incentives with those of the investor, he is compensated for delivering favorable results for the investor, namely maximizing the timely repayment of the debt as agreed to in the mortgage contract. But when the borrower is in financial distress, her motivation or capacity to carry the debt typically has been diminished, thus raising the risk she will default on the mortgage — an outcome that both the homeowner and lender would like to avoid.

Time is of the essence at this point, since costs for all parties increase over time. The steady rise in costs drives two of our principle findings. First, the earlier that discussions between the borrower and the servicer on workout plans, the greater the chances of the borrower retaining ownership, as the plan can be put into place before costs rise prohibitively. Second, once the loan is referred to foreclosure, starting the legal process by which the lender makes a claim on the mortgage collateral, there appears to be an optimal time frame for the state defined legal foreclosure process. If the timeline is too short, there may be insufficient time for a borrower to recover and save the home from foreclosure. On the other hand, if the timeline is too long, the borrower's incentives are compromised by costs that continue to rise, ultimately reducing the chances a borrower will successfully avoid foreclosure.

1.1 Other Studies of the Costs of Foreclosure and Foreclosure Policy

Because of the very large costs of foreclosures in dollars, and in human terms, on the borrower, the servicer, the lender investor and the community, discussions of how to best apply private and public resources to the current crisis are timely. Ironically, we have been here before as an industry and a country, as highlighted in Bridewell (1938):

> The present deplorable state of mortgage and foreclosure law is probably due to the persistent desire of the courts and legislatures to better the position of the helpless borrower against the supposed greed of the moneylender. Recent enactment of moratoria and anti-deficiency judgment laws is the most modern demonstration of this desire to protect the mortgage borrower. But to this judicial and legislative tendency to favor the mortgagor has attached the law of diminishing returns. The resulting waste of money and time has checkmated any benefit derived by the mortgagor. Instead of safeguarding the mortgagor, many of the existing procedures have saddled him with additional charges or made more unfavorable the terms of his mortgage loan.[1]

He goes on to document the unnecessary costs added by lengthy foreclosure proceedings that do little to assist distressed borrowers but increase costs on credit worthy borrowers as lenders try to protect against losses. He estimated that if "... $55, the approximate average cost of foreclosure in states in the first group [efficient, low-cost foreclosure states], is sufficient to cover the cost of foreclosure, it appears that during the last 10 years approximately $70,000,000 has been spent unnecessarily because foreclosure proceedings in all states were not as simple, inexpensive, and expeditious as in states in that group."[2] Assuming the same distribution of costs today and similar numbers of foreclosures as over the 1928-1938 period, these excess costs would be equivalent to roughly $650 million today.[3] While many things have changed for the better with regard to mortgage lending, servicing, and foreclosure processes since Bridewell's study, as we will see later in the study, many issues that concerned him at the time remain the same.

More recently, Pence (2001, 2006) investigated the costs of different state foreclosure laws on the availability of mortgage credit. Corroborating one of Bridewell's worries, she found in the 2006 study, "... that loan sizes are 3% to 7% smaller in defaulter-friendly states; this result suggests that defaulter-friendly laws impose material costs on borrowers at the time of origination."

---

[1] Bridewell (1938) p. 545.
[2] Ibid. pp. 551-552.
[3] Inflated using the CPI- urban consumer – all items price index for the period December 1947 through December 2007.

Other recent studies have investigated the costs of the legal structure of state foreclosure laws. For example, Wood (1997) documented that states with judicial foreclosure proceedings took an average 5 months longer than the average foreclosure process in non-judicial states, and Wilson (1995) found that the judicial foreclosure process greatly increased costs to investors, implying the (5-month) delay in judicial states raises time-dependent costs by 5 percent of the loan balance. Pennington-Cross (2003) found that houses in judicial foreclosure states sold for 4 percent less than those in statutory foreclosure states, presumably due to greater depreciation during the longer foreclosure process.

Clauretie (1989) and Clauretie and Herzog (1990) looked at losses to primary mortgage insurance companies in the 1980s. Clauretie (1989) summarizes the primary conclusions of both studies as, "...because a judicial procedure and a statutory right of redemption lengthen the foreclosure process and delay the liquidation of the property, losses are greater in states which require the former and grant the latter. A prohibition on deficiency judgments precludes any amelioration of these losses."

The most recent study of the costs of foreclosure is Hayre and Saraf (2008) who look at ABS and MBS securities data from First American LoanPerformance to estimate the discounts on home values brought by the type of delinquency (short sale, foreclosure, or real-estate owned (REO)), loss severities based in the age of the loan and loan amount, lien status, state foreclosure regulations, and the effects of other related characteristics of the loan or borrower such as the presence of mortgage insurance or bankruptcy declarations. This study notes that the average difference between states that have a statutory or "power-of-sale" foreclosure process take on average 11 months while states with judicial foreclosure proceedings take on average 14 months between the last payment made by the borrower and the foreclosure sale (excluding post-sale redemption periods), and note that Vermont and Connecticut, states with "strict foreclosure" processes take the longest with an average time of 16 months, and that associated legal fees for the foreclosure process are much higher in judicial foreclosure states.

From these studies, we conclude that there are risks to different state and federal approaches to foreclosure – policies that may appear to be more or less borrower-friendly, or in the words of Pence, defaulter-friendly, can turn out to be the opposite, by imposing greater costs on borrowers either at default or at origination. We examine here both new trends in foreclosure avoidance tactics by lender investors and the structure of state laws and how they affect not only costs to the industry but the likelihood that delinquent borrowers will ultimately remain in their homes.

1.2 Summary of Our Findings

We find that a large number of borrowers never speak with servicers, despite the persistent efforts of servicers to reach them by phone, by letter post or email,[4] when they are unable to make their mortgage payments, and that the longer they wait to do so, the less likely they are to recover from their problems and keep their home. A recent pilot program by Freddie Mac shows that the use of credit counseling agencies to reach out to delinquent borrowers is a cost-effective strategy for increasing borrower contact rates, and thus increasing the share of borrowers who are underwritten for a successful home-retention workout. Moreover, borrowers who go through delinquent-borrower counseling have lower recidivism rates once a workout is in place.

We find that the foreclosure process varies widely across states, currently lasts an average of 354 days between the due date of the last payment made and the loss of the home at the foreclosure sale, and that the costs associated with foreclosure rise significantly with the length of the foreclosure timeline, by as much as 12 percent for every 50 days added to the timeline. Perhaps more importantly, we find that the likelihood a borrower will reinstate her loan out of foreclosure falls as the length of time in the legal foreclosure process increases – by our estimates, states with excessively long legislated foreclosure timelines could increase the probability of successful reinstatement of delinquent borrowers by 3 to 9 percentage points by shortening their statutory timelines to match the national median timeline. Timelines that give the borrowers too much time in the legal foreclosure process tip the balance from the threat of imminent home loss from perfected foreclosure towards the benefit of "free" rent for the duration of the process, providing an incentive for borrowers to forego reinstatement of the loan even if they have the means to do so. By the same reasoning, some very short timeline states may find that lengthening their legal foreclosure timelines may improve cure rates out of foreclosure by giving delinquent borrowers enough time to cure the delinquency once the formal legal foreclosure process has been initiated.

[4] Some of the more creative servicers mail prepaid disposable cell phones with the servicer's number programmed in to delinquent borrowers. Others send calling cards worth $5 or $10, and still others offer cash payments or entry into a prize drawing if the borrower returns the servicer's call.

1.3 The Vocabulary of Loan Servicing

Mortgage loan servicing has a vocabulary all its own and it is worth defining some of the terms relevant to our analysis at the outset to avoid confusion.[5]

Servicer: The agent who collects payments from the borrower and passes on principal and interest to the investor, taxes to the local government, insurance premiums to the homeowner's insurance company, and mortgage insurance premiums to the mortgage insurer and who reports borrower payment status to the investor and the three credit reporting bureaus. This is the agent who has a direct relationship with the borrower, and, because of this relationship, is who many borrowers mistakenly think is the lender behind their loan – servicing rights are bought and sold independently of who the investor is behind the loan and the borrower is notified of transfer of the servicing right on their loan when this occurs.

Investor: The agent who holds the credit risk on the loan and who takes a loss on a defaulted loan. They may be the original lender or the investor may have acquired the loan through purchase on the secondary market. The borrower rarely knows who the investor behind their loan is unless they make an inquiry to the servicer or are in foreclosure.

Default: A breach of any of the terms of the mortgage contract, but most often associated with missed payments.

Foreclosure: The legal process by which the property backing a mortgage is liquidated to help payoff the mortgage debt and any additional costs accrued through delinquency. The foreclosure process concludes at the foreclosure sale when the borrower's right of title is terminated. The borrower may still have right of possession if the state has a post-foreclosure sale right of redemption provision.

Workout: A negotiated plan to avoid home loss through foreclosure. Home retention workouts are employed when the borrower has a desire to keep the home and the capacity to carry payments under the workout plan. These include: repayment plans – a contracted plan to make up past due amounts; forbearance – a defined period where no or only partial payments are required followed by a repayment plan to make up the arrearage; and loan modifications – a permanent altering of one or more of the loan terms. Voluntary home-loss workouts avoid foreclosure but the borrower gives up the home. These are deed-in-lieu transfers – the borrower essentially gives the investor the keys and title to terminate the debt; and short sales – the lender agrees to accept proceeds from the sale

[5] Cutts and Green (2005) outline the alternatives to borrowers in greater detail as well as provide a summary of the economics of the default option for borrowers and recent innovations in defaulted loan servicing. See also Lacour-Little (2000) for a discussion of the evolution of technology used in the mortgage industry.

of the home to a third party even though the sales price is less than the principal and accrued interest and other expenses owed.

Foreclosure Alternative: See workout – Foreclosure alternative is a term of art in the servicing industry that means *any* alternative to the legal taking of the home through the foreclosure process and resulting in a foreclosure sale. People outside of loan servicing often interpret the term to mean only home-retention workouts. In our study it is used in the former, broader sense unless otherwise indicated.

REO: Real estate owned – the term given to properties that become owned by the investor at the foreclosure sale. This term is sometimes used more broadly to indicate any collateral property owned by the investor, whether obtained by foreclosure or a deed-in-lieu transfer.

Redemption: A period of time during which no additional costs can be accrued by the borrower in foreclosure – a stipulated time-out. The borrower can redeem the home out of redemption by paying all principal, interest, taxes, and other costs owed prior to the expiration of the period. In the six post-foreclosure-sale redemption states where the redemption period is longer than 60 days (Colorado – until January 2008, Kansas, Michigan, Minnesota, South Dakota and Wyoming), the borrower retains the right of occupancy but loses title. The investor gains the title but has no rights of possession, such as the right to enter the property even to make repairs or to preserve the property unless invited by the borrower or as required by local ordinances (such as for lawn maintenance). Many other states also have post-sale redemption provisions if certain foreclosure processes are used and some have a redemption period prior to the foreclosure sale.

DDLPI: Due date of the last paid installment – the term used by Freddie Mac for the onset of the delinquency. Under the commonly used Mortgage Bankers Association's definition a loan is said to be 30-days late (or delinquent) when the next payment due date is reached after a payment is missed, but because interest is paid in arrears for the previous month, the DDLPI is a more accurate start point and is calculated as 60 days for that loan. For example, if a payment is due and paid on June 1st but the borrower fails to make a payment in July, the borrower will be counted as 30 days delinquent under the MBA definiation on July 31st, but the DDLPI will be 60 days counted from the June 1 due date of the last payment.

Cure: A loan is said to cure when all past-due amounts are paid in full by the borrower. The borrower may have fully reinstated the loan – thus returning it to full active status – or the borrower may have paid off the loan and past-due amounts by selling the home in a regular market transaction or by refinancing the mortgage.

Fail: In the context of this paper, a loan is said to fail when the borrower loses the home through foreclosure sale, deed-in-lieu transfer, short sale or the lender takes a charge-off (usually associated with a property problem such as fire or other hazard).

1.4 Looking Ahead

Due to the rapid rise in delinquencies across the U.S. that started in 2006, investors and their servicing agents are trying additional efforts to avoid an equally rapid rise in losses. The economic incentives are aligned to keep the borrower in the home if possible – mortgage investors make the most money when the mortgage contract is paid on time according to the contract terms and homeowners gain the most utility from maintaining an ownership interest in the home if possible given income and wealth constraints. Borrowers typically default on mortgages when they lack the capacity to make payments, such as when they lose their job, and if they owe more than the home is worth, net of realtor commissions, they may exercise the put option and exchange the collateral for the mortgage obligation. If there was equity remaining in the home, the borrower has every incentive to sell the home and keep that equity – thus, the lender/investor only obtains a home through foreclosure or other alternatives when the value of the home is less than the debt obligation. Generally speaking borrowers who can afford the mortgage payments will do so even if they owe more than the property is worth because the value of the housing services (the dividend value of rent) is high, the cost to their credit rating from default is substantial, sale of the home or default realizes the loss on the home whereas keeping the home preserves the option of future gains in the property's value, and the cost of moving is non-trivial. These incentives are well documented in the economics literature – see for example Kau and Keenan (1995), Deng, Quigley, and Van Order (2000), and references cited therein, and the more recent studies from Lacour-Little (2004) and Cutts and Green (2005).

With the obvious gains in loss mitigation practices and servicing operations already widely adopted,[6] attention has shifted to new and more challenging methods for reducing losses. Some of the common tactics now include risk-model based calling campaigns, pre-reset solicitation for adjustable-rate mortgages (ARMs) on performing loans, partnering with non-profit counseling groups, working closely with local housing authorities, using vendors for in-person contact at the borrower's home, dedicated employees for borrower outreach and

[6] See again Cutts and Green (2005) and Lacour-Little (2000).

education, reducing net proceeds requirements on short sales, loan modifications that reduce note rates or even charging off all or part of delinquent arrearage, and the use of auctions on aged inventories of REO properties.

In the next two sections we will focus the servicing industry's success in contacting borrowers and what delinquent borrowers have to say about the need for contact with servicers and the use of non-profit credit counselors to reach borrowers when the servicers fail.

2. Time Is Money – Time Is Home

In all of the cases of foreclosure alternatives – whether for home retention or when the borrower voluntary gives up the home – the borrower must talk with the servicer. Loans that self-cure quickly without intervention from the servicer are not of much concern, but a borrower that has no contact with their servicer is missing out on the many effective options available for foreclosure avoidance – hurting not only themselves but also causing investor costs to rise. In what follows we examine borrower-servicer contact rates and the importance of early intervention for success in sustaining homeownership.

2.1 Borrower Contact

While contacting the financial institution that services your mortgage may seem a simple task to many, a 2005 ground breaking survey of delinquent Freddie Mac borrowers by Roper and Freddie Mac found many substantial barriers to this important communication.[7]

Specifically, the survey revealed that on the effectiveness of servicer outreach, 75 percent of the delinquent borrowers who responded to the survey said they remembered being contacted by their loan servicer by letter or phone. However, a substantial percentage gave a variety of reasons for neglecting to follow-up with their servicers to discuss workout options. Among them were: 28 percent who said there was no reason to talk to their servicers or that their servicers could not help them; 17 percent who said they could take care of their payment problems without any help; and 7 percent who said they didn't call because they didn't have enough money to make the payment. Another 6 percent cited embarrassment, 5 percent didn't respond out of fear and another 5 percent said they didn't know whom to call.

[7] Please see www.Freddiemac.com/news/archives/corporate/2005/20051212_ropersurvey.html (accessed November 7, 2007) for more information on the first Freddie Mac-Roper survey.

The survey also looked at what could be done to improve borrower outreach. On this, 61 percent of late-paying borrowers said they were unaware of the variety of workout options that could help them overcome short-term financial difficulties. Ninety-two percent said that they would have spoken with their loan servicers had they known these options were available to them.

A second survey was conducted by Roper and Freddie Mac in 2007 to see if the collective industry and media efforts to educate the public about foreclosure alternatives had been successful in increasing awareness.[8] The good news is that across the board improvements were noted, but 57 percent of late-paying borrowers still did not know that their lenders may offer alternatives to help them avoid foreclosure and 33 percent claimed there was no reason to call or there was nothing the servicer could do to help them. Among the 2007 survey respondents, 86 percent recalled their servicers having tried to reach them and 75 percent of respondents in turn reached out to their lenders.

Given the above results from the Roper-Freddie Mac Surveys, we decided to look at the reported contact information from Freddie Mac's electronic default reporting (EDR) data – by contact we mean that the servicer and the borrower had at least one reciprocal conversation regarding the loan delinquency.[9] While the contact field is not required, and thus is subject to underreporting of successful servicer contact with borrowers, the performance of borrowers and the corresponding contact rates are quite striking in Table 1. In data from September 2005 through August 2007, the Freddie Mac servicers reported a no-contact rate of 53.3% of the total number of loans that went to REO in Freddie Mac's portfolio. This represents a missed opportunity for over half of all borrowers that lost their home through foreclosure during that period to work together with their servicers and investors to try and avoid the loss of their home.

The contact rate is lower on the total delinquent loan population due to the significant cure rate out of the 30-day delinquency population without servicer intervention – many borrowers that miss one payment do so out of very temporary financial stress, a pending home sale, or forgetfulness, and thus can reinstate without servicer intervention. However, as the time in delinquency increases so does the hurdle the borrower has to overcome to reinstate the loan and the importance of calling the servicer.

---

[8] Please see http://www.freddiemac.com/news/archives/corporate/2008/20080131_07ropersurvey.html (accessed February 19, 2008) for more information on the 2007 Roper survey.

[9] The EDR is an automated process, whereby servicers send delinquency data to Freddie Mac for investor reporting purposes. Servicers are contractually required by investors to call or send letters to delinquent borrowers by a certain date following the onset of delinquency. Many servicers begin these activities before that date.

An encouraging trend appears to be emerging in the more recent data with rising contact rates across the board, although a longer observation period is necessary to determine if this trend is permanent. The mortgage industry has put forth a significant effort on borrower education and outreach, and coupled with the media attention on recent mortgage industry issues, this effort appears to have improved contacts rates in 2007 over the earlier period in our data, with contact rates on loans going to REO increasing slightly by 0.7 percentage points and contact rates on loans that cure out of foreclosure increasing by more than 25 percentage points.

From a foreclosure avoidance perspective, we find it distressing that over 50 percent of borrowers who lose their homes to foreclosure do so without ever speaking to a servicer – whether they do so out of despair, fear, or embarrassment as the Roper-Freddie Mac survey indicates for many no-contact borrowers or some other reason, the bottom line is that these borrowers lose out on any opportunity to try and keep their home, incur tremendous psychic and economic costs on their family and losses to servicers, investors, neighbors and their community.[10] We will discuss the costs of foreclosure in detail later in Section 3.

2.2 Early Intervention

Working with borrowers early in delinquency serves two benefits, creating a motivated and educated borrower to partner with and lowering delinquent arrearages, which offers more opportunities for a successful workout. Repayment plans are the most frequent workout chosen by Freddie Mac servicers, with over 37,000 completed in 2006. A repayment plan spreads the delinquent arrearage over a calculated period of time and is added to the current monthly payment. In a simple example, if the borrower has a monthly payment of $1000 and is one payment delinquent, the servicer can structure a repayment plan where a borrower pays $1200 per month for five months and becomes current at the end of that time. Because repayment plans are easy to implement, are easy to explain to the borrower and do not change any of the formal terms of the mortgage contract, they are often tried as the first step in the workout process.[11]

---

[10] What we do not know from the non-contact borrower population that lost their home through foreclosure is how many of these borrowers simply walked away from the property – perhaps because it was really an investment property and not owner-occupied or there was some element of fraud – and how many were true hardships on homeowner families.

[11] An important benefit of a repayment or forbearance plan is that they do not trigger any accounting losses by the investor that are not already recorded by the delinquency status of the loan. Any change to the mortgage contract such as through a loan modification changes the accounting treatment of the loan and can trigger an immediate loss in the investor's financial statements that may be larger than the actual realized losses over time.

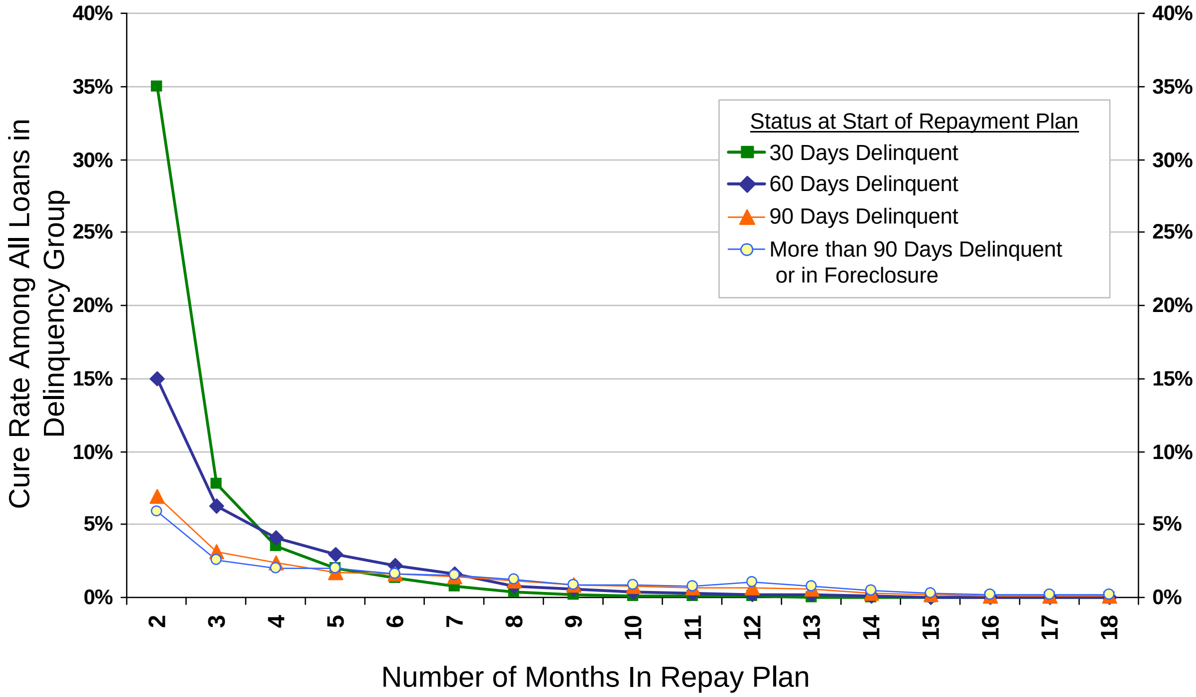
The success of repayment plans varies by the stage of delinquency when the plan starts and how long the plan is in place to reach the reinstatement. Repays with less arrearage and shorter timelines are much more likely to reinstate or payoff than those with higher arrearage and longer plans. The economics of the higher cure-rate among shorter repayment plans is that borrowers who have the capacity to make up the arrearage in a few payments likely have greater ability to weather a financial setback – those that require a longer timeline to get current, all else equal, are more likely to be at their financial limit and a more aggressive workout such as a loan modification is probably a better option.

Table 2 demonstrates the effectiveness of repayment plans based on the stage of delinquency at the start of the plan. Repayment plans that start when the borrower is 30-days delinquent and due for two payments (the missed payment and the current installment), are significantly more successful-than repayment plans that start when the borrower is 90-days or more delinquent and due for four or more payments. The cure rate among loans that are only 30 days delinquent is just under 60 percent, but that rate falls to less than 30 percent if they are 3 or more payments behind at the onset of the plan. Moreover, among repayment plans for borrowers with only one missed payment, the redefault rate (the share of loans that once again become delinquent by 30 days or more) is a little over 44 percent but it jumps to over 70 percent if they get to be 90-days-or-more late before starting the repayment plan.

We looked also at data on the length of time the repayment plan lasted and the cure rate among loans that started a repay plan at a certain level of delinquency. Most loans that will cure out of a repayment plan do so within the first six months, and repayment plans of three months or less are the most successful as shown in Figure 1. For all loans in a particular delinquency status at the start of the plan, we have plotted the marginal cure rate by when the plan ended.[12]

[12] E.g., the rate is the number of cured loans in that length of repay plan divided by all loans that entered a repayment plan at that level of delinquency – that is, the denominator is constant over time.

Figure 1: Cure Rate Of Loans in Repayment Plans by Length of Plan and Severity of Delinquency at Start of Plan



Source: Authors' estimations on a sample of Freddie Mac loans that entered repayment plans in 2000 to 2006 with performance measured through August 2007.

Among the nearly 56 percent of loans 30-days delinquent at the start of the plan that will ultimately cure, more than three-quarters of them have fully reinstated by month 3 and a little over half of 60-day delinquent loans in repayment plans that will cure do so in a three-month or shorter plan. Repayment plans are effective when used early in the delinquency and within reasonable timeframes. If the borrower is outside these parameters a loan modification may be a more effective long-term solution so we turn now to look at the success of loan modifications.

2.3 The Structure of Loan Modifications

Loan modifications are an effective tool for foreclosure avoidance in later stages of delinquency and are witnessing an increase in their usage during the current rising default environment. To illustrate the effect of loan modifications on a borrower's monthly payment obligation, imagine a borrower who is 36 months into his 30-year fixed-rate loan with monthly interest rate *r* and who has missed six principal and interest payments of amount *x* along with associated monthly escrows for taxes, *T*, and insurance, *I*. His total principal balance is given by P_{30} (he last made a payment in month 30) and his arrearages equal $6(x+T+I)+f_{legal}$ or $\sum_{t=31}^{36}(p_t+i_t+T+I)+f$, where f are any fees relating to legal fees or other associated costs, but not late fees or the cost of the loan modification and p_t+i_t are the principal and interest payments due in month *t*. A loan modification places the delinquent arrearage into the unpaid principal balance and re-amortizes the loan over the remaining term, making his new payment $x_{new}=\frac{r\left[P_{30}+\sum_{t=31}^{36}\left(p_t+i_t+T_t+I_t+f_{legal}\right)\right](1+r)^{(360-36)}}{(1+r)^{(360-36)}-1}$ based on the standard amortization function, and his payments will go up from what they originally were.[13] Investors may also extend the term past the original one, for example by extending the amortization from the remaining term to a new full term of 30-years or even to a 40-year term to lower the new monthly payment based on the borrower's financial capacity. Functionally, this becomes

$$x_{new40-yr}=\frac{r\left[P_{30}+\sum_{t=31}^{36}\left(p_t+i_t+T_t+I_t+f_{legal}\right)\right](1+r)^{(480)}}{(1+r)^{(480)}-1}.$$

If we suppose the loan principal was $150,000 originally, and the note rate was 7 percent annually (0.565% monthly), then at the point of delinquency his outstanding principal balance would be $145,982 and the six missed principal and interest payments would sum to $5,988 (the original *p+i* payments were $998 per month). Because tax and insurance escrows would be depleted by now, they will also have to be included in the arrearage amount. If we assume property taxes and insurance run at 3 percent of the original UPB annually, then roughly this amount ($4,500) would have to be added in to bring the escrow account current and increasing his total arrearage to $10,487. For simplicity we assume that there are no additional fees in this example. Under the first loan mod structure of adding arrearages and re-amortizing over the remaining term of 27 years (324 payments), his new *p+i* payment would be $1,100 per month. Under the longer amortization option of extending to a 40-year term, his new *p+i* payment would be $997 per month, approximately equal his original payment in our simplified example. The taxes and insurance portion of his monthly payment would remain the same at *T+I* regardless of the structure of the loan mod.

---

[13] A very good and short primer on the amortization function along with a simple calculator written by Bret Whissel is available at http://ray.met.fsu.edu/cgi-bin/amortize (accessed November 20, 2007)

There is also the option to lower the note rate depending on the reason for the default, the security agreement if the loan is securitized, and the borrower's cash flow situation and future income potential. Many people are surprised to learn that loan modifications usually increase the borrower's payments unless specifically structured to lower the payment, however, as our example showed, even with the large arrearage that accrued, the loan mod resulted in a more modest payment than the borrower would make under a repayment plan (for example, a 12 month repayment plan would have added $874 per month to his payment for a year, nearly double his original $p+i$ payment).

2.4 The Other Costs of A Loan Modification

When an investor lowers the note rate below the original coupon rate or changes other terms of the mortgage contract, the investor incurs a troubled debt restructuring (TDR) loss that it must record as an immediate accounting loss when the loan is modified due to the decreased interest stream.[14] But even if the investor does not lower the note rate, the investor takes on an economic loss on its use of capital. One component of the economic loss is using the original prime interest rate to modify a borrower with delinquent credit history inclusive of the ongoing default (i.e., a subprime credit borrower), when this capital could be used to fund a new prime, and presumably performing, loan. A second component is the present value of sustaining the loan versus foreclosing. This consists of the collateral value of the property plus any proceeds from credit enhancements (such as borrower-paid mortgage insurance (MI) or investor-paid pool MI) minus the loss on the loan. In some cases the investor may be made whole if the loan goes to REO but may suffer an expected economic loss from completing the loan modification. Thus, while properly structured home-retention workout options may result in the borrower keeping their home, they usually result in a loss for the investor through the subsidy for a subprime borrower at a prime (or lower) rate and other real and opportunity costs, and sometimes these losses are greater than the loss they would take if the investor forced the foreclosure.

[14] If you look at the Annual Report for Freddie Mac (2007) or any other mortgage investor, you will find a line item for TDRs from the execution of loan modifications. The Statement of Financial Accounting Standards No. 15 (FASB 15) is the accounting rule that governs the loss calculations from loan modifications in financial statements.

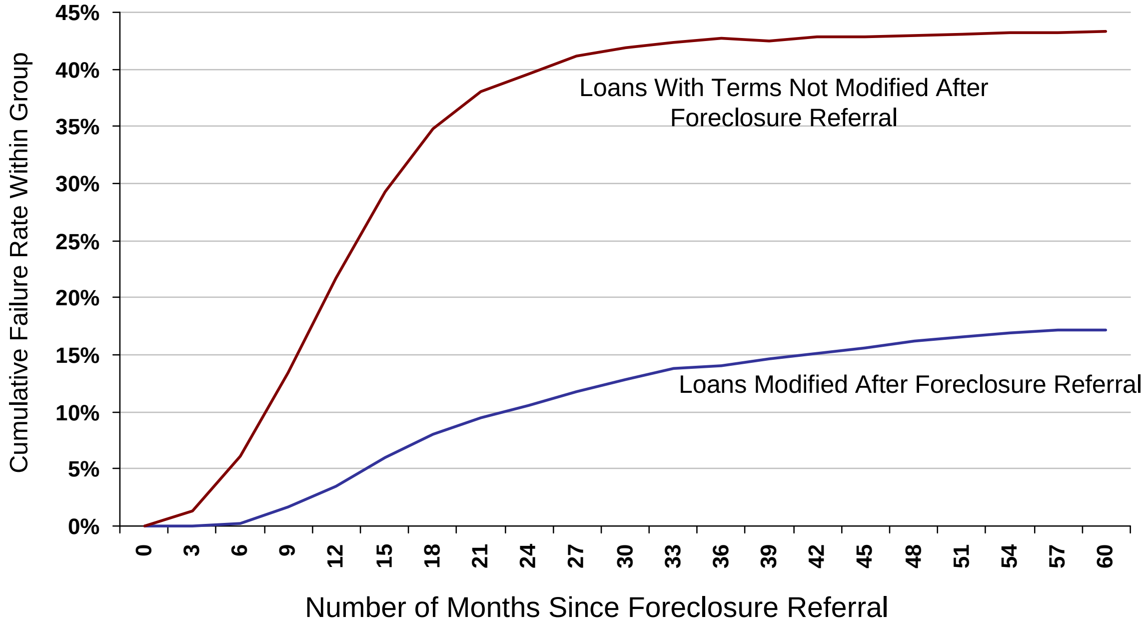
2.5 Performance of Modified Loans

We looked at the performance of Freddie Mac's portfolio of modified loans and found a high degree of successful outcomes, as measured by low failure rates. Between 1995 and 2000, Freddie Mac completed 15,834 loan modifications, of which just 20 percent ended up failing (foreclosure sale, short sale, or deed-in-lieu) after twenty quarters of observation. More recently, Freddie Mac loan modifications have been performing better than those prior to 2001 due to high home price appreciation and very low interest rates since 2003, and the 2006 book of loan modifications is the best yet, driven, in part, by high volumes of well-performing Hurricane Katrina loan modifications. However, deteriorating housing market conditions in many areas of the country could erode these successes going forward.

Figure 2 shows the performance of loans that were referred to foreclosure (that is, the legal process of foreclosure was started) between 2001 and 2006 and their subsequent performance by whether the loan was modified after the referral. We found a dramatic difference between the fail rates of those loans that received a modification (cumulatively 17 percent by the end of 60 months) and those that did not (failing at a rate of more than 43 percent over 5 years). Given the statistics on non-contact of borrowers above it is reasonable to assume that more than half of these borrowers did not receive the option of a loan modification because they did not talk to their servicer.

Fail rates among modified loans peak at around 2 years with additional failures beyond that time occurring less and less frequently – this can be seen in Figure 2 as the steepness of the curves lessens after 24 months. Diligent interaction between the servicer, the investor and the borrower during the early part of the loan modification, employing preventive measures, counseling and outreach can greatly reduce the reduce the probability of re-default. Cutts and Green (2005) also found that borrowers who had previously had a loan modification but were again in default were significantly less likely to fail than those who had not previously been through a loan modification, perhaps due to the borrower's willingness to work with the servicers to reach a positive resolution.

Figure 2: Average Cumulative Incidence of Failure Among Loans In Foreclosure by Whether Loan Was Modified After Foreclosure Referral



Source: Author's estimations based on a sample of Freddie Mac loans referred to foreclosure in 2001-2006 and performance measured through June 2007. Failure means home loss through FCL sale, deed-in-lieu transfer, and short sale.

With a 5-year performance success rate of close to 80%, loan modifications are a successful tool for foreclosure avoidance. This success rate varies by the amount of arrearage capitalized into the loan modification, with a direct relationship between the lower the arrearage the lower the failure rate. The cost and complexity of a loan modification, such as state recording fees on large arrearage, notary signatures, income and expense documentation, mailing costs, and potential tax consequences create significant barriers to an otherwise good option for borrowers that do not qualify for repayment plans or who would have payment terms too burdensome under a repayment plan to be feasible. As a matter of public policy, investors, government officials, and consumer groups may find value in re-visiting the accounting, federal, state and local laws affecting loan modifications for ways to make them more affordable for investors and borrowers and to look for potential incentives to offset the economic cost of capital from a modification for investors such as credit on HUD Affordable Housing Goals or Federal

Community Reinvestment Act goals. Such actions could help clear the way for more loan modifications and greater success in sustaining homeownership.

Increasing delinquency volume, coupled with intense media and consumer advocate positioning on increasing loan modifications will increase the pressure on investors and servicers to reduce the underwriting standards on loan modifications. The tradeoff of doing so is an increase in the recidivism rate, a likely increase in the failure rate among modified loans and higher losses for all parties involved. For example, Freddie Mac guidelines have traditionally looked for a 20 percent free cash flow buffer (after expenses) when underwriting a borrower for a loan modification. This income cushion helps with unexpected expenses and positions the borrower for a greater level of success on the loan modification – more modifications could be done if this limit is lowered to 19 percent or 15 percent, but each step down adds to the risk of failure. But the plethora of new mortgage products pushing borrowers into distress and the risk of adding new REO inventories into markets with falling home values may tip the balance towards different thresholds in the hopes of lowering overall credit losses. Each investor needs to study this in their portfolios over time and monitor ongoing performance to determine the best policies for executing loan workouts, and as a society we have to accept that none of the answers are easy or obvious.

In the next section we explore the role of default counseling on increasing borrower contact rates and on reducing recidivism rates among severely delinquent borrowers.

3. Impact of Default Counseling

While origination counseling has been around for several years, with the main purpose of working with borrowers to qualify them for the financing of a home purchase, default counseling is relatively new. Pre-origination homebuyer counseling has been shown to be an effective way to help ensure that first-time homebuyers remain long-term homeowners, particularly when the counseling is done either in one-on-one or classroom settings, with limited success from telephone or other non-interactive settings (see Hirad and Zorn, 2002). However, there are limitations on its long term effectiveness in assisting borrowers who enter delinquency, perhaps due to the time lapse or lack of focused counseling on workout options or how to handle with financial distress. Libman, et al., (2007) found that, “Even among those who received pre-purchase counseling and education from well established NeighborWorks Organizations

(NWOs) there is little awareness about the post-purchase services or foreclosure intervention assistance that are available."

Default counseling is a rapidly growing opportunity to help borrowers with their delinquency and assist them generally through financial hardship. A study by Collins (2007a) sponsored by the Homeownership Preservation Initiative (HOPI) found that nearly one in three default counselors had seen their volume double between May and October 2007. In the 2005 Freddie Mac-Roper Delinquent Borrower Survey discussed earlier many borrowers reported that they felt no need to contact their servicer, that there was nothing they (the servicer) could do, or that they (the borrower) could take care of the situation themselves. But the survey also revealed that 74% of the delinquent borrowers would be likely to talk to a counseling agency if that option was available. Similarly, the Collins/HOPI study found, "...counselors report many borrowers fail to seek help or communicate with their lender when alternatives to foreclosure are appropriate, largely due to borrower's high level of stress and anxiety."

These studies demonstrate the obstacles for reciprocal contact between servicers and borrowers and a possible solution to improve the contact rate – default counseling. Using a trusted, reputable, and experienced non-profit default counselor enables servicers to increase their contact rate and creates a new source for workout activity. For the borrower that uses a trusted third party intermediary to discuss holistic debt management, with the secured debt the focus, this provides an opportunity to not only reinstate their mortgage but also manage their other financial problems including other credit delinquencies over the long term.

3.1 The CCCS-Freddie Mac Default Counseling Program Pilot

In cooperation with its two counseling partners CCCS of San Francisco and CCCS of Atlanta, Freddie Mac recently published best practices for default counseling including the concept that "first contact is the best contact" with the focus on seeking all reasons leading to the default, discussing all debts at once with a focus on the mortgage and reduction in consumer debt, educating the borrower on all options, and building a solid communication process with servicers all in the first contact with the borrower.[15]

[15] The full document can be found at http://www.freddiemac.com/learn/counselor/pdfs/bp_hc.pdf. (accessed November 20, 2007)

Freddie Mac began its counseling efforts in 2005 with small pilots to gauge the effectiveness of default counseling and to work through the operational process across four business partners: the investor, the servicer, the counseling agency, and the borrower. The main operational goals to monitor were contact rate with the borrower, the cure rate (payoff or reinstate the loan), and the re-default/recidivism rate of closed workouts after a counseling session. The initial target solicitations were borrowers meeting the HUD affordable goals who were 45 days delinquent and who had not contacted with their servicer regarding their delinquency. Servicers removed any borrowers from the pilot who declared bankruptcy, voluntarily and independently reinstated, or who recently contacted the servicer from the counseling solicitation list. The primary purpose of this screening was to minimize any confusion to the borrower should contact come from multiple organizations. This provided a focus on helping no-contact affordable borrowers and on lifting borrower contact rates.

Given the strong difference in results suggested by the Hirad and Zorn (2002) study on pre-purchase homeownership counseling – that in-person counseling was far superior to non-interactive telephone, internet, etc. means – Freddie Mac tested this hypothesis again during the pilot phase using phone counseling versus face-to-face counseling. After reviewing preliminary results of the face-to-face counseling efforts, Freddie Mac decided to cease the in-person approach and focus entirely on phone counseling for delinquent borrowers. This decision was driven by the inability of face-to-face counseling to support a wide geographic area, a high rate of appointment cancellations by borrowers (reportedly approaching 50%), lower volume capacity of local ground-based counselors versus national call-center counseling groups, and the reduced benefit to the investor through fewer delinquency resolutions given the additional cost to support the in-person counseling group. Due to the positive results of the phone-counseling pilot, this pilot has expanded to an operational baseline program where Freddie Mac continues to add new servicers and increase the number of loans processed in its successful partnership with CCCS of San Francisco and CCCS of Atlanta.

Other studies corroborate the Freddie Mac findings. Collins (2007b) found in a small sample of borrowers in mortgage default that face-to-face counseling was more effective than telephone counseling, but that this difference largely went away when time in counseling was considered. Specifically, he found that, “Each additional hour of counseling reduces the marginal probability of a borrower moving to a more severe stage of foreclosure.” Ding, Quercia and

Ratcliffe (forthcoming), found significant benefit from delinquency counseling on failure rates; in particular, "... well-timed, situation appropriate counseling, even over the phone, effectively increases the curing probability of delinquent borrowers." And Cowan, Quercia and Moreno (2004) find, "With regard to the rate of recidivism, about one quarter of borrowers who avoided foreclosure reported being delinquent again 12 months after program intervention, and about one third were delinquent again after 36 months. Households that did not receive an assistance loan as part of the intervention had a higher incidence of recidivism over time, about 45 percent."

3.2 The Structure of Successful Default Counseling Programs

Not all efforts were successful during the pilot phase of Freddie Mac's CCCS initiative. In piloting methods for communication to reach borrowers who previously had no contact with their servicers despite the servicer's diligent efforts, Freddie Mac used; direct mail with educational brochures, Freddie Mac logos and letterhead, and overnight packages with pre-paid return envelopes. However none of these had a material benefit on the contact rate. Significant outbound phone calling by the counselors to the borrowers coupled with a friendly bi-lingual brochure mailed to the borrower proved to be the most effective method by far for improving contact rates in this effort.

Freddie Mac also found that when contracting with counseling groups, it is more effective to contract directly with the counselors and not with aggregating or oversight groups. The additional relationship layer and funding needed by the additional overhead group added to operational and cost issues during the pilot phase, but did little to improve overall effectiveness. In working on the legal contracts, structuring incentives based on performance has initially been effective. This is where the investor pays the counseling group based on borrowers that cure after counselor contact and on workouts produced from counseling sessions. Structuring compensation based on results-based performance provides an incentive alignment of mutual benefit and motivation to both parties versus one that pays solely for telephone contact regardless of outcome.

In 2006, partnering with CCCS of San Francisco, an educational website was added as an additional contact method for borrowers with the philosophy that a website is available at any time and borrowers can maintain anonymity while educating themselves on workout options. The site has seen mixed success with few borrower contacts made, but reasonable use of the education pages and forms among page site visitors.   In industry discussion with our servicing partners, the anonymity of an educational website draws borrowers late in the evening and ones that have not yet become delinquent, but believe they will (for example, pending loss of a job). These borrower behaviors suggest that getting to borrowers before delinquency with educational material and a clear discussion of their options may help increase foreclosure avoidance in the future.

3.3 Performance of Default Counselors and Counseled Borrowers

Since the inception of the program, in the spring of 2005, Freddie Mac has mailed 44,266 solicitations to its delinquent borrowers. From these mailings and the counselors' outbound calls to the borrowers, the counselors have contacted 11,693 borrowers, creating a contact rate among borrowers that had not previous talked to their servicers of 26.4% of the solicitations.

The counselors are effective at working with borrowers to resolve the situation either through a counseling session on personal finances or simply having a short conversation to provide motivation for the borrower to self-cure. Of the 11,693 borrowers contacted, 6,099 cured either through reinstating the loan or by paying it off and an additional 282 applied for a workout, indicating a 54.5% borrower contact-to cure rate. The remaining borrowers are either still in a delinquent status or have lost the home to through a foreclosure sale.

The final benchmark is the longer term effectiveness of a counseling session completed through the counseling agency, with the premise that the financial counseling session and the financial documentation process increases the borrower's ability to resolve future financially stressful situations on their own or even avoid them all together through prudent expense management. Using workouts on the 6,099 foreclosure avoidances as a basis, 18.67 percent of this population went 60 days delinquent after reinstating through the counseling program. Reviewing the recidivism rate over a similar period of time on workouts for borrowers qualifying as affordable under HUD goals and not receiving counseling the rate is 25 percent. Since neither populations have reached the peak re-default rate of approximately three years, the recidivism rate of both populations will need further scrutiny over time, however the initial results show workout success of 6.33 percentage points better for borrowers receiving default counseling from a reputable and qualified non-profit counselor versus those who do not receive counseling.

Well trained and structured default counseling appears to be providing a solid benefit to customers who are unable or unwilling to talk their servicer in the initial stages of their delinquency. To continued building the on the success of the initial default counseling programs, the next phases of default counseling should proceed down five efforts: 1) continue to train and build a larger population of qualified default counselors; 2) build better technology to track data, increase efficient communication with servicers and investors, assist counselors with financial analysis, and eventually allow counselors to do workouts themselves; 3) strengthen the relationship between local housing authorities, servicers, and reputable non-profits; 4) create a workout that is structured with counseling; and 5) examine the possibility of building workout options directly into the mortgage contract that do not create a moral hazard problem. Training new counselors is already underway – Freddie Mac's new free training course on default counseling is very popular, filling a key void with this important education. The industry also needs to consider the possibility that the best long-term solution may reside at origination: as loans are originated, providing default counseling upfront, educating borrowers on workout options, and gathering borrower contact data, such as cell phone numbers and email addresses, as part of the loan documentation and closing process enables homeownership preservation to be part of where it is the most successful – early in the process.

Next we look at current trends in mortgage default – especially those among subprime and Alt-A loans that have been the cause of the 2007 mortgage credit crisis.

4. A Shifting Paradigm in Loan Performance

For many years, the subprime sector was a minor part of the overall mortgage market with a focus on serving credit-blemished borrowers in need of refinancing. In 2001, subprime loans made up 5.5 percent of the dollars of new single-family loans originated in that year according to Inside Mortgage Finance (2007), and Alt-A loans were 2.4 percent. In 2006, they reported that Subprime originations accounted for 20.1 percent of the single-family mortgage market and Alt-A loans made up another 13.3 percent. These figures are not consistent with the "niche" market definitions most people associate with these segments, and, as we will explore in this section, the rapid growth in this segment has radically changed the performance of the market overall.

One of the most persistent questions among people who study mortgage market trends is, "What defines subprime?" Unfortunately, there is no simple, clinical definition. Generally, it is taken to be either a loan to a borrower with a blemished credit history such as FICO credit score below 620, perhaps in conjunction with past mortgage delinquencies, or a loan made by a lender who specializes in loans to such borrowers. A third definition uses the interest rate as the determining factor – any loan above a certain threshold is deemed to be subprime.[16]

Alt-A loans are generally thought of as loans made to prime credit quality borrowers but that these loans carry other risks that make them nearly, but not quite, prime. For example, the loans product may be riskier, such as the negatively amortizing option-payment adjustable-rate mortgage (ARM) loans, or loans without full income or asset verification, but the borrower may have a FICO score of over 700.

4.1 Performance by Market Segment

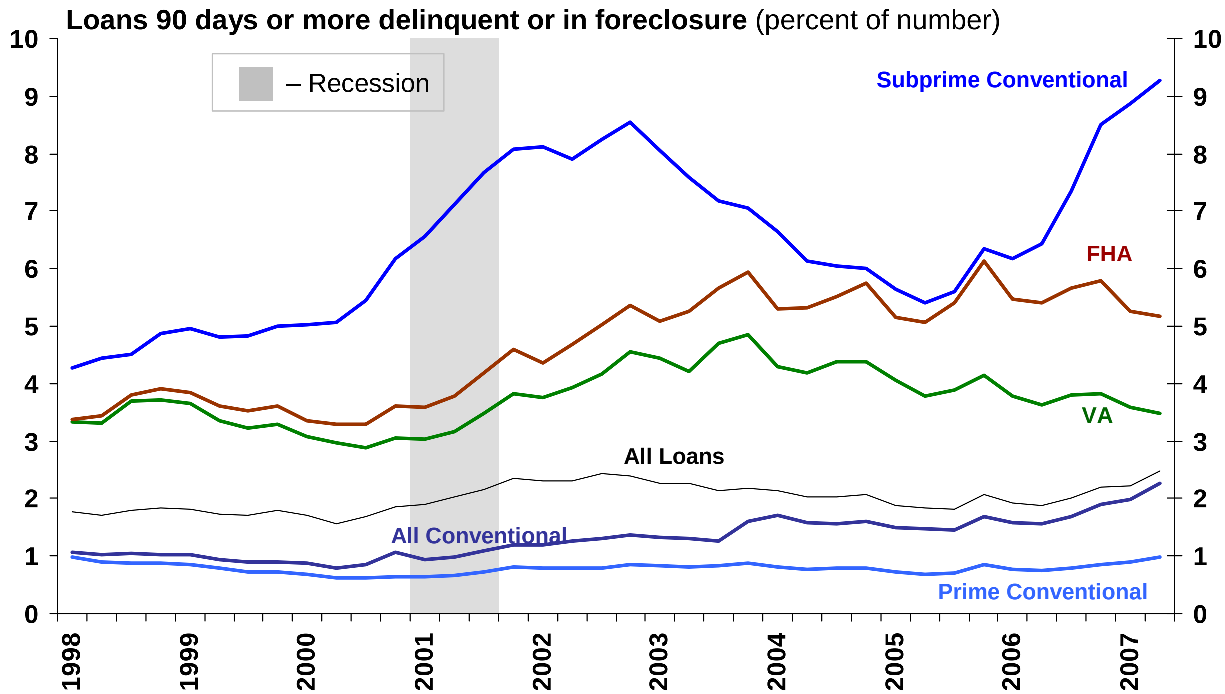
Using data from the Mortgage Bankers Association's *National Delinquency Survey*, Figure 3 shows the widening gap in performance between prime conventional mortgages and subprime loans. When subprime loans first hit a peak in serious delinquency rates in 2003, they were a much smaller part of the overall market, roughly 4 percent of loans outstanding, and their influence on overall loan performance was negligible. But currently, these loans make up 9 percent of loans serviced by MBA reporting member institutions. The rapid rise in subprime default rates is alarming when weighted by their share of the market. The question then arises, "Why?"

In recent years, both in Alt-A and in the subprime segments, a large share of loans were originated that had little or no income and asset documentation – known as SISAs for "stated-income, stated-asset" and NINAs for "no-income, no asset" verification in the underwriting process. In Table 3, based on data from First American LoanPerformance, the share of loans with limited or no income or asset documentation the subprime segment is shown to have grown from less than 30 percent in 2001 to over 50 percent by 2006 while in the Alt-A segment these loans increased to over 80 percent. NINAs and SISAs in particular are very hard to qualify for home-retention workouts such as loan modifications, assuming that the borrower wants to work to keep the home, because in many of the cases of loans in default the borrower's actual income cannot support the mortgage debt, even with significant reductions in the interest rate and

[16] See for example, the Home Mortgage Disclosure Act (HMDA) data distributed by the Federal Financial Institutions Examination Council which uses the interest rate relative to an average underlying index to determine which loans can be deemed as high cost or subprime loans. Prior to the 2005 release, the only way to identify a subprime loan in the HMDA data was to merge a file created by researchers at HUD and the Fed that could be used with the HMDA data to flag loans made by subprime lending institutions.

increasing the loan term by 10 years or more. In extreme cases, even an interest rate of zero is insufficient to make the loan affordable to the borrower.

Figure 3: Serious Delinquency Rates by Mortgage Market Segment – 1980-2007Q2

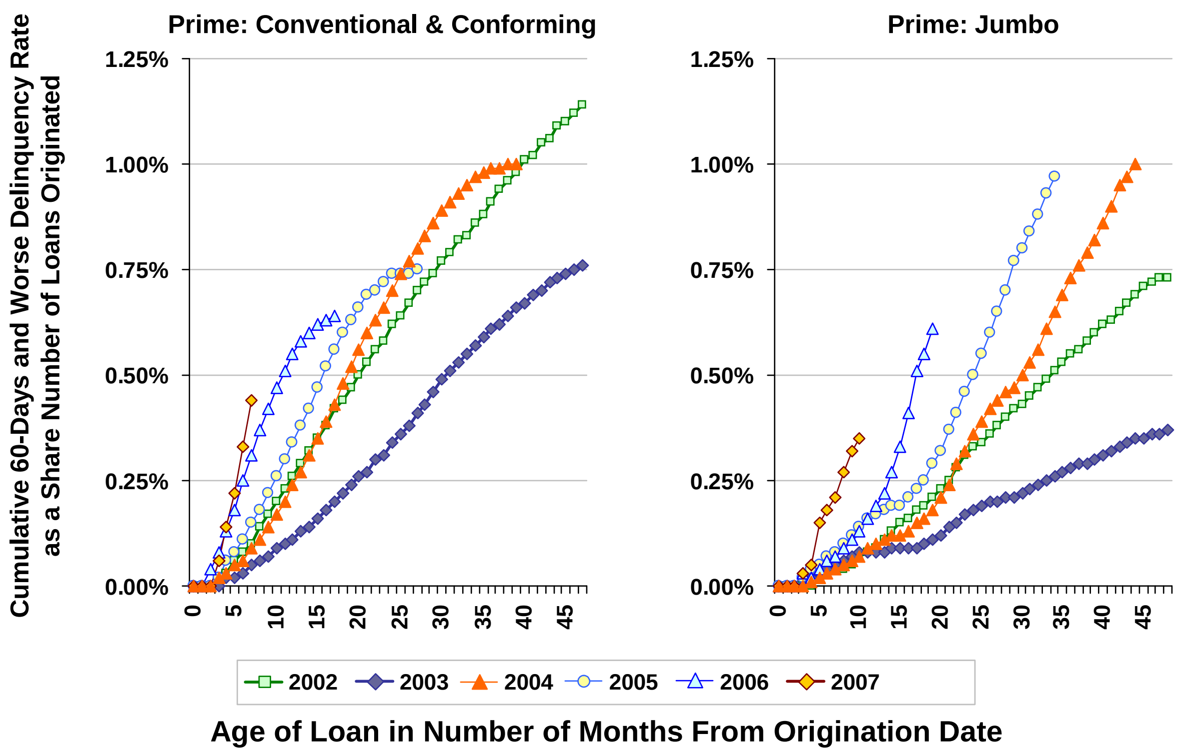


Source: Mortgage Bankers Association; Single-family first-lien mortgages only

4.2 Cohort Trend Analysis

From Figure 3 we know that different market segments exhibit very different default patterns. These trends in the aggregate mask the effects of underwriting cohorts shown in Table 3, which vary greatly from the aggregate patterns. In Figures 4A through 4C we show the cohort trends for cumulative ever-60-days delinquent rates and REO rates based on data from First American LoanPerformance for origination years 2002 through August 2007. Prime conventional, conforming loans and prime jumbo loans both show low delinquency rates (Figure 4A), topping out below 1.25 percent over a 48-month period. Loans originated in 2002 came after the 2001 recession, but the loss of jobs continued throughout 2002 even with economic recovery and this weakness lead to higher cumulative default rates than among loans originated in 2003, which were underwritten with 45-year lows in interest rates and a strong economy, leading to superior performance at each month of seasoning. Loans originated in 2007 show the worst performance, undermined by falling home prices, a weakening economy, and loosened (though not excessively so) underwriting standards in the prime market segment.

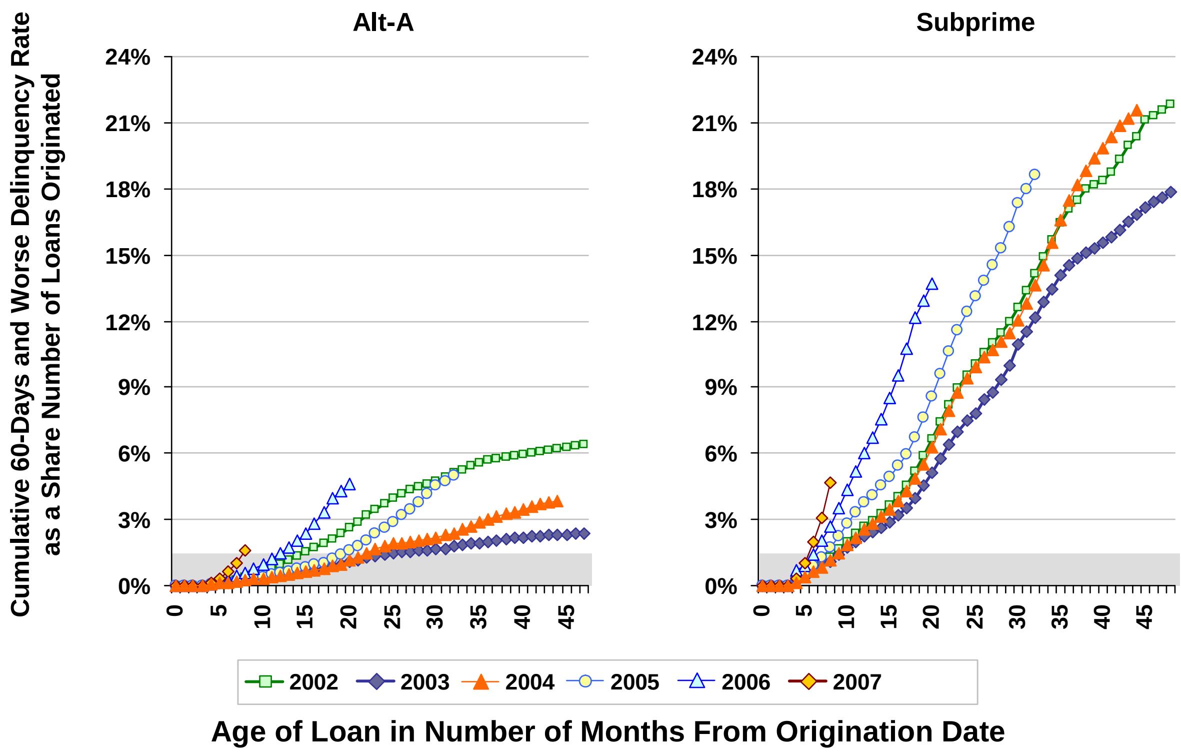
Figure 4A: Cumulative Incidence of 60-Days and Worse Delinquency Among Prime First-Lien Mortgage Loans by Origination Year



Source: Author's estimations based on First American LoanPerformance True Standings Prime Servicing and MBS Securities Databases.

This pattern is repeated in the Alt-A and subprime charts in Figure 4B, however the Alt-A rates in the left panel top out at just under 6.5 percent for the 2002 book year at 48 months of aging and the subprime loans in the right panel have a current maximum ever-60-days delinquent rate of around 22 percent – for reference we have shaded in the range of prime loan delinquency rates from Figure 4A in the non-prime charts. Like the prime segment, the non-prime segments in Figures 4B show that more recent vintages have significantly worse performance, which is particularly troubling due to much higher overall share of loans serviced now in the Alt-A and subprime segments relative to the shares serviced in 2002 and 2003 and the high share of these Alt-A and subprime loans that are relatively new loans, originated in the past two years.

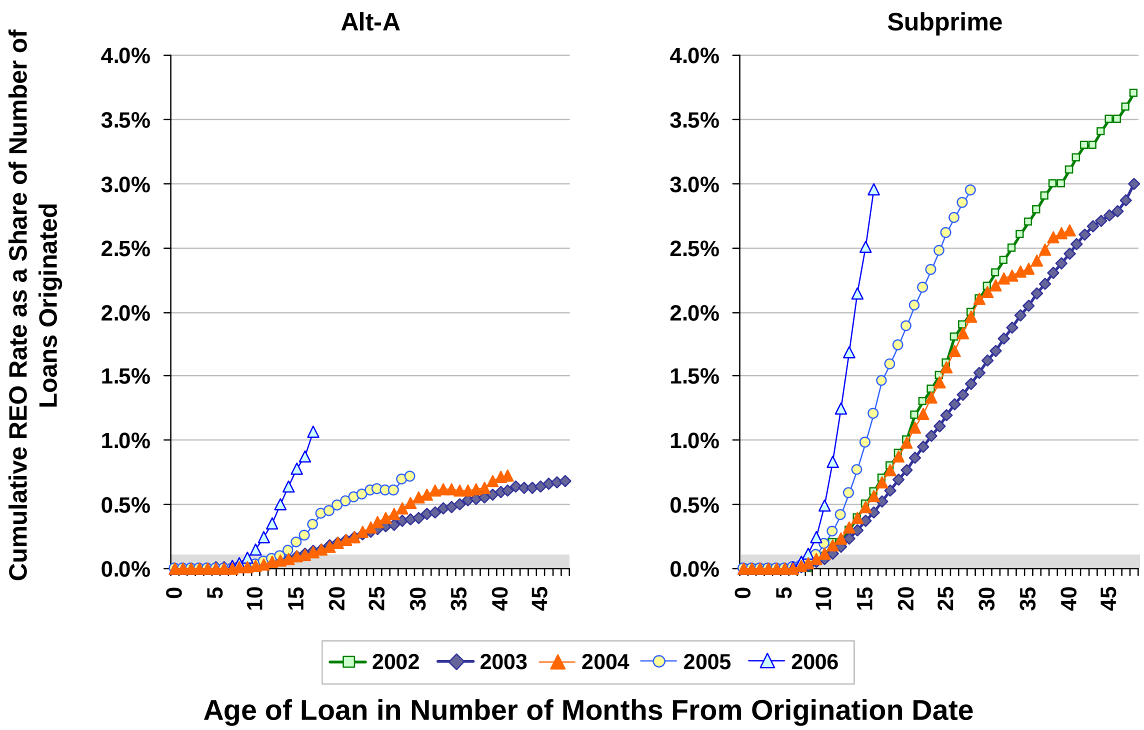
Figure 4B: Cumulative Incidence of 60-Days and Worse Delinquency Among *Non*-Prime First-Lien Mortgage Loans by Origination Year



Source: Author's estimations based on First American LoanPerformance ABS Securities Database. Shaded area represents the range of default rates for Prime Loans as shown in Figure 3A.

Further examination of the First American LoanPerformance data in Figure 4C reveals an REO rate among subprime loans of 3.0 percent compared to a cumulative ever-60-day delinquent rate of 9.6 percent among subprime loans (Figure 4B) originated in 2006 and observed at 16 months of seasoning (the limit of our data at present) – that is, nearly a third of all borrowers who had missed three or more payments within the first 16 months of their loan term had already lost their home to foreclosure or deed-in-lieu transfer over that same time frame. This is a much higher transition-to-REO rate than we saw in the 2002 book year, where, at 16 months, the ever-60-day delinquent rate was 4.1 percent (Figure 4B) with a cumulative REO rate at that point of 0.6 percent, or 15 percent of the delinquency share (Figure 4C).

Figure 4C: Cumulative Incidence of REO Among *Non*-Prime First-Lien Mortgage Loans by Origination Year



Source: Author's estimations based on First American LoanPerformance ABS Securities Database. Shaded area represents the estimated range of REO rates for Prime Loans based on REO transition rates from 60-day Delinquencies in Cutts and Green (2005) and the 60-day delinquency rates in Figure 4A.

Unfortunately, the way the First American LoanPerformance Servicing data are currently set up, this same cohort analysis is not possible on prime loans.[17] However, using the transition rates from 60-days delinquent to REO reported in Cutts and Green, we estimated the worst-case scenario for the prime segment based on Figure 4A delinquency states. The result of that estimation is captured in the charts by the grey bands at the bottom of the charts in Figure 4C.

Combining the higher transition rates into REO from delinquency, the higher delinquency rates among the 2006 and 2007 loan cohorts and the higher shares of loans serviced among the non-prime segments, a concerning pattern of transitions to REO emerges that is much worse than any of the past 5 years. The concern is that the number of REOs entering the nation's housing stock will continue to rise well into 2008 and 2009 and put further downward pressure on house prices already stressed by rising inventories of new and existing homes for sale as investors struggle to contain rising disposition times and credit losses.

[17] First American LoanPerformance is working on making this possible and it should be available soon.

In the next section we examine why borrowers get into trouble and what happens when loans can't be saved and they go on to foreclosure.

5. Default Options and Triggers

As discussed earlier, negative equity alone rarely causes default because the borrower also enjoys a stream of "dividend"-like payments in the form of shelter services in addition to the potential for capital gains that they give up if they exercise the put option in the mortgage contract. A negative economic shock affecting the borrower's capacity to pay the mortgage when there is positive equity is rarely sufficient to cause default severe enough to lead to foreclosure because if there is sufficient equity in the home the borrower will simply sell the home. Thus, the investor in the mortgage debt will only see a default option exercised when the investor is well out of the money on the deal.

But what causes the economic shock? Are all shocks the same with respect to the borrower's likelihood of home loss?

Generally, local economic conditions and changes in underwriting standards over time affect the performance of loans as they age. More restrictive underwriting standards will diminish and delay the incidence of delinquency, while downturns in the local economy will slow home sales and depress prices, increase unemployment, and thus increase the incidence and move up the timing of delinquency relative to stronger economic conditions. Falling mortgage rates will lead to faster prepayments, and drive down delinquency rates as borrowers refinance their way out of potential problems. Rising interest rates increase delinquency rates by causing payment shocks at the reset date for adjustable-rate mortgages and reduce the ability of borrowers to afford a fixed-rate refinance. Tightened underwriting standards, such as in current environment, also limit a borrower's ability to refinance out of financial stress or delinquency.

According to Freddie Mac data, the reasons why prime credit borrowers get into serious mortgage delinquency are primarily due to income shocks, but also result from excessive obligations and health-related problems. What has not been explored in the literature are any differences in the likelihood of home loss, or home retention, depending on the trigger event. In Table 4 we examined a sample of Freddie Mac loans that went delinquent between 2001 and 2006 and were underwritten for a workout using Freddie Mac's Workout Prospector® system, and among borrowers that were approved for a loan modification, we recorded the incidence of subsequent home loss given the primary reason cited by the borrower for their mortgage problem.

While income loss is the primary reason for mortgage delinquency at 41.8 percent for delinquent borrowers with Freddie Mac loans underwritten for a workout, the incidence of home loss after a loan modification was executed among borrowers citing this reason is the third highest at 18.5 percent. But, not all income loss is the same. Job loss is harder to overcome than business failure, which may be due in part to a longer lead time (the business owner knows his or her business is failing long before the doors are shut) or networks (the business owner may be able to find employment with a prior client), and than curtailment of income (which may be a cut-back in hours or salary or loss of secondary job) since the borrower still has income to negotiate a workout with.

Borrowers who cite marital difficulties as the primary reason for the delinquency lose the home to foreclosure at a rate of nearly 22 percent – the highest fail rate among major delinquency causes. This is due to both the financial stress of divorce and, often, the unwillingness of the borrower and co-borrower to cooperate with the lender, as that would require cooperation with one another, a rare event during divorce proceedings. Although extreme financial hardships not related to a drop in income are fodder for newspaper stories on foreclosure (the “too much debt” stories), these borrowers have a relatively low fail rate of 14.4 percent in this sample.

Borrowers with multiple delinquent debts can be thoughtful about cash flow and the implications of paying debt late. For example, a borrower may choose to pay a HELOC loan first knowing the credit line would be shut down if they were delinquent versus their first mortgage that could take more than a year in foreclosure. Based on the lower loss-of-home rate on excessive debt obligations shown in Table 4, it appears these borrowers have a greater propensity to resolve the situation than a borrower experiencing a negative (and possibility unexpected) impact to their income capacity. Through the work of servicers to restructure debt payments, many of these borrowers can be saved provided they have the income capacity and willingness to carry new payments. However, borrowers attempting to avoid foreclosure by themselves (self cure) is becoming more difficult in this economic environment due to recent vintage loans having a higher incidence of negative equity (making it hard for homeowners to sell the property or refinance) and the large inventory of homes for sale (increasing competition and lengthening sale times). These two factors reduce the borrower's ability to resolve the delinquency on their own and increase the reliance on workouts from a servicer.

6. The Foreclosure Process and the Costs of Foreclosure to Investors

Emphasis on loss mitigation efforts began in earnest in the mid and late 1990s, driven in part by the development of automated underwriting systems and default models that could be used to underwrite workout options for delinquent borrowers based on their current financial situation. As described in Cutts and Green (2005), these tools allowed servicers to identify borrowers most at risk of worsening delinquency and which ones have the financial capacity to handle a loan workout.

The servicer is acting as an agent for the investor institution that provided the funding for that loan – it may be the bank that originated the loan or a subsequent investor who purchased the loan from the bank on the secondary market, and the servicer may be the same institution as the originating bank or they may have acquired the servicing rights through purchase from another servicer. The investor makes the greatest profit from a loan when it is paid as agreed according to the loan terms, and servicers make the greatest profit by minimizing costs against servicing fee revenue, maximizing efficiencies (often through scale), and accurate adherence to investor guidelines. Most borrowers mistakenly assume that the servicer is the investor behind their loan since it is only the servicer that has a direct relationship with the borrower. Sale of the mortgage loan to subsequent investors on the secondary market is not disclosed to the borrower unless the loan is being referred to foreclosure or the borrower makes a direct inquiry to the servicer.

As outlined in Cutts and Green, default occurs whenever any term of the mortgage contract is violated, but the term is most often associated with non-payment. Most investors offer servicers financial and reputation (peer recognition) incentives or apply penalties to align their interests with the investor's, which means minimizing the incidence of foreclosure – that is, negotiating a workout plan to keep the borrower in their home conditional on the borrower's willingness and capacity to reinstate the loan, or completing a foreclosure alternative such as a short sale or deed-in-lieu transfer.[18] For example, some of the incentives Freddie Mac pays

[18] A deed-in-lieu transfer occurs when the borrower voluntarily gives the home to the investor in exchange for the debt obligation. A short sale occurs when the investor agrees to take proceeds from the sale of the home in exchange for the debt obligation even though the principal amount due exceeds the sale proceeds. See USFN (2007) for an overview of state foreclosure processes (also see Appendix Table A1), and Freddie Mac, Fannie Mae, Federal

servicers include $250 for each successful repayment plan completed, $400 for each approved loan modification executed, $275 for each deed-in-lieu of foreclosure negotiated (borrowers may also receive "cash-for-keys" payments to help with moving expenses) and $1,100 for each short-sale executed.[19] Fannie Mae offers servicers $500 for each deed-in-lieu transfer and each loan modification and as much as $1250 for each short sale.[20]

In addition to the workout incentives for servicers, Freddie Mac monitors servicer performance through its Performance Profiles with the greatest weighting on 1) the number of workouts closed versus the number of loans that proceed to REO and 2) the diligent management of foreclosure timelines per state law.[21] High performing servicers are recognized on an annual basis in mortgage trade magazines by Freddie Mac and are given additional financial compensation. In addition, servicers can be monetarily penalized for failure to report default data, out of standard foreclosure timelines, reducing credit enhancement recoveries, and ultimately face repurchase of the loan for non-prudent servicing of the loan.

Because of the structure of the loan servicing market, servicers do not compete on price per se but rather on service and scale economies.[22] For this reason, the widespread sharing of best practices is common. Moreover, because of the close monitoring of servicer performance by Freddie Mac, Fannie Mae and the FHA, differences in good servicer practices are quickly identified and adopted by the secondary market investors, thus effectively sharing these practices across the industry. One of many examples of this was the purchase by Freddie Mac in 1996 of the collections scoring tool called Strategy, developed by Jim Carroll and Associates and already in use by Wells Fargo in their servicing operations. Freddie Mac and the Mortgage Guarantee Insurance Corp. subsequently jointly developed the Early Indicator® (EI) tool using Strategy and

---

Housing Administration and Veterans Administration policies regarding foreclosure execution, foreclosure alternative procedures and other policies on the servicing of delinquent loans.

[19] See http://www.freddiemac.com/service/factsheets/woinc.html (accessed November 6, 2007) for an overview and see Freddie Mac's Seller/Servicer Guide published by Allregs (2007) and available at http://www.allregs.com (accessed November 7, 2007) for the most up-to-date policies on Freddie Mac loans

[20] See USFN (2007) for an overview of Fannie Mae's policies regarding incentives for servicers to negotiate foreclosure alternatives and see Fannie Mae's Seller/Servicer Guide published by Allregs and available at http://www.allregs.com (accessed November 7, 2007) for the most up-to-date policies on Fannie Mae loans.

[21] More information on Freddie Mac's Performance Profiles and Servicer Incentives can be found at http://www.freddiemac.com/service/msp/ (accessed November 6, 2007).

[22] Specifically, servicers do not compete for individual borrower business but rather for the servicing rights of loan portfolios. These portfolios are often sent out for open bids or contracts are bid for future portfolios from lenders who do not retain the servicing rights. Thus, the sharing of best practices or technologies does not affect the pricing or costs of servicing any one loan directly, however, those servicers who employ these best practices and can take advantage of scale to lower the unitized cost of development and implementation will offer the best price on portfolios.

credit scoring technology from automated underwriting models and launched EI in 1997 in a pilot program involving Wells Fargo Bank. EI quickly became the industry standard for evaluating loans for risk of worsening default and for collections management.[23]

6.1. The Foreclosure Process

If there is no alternative to foreclosure either because the borrower is unable to meet the financial requirements of a workout or the servicer is unable to contact the borrower, the servicer is incented to minimize the time until the property is sold at foreclosure sale according to the governing state statutes on foreclosure. A common misconception is at that the borrower loses their home when foreclosure starts (the date at which the loan is referred to foreclosure attorneys to begin legal action), when in fact the legal process averages almost one year since the borrower's last payment and many borrowers are able to reinstate their loans out of foreclosure and keep their homes. We examine the foreclosure process in detail in this section.

Foreclosure starts with the filing of the first legal action in foreclosure, usually a Notice of Default, Substitution of Trustee, or similar document filed with the county in which the property is located. The foreclosure sale is the event where the borrower loses their rights to the property – monies from the sale are used to pay off the debt owed to the loan investor. The investor sets the minimum price for the sale, and if no bids are submitted above that bid, the title conveys to the investor in exchange for the debt. In most states the purchaser of a property gains possession at the foreclosure sale, however, in seven states (Colorado – until January 2008, Kansas, Michigan, Minnesota, New Mexico, South Dakota, and Wyoming), the borrower has a right of redemption for a defined period of time of 30 days or more after foreclosure sale during which time he can continue to live in the home but no additional interest or fees can be assessed to the debt. The borrower can claim his home out of redemption by paying the full unpaid principal owed, arrearages for interest accumulated, legal and court fees, taxes and other expenses incurred by the investor from the point of the due date of the last paid installment (DDLPI) through the foreclosure sale. Two other states have post-sale redemption periods. New Jersey's is for a period of ten days following the sale. While this is a redemption state within the

[23] See Comeau and Cordell (1998) for more on the testing and launch of Early Indicator. Within the Early Indicator system, two scores are produced. EI Early Collections scores range from 000 to 099 with lower scores indicating higher likelihood of worsening delinquency beyond the first month. EI Loss Mitigation scores range from 100 to 399, with lower scores indicating a higher likelihood of a loss-producing outcome. The score ranges are deliberately set to avoid confusion with FICO credit bureau scores, which range from 400 to 900.

legal meaning of the right, it effectively is like a foreclosure sale confirmation period in other states. The other state is North Dakota, which has a right of redemption that is the lesser of six months after the filing of the Summons and Complaint (first legal action in the state's foreclosure process) or 60 days from the FC Sale – we assume this translates into a post-sale redemption period of 60 days for our analysis, but could be shorter or longer in practice depending on the efficiency of the foreclosure process.

Freddie Mac and other mortgage investors have policies regarding when to refer the loan to foreclosure – that is, when to send the files to foreclosure attorneys to begin the legal process of foreclosure – this can in theory be as soon as the breach of the mortgage contract occurs, but in practice is usually several months after the default occurs. In Table 5 we highlight Freddie Mac's timeline for the servicing of a delinquent loan. This timeline assumes that the servicer makes every reasonable attempt to reach the borrower and that either there is no borrower contact or the borrower and servicer are unable to negotiate a workout option. Servicers continue to pursue foreclosure avoidance and workout activity with the borrower all the way through the foreclosure process, including up to the foreclosure sale – it is entirely possible that the foreclosure is stopped on the steps of the courthouse immediately prior to the foreclosure sale. Different investors may have different requirements regarding how long the servicer should attempt loss mitigation/foreclosure avoidance activities before referring a loan to foreclosure. If the borrower is able to negotiate a home-retention workout, such as a repayment plan or loan modification, then the foreclosure referral may be delayed as long as the contracted terms of the plan are met. The table assumes that no such delays occur, and thus represents the minimum time until the loan is referred to foreclosure.

Once a loan is referred to foreclosure, the process is dictated by state law, and in some cases local statutes, in addition to the investor's guidelines. In Table 6 we highlight the most common foreclosure method, the legal events in the process, the timelines for each event, and average timeline from the last payment to the foreclosure sale for loans on properties in the statutorily shortest and longest foreclosure timeline states, Tennessee and Maine, respectively. Appendix Table A1 contains this information for all 50 states and the District of Columbia. In general, states follow one of two methods for their foreclosure process. A judicial foreclosure involves a judge or court official that presides over the case and a statutory or "power of sale" foreclosure allows a trustee or investor to proceed without a court official but in accordance with state law, including publication. The simple (unweighted) average time between foreclosure referral and foreclosure sale, based only on state legislated timelines, is 120 days, and the average redemption period is 103 days for the nine states that have post-sale redemption. Many states have a confirmation of foreclosure sale provision during which the buyer of the home at the foreclosure sale takes title and has rights of entry to the property and can begin eviction if it has not already taken place, but the new owner of the property cannot market the home for sale until the confirmation has occurred – this process is expected to take on average 27 days assuming no delays. Adding in the pre-referral timeline according to Freddie Mac's guidelines brings the average expected foreclosure timeline to 292 days between DDLPI and finalized foreclosure sale /investor possession.[24] The average actual time across all states between the due date of the last paid mortgage installment and the foreclosure sale is almost one year (355 days).

The timeline in the table assumes that the foreclosure attorneys working on the investor's/servicer's behalf execute the foreclosure with maximum efficiency but that each step in the process takes the full time allotted for the minimum time required under state law. There are often delays throughout the foreclosure process caused by backlogs in the court system, bankruptcy filings by borrowers or borrowers who contest the foreclosure. But, importantly, the foreclosure process can be delayed or suspended at any time prior to the foreclosure sale to accommodate a viable workout deal with the borrower. If the borrower fails to meet the terms of contract on a home-retention workout, the foreclosure process resumes, usually at the point in the process at which it was suspended. Thus, we would expect actual average foreclosure timelines to exceed expected optimal foreclosure times by a significant amount and indeed this is the case in nearly all states.

Once the property goes to foreclosure sale the investor sets the specific bid on the property. To minimize expected losses to the investor, from an economic standpoint, this minimum bid should approximately equal the present discounted market value of the property based on expectations of the length of time needed to market the home in current conditions net of expected marketing expenses, real-estate agent commissions, and maintenance and repair costs. If no third-

[24] In post-sale redemption period states we include the redemption in the timeline. In those states the borrower has the right of occupancy until the redemption period expires or they voluntarily give up the right. Thus we count it as part of the preforeclosure timeline and mark the end of the timeline as when the investor has full rights of possession. Similarly we add in the confirmation period for states that have a foreclosure sale confirmation period as this marks the full transfer of property rights from the borrower to the investor.

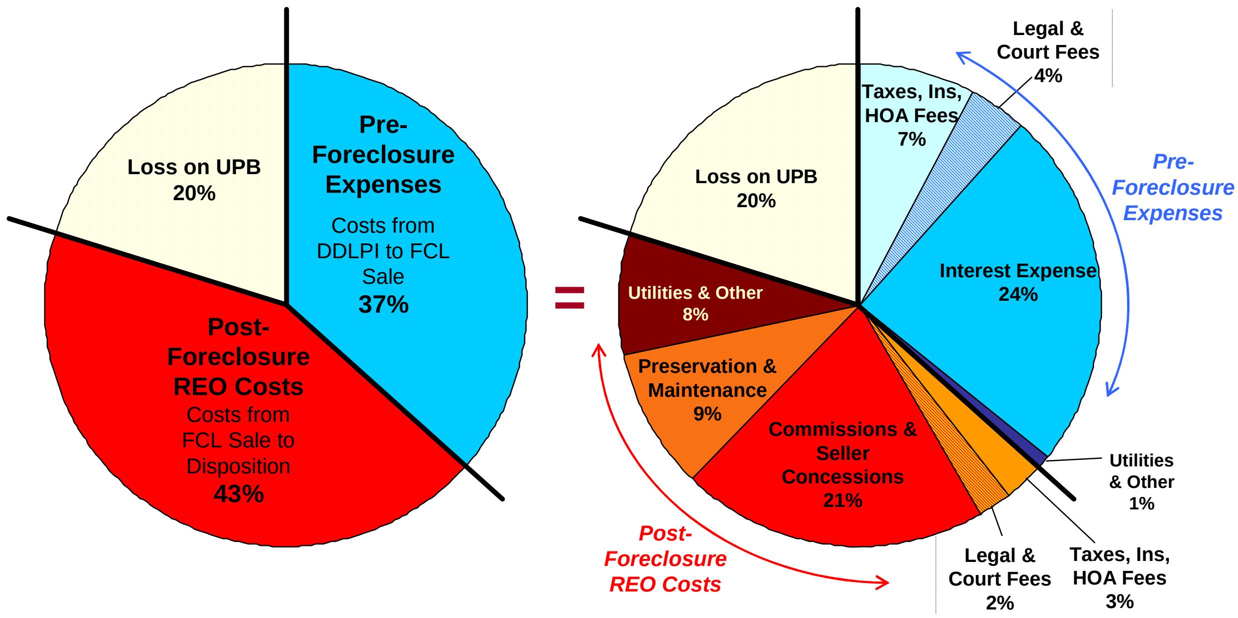
party purchaser outbids the investor on the home at the foreclosure sale, the investor "wins" the property at the sale and it becomes real estate owned (REO) on the investor's books.

Up to this point the investor has already incurred significant costs, and still faces large costs in disposing of the property. In the next section we explore the costs the investor incurs in the foreclosure process.

6.2 The Costs of Foreclosure to Investors

In Figure 5 we break out the average gross costs of foreclosure by the time in the process in which they are incurred – these are only as represented by Freddie Mac's experience as an investor in conventional, conforming prime mortgages. Gross costs are all expenses incurred by the investor and any losses taken on the unpaid principal balance when the property is sold. Any proceeds from credit enhancements such as primary mortgage insurance would be netted out against these values to determine the total net loss to the investor; however, the total cost to the industry is best represented by the gross value. Costs incurred prior to the foreclosure sale are deemed "pre-foreclosure" costs and are calculated from the DDLPI (the due date of the last payment made by the borrower) to the date of possession – either the foreclosure sale date or the date the post-sale redemption period ends and the investor takes possession of the property. All costs incurred after the date of possession are deemed "post-foreclosure REO" costs.

Figure 5: Composition of Average Total Costs to a Mortgage Investor Including Loss on Unpaid Principal Balance of REO Properties Among Prime Conventional, Conforming Loans



Source: Authors' estimations based on a sample of recent Freddie Mac property dispositions. Costs incurred during post-sale redemption period are added to pre-foreclosure costs as they are incurred prior to investor possession. Percentages may not sum to 100% due to rounding.

Pre-Foreclosure Costs

Pre-foreclosure costs account for 37 percent of the total gross losses to the investor, and among these pre-foreclosure costs, accumulated interest accounts for 66 percent and local property taxes, insurance, and HOA/Condo fees account for 21 percent of the expenses up to the foreclosure sale and possession. The 10 percent share of pre-foreclosure costs marked as legal and court fees includes expenses for publication of foreclosure notices of sale, court, sheriff and auctioneer's fees, attorney's fees, title-search and title-insurance-related fees.[25] The pre-foreclosure interest expense in Figure 5 is the accrued interest arrearages since the DDLPI and includes the explicit interest expenses from the interest passed through to investors in mortgage-

[25] The notice of publication requirements are dictated by state law and local foreclosure statutes – these regulations govern the type of publication that is acceptable (often the widest circulation print newspaper in the county or city), the size of the notice and the information contained in the notice. For example, the Washington Post is the publication most commonly used in the Washington DC metro area for publishing foreclosure notices from the Virginia and Maryland suburbs and DC – depending on the county in which the property is located, these notices can run from 1 to 2 column inches of print to over 4 column inches.

backed securities issued by Freddie Mac, Fannie Mae or Ginnie Mae (FFG) as long as the mortgage is held in that security – generally speaking loans are pulled from these securities when the loan is modified or the property goes to foreclosure sale.[26] Investors in FFG securities are promised the timely payment of principal and interest from a loan as long as the loan is in the security, regardless of whether the borrower has made such payments to the servicer (and thus to FFG). Prior to December 2007, Freddie Mac and Fannie Mae would remove a loan from a security when the loan was referred to foreclosure – thus paying the security investor the full amount of the loan principal due under the guarantees given by Freddie Mac and Fannie Mae.[27] At that point, the explicit interest expense became an implicit cost of capital expense to Freddie Mac or Fannie Mae until the property is sold out of REO inventory. In the case of a loan securitized by Ginnie Mae and for Freddie Mac and Fannie Mae securities after December 2007, a loan remains in the pool until the foreclosure sale or a loan modification is executed, and the security investors are then paid the principal amount of their investment – thus interest arrearages are explicit costs for the servicer or FFG until the foreclosure sale.[28] For all other whole-loan or private-label securities investors the interest expense is an implicit cost only to servicers/issuers as they do not advance unpaid interest to the investors.

Post-Foreclosure REO Expenses

In Figure 5, among post-foreclosure REO expenses which account for 43 percent of the gross losses on prime conventional, conforming loans, the largest component is the sum of commissions paid to the listing agent and concessions paid to the buyer at closing (e.g., seller contribution towards closing costs). The next largest component is the combination of preservation and maintenance costs and the cost of capital improvements.

The investor has to prepare the home for listing, including making any capital improvements necessary to bring the home to habitable condition such as re-installation of plumbing, appliances, painting, re-roofing, and other significant repairs, maintaining the property to all local ordinances by providing lawn care, winterization where necessary, cleaning of the home, and other maintenance chores, and paying local property taxes and fees, homeowner

---

[26] Also includes claims paid under the VA and other government agency mortgage insurance programs.
[27] See http://www.freddiemac.com/news/archives/mbs/2007/20071210_pc_change.html (accessed February 19, 2008).
[28] For more information on Ginnie Mae securities, see http://www.ginniemae.gov/guide/pdf/chap15.pdf (accessed November 6, 2007)

association and condo fees, and utilities.[29] It is not uncommon for borrowers to do extensive damage to a property prior to losing a home through foreclosure, such as removal of all copper pipes and appliances, destroying walls and windows, and stopping drains and running faucets to create flooding. This raises the cost to the investor to repair the damage to habitable condition and lengthens the time to market. REO property disposition timelines and commission incentives depend on the condition of the property when it is acquired by the lender-investor, the neighborhood's characteristics and the economic condition of the local area.

Loss on UPB

The last major expense shown in the figure is the loss taken on the unpaid principal balance (UPB) due to the negative equity position of the property. On average, these losses account for a little over 20 percent of the total costs of foreclosure for prime conventional, conforming mortgages at the present time. The expected worsening of the REO rates and expected decreases in home prices in 2008 and 2009 could push this share higher, perhaps to as much as 30% of total costs. Another common misconception is that an investor and/or servicers makes money on the sale of REO properties, when in fact the losses on such properties account for one-fifth or more of total foreclosure losses incurred by the investor.

The mission of homeownership preservation and the avoidance of the cost of REO provide motivation for the investor to encourage servicers to offer both retention and non-retention workouts (mentioned above) and measure servicer performance against expected benchmarks. But there are additional costs to society that come from a foreclosure beyond the losses suffered by loan investors and borrowers that place additional value on loss mitigation efforts and foreclosure prevention. For example, a concentration of REO properties in a neighborhood depresses the prices of all homes in it and increases the time it takes to dispose of any one property. Apgar, Duda and Gorey (2005) found within one neighborhood, "Accounting for both the foreclosure costs paid for by City and County agencies, and the impact of foreclosures on area property values, a foreclosure on this block could impose direct costs on local government agencies totaling more than $34,000 and indirect effects on nearby property owners (in the form of reduced property values and home equity) of as much as an additional $220,000."

[29] According to Hayre and Saraf (2008), if the property has private mortgage insurance (PMI), the contract with the insurer usually requires that before a claim can be submitted the home must be in similar condition to when the policy was taken out. This prevents the servicer/investor from neglecting the property to the detriment of the insurer.

In the subprime and Alt-A market segments, the pre-foreclosure costs excluding interest expenses (which depend on the effective interest rate) are likely similar to Freddie Mac's since these are largely driven by statutory requirements in each state. However, to the extent that borrowers in these segments had lower initial equity, no or negative amortization due to the structure of the mortgage, and are disproportionately located in areas or in price ranges with rapidly falling home values (such as California which in 2007 has a high concentration of subprime mortgage loans, high housing costs that precluded many borrowers from using conventional, conforming financing, and is witnessing double-digit declines in home values in some areas), REO costs and the loss on UPB may be higher than represented by Freddie Mac's experience.

Both the foreclosure and REO processes are expensive for investors with foreclosure costs being driven by state legal requirements and REO costs driven by preservation and maintenance costs, sales commissions and seller concessions along with the loss on UPB. Currently, there is a public policy debate about delaying the foreclosure process to stimulate more loss mitigation activities and the cost of the foreclosure process (i.e., legal and court fees) being a barrier to a borrower reinstating the loan or qualifying for a workout. In the analysis of pre-foreclosure costs, just 11 percent of the cost of the pre-foreclosure process is due to legal and court related expenses and the remaining 89 percent are all costs that the borrower would incur as part of continued homeownership such as property taxes, HOA fees, insurance, utilities, and interest.

Ironically, the securitization of mortgages in the secondary market, which attracted global capital and led to a strong supply of low cost mortgage funds, is now impeding the ability of borrowers to get relief when it is economically correct to offer it. At the beginning of the subprime market problems in early 2007, many subprime servicers claimed they were unable to help borrowers because the security trust agreements under Securities and Exchange Commission rules did not allow them to alter the terms of the loans in the securities. The SEC has since come back with an interpretation of the rule that expressly allows the issuer to pull the loan from the security for a loan modification when the borrower is in imminent danger of losing the home through foreclosure. The current foreclosure crisis has revealed that there are other state and federal laws and regulatory policies that negatively alter the economics of loan modifications – generally as a result of unintended outcomes from policies enacted in a different economic climate – and we expect that accounting and public policy will continue to evolve to lower these barriers to keeping borrowers in their homes.

There are many challenges that policy makers, investors, servicers and borrowers face in minimizing the incidence of home loss through foreclosure. Among them is the tension between too little time in the foreclosure process, such that some borrowers are unable to recover from relatively mild setbacks before they lose the home but investors minimize pre-foreclosure time-related costs, and too much time in the foreclosure process, such that the borrower is incented to let the home go to foreclosure sale during which no mortgage payments are made (in essence, free rent for a significant time) and investor costs rise rapidly. Below we take a closer look at the impact of state foreclosure timelines on both loan cures – where the loan is fully reinstated – and pre-foreclosure costs incurred by the lender.

6.3 The Sweet Spot of Foreclosure Timelines and Borrower Reinstatement

The foreclosure process is a well-defined stipulated legal process in all 54 states and territories where Freddie Mac conducts business. State processes fall into two broad categories, statutory; where the process proceeds outside of the courtroom and judicial, where a judge presides over the process. These two methods create timeline differences between foreclosure referral to an attorney (1st legal action) and the foreclosure sale (loss of property). In Appendix Table A1 the foreclosure method is identified for each state. In general, statutory states require less process and fewer associated legal fees and shorter timelines to foreclosure sale are less expensive for the investor and any borrower receiving a workout or reinstating the loan. The average expected timeline based on legislated legal process from referral to finalized foreclosure sale and possession is 206 days in judicial foreclosure states, versus an average of 93 days in statutory foreclosure process states. Actual timelines in statutory process states currently run almost four months faster, at 149 days versus 272 days, than those in judicial foreclosure states.[30]

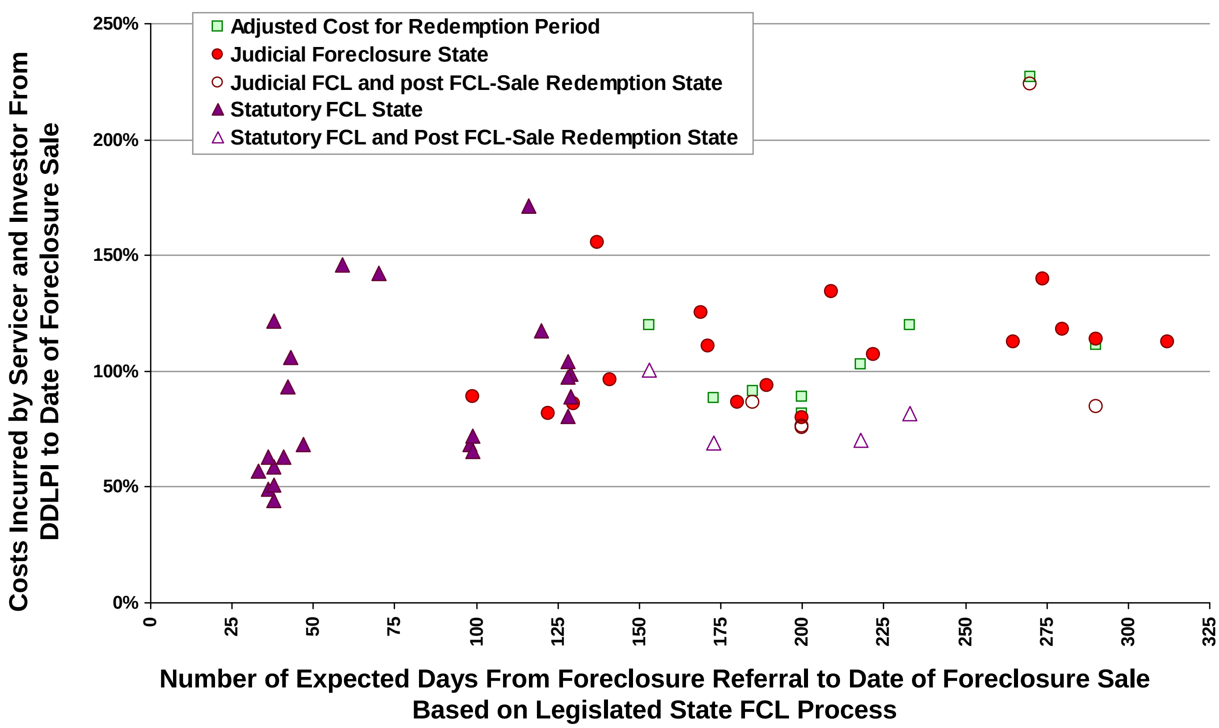
Time Versus Costs

The longer the time between referral and foreclosure sale, the higher are the costs to the investor and the higher is the hurdle for a borrower trying to reinstate a loan through a workout. In Figure 6 we show the relationship between the actual average time between DDLPI and the

[30] Expected statutory foreclosure and actual timelines are inclusive of the post-sale redemption and confirmation periods but do not include the time spent in delinquency prior to the foreclosure referral (e.g., the minimum 150 days from DDLPI to foreclosure referral during which Freddie Mac requires servicers to attempt borrower contact and foreclosure avoidance efforts).

foreclosure sale and the associated pre-foreclosure costs relative to the average pre-foreclosure costs based on Freddie Mac's experience with conventional, conforming mortgages. States that have a statutory judicial process are marked by triangles and states that have a judicial foreclosure process are marked by dots. Nine states have a post-sale redemption period and they are indicated by their states foreclosure process indicator but with a white instead of colored center. This scatter diagram clearly shows that states with a judicial process have longer foreclosure timelines and are more expensive to investors (and hence to borrowers in trying to keep their homes) than those with a statutory process.

Figure 6: Pre-Foreclosure-Sale Costs and Expected Time Between Date of Foreclosure Referral and Date of Foreclosure Sale



Source: Authors' estimations on a sample of Freddie Mac loans that went to foreclosure sale prior to September 30, 2007. Adjusted cost for redemption period adds in interest cost of capital during post-sale redemption period in the nine states that have them.

The post-sale redemption states do not allow the investor/servicer to continue to add interest-arrearages during the redemption period, thus, in effect suppressing the borrowers cost at the expense of the investor. One could argue that an investor has an implicit cost of interest in any home they have in REO inventory in a non-redemption state as well. However, in the case of redemption states, the investor has title but no right of entry, and is unlikely to be able to sell the home to a third party as they too would not have full rights of possession until the redemption period ends. If we add back the interest expenses as an opportunity cost of capital that would accrue during the redemption period the costs of redemption states move more in line with those non-redemption states that have similar overall timelines, as shown in the Figure 6 by square markers.

The 1938 study by Bridewell found similar differences between judicial and statutory foreclosure states at that time. He split states into three groups: (1) where foreclosure costs were low (less than $100) and foreclosure timelines short (3 months or less); (2) where the cost of foreclosure was high (more than $100) and timelines long (more than 3 months); and (3) where not only were foreclosure costs high and timelines long but where the states also had post-sale redemption periods of 6 months or more. The foreclosure cost experiences of the Home Owner's Loan Corporation revealed that average costs in the first group ran roughly $55 while in the latter two groups it was approximately $155. Nearly all of the states in the latter two groups in his study were judicial foreclosure states.

Redemption

The inability of the investor or third party purchaser to obtain full rights of possession in post-sale redemption states has a profound effect on the market for properties at foreclosure sale. In recent foreclosure sales through September 2007, bids by third party purchasers successfully "won" Freddie Mac properties at foreclosure sale in a little over 16 percent of sales in non-redemption states, but they purchased only 3.9 percent of properties offered in the six post sale redemption states (see Table 7). Restricting the data to only those states with at least 50 observed foreclosure sales over this period (39 in all), the highest third-party sales ratio was in Utah at 46.4 percent. Minnesota had the lowest ratio at 1.8 percent followed closely by Michigan at 2.3 percent and Colorado at 4.9 percent. The next lowest ratio, and the lowest among non-redemption states, was 8.4 percent in Indiana.

In Freddie Mac's recent experience, the percentage of borrowers that actually redeem their properties out of redemption is nontrivial, at roughly 17 percent, and a little over 50 percent of these redemptions occur in the final 45 days of the redemption period in the four states with redemption periods of 120 days or more (Michigan, Minnesota, South Dakota and Wyoming).

However, the share of properties redeemed out of foreclosure has declined from 2004 through 2006, especially in Michigan and Minnesota, two states experiencing continued economic stress. Fewer borrowers are selecting to or are capable of redeeming their property after the foreclosure sale. As this benefit to the borrower continues to decline the cost to the investor increases.

Many consumer advocates have argued for longer foreclosure timelines or delays in starting the foreclosure process and many argue that the legal costs are particularly onerous on borrowers trying to reinstate their loans. We saw earlier that the majority of the costs associated with the foreclosure process are interest arrearage (65% of pre-foreclosure expenses) and taxes and insurance (combined 19% of pre-foreclosure expenses) all of which are present on a performing loan. The legal costs associated with the foreclosure, while additive to the arrears, are a minority share (11% of pre-foreclosure costs) of the cost to the borrower, but certainly pose a greater constraint on borrowers in states with long judicial foreclosure processes.

But the borrower's incentives also change with the length of the foreclosure timeline. Once the first legal action is filed, the borrower is in real danger of losing their home. This incents borrowers who have the means to act quickly to reinstate their loans. Long timelines between the start of first legal action and finalized foreclosure sale, however, lessen the incentive to reinstate. In total, nearly 70 percent of all loan reinstatements, once a loan has gone to foreclosure referral, happen in the first three months following referral, and the higher the cure rate within the first three months; the higher the overall cure rate. These relationships are laid out in Tables 8 thru 10.

Preforeclosure costs (Table 8) are influenced by the actual time it takes between DDLPI and finalized foreclosure sale, home price growth in the past year, whether a state is covered by judicial process, and the average depreciation rates of REO properties from the appraised values. Post-sale redemption periods reduce explicit pre-foreclosure costs that would be charged to the borrower to redeem the house out of foreclosure, but this is through the mandated moratorium on interest charges – once those excluded charges are added back in for the redemption period (as shown in Figure 5 through the green squares), the additional costs imposed by long post-sale redemption periods are positive and significant.[31] If we separate out the days in foreclosure by

[31]In a post-sale redemption period, like a pre-sale redemption period, a borrower is not adding additional interest charges. From an investor's perspective, the only difference between a pre and post sale redemption period is that they have taken title – but still have no rights to the property. If Freddie Mac, Fannie Mae or Ginnie Mae are the investor they will be passing along interest payments to securities holders during the pre-sale redemption but the

whether the state has a judicial or statutory foreclosure process, only the judicial states show a statistically strong relationship between longer time and higher costs.

In looking at the 3-month cure rate (Table 9) (or total cure rate, not shown in tables), or the ratio of the 3-month cure rate to the total cure rate out of foreclosure (Table 10), the time in foreclosure and the cumulative home price growth over the past 5 years and time in foreclosure matter, as does whether a state has a redemption period, and like above, judicial states have a powerful negative effect on cure rates, primarily through the extension of foreclosure timelines.

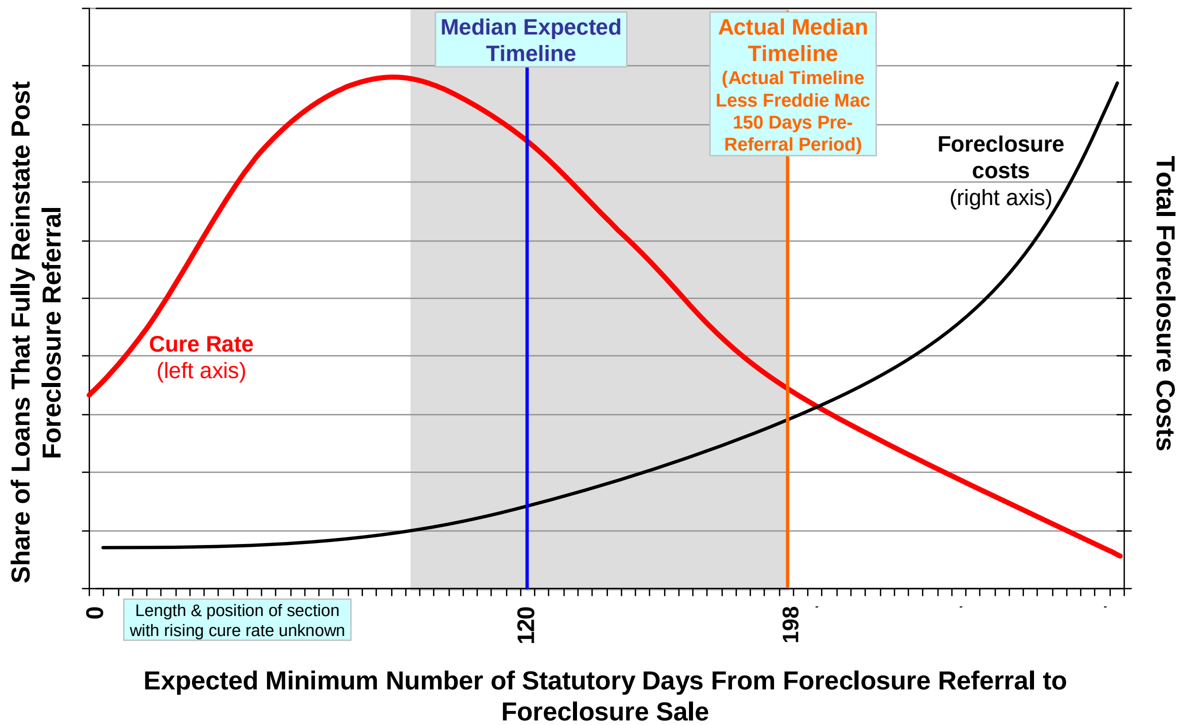
Based on data from Freddie Mac's recent experience, we have drawn a theoretical chart of a cost-benefit type tradeoff in foreclosure timelines in Figure 7. Ideally we would like to compare the marginal cost of a day in the preforeclosure process with the marginal benefit in dollars or some other constant measure and determine the best timeline for the foreclosure process. But no such measure exists, or at least, one that would be reasonable to estimate with any data set known or available to us. Instead we have drawn the relationship between statutory time in foreclosure and costs and time and cure rate in Figure 7 as a theoretical exercise.[32] We posit that if the statutory foreclosure timeline of long-timeline states (those above, say, the 75th percentile of 155 days between foreclosure referral and sale, equating to roughly 300 total days with Freddie Mac's recommended 150 days of loss mitigation pre-foreclosure referral and 389 days in actual experience) were shortened to a time closer to the median statutory time, near 120 days or so (putting total days between DDLPI and foreclosure sale at roughly 270 days) as we have shown in the figure, the share of loans that would cure out of foreclosure would likely rise significantly (by 3 to 9 percentage points based on the simple linear regressions in Table 7) and reduce costs to both investors and borrowers by 6 to 12 percent relative to the national average for every 50 days the timeline is reduced (Table 8).

---

loan will have been pulled from a security when the foreclosure sale occurred and direct interest costs are no longer incurred by FFG. However, they have to fund the asset somehow, and since they have no rights of possession, the interest cost should be counted as part of the costs for a post-sale redemption period for funding the REO property.

[32] Note that this timeline is just the legal process of foreclosure and does not include Freddie Mac's policy of attempting loss mitigation by the servicer prior to the foreclosure referral. If this time were added in then the timelines would be 150 days longer than the statutory timelines.

Figure 7: Theoretical Share of Loans That Cure Out Of Foreclosure and Total Foreclosure Costs by State Statutory Foreclosure Timeline



Note: the crossing of the red Cure Rate line and the black Foreclosure Costs line is simply a matter of scale and does not indicate an optimal timeline. Instead, the optimal timeline is given by the maximum distance between the red and black lines.

While it is tempting to argue, on the basis of recent experience and the strong linear relationships between costs, cure rates and foreclosure time, that all states should shorten their timelines, there is an important reason why this is may not be advisable across the board, especially for short timeline states. Recent experience with fast home price appreciation may be masking a non-linear relationship between too little time in foreclosure and the cure rate of loans. For example, Virginia, which has the second fastest statutory foreclosure timeline but the fastest actual timeline, has also experienced very fast home price appreciation and jobs growth over the five years ended in 2006, particularly in its Northern counties near Washington, DC. With home values now falling, especially in the outer suburbs of the DC area, Virginia's foreclosure timeline could prove to be too fast and reduce some borrower's ability to avoid the loss of their homes once the legal foreclosure process has begun

The shaded section within Figure 6 shows the potential sweet-spot of ideal foreclosure timelines – short enough to give borrowers a strong incentive to cure out of foreclosure if they have the means and long enough to allow those who have a reasonable chance of economic recovery a chance to avoid the loss of their home. What happens in truth to the left of that section is unknown at this time – that is, we don't know how short a timeline is too short, causing too low a cure rate. But we do know from empirical evidence that very lengthy legal foreclosure timelines reduce the chances a borrower will keep his or her home.

From the earlier discussion many of the costs to the borrower during the pre-foreclosure process are taxes and hazard insurance advanced by the servicer, these and all other costs increase over time and make it more difficult for a borrower to reinstate or qualify for a workout. Given that most foreclosure avoidance happens near the beginning of the legal foreclosure process (after referral to an attorney) coupled with the continual rise in costs as the foreclosure process ages, the time at the beginning of the foreclosure process should be a main focus for workouts. As a matter of policy, states may wish to consider the length of the foreclosure, inclusive of redemption, and its negative impact on the borrowers ability to avoid foreclosure sale due to higher costs.

7. Conclusion

It is highly likely that the current delinquency environment will become increasing difficult in both volume and transition over the next 24 months. There are several reasons for this, the primary drivers being: lack of property equity on recent origination years (2006/2007), new products with low underwriting thresholds for borrower income (Alt-A), falling house prices, and a worsening economic and employment situation. Public policy makers and the servicing industry need to prepare for this further deterioration on the overall economy, the financial condition of industry players, and the operation capacity of the servicing platforms.

On prime loans, loss of income remains the primary reason for default, as the interruption in the borrower's income stream causing the delinquency in a society where consumer driven spending is a priority over savings. Of all the material reasons for default on prime loans, divorce remains the one cause with the highest failure rate on complete workouts, most likely driven by borrower behavior during that situation. But rapidly falling home values may cause some borrowers with the capacity to carry the mortgage debt to default if the negative equity position hits a trigger threshold, significantly tipping the balance in favor of the put option.

The importance of early contact and workout intervention is very clear with the demonstrated success of such workouts within the first months of delinquency. Helped by a lower accrued delinquent arrearage and a cooperative and income-qualifying borrower, this combination is a strong indicator of success. Repayment plans started late in delinquency or set for a long period of time have a much lower chance of success driven by the large arrearage. Contact rate is a critical factor in the ability of a servicer to partner with a borrower to complete a workout. With 52% of foreclosure sales lacking reciprocal borrower contact, this is a significant missed opportunity to help homeownership preservation.

Default credit counseling is proving to be a valuable new element in foreclosure prevention, but the availability of the services is low relative to the need which is growing fast. Public policy makers may wish to consider methods or programs to help borrowers overcome their fear, grasp an acknowledgment of the situation, and educate them on all their foreclosure avoidance options.

With the rapid rise in foreclosures that have come following long period of very low foreclosure events, and the increased focus and scrutiny of governmental officials and consumer groups it is interesting to review the long standing and well defined state-level foreclosure processes and costs. The average timeline from last payment to loss of property is one year and significant opportunity for workout options exist once borrower contact is achieved. The significant costs to the borrower of the foreclosure process are delinquent interest, taxes, and insurance, but not legal costs as many advocates allege. These significant costs are present on all performing loans and exist when the loan is not in foreclosure.

A sweet spot for the optimal time in foreclosure likely exists around a statutory timeline of 120 days (the current national median, and equivalent to 270 days after adding in 150 days for pre-referral loss mitigation activities by servicers through workouts) in which the borrower's incentives are aligned with both a high probability of curing out of the foreclosure and keeping the pre-foreclosure costs to the investor contained. States with short timelines may want to lengthen the pre-foreclosure process if, given experiences in this current environment with falling home values and unstable credit markets, they find too many borrowers unable to recover from relatively short and mild financial problems before they lose the home to foreclosure.

States with long foreclosure timelines may find that they could increase the number of borrowers who successfully reinstate their loans by shortening the timelines and providing motivation for acting early to work with servicers on foreclosure alternatives.

The human cost of the current foreclosure crisis is extraordinary, and the industry costs are staggering. Thoughtful and informed discussions about how to best help borrowers keep their homes is needed, and borrowers, investors, servicers, and communities all bear costs when a family loses a home to foreclosure. We have presented what we believe is information not previously discussed in the default and foreclosure literature, and more importantly, that sheds light on industry trends, borrower behavior and the role of time in both helping and hurting a borrower's chance of home-retention.

References

Apgar, William C., Mark Duda and Rochelle Nawrocki Gorey 2005. "The Municipal Cost of Foreclosures: A Chicago Case Study." Homeownership Preservation Foundation Housing Finance Policy Research Paper Number 2005-1. February 27, 2005.

Bridewell, David. 1938. "The Effect of Defective Mortgage Laws on Home Financing" *Law and Contemporary Problems* 5:545-563.

Clauretie, Terrence M. 1989. "State Foreclosure Laws, Risk Shifting, and the PMI Industry" *Journal of Risk and Insurance* 56 (3): 544-554.

Clauretie, Terrence M. and Thomas Herzog. 1990. "The Effect of State Foreclosure Laws on Loan Losses: Evidence from the Mortgage Insurance Industry" *Journal of Money, Credit and Banking* 22 (2): 221-233.

Collins, J. Michael. 2007a. "Lessons from the Front Lines: Counselor Perspectives on Default Interventions" Report prepared for the Homeownership Preservation Initiative (HOPI), PolicyLab Consulting Group, LLC White Paper. October 29, 2007.

Collins, J. Michael. 2007b. "Exploring the Design of Financial Counseling for Mortgage Borrowers in Default." *Journal of Family and Economic Issues* 28 (2): 207-226

Comeau, Phil, and Larry Cordell. 1998. "Case Study: Beating the Odds. Loss Mitigation Scores Helped Wells Fargo Save Resources, Assist Borrowers in Avoiding Foreclosure." *Servicing Management* (June): 70.

Cutts, Amy Crews, and Richard K. Green. 2005. "Innovative Servicing Technology: Smart Enough To Keep People In Their Houses?" In N. Retsinas, & E. Belsky (Eds.), *Building Assets, Building Credit: Creating Wealth In Low-Income Communities*, pp. 348–377. Washington, DC: The Brookings Institution Press.

Deng, Yong Heng, John Quigley, and Robert Van Order. 2000. "Mortgage Terminations, Heterogeneity, and the Exercise of Mortgage Options." *Econometrica* 68 (2): 275–307.

Ding, Lei, Roberto G. Quercia, and Janneke Ratcliffe. Forthcoming. "Post-purchase Counseling and Default Resolutions Among Low- and Moderate-Income Borrowers." *Journal of Real Estate Research.*

Libman, Kimberly, Desiree Fields, Susan Saegert, Helene Clark and Francine Justa. 2007. "Understanding Responses To The Threat Of Foreclosure Among Low-Income Homeowners". New York: Center for Human Environments, Graduate Center of the City University of New York.

Hayre, Lakhbir S. and Manish Sharif. 2008. "A loss Severity Model for Residential Mortgages," Citigroup Global Markets Fixed-Income Research Report, January 22.

Hirad, Abdighani and Peter M. Zorn. 2002. “Pre-Purchase Homeownership Counseling: A Little Knowledge Is A Good Thing”. In N. Retsinas, & E. Belsky (Eds.), *Low-Income Homeownership: Examining The Unexamined Goal*, pp. 146–174. Washington, DC: The Brookings Institution Press.

Inside Mortgage Finance. 2007. *The 2007 Mortgage Market Statistical Annual, Vol.1*. Bethesda: Inside Mortgage Finance Publications Inc.

Kau, James, and D. C. Keenan. 1995. “An Overview of Option-Theoretic Pricing of Mortgages.” *Journal of Housing Research* 6 (2): 217–44.

Lacour-Little, Michael. 2000. “The Evolving Role of Technology in Mortgage Finance.” *Journal of Housing Research* 11 (2): 173–205.

Lacour-Little, Michael 2004. “Equity Dilution: An Alternative Perspective on Mortgage Default.” *Real Estate Economics 32 (3):359-384.*

Mortgage Bankers Association. 2007. *National Delinquency Survey Results*, 2Q2007.

Pence, Karen. 2001. Essays on Government Policy and Household Financial Decisions. Ph.D. dissertation, University of Wisconsin.

Pence, Karen. 2006. “Foreclosing on Opportunity: State Laws and Mortgage Credit.” *The Review of Economics and Statistics* 88 (1): 177-182.

Pennington-Cross, Anthony. 2003. Subprime and Prime Mortgages: Loss Distributions.” Office of Federal Housing Enterprise Oversight Working Paper no. 03-1.

Quercia, Roberto G., Spencer Cowan, and Ana Moreno. 2004. “The Cost-Effectiveness of Community-Based Foreclosure Prevention.” Joint Center for Housing Studies - Harvard University Working Paper BABC 04-18 (February). Accessed December 3, 2007, at www.jchs.harvard.edu

USFN. 2007. *The National Mortgage Servicer's Reference Directory*. 24th ed.

Wilson, Donald G. 1995. “Residential Loss Severity in California: 1992-2005.” *Journal of Fixed Income* 5 (3): 15-48.

Table 1: Servicer-Borrower Communication Rates Among Delinquent Loans 2005-2007

Contact Rates For Delinquent Loans Observed in the 15 months Prior to December 20061	
Loan Outcome	**Contact Rate**
Active or closed	13.4%
Active Or Closed That Was Previously At Least 90 Days Delinquent	32.4%
Active Or Closed That Was Previously At Least 120 Days Delq	33.2%
Active Or Closed That Was Previously In Foreclosure	29.9%
Foreclosure Sale (REO)	46.4%
Contact Rates For Delinquent Loans Observed Over January to September 2007	
Loan Outcome	**Contact Rate**
Active or closed	28.9%
Active Or Closed That Was Previously At Least 90 Days Delinquent	55.9%
Active Or Closed That Was Previously At Least 120 Days Delq	58.5%
Active Or Closed That Was Previously In Foreclosure	54.8%
Foreclosure Sale (REO)	47.2%

Source: Authors' estimations based on a sample of delinquent loans that reinstated or terminated between September 2005 and September 2007.
Contact means the servicer and the borrower had reciprocal communication regarding the status of the loan. Servicers attempt to contact borrowers through a variety of means including letters, phone calls, and other means to initiate communication with the borrower - Many borrowers avoid the servicer's attempts to reach them or are not occupants at the mortgaged property and are otherwise unreachable.

Table 2: Share of Loans in Repay Plans that Redefault by the End of the Repay Plan

	Status at End	
Status at the Start of Repayment Plan	Redefaulted[1]	Cured[2]
30 days late - due for 2 payments	44.11%	55.89%
60 days late - due for 3 payments	60.47%	39.53%
90+ days late - due for 4+ payments	71.03%	28.97%

Source: Authors' estimation on a sample of Freddie Mac loans that had a repayment plan that ended in years 2000-2006.

[1]Redefault means the loan was 30-days or more late as of the end of the repayment plan.

[2]A loan is cured if it ends the repayment plan and all past-due arrearages have been paid in full - the loan may be reinstated or paid off.

Table 3: Characteristics of Subprime and Alt-A Mortgage Loans 2001-1H2007

Subprime Loans

Origination Year	ARM Share	Interest-Only Share	Non-Owner Occupant Share	Low-No-Doc Share	Avg FICO
2001	73.60%	0.00%	7.10%	28.50%	621
2002	79.80%	2.30%	7.60%	38.50%	638
2003	80.00%	8.60%	8.50%	42.80%	650
2004	89.30%	27.30%	8.80%	45.10%	650
2005	93.10%	37.80%	9.40%	50.70%	650
2006	90.60%	22.20%	8.20%	51.30%	646
2007	88.70%	23.10%	7.90%	42.80%	644

Alt-A Loans

Origination Year	ARM Share	Negative Amortization Share	Non-Owner Occupant Share	Low-No-Doc Share	Avg FICO
2001	20.00%	2.70%	12.30%	65.60%	706
2002	28.10%	7.60%	17.50%	63.40%	712
2003	44.10%	26.00%	21.70%	65.10%	715
2004	72.20%	59.10%	22.80%	64.90%	716
2005	72.00%	67.20%	25.20%	73.90%	720
2006	69.20%	66.50%	22.00%	82.00%	717
2007	60.00%	63.20%	22.60%	82.70%	721

Source: Authors' estimations based on data from First American LoanPerformance ABS Securities Database, 2007 data through June.

Table 4: Reasons for Default and the Credit Performance of Modified Loans

Mortgage Hardship reason	Share of Delinquent loans Citing Reason[1]	Fail Rate Among Modified Loans[2]
Loss of Income	41.8%	18.5%
Unemployment	*17.4%*	*19.7%*
Curtailment of Income	*22.0%*	*17.9%*
Business Failure	*2.3%*	*15.6%*
Death or Illness in the Family	23.2%	17.6%
Extreme Financial Stress Other Than Loss of Income	14.4%	14.4%
Excessive Obligation	*11.5%*	*15.0%*
Extreme Hardship	*2.5%*	*12.7%*
Payment Adjustment	*0.4%*	*14.3%*
Marital difficulties	7.6%	21.8%
Property Problem or Casualty Loss	1.9%	4.7%
Inability to Sell or Rent Property	1.3%	23.7%
Employment Transfer or Military Service	0.8%	21.1%
All Other Reasons3	9.0%	9.5%

Source: Author calculations on a sample of Freddie Mac loans that went delinquent between 2001 and 2006 and were evaluated using the Workout Prospector® system.

[1] Among loans in which the borrower is successfully contacted by the servicer and is underwritten for a workout.

[2] Among loans that were modified after being underwritten by Workout Prospector, the incidence of home loss through foreclosure sale, deed-in-lieu transfer or chargeoff.

[3] The category "all other reasons" includes property abandonment, environment/energy costs, incarceration, payment disputes, fraud, servicing problems, borrower non-contact, and simply "other" reasons.

Table 5: Freddie Mac Preforeclosure Steps for Delinquent Mortgage Loans as Specified in Seller/Servicer Guide (Standard across all states and territories)

Step	Description of Steps Prior to Foreclosure Referral	Expected Optimal Time[1]: Days In Step	Expected Optimal Time[1]: Total Days Since DDLPI
1	Notify Freddie Mac (the Investor) that borrower is "30 days late" - this is measured as 60 days after the Due Date of Last Paid Installment (DDLPI)	60	
2	Servicer sends Breach Letter to borrower notifiying them that they are in default on their mortgage/deed of trust and that if full payment is not made within 30 days, the servicer will begin enforcement of investor's rights under contract including foreclosure	15	
3	Servicer initiates call campaign to delinquent borrower and works on loss mitigation efforts through workout options when contact with borrower is made; Most servicers will initiate call campaigns starting at day 10 of the delinquency (40 days past DDLPI) and will continue to try workout options all the way to the point of foreclosure sale	75	
4	Loan is now referred to an attorney licensed in the property state to begin the legal foreclosure process - borrower is 4 payments late with 5 total payments due and 150 days have passed since the due date of last payment.		
	Total time elapsed from due date of last payment to foreclosure referral =		**150**

Source: Freddie Mac. See also Allregs (2007), available at http://www.allregs.com (accessed November 7, 2007)

[1]Freddie Mac provides cash and other incentives to servicers to try to negotiate home-retention workout options with the borrower. If a workout plan is succesfully negotiated the foreclosure process is delayed or suspended and the timeline in this table does not reflect these delays.

Table 6: Freddie Mac Analysis of Expected Optimal Statutory Timeline for Foreclosure – Shortest and Longest Timeline States

State Foreclosure Type	Step	Description of Step[2]	Expected Optimal Statutory Timeline Days In Step after FCL Referral	Total Days Since FCL Referral to Sale	Number of Days in Post-Sale Redemption Period	Confirmation Period	Total Days from DDLPI to Finalized FCL Sale Including Post-sale Redemption Period[2]	Actual Average Time from DDLPI to Finalized FCL Sale / Possession[2]
Maine Judicial	1	Foreclosure Referral - Attorney sends FDCPA letter with contact information	3					
	2	Title Work	5					
	3	Complaint is Filed	1					
	4	Sheriff is Appointed and completes Service of Process	30					
	5	Response/ Answer Period.	20					
	6	Judgment	30					
	7	Redemption (90 Days).	90					
	8	Publication of Sale, 3 consecutive weeks. 1st Publication can't be less than 30 days before sale	30					
	9	Foreclosure Sale		**209**	**none**	**none**	**359**	**598**
Tennessee Statutory	1	contact information	3					
	2	Title Work and Substitution of Trustee is filed	5					
	3	Publication of Sale, 3 times for a period covering at least	25					
	4	Foreclosure Sale		**33**	**none**	**none**	**183**	**248**
All States Average[3]				**120**	**103**	**27**	**292**	**355**

Sources: Freddie Mac; Authors' interpretation of state statutes. This is not intended to be exhaustive and the authors cannot guarantee the information is accurate or suitable for any particular purpose. Many states provide for both statutory and judicial foreclosure options; the most commonly used option is presented in this table. See also USFN (2007). Foreclosure timelines for all 50 states are shown in Appendix Table A2.

[1] First legal action against the borrower is highlighted; steps prior to first legal action are required, but there is no statutory limitation on the number of days these steps should take. We allow 8 days in nearly all states for legal processing prior to first legal action.

[2] Authors' estimations based on a sample of Freddie Mac REO property acquisitions in 2007.

[3] National average is calculated as simple average over number of states; redemption and confirmation periods are averages over states that have these provisions.

Table 7: Share of Foreclosure Sales In Which Properties Are Acquired By Third Party Purchasers

State[1]	Foreclosure Sales to Third Parties[2]	State	Foreclosure Sales to Third Parties
Alabama	14.9%	*Montana*	*30.0%*
Alaska	*25.0%*	Nebraska	15.5%
Arizona	15.5%	Nevada	13.5%
Arkansas	17.3%	New Hampshire	22.5%
California	16.6%	**New Jersey**	**28.8%**
Colorado	**4.9%**	***New Mexico***	***8.5%***
Connecticut	38.6%	New York	19.5%
District of Columbia	*50.0%*	North Carolina	22.2%
Delaware	*75.0%*	***North Dakota***	***17.6%***
Florida	15.3%	Ohio	12.5%
Georgia	15.7%	Oklahoma	19.2%
Hawaii	*20.0%*	Oregon	39.2%
Idaho	24.5%	Pennsylvania	14.4%
Illinois	14.9%	*Puerto Rico*	*20.0%*
Indiana	8.4%	*Rhode Island*	*15.4%*
Iowa	9.3%	South Carolina	20.2%
Kansas	**10.3%**	***South Dakota***	***16.2%***
Kentucky	15.1%	Tennessee	19.4%
Louisiana	16.7%	Texas	12.6%
Maine	*14.3%*	Utah	46.4%
Maryland	34.9%	*Vermont*	*0.0%*
Massachusetts	18.1%	Virginia	25.4%
Michigan	**2.3%**	Washington	40.0%
Minnesota	**1.8%**	West Virginia	9.8%
Mississippi	8.5%	Wisconsin	19.7%
Missouri	11.8%	***Wyoming***	***0.0%***
Total[3]	13.2%	Redemption States	3.90%
		Non-Redemption States	16.3%

Source: Authors' estimations based on a sample of Freddie Mac loans that went to foreclosure sale prior to September 2007.

[1]States with post-foreclosure-sale redemption periods are in bold; states in which fewer than 50 foreclosure sales are observed are in italics.

[2]Third-party purchaser is any agent who bids on a property at foreclosure sale who is not affiliated with the lender/investor that brought the foreclosure action.

[3]Averages weighted by number of sales.

Table 8: Total Pre-Foreclosure Costs in State Relative to National Average Preforeclosure Costs

Pre-Foreclosure Costs Are All Costs Incurred by Investor and Servicer Prior to the Foreclosure Sale

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7a	Model 7b	Model 8a[1]	Model 8b[1]
Total days between DDLPI and FCL Sale (in 100s)	0.126 **	0.145 *	0.133 *	0.130 **		0.154 *	0.162 *	0.168 *	0.163 *	0.170 *
	(2.37)	(3.05)	(2.65)	(1.92)		(3.62)	(3.64)	(3.81)	(3.69)	(3.95)
1-Year Nominal Home Price Growth (%) Ending 2Q2007		-0.040 *	-0.040 *	-0.039 *	-0.039 *	-0.043 *	-0.043 *	-0.442 *	-0.042 *	-0.044 *
		(-3.60)	(-3.58)	(-3.50)	(-3.50)	(-4.35)	(-4.36)	(-4.47)	(-4.28)	(-4.53)
State Has Post-FCL Sale Redemption Period			0.098							
			(0.88)							
State Has A Judicial Foreclosure Process				0.038						
				(0.32)						
Judicial Foreclosure State: Total days from DDLPI and FCL Sale					0.136 **					
					(2.37)					
Statutory Foreclosure State: Total days from DDLPI and FCL Sale					0.126					
					(1.58)					
Number of Days in Post-Foreclosure Sale Redemption Period							-0.001		-0.002 *	
							(-0.63)		(-2.83)	
Number of Days in Post-Foreclosure Sale Redemption or Confirmation Period								-0.001		-0.003 *
								(-1.14)		(-3.36)
Average Percent Depreciation of REO properties in State from Original Appraised Value						-1.519 *	-1.524 *	-1.537 *	-1.505 *	-1.537 *
						(-3.61)	(-3.59)	(-3.66)	(-3.57)	(-3.75)
Constant	0.555 **	0.573 *	0.600 *	0.610 *	0.623 *	0.889 *	0.874 *	0.867 *	0.863 *	0.866 *
	(2.86)	(3.31)	(3.41)	(2.93)	(2.63)	(5.02)	(4.86)	(4.88)	(4.82)	(5.00)
Number of obs	49	49	49	49	49	49	49	49	49	49
R-squared	0.107	0.303	0.315	0.304	0.304	0.459	0.464	0.475	0.478	0.509
Adj R-squared	0.088	0.273	0.269	0.258	0.258	0.423	0.415	0.427	0.430	0.464

Source: Authors' estimations on a sample of Freddie Mac REO property dispositions from between January 1, 2007 and September 30, 2007. In post-foreclosure sale redemption states, costs include any expenses incurred during the redemption period except interest expenses incurred in redemption. t-values in parentheses under coefficients.

[1]Same as Model 7 except that the interest arrears from the post-sale redemption period suntracted from pre-foreclosure costs in the 9 states with these periods.

* denotes significance at the 1% level; ** denotes significance at the 5% level; *** denotes significance at the 10% level

Table 9: Cure Rate In The First Three Months Following Foreclosure Referral

Cure is defined as a loan that fully reinstates or is paid off prior to the foreclosure sale

	Model 1a	Model 1b	Model 2	Model 2b	Model 3a	Model 3b	Model 4a	Model 4b	Model 5a	Model 5b
Total average actual days between DDLPI and FCL sale in 100s	-0.031 ** (-2.35)		-0.015 *** (-1.90)		-0.004 (-0.36)		-0.015 *** (-1.91)	-0.023 *** (-2.88)	-0.016 *** (-1.98)	
Total expected days between FCL referral and FCL sale in 100s based on state laws		-0.026 * (-2.77)		-0.022 * (-2.81)		0.017 (-1.50)				-0.026 * (-3.11)
5-Year Cumulative Nominal Home Price Growth Ending 2Q2007			0.148 * (4.34)	0.150 * (4.64)	0.143 * (4.25)	0.146 * (4.44)	0.138 * (3.29)	0.133 * (3.30)	0.153 * (4.33)	0.161 * (4.86)
State Has A Judicial Foreclosure Process					-0.028 (-1.51)	-0.760 (0.45)				
Average percent depreciation of REO properties in state from original appraised value							-0.036 (-0.38)	-0.068 (-0.75)		
Number of Days in Post-Foreclosure Sale Redemption Period									0.010 (0.63)	0.020 (1.32)
Constant	0.320 * (9.72)	0.283 * (18.04)	0.236 * (6.91)	0.214 * (10.85)	0.211 * (5.64)	0.214 * (10.77)	0.249 * (5.18)	0.239 * (6.29)	0.236 * (6.86)	0.212 * (10.74)
Number of obs	49	49	49	49	49	49	49	49	49	49
R-squared	0.105	0.141	0.365	0.415	0.395	0.422	0.367	0.422	0.370	0.437
Adj R-squared	0.086	0.122	0.337	0.389	0.355	0.384	0.324	0.383	0.328	0.399

Source: Authors' estimations on a sample of Freddie Mac Loans that entered Foreclosure in 2006 with performance measured through September 2007. t-values in parentheses under coefficients.

* denotes significance at the 1% level; ** denotes significance at the 5% level; *** denotes significance at the 10% level

Table 10: Ratio of Cure Rate in First Three Months of Foreclosure to Total Cure Rate

Cure is defined as a loan that fully reinstates or is paid off prior to the foreclosure sale

	Model 1a	Model 1b	Model 2a	Model 2b	Model 3a	Model 3b	Model 4a	Model 4b	Model 5a	Model 5b
Total days between DDLPI and FCL Sale in 100s	-0.053 *		-0.051 *		-0.054 *		-0.032 **		-0.055 *	
	(-5.45)		(-5.34)		(-5.35)		(-2.49)		(-5.66)	
Total expected days between FCL referral and FCL sale in 100s based on state laws		-0.050 *		-0.051 *		-0.057 *		-0.027 **		-0.059 *
		(-4.49)		(-4.76)		(-5.45)		(-1.93)		(-5.33)
Nominal Home Price Growth (%) Over Year Ending June 2007			-0.004 ***	-0.006	-0.004 *	-0.006	-0.005 **	-0.005 **	-0.004	-0.005
			(-1.80)	(-2.42)	(-1.79)	(-2.48)	(-2.10)	(-2.53)	(-1.68)	(-2.37)
State Has Post-FCL Sale Redemption Period					0.019	0.033				
					(0.87)	(1.39)				
State Has A Judicial Foreclosure Process							0.046 **	-0.055 **		
							(-2.03)	(-2.40)		
Number of Days in Post-Foreclosure Sale Redemption Period									0.028	0.039
									(1.59)	(2.06)
Constant	0.880 *	0.765 *	0.882 *	0.778 *	0.888 *	0.781 *	0.838 *	0.769 *	0.891 *	0.782 *
	(24.85)	(41.55)	(25.48)	(42.44)	(25.18)	(42.66)	(21.01)	(43.09)	(25.83)	(43.85)
Number of obs	49	49	49	49	49	49	49	49	49	49
R-squared	0.388	0.300	0.428	0.379	0.438	0.405	0.476	0.450	0.459	0.433
Adj R-squared	0.375	0.2854	0.403	0.3522	0.400	0.3649	0.441	0.4131	0.422	0.3947

Source: Authors' estimations on a sample of Freddie Mac Loans that entered Foreclosure in 2006 with performance measured through September 2007. t-values in parentheses under coefficients.

* denotes significance at the 1% level; ** denotes significance at the 5% level; *** denotes significance at the 10% level

Appendix Table A1: Freddie Mac Analysis of Expected Optimal Statutory Timeline for Foreclosure By State[1]

State Foreclosure Type	Step	Description of Step[2]	Expected Optimal Statutory Timeline: Days In Step after FCL Referral	Total Days Since FCL Referral to Sale	Number of Days in Post-Sale: Redemption Period	Number of Days in Post-Sale: Confirmation Period	Total Days from DDLPI to Finalized FCL Sale Including Post-sale Redemption Period[2]	Actual Average Time from DDLPI to finalized FCL Sale[3]	Actual Average Cost From DDLPI to FCL Sale Relative to US Average[4]
Alabama Statutory	1	Foreclosure Referral - Attorney sends FDCPA letter with contact information	3						
	2	Title Work / Prepare Publication	5						
	3	Publication of FC Sale for 4 Weeks	28						
	4	Foreclosure Sale		**36**	**none**	**none**	**186**	**291**	**49%**
Alaska Statutory	1	Foreclosure Referral - Attorney sends FDCPA letter with contact information	3						
	2	Title Work	5						
	3	Notice of Default is Filed	5						
	4	Notice of Sale Posted in 3 public places within 5 miles of location of sale at least 30 days prior to sale	30						
	5	Publication of Notice of Sale - concurrent with the posting, it must be published 4 consecutive weeks prior to the sale.	Concurrent with step 4						
	6	Foreclosure Sale		**43**	**none**	**none**	**193**	**387**	**106%**
Arkansas Statutory	1	Foreclosure Referral - Attorney sends FDCPA letter with contact information	3						
	2	Title Work	5						
	3	Notice of Default is Filed and Published once a week for 4 consecutive weeks	30						
	4	Affidavit of Mailing and Publication must be Filed	3						
	5	Foreclosure Sale		**41**	**none**	**none**	**191**	**281**	**63%**

Arizona Statutory	1	Foreclosure Referral - Attorney sends FDCPA letter with contact information	3						
	2	Title Work - Trustee Sale Guarantee	5						
	3	Notice of Trustee's Sale (NOTS) is recorded. Sale cannot take place sooner than 90 days after NOTS recording	90						
	4	NOTS must be published 4 consecutive weeks prior to the sale and NOTS must be posted in a public place at least 20 days prior to the sale. This runs concurrent to the 90 day waiting period	Concurrent with step 3						
	5	Foreclosure Sale		**98**	**none**	**none**	**248**	**253**	**68%**
California Statutory	1	Foreclosure Referral - Attorney sends FDCPA letter with contact information	1						
	2	Title Work - Trustee Sale Guarantee	3						
	3	Notice of Default (NOD) is recorded	1						
	4	90 Day Reinstatement period	90						
	5	Publication of Notice of Sale for 3 consecutive weeks	21						
	6	Foreclosure Sale		**116**	**none**	**none**	**266**	**268**	**171%**
Colorado Statutory	1	Foreclosure Referral - Attorney sends FDCPA letter with contact information	3						
	2	Title Work	5						
	3	Notice of Election and Demand for Sale (NED) is filed. FC Sale cannot occur earlier than 45 days or later than 60 days after the NED is recorded	45						
	4	Publication of Sale runs concurrently and must be published for 5 consecutive weeks	Concurrent with step 3						
	5	In addition, the "Rule 120 proceeding" is filed and a hearing is set. This hearing allows the Mortgagor to contest the foreclosure. If there is no response filed, an order will be granted allowing sale of the property	25						
	6	Foreclosure Sale		**78**					
	7	Post-foreclosure sale redemption period (after 12/31/07 this moves prior to foreclosure sale)			**75**	**none**	**303**	**339**	**101%**

Connecticut Judicial	1	Foreclosure Referral - Attorney sends FDCPA letter with contact information	3						
	2	Title Work	3						
	3	Writ, Summons and Complaint is Filed	1						
	4	Service of Process	7						
	5	Judgment	83						
	6	Judicial Discretion Period before law date (i.e., Redemption Period)	60						
	7	Law Date		**157**	**none**	**none**	**287**	**319**	**156%**
Delaware Judicial	1	Foreclosure Referral - Attorney sends FDCPA letter with contact information	3						
	2	Title Work	5						
	3	Complaint is Filed	1						
	4	Service of Process	20						
	5	Judgment	40						
	6	Waiting Period	10						
	7	Publication and Posting for Sheriffs Sale	60						
	8	Foreclosure Sale		**139**					
	9	Confirmation of Sale			**none**	**30**	**319**	**402**	**125%**
District of Columbia Statutory	1	Foreclosure Referral - Attorney sends FDCPA letter with contact information	3						
	2	Title Work	5						
	3	Notice of Sale Filed and Sent to Mortgagor and Condo Associations, can't foreclose until 30 days from filing	30						
	4	Publication of Notice of Sale 5 times prior to Sale	Concurrent with step 3						
	5	Foreclosure Sale		**38**	**none**	**none**	**188**	**na**	**na**

Florida Judicial	1	Foreclosure Referral - Attorney sends FDCPA letter with contact information	2						
	2	Title Work	3						
	3	Complaint is Filed	1						
	4	Service of Process	30						
	5	Response Period	20						
	6	Judgment	45						
	7	Publication of Sale, once a week for 2 consecutive weeks. FC Sale cannot occur earlier than 20 days post judgment	30						
	8	Foreclosure Sale		**131**					
	9	Confirmation (Certificate) of sale			**none**	**10**	**291**	**326**	**96%**
Georgia Statutory	1	Foreclosure Referral - Attorney sends FDCPA letter with contact information	3						
	2	Title Work	10						
	3	Publication of Sale. Once a week for 4 consecutive weeks	34						
	4	Notice of Sale and Attorney Fee Letter by Certified Mail. 15 days prior to the Sale	Concurrent with step 3						
	5	Foreclosure Sale		**47**	**none**	**none**	**197**	**241**	**69%**
Hawaii Statutory	1	Foreclosure Referral - Attorney sends FDCPA letter with contact information	3						
	2	Title Work	30						
	3	Notice of Sale Sent to Mortgagor	60						
	4	Publication of Sale. Once a week for 4 consecutive weeks	35						
	5	Foreclosure Sale		**128**					
	6	Confirmation of sale			**none**	**30**	**308**	**na**	**na**

Idaho Statutory	1	Foreclosure Referral - Attorney sends FDCPA letter with contact information	3						
	2	Title Work	5						
	3	Notice of Default, Notice of Sale and Appointment of Successor Trustee are filed at least 120 days prior to FC Sale	120						
	4	Publication of Sale once a week for 4 consecutive weeks	Concurrent with step 3						
	5	Service of Notice of Sale to Occupants of property completed or 3 good faith attempt made. If no contact posting most be completed.	Concurrent with step 3						
	6	Foreclosure Sale		**128**	**none**	**none**	**278**	**395**	**80%**
Illinois Judicial	1	Foreclosure Referral - Attorney sends FDCPA letter with contact information	2						
	2	Title Work	2						
	3	Complaint is Filed	1						
	4	Service of Process (some counties now allow private service agents to be hired which shortens the service period)	40						
	5	Redemption Period. Later of 7 months from date of (perfected) service or 3 months from Judgment	220						
	6	Judgment - Shouldn't take longer than 45 days from perfecting service	Concurrent with step 5						
	7	Publication of Sale, once a week for 3 consecutive weeks. (Note: Sale can't occur later than 7 days after publication)	Concurrent with step 5						
	8	Foreclosure Sale		**265**	**none**	**none**	**415**	**398**	**112%**

Indiana Judicial	1	Foreclosure Referral - Attorney sends FDCPA letter with contact information	3						
	2	Title Work	5						
	3	Complaint is Filed	1						
	4	Service of Process	30						
	5	Redemption Period/ Statutory Stay - 60 days from service / 90 days from filing of Complaint	60						
	6	Judgment - concurrent with redemption - not longer than 45 days from perfecting service	Concurrent with step 5						
	7	Praecipe for Sheriff Sale is filed requesting that the Sheriff set a Sale Date	60						
	8	Publication of Sale, once a week for 3 consecutive weeks. In addition, the Sheriff serves all interested parties the Notice of Sale	21						
	9	Foreclosure Sale		**180**	**none**	**none**	**330**	**402**	**87%**
Iowa Judicial	1	Foreclosure Referral - Attorney sends FDCPA letter with contact information	3						
	2	Title Work	5						
	3	Petition is Filed	1						
	4	Service of Process	30						
	5	Response Period	20						
	6	Judgment	45						
	7	Redemption Period. 12 Months from Judgment if Deficiency will be pursued or 6 Months if Deficiency rights are waived	180						
	8	Publication of Sale, two weekly publications at least 4 weeks prior to sale	28						
	9	Foreclosure Sale		**312**	**none**	**none**	**462**	**458**	**113%**

Kansas Judicial	1	Foreclosure Referral - Attorney sends FDCPA letter with contact information	3						
	2	Title Work	5						
	3	Petition is Filed	1						
	4	Service of Process	30						
	5	Response Period. 20 Days if Mortgagor within state, 30 days if outside the state	20						
	6	Default Judgment	10						
	7	Waiting/ Payoff Period	10						
	8	Order of Sale is issued to Sheriff	10						
	9	Publication of Sale, once a week for 3 consecutive weeks. (Note: Sale can't occur before 7 days or later than 14 days after publication)	21						
	10	Foreclosure Sale		**110**					
	11	Post-foreclosure sale redemption period			**90**	**none**	**350**	**410**	**76%**
Kentucky Judicial	1	Foreclosure Referral - Attorney sends FDCPA letter with contact information	3						
	2	Title Work	5						
	3	Complaint is Filed	1						
	4	Service of Process	30						
	5	Response/ Answer Period.	20						
	6	Master Hearing and Report is filed	30						
	7	10 Day Response Period	10						
	8	If no response, Judgment is granted	10						
	9	Publication of Notice of Sale for 3 weeks	21						
	10	Foreclosure Sale		**130**	**none**	**none**	**280**	**420**	**86%**

Louisiana Judicial	1	Foreclosure Referral - Attorney sends FDCPA letter with contact information	3						
	2	Title Work	5						
	3	Petition is Filed	1						
	4	Sheriff is Appointed and Clerk issues a Notice of Seizure and Sale of property	30						
	5	Service of Process of Notice of Seizure and Sale upon Mortgagor by the Sheriff	30						
	6	Publication of Notice of Sale, 2 times	30						
	7	Foreclosure Sale		**99**	**none**	**none**	**249**	**476**	**89%**
Maine Judicial	1	Foreclosure Referral - Attorney sends FDCPA letter with contact information	3						
	2	Title Work	5						
	3	Complaint is Filed	1						
	4	Sheriff is Appointed and completes Service of Process	30						
	5	Response/ Answer Period.	20						
	6	Judgment	30						
	7	Redemption (90 Days).	90						
	8	Publication of Sale, 3 consecutive weeks. 1st Publication can't be less than 30 days before sale	30						
	9	Foreclosure Sale		**209**	**none**	**none**	**359**	**598**	**135%**
Maryland Statutory	1	Foreclosure Referral - Attorney sends FDCPA letter with contact information	3						
	2	Title Work	5						
	3	Order/ Line to Docket and Substitution of Trustee is filed	1						
	4	Publication of Sale, 3 times within 27 days before the sale	30						
	5	Notice of Sale is sent to Mortgagor and any lienholder	Concurrent with step 4						
	6	Foreclosure Sale		**39**					
	7	Confirmation (Ratification) of Sale			**none**	**60**	**249**	**274**	**65%**

Massachusetts Statutory	1	Foreclosure Referral - Attorney sends FDCPA letter with contact information	3						
	2	Title Work	6						
	3	Complaint is Filed	1						
	4	SSCRA Compliance and Land Court Judgment	60						
	5	Publication of Sale, once a week for 3 consecutive weeks	Concurrent with step 4						
	6	Notice of Sale is sent to Mortgagor and any lienholder 14 days prior to the sale	Concurrent with step 4						
	7	Foreclosure Sale		**70**	**none**	**none**	**220**	**263**	**142%**
Michigan Statutory	1	Foreclosure Referral - Attorney sends FDCPA letter with contact information	3						
	2	Title Work	5						
	3	Publication of Sale, once a week for 4 consecutive weeks	30						
	4	Notice of Sale is sent to Mortgagor, Occupants and any interested party/ lienholder	Concurrent with step 3						
	5	Foreclosure Sale		**38**					
	6	Post-foreclosure sale redemption period			**180**	**none**	**368**	**380**	**70%**
Minnesota Statutory	1	Foreclosure Referral - Attorney sends FDCPA letter with contact information	3						
	2	Title Work and Notice of Pendency/ Power of Attorney is filed	5						
	3	Publication of Sale, once a week for 4 consecutive weeks. Sale cannot be earlier than 28 days from 1st publication	45						
	4	Notice of Sale is sent to Mortgagor, Occupants and any interested party/ lienholder at least 4 weeks prior to the sale	Concurrent with step 3						
	5	Foreclosure Sale		**53**					
	6	Post-foreclosure sale redemption period			**180**	**none**	**383**	**425**	**82%**

Mississippi Statutory	1	Foreclosure Referral - Attorney sends FDCPA letter with contact information	3						
	2	Title Work and Substitution of Trustee is filed	5						
	3	Publication of Sale, once a week for 3 consecutive weeks. Sale must be on the same date exactly one week after the last publication. In addition, the Notice of Sale is posted on the same day that the publication begins at the county courthouse	30						
	4	Foreclosure Sale		**38**	**none**	**none**	**188**	**367**	**58%**
Missouri Statutory	1	Foreclosure Referral - Attorney sends FDCPA letter with contact information	3						
	2	Title Work and Substitution of Trustee is filed.	5						
	3	Publication of Sale, 20 times prior to the sale. In addition, smaller counties require it to published once a week in a weekly newspaper for 4 consecutive weeks	30						
	4	Foreclosure Sale		**38**	**none**	**none**	**188**	**217**	**51%**
Montana Statutory	1	Foreclosure Referral - Attorney sends FDCPA letter with contact information	3						
	2	Title Work	5						
	3	Notice of Sale and Substitution of Trustee are filed/ recorded	1						
	4	Foreclosure Sale cannot occur earlier than 120 days from the recording of the Notice of Sale	120						
	5	Publication of Sale, once a week for 3 consecutive weeks. The date of the final publication must be at least 20 days prior to the sale	Concurrent with step 4						
	6	The property must also be posted with a NOS at least 20 days prior to the sale	Concurrent with step 4						
	7	Foreclosure Sale		**129**	**none**	**none**	**279**	**356**	**98%**

Nebraska Judicial	1	Foreclosure Referral - Attorney sends FDCPA letter with contact information	3						
	2	Title Work	5						
	3	Petition is Filed	1						
	4	Service of Process	10						
	5	30 Day Response/ Answer Period.	30						
	6	Entry of Decree for Default Judgment	15						
	7	Waiting/ Redemption Period	20						
	8	Order of Sale is issued to Sheriff	10						
	9	Publication of Sale, once a week for 4 consecutive weeks	28						
	10	Foreclosure Sale		**122**	**none**	**none**	**272**	**278**	**82%**
Nevada Statutory	1	Foreclosure Referral - Attorney sends FDCPA letter with contact information	3						
	2	Title Work - Trustee Sale Guarantee	5						
	3	Notice of Default (NOD) is recorded	1						
	4	90 Day Reinstatement period	90						
	5	Publication of Notice of Sale for 3 consecutive weeks.	21						
	6	Foreclosure Sale		**120**	**none**	**none**	**270**	**283**	**118%**
New Hampshire Statutory	1	Foreclosure Referral - Attorney sends FDCPA letter with contact information	3						
	2	Title Work	5						
	3	Publication of Sale, once a week for 3 consecutive weeks. In addition, the Notice of Sale must be served upon the Mortgagor, Occupants and any interested parties/ lienholders at least 26 days before the foreclosure sale	30						
	4	Foreclosure Sale		**38**	**none**	**none**	**188**	**229**	**122%**

New Jersey Judicial	1	Foreclosure Referral - Attorney sends FDCPA letter with contact information	2						
	2	Title Work	2						
	3	Complaint is Filed	1						
	4	Service of Process	45						
	5	35 Day Response/ Answer Period.	35						
	6	Entry of Writ of Possession and Final Judgment	75						
	7	Order of Sale is issued to Sheriff	82						
	8	Publication of Sale, once a week for 4 consecutive weeks.	28						
	9	Foreclosure Sale		**270**					
	10	Post-foreclosure sale redemption period			**10**	**none**	**420**	**436**	**224%**
New Mexico Judicial	1	Foreclosure Referral - Attorney sends FDCPA letter with contact information	3						
	2	Title Work	5						
	3	Complaint and Notice of Lis Pendens are Filed	1						
	4	Service of Process	30						
	5	30 Day Response/ Answer Period.	30						
	6	Entry of Final Judgment	45						
	7	Order of Sale is issued to Special Master	10						
	8	Publication of Sale, once a week for 4 consecutive weeks. Sale cannot occur until 3 days after the last publication date	31						
	9	Foreclosure Sale		**155**					
	10	Post-foreclosure sale redemption period			**30**	**none**	**335**	**426**	**86%**

New York Judicial	1	Foreclosure Referral - Attorney sends FDCPA letter with contact information	2						
	2	Title Work	2						
	3	Complaint and Notice of Pendency are Filed	1						
	4	Service of Process	30						
	5	20 Day Response/ Answer Period.	20						
	6	Referee is appointed.	65						
	7	Referee files Oath & Report	45						
	8	Entry of Final Judgment and Order of Sale is issued to the Referee	75						
	9	Publication of Sale, once a week for 4 consecutive weeks.	40						
	10	Foreclosure Sale		**280**	**none**	**none**	**430**	**392**	**118%**
North Carolina Statutory	1	Foreclosure Referral - Attorney sends FDCPA letter with contact information	3						
	2	Title Work and Substitution of Trustee is filed.	5						
	3	Notice of Hearing is filed and served	21						
	4	Hearing is held and authorization to proceed with foreclosure is received by the Court Clerk.	30						
	5	Publication of Notice of Sale twice within month before the sale. In addition, Notice of Sale must also be posted courthouse and mailed to interested parties	30						
	6	Foreclosure Sale		**89**					
	7	10-day Upset Bidding period after FCL sale			**none**	**10**	**249**	**281**	**72%**

North Dakota Judicial	1	Foreclosure Referral - Attorney sends FDCPA letter with contact information	3						
	2	Title Work	5						
	3	Summons and Complaint are Filed	1						
	4	Service of Process	30						
	5	20 Day Response/ Answer Period.	20						
	6	Entry of Final Judgment	30						
	7	Waiting/ Redemption Period of 10 Days.	10						
	8	Special Execution and Order of Sale is issued to the Sheriff	10						
	9	Publication of Sale, 3 consecutive weeks. The last publication date must be at least 10 days prior to the foreclosure sale date	31						
	10	Foreclosure Sale		**140**					
	11	Redemption - the lesser of 6 months after the filing of the Summons and Complaint or 60 days from the FC Sale			**60**	**none**	**350**	**422**	**76%**
Ohio Judicial	1	Foreclosure Referral - Attorney sends FDCPA letter with contact information	3						
	2	Title Work	5						
	3	Summons and Complaint are Filed	1						
	4	Service of Process	30						
	5	28 Day Response/ Answer Period.	28						
	6	Entry of Final Judgment	45						
	7	Praecipe and Order of Sale is issued to the Sheriff.	10						
	8	Sheriff employs 3 appraisors to determine the FMV and then prepares the advertisement of sale	30						
	9	Publication of Sale, 3 or 5 consecutive weeks depending of the county	40						
	10	Foreclosure Sale		**192**					
	11	Confirmation of sale			**none**	**30**	**372**	**480**	**107%**

Oklahoma Judicial	1	Foreclosure Referral - Attorney sends FDCPA letter with contact information	3						
	2	Title Work	5						
	3	Petition is Filed	1						
	4	Service of Process	30						
	5	20 Day Response/ Answer Period	20						
	6	Entry of Final Judgment	30						
	7	Special Execution and Order of Sale is issued to the Sheriff.	10						
	8	Sheriff employs 3 appraisors to determine the FMV and then prepares the advertisement of sale	30						
	9	Publication of Sale, 2 consecutive weeks. The sale date must be no less than 30 days from the 1st publication date	30						
	10	Foreclosure Sale		**159**					
	11	Confirmation of sale			**none**	**30**	**339**	**452**	**94%**
Oregon Statutory	1	Foreclosure Referral - Attorney sends FDCPA letter with contact information	3						
	2	Title Work	5						
	3	Notice of Default (NOD) and Notice of Sale (NOS) are recorded and served via certified mailings. Foreclosure Sale cannot occur earlier than 120 days from recording of the NOD.	120						
	4	Publication of Notice of Sale, once a week for 4 consecutive weeks	Concurrent with step 3						
	5	Foreclosure Sale		**128**	**none**	**none**	**278**	**369**	**104%**

Pennsylvania Judicial	1	Foreclosure Referral - Attorney sends FDCPA letter with contact information	3						
	2	Title Work	2						
	3	Complaint is Filed	1						
	4	Service of Process	25						
	5	21 Day Response/ Answer Period	21						
	6	10 day Notice is Sent to Interested Parties	10						
	7	Entry of Final Judgment	19						
	8	Writ of Execution and Order of Sale is issued to the Sheriff.	45						
	9	Sheriff serves Notice of Sale to Interested Parties	45						
	10	Publication of Sale, once a week for 3 consecutive weeks. This runs concurrent to the Sheriff serving Interested Parties	Concurrent with step 9						
	11	Foreclosure Sale		**171**	**none**	**none**	**321**	**453**	**110%**
Rhode Island Statutory	1	Foreclosure Referral - Attorney sends FDCPA letter with contact information	3						
	2	Title Work	5						
	3	Statutory 30 day notice period - begins with FDCPA letter receipt	30						
	4	Publication of Sale, 3 times at least 21 days prior to the sale	21						
	5	Foreclosure Sale		**59**	**none**	**none**	**209**	**251**	**146%**

South Carolina	1	Foreclosure Referral - Attorney sends FDCPA letter with contact information	3						
Judicial	2	Title Work	5						
	3	Complaint is Filed	1						
	4	Service of Process	30						
	5	30 Day Response/ Answer Period	30						
	6	Master/ Referee is appointed	30						
	7	Master/ Referee files Oath & Report	20						
	8	Entry of Final Judgment and Order of Sale is issued to the Referee	30						
	9	Publication of Sale, 3 consecutive weeks.	21						
	10	Foreclosure Sale		**170**					
	11	Ratification (confirmation) of sale			**none**	**30**	**350**	**336**	**80%**
South Dakota	1	Foreclosure Referral - Attorney sends FDCPA letter with contact information	3						
Judicial	2	Title Work	5						
	3	Summons and Complaint are Filed	1						
	4	Service of Process	30						
	5	Entry of Final Judgment	30						
	6	Special Execution and Order of Sale is issued to the Sheriff	10						
	7	Publication of Sale, once a week for 4 consecutive weeks	31						
	8	Foreclosure Sale		**110**					
	9	Post-foreclosure sale redemption period			**180**	**none**	**440**	**503**	**85%**
Tennessee	1	Foreclosure Referral - Attorney sends FDCPA letter with contact information	3						
Statutory	2	Title Work and Substitution of Trustee is filed	5						
	3	Publication of Sale, 3 times for a period covering at least 20 days	25						
	4	Foreclosure Sale		**33**	**none**	**none**	**183**	**248**	**57%**

Texas Statutory	1	Foreclosure Referral - Attorney sends FDCPA letter with contact information	3						
	2	Title Work and Substitution of Trustee is filed	14						
	3	Notice of Sale is posted and sent to all Interested Parties at least 21 days prior to the foreclosure sale	25						
	4	Foreclosure Sale (1st Tuesday of each month)		**42**	**none**	**none**	**192**	**254**	**93%**
Utah Statutory	1	Foreclosure Referral - Attorney sends FDCPA letter with contact information	3						
	2	Title Work - Trustee Sale Guarantee and Substitution of Trustee is filed	Concurrent with step 1						
	3	Notice of Default and Election to Sell (NODES) is recorded and mailed to all Interested Parties	5						
	4	90 Day Reinstatement period	90						
	5	Publication of Notice of Sale, once a week for 3 consecutive weeks. Last day of publication must be no more than 30 days and no less than 10 days prior to the foreclosure sale. The NOS is also mailed to all Interested Parties	31						
	6	Foreclosure Sale		**129**	**none**	**none**	**279**	**303**	**89%**
Vermont Judicial	1	Foreclosure Referral - Attorney sends FDCPA letter with contact information	3						
	2	Title Work	5						
	3	Summons and Complaint are Filed	1						
	4	Service of Process	30						
	5	20 Day Response/ Answer Period	20						
	6	Entry of Final Judgment	30						
	7	6 Month Redemption Period. Can be shortened to 1 month if property is vacant/ abandoned	180						
	8	Publication of Sale, once a week for 3 consecutive weeks	21						
	9	Foreclosure Sale		**290**	**none**	**none**	**440**	**446**	**114%**

Virginia Statutory	1	Foreclosure Referral - Attorney sends FDCPA letter with contact information	3						
	2	Title Work and Substitution of Trustee is filed	5						
	3	Notice of Sale is sent to Mortgagor and all Interested Parties at least 14 days prior to the sale	14						
	4	Publication of Sale, 4 consecutive weeks. The sale cannot occur earlier than 8 days after the fist publication and the no more than 30 days after the last advertisement.	14						
	5	Foreclosure Sale		**36**	**none**	**none**	**186**	**213**	**63%**
Washington Statutory	1	Foreclosure Referral - Attorney sends FDCPA letter with contact information	3						
	2	Title Work - Trustee Sale Guarantee and Substitution of Trustee is filed	5						
	3	Notice of Default (NOD) is recorded and mailed to all Interested Parties at least 30 days before setting a foreclosure sale	30						
	4	Notice of Trustee Sale is mailed to Mortgagor and all Interested Parties. Foreclosure Sale cannot occur until 90 days have elapsed	90						
	5	Publication of Notice of Sale, 2 times in the month before the sale. Runs concurrent to the Mailing of the Notice of Trustee Sale	Concurrent with step 4						
	6	Foreclosure Sale		**128**	**none**	**none**	**278**	**299**	**98%**
West Virginia Statutory	1	Foreclosure Referral - Attorney sends FDCPA letter with contact information	3						
	2	Title Work and Substitution of Trustee is filed	5						
	3	Notice of Sale is sent to Mortgagor and all Interested Parties at least 20 days prior to the sale	30						
	4	Publication of Sale, once a week for 2 - 4 consecutive weeks (depending on the county)	Concurrent with step 4						
	5	Foreclosure Sale		**38**	**none**	**none**	**188**	**277**	**44%**

Wisconsin Judicial	1	Foreclosure Referral - Attorney sends FDCPA letter with contact information	3						
	2	Title Work	5						
	3	Summons and Complaint are Filed	1						
	4	Service of Process	30						
	5	Entry of Final Judgment	20						
	6	Six month preforeclosure-sale redemption period. Can be shortened to 1 month if property is vacant/ abandoned	180						
	7	Publication of Sale, once a week for 3 consecutive weeks	21						
	8	Foreclosure Sale		**260**					
	9	Confirmation of sale			**none**	**14**	**424**	**458**	**140%**
Wyoming Statutory	1	Foreclosure Referral - Attorney sends FDCPA letter with contact information	3						
	2	Title Work and Substitution of Trustee is filed	5						
	3	Notice of Sale is recorded and sent to Mortgagor and all Interested Parties at least 45 days prior to the sale. The sale cannot occur until 45 days have elapsed	45						
	4	Publication of Sale, once a week for 4 consecutive weeks. Runs concurrent to the mailing of the Notice of Sale	Concurrent with step 3						
	5	Foreclosure Sale		**53**					
	6	Post-foreclosure sale redemption period			**120**	**none**	**323**	**342**	**69%**
U.S Average[5]				**120**	**103**	**27**	**292**	**355**	**100%**

Sources: Freddie Mac; Authors' interpretation of state statutes. This is not intended to be exhaustive and the authors cannot guarantee the information is accurate or suitable for any particular purpose. Many states provide for both statutory and judicial foreclosure options; the most commonly used option is presented in this table. See also USFN (2007).

[1] First legal action against the borrower is highlighted; steps prior to first legal action are required, but there is no statutory limitation on the number of days these steps should take

[2] Includes the 150 days recommended by Freddie Mac between DDLPI and foreclosure referral from Table 2. Includes post-sale redemption and confirmation periods. "Finalized sale" means that the sale has been confirmed and the lender has full title, right of entry, right of eviction, and right of sale.

[3] Authors' estimations based on a sample of Freddie Mac REO property acquisitions prior to September 30, 2007. Includes post-sale redemption and confirmation periods. "Finalized sale" means that the sale has been confirmed and the lender has full title, right of entry, right of eviction, and right of sale.

[4] Authors' estimations based on a sample of Freddie Mac REO property dispositions prior to September 30, 2007. A value of 100% means that the average pre-foreclosure cost in that state is equal to the national average cost. Costs include interest expenses prior to foreclosure sale.

[5] National average is calculated as simple average over number of states; redemption and confirmation periods are averages over states that have these provisions.