Protecting Homeowners: Foreclosure Counseling Policies and Modifications of Mortgage Terms*

J. M. Collins,† M.D. Schmeiser,‡§ Carly Urban¶

Draft; Comments Welcome, July 11, 2012

Abstract

Millions of homeowners are at risk of losing their homes to foreclosure as a result of the housing crisis, and millions more are delinquent on their mortgage or underwater. One consumer-oriented policy response to this crisis is mortgage default counseling for borrowers. This study examines which borrowers seek default counseling, the probability that counseling increases a borrower's ability to obtain a modification of his/her original mortgage terms, or in the event of a modification, negotiate for more favorable terms. The results suggest that vulnerable borrowers and those exposed to financial distress are most likely to take-up counseling. They further show that counseled borrowers obtain loan modifications at a higher rate, and with better loan terms, than uncounseled homeowners. These results support the current emphasis by policy makers on default counseling as a means of mitigating the housing crisis and promoting consumer financial well-being.

---

†Contact: J. Michael Collins, Assistant Professor, Department of Consumer Science, University of Wisconsin-Madison, 4208 Nancy Nicholas Hall Madison, WI 53706. Email: jmcollins@wisc.edu. Office: 608-616-0369

‡Economist, Federal Reserve Board of Governors, Washington, DC. Email: max.schmeiser@frb.gov.

§The views expressed in this paper are those of the authors and do not necessarily represent those of the Federal Reserve Board of Governors or any part of the Federal Reserve System.

¶Assistant Professor, Department of Agricultural Economics and Economics, Montana State University

1 INTRODUCTION

Mortgage default and foreclosure are among the most financially damaging events that can befall a consumer.[1] Moreover, the harm extends beyond the individual homeowner to their surrounding community through declining property values and increased risk of default for neighboring properties (Agarwal et al., 2011; Lin et al., 2009). Since the start of the housing crisis mortgage default counseling has been promoted as a means of mitigating the effect of mortgage default on borrowers, banks, and communities.

Mortgage default rarely occurs in a vacuum, but is frequently preceded by loss of income, unemployment, or other financial shocks (Demyanyk and Van Hemert, 2011). Foreclosure counseling offers the potential to help borrowers experiencing financial distress stabilize their situation and achieve the best outcome possible by providing support, advice and options the borrower could not obtain on their own. The primary federal policy response to rising foreclosures has been the promotion of loan modifications—lowering interest rates, extending loan terms and/or reducing principal balances—in order to reduce the share of income devoted to mortgage payments to a manageable level for distressed borrowers. However, Agarwal and colleagues (2011) show a high degree of variation in the behavior of loan servicers with regards to providing borrowers with loan modifications.

One telling stylized fact from the mortgage market is that as many as half of borrowers have not contacted their lender at the time foreclosure proceedings are initiated, despite vigorous outreach efforts by lenders and servicers during the default period (Cutts and Green, 2005). Some estimates suggest that only 15 percent of seriously troubled mortgages enter into any formal modification or informal loss mitigation program within six months of becoming delinquent (Agarwal et al., 2010). Moreover, the foreclosure process has been plagued by violations of consumer protections by mortgage servicers. An interagency review of the foreclosure polices and practices of mortgage servicers conducted by the Federal Reserve

---

[1]Brevoort and Cooper (2011) find declines in credit scores following foreclosure ranging from 110 points for low-credit score individuals to 206 points for prime credit score individuals. Moreover, credit scores remain below their pre-foreclosure level for several years following foreclosure.

System, the Office of the Comptroller of the Currency and the Office of Thrift Supervision found widespread "critical weaknesses" in all aspects of the foreclosure process that violated both state and federal law (Federal Reserve System, 2011). These policies resulted in significant harm to consumers, with service members being foreclosed on while on deployment, homeowners being denied modifications for which they were eligible or foreclosed on before an approved modification is implemented, and the imposition of inaccurate and improper fees and charges (Federal Reserve System, 2011).

Setting aside the difficulties experienced by consumers resulting from the behavior of mortgage servicers, negotiations for loan modifications between borrowers and lenders are plagued by problems of asymmetric information. Mortgage borrowers have private information on their ability to pay and future prospects for repayment that lenders cannot observe. Conversely, borrowers do not know the range and depth of concessions a lender might be willing to make.

There is the potential for historically underserved borrowers, lower-income and minority borrowers in particular, with limited understanding of the options available to them in default to be disparately impacted by mortgage default. These borrowers may lack the experience and knowledge necessary to deal effectively with a lending institution or fail to pursue all options for mitigating or avoiding foreclosure. There are several examples in prior studies suggesting that vulnerable populations may not be as likely to obtain modifications. Campbell (2006) finds consumers with less education are among the least likely to refinance when the terms of their loan could be most improved. Bucks and Pence (2008) show that low-income borrowers with adjustable rate mortgages (ARMs) are most likely to underestimate their actual contract rate and not know how much the interest rate on their loan could change relative to their initial rate. Moreover, Bucks and Pence (2008) find that minority borrowers are 30 percent less likely to know their interest rate, while low-income borrowers are 28 percent less likely to know their interest rate. Previous research has also shown minority borrowers tend to receive worse terms on credit than other borrowers, even controlling for

factors including credit history and credit score (Avery et al., 2009). This suggests that mortgage default counselors may significantly improve the terms of any loan modification obtained by a minority client relative to a minority borrower who does not receive counseling.

Without the ability to connect and share information, the lender lacks full information on the borrower and his or her ability to repay a mortgage. Concerns about lack of reciprocal contact have stimulated efforts to connect lenders and borrowers, including the Homeownership Preservation Foundation's Homeowner's HOPE Hotline (888-995-HOPE) where borrowers can call a third party nonprofit housing counselor for advice and information on modifications. Nationwide marketing campaigns and 'Fix Your Mortgage' events have also been developed to encourage lenders to connect with borrowers and vice versa. Counseling could therefore allow minority consumers to more effectively navigate the complexities of dealing with mortgage servicers to obtain modifications at rates, and on terms, comparable to non-minority borrowers.

This paper makes two significant contributions to the literature on mortgage counseling. First, we include the borrower's race in our examination of the determinants of borrowers seeking mortgage default counseling, whether borrowers receive a loan modification, and the terms of any modification received. We are therefore able to speak to the effectiveness of counseling for promoting the interests of minority borrowers related to the primary federal policy tool: modifications. Second, by combining data on the initial home price with zip code level data on housing price changes, we are able to create a borrower specific estimate of the equity in their home and the extent to which they are underwater on their mortgage (owe more than the value of the current value of the home).

2 BACKGROUND

As the housing crisis escalated in the mid 2000s, policymakers and lenders grew increasingly interested in the provision of mortgage default counseling (Collins and Orton, 2010). At

its broadest definition, default counseling is part of a continuum of services that provide information, advice, and guidance on how to deal with debt problems (Pleasence and Balmer, 2007). Orton's (2009) in-depth interviews with 59 counseling clients identified three areas clients value about counseling: having someone to talk to, obtaining information and options, and being better able to deal with lenders. Counseling can include services provided by for-profit and not-for-profit organizations; however, the vast majority of counseling is provided free of charge to clients by non-profits. Consumers may enter the counseling process based on a referral from their lender or loan servicer, or in response to local outreach or advertising efforts.

Most importantly, the default counselor is charged with preparing borrowers to work with their lenders and then actually connecting them to their lenders. To this end, the counselor typically goes through the client's budget and helps determine what amount the borrower can realistically afford to pay each month. Because lenders remain the primary channel through which distressed borrowers can access alternatives to foreclosure, the counselor focuses on helping borrowers work with their lenders. Once the borrower and lender have started to work towards a resolution, the default counselor may help the borrower complete applications for the various forms of assistance available to distressed borrowers including mortgage modifications.

Prior research has focused on the effects of default counseling on repayment. For example, Ding, Quercia, and Ratcliffe (2008) evaluated a program that offered counseling to borrowers directly in response to late payments. The authors estimate the odds of curing the defaulted loan (catching up on payments) were 50 percent higher for borrowers who accepted and received counseling than for uncounseled borrowers. Collins (2007) analyzed a sample of 299 counseling clients to determine the effect of additional counseling time on foreclosure outcomes. Using an instrumental variables identification strategy to address the potential endogeneity between number of hours of counseling and foreclosure outcomes, he finds that each additional hour of counseling reduced the probability of negative foreclosure

outcomes by 3.5%. Mayer, Calhoun, Tatian, and Tempkin (2010) conducted an evaluation of the National Foreclosure Mitigation Counseling (NFMC) program, and found counseling to have a strong association with receipt of loan modifications. However, the authors did not account for differential effects of race or whether or not the loan was underwater. Collins and Schmeiser (2012) also find that mortgage default counseling increases the probability that a borrower receives a loan modification, but again did not examine the effect by race or underwater status.

By combining loan performance data with loan application data, we are able to incorporate race into our analysis of the determinants of receipt of mortgage default counseling. We are further able to analyze whether minority borrowers disproportionately benefit from counseling. In addition, we determine which loans are underwater at the time of counseling to examine whether counseling is differentially effective for homeowners who owe more than their home is worth.

3   DATA

The data for this study were drawn from a nationwide database on subprime home mortgages administered by Corporate Trust Services (CTS). While Wells Fargo is the trustee for these loans (the administrator for investors in mortgage backed securities), the CTS covers loans from over 60 loan servicers and lenders throughout the country. All of the loans are privately securitized (not agency backed pools from Fannie Mae or Freddie Mac), and a majority of the loans have characteristics consistent with industry standards for subprime mortgages (low credit score, high loan-to-home value ratios (LTV) and limited loan application documentation). Information on the loans is released via monthly remittance reports that are then uploaded by loan servicers. Each monthly loan record includes the loan number, the loan servicer, a current FICO (Fair Issacs and Company) credit score, the loan-to-value ratio at initial loan origination, the loan's delinquency history over the past year, the prop-

erty's zip code, the original and current loan balance, information on whether the loan has been formally modified, among other variables. Although the CTS dataset provides a rich panel of information on mortgages and mortgage holders, it does not provide information on the receipt of mortgage default counseling, nor does it provide information on borrower demographics.

In order to obtain demographic information on the borrowers, the CTS data were matched to Home Mortgage Disclosure Act (HMDA) data by origination date, zip code, lender and loan amount for loans reported in HMDA in 2004 to 2006. Data on receipt of mortgage default counseling was obtained from an administrative dataset provided by the Homeownership Preservation Foundation containing information on individuals who received counseling through their 888-995-HOPE counseling hotline that serves borrowers nationwide. The counseling dataset covers the period of January 2008 through October 2009. The administrative dataset contains information on the first date borrowers contacted the counseling hotline, the property address, the loan servicer, and the loan identification number. Loan numbers are generally unique within zip code and servicer, so we used loan identification numbers to match the counseling hotline and CTS datasets.

In order to control for whether or not each loan was underwater in a given period we use zip-code level monthly house price indices from Zillow. Zillow uses data on market transactions to estimate prevailing average market values for each month. These estimates are not seasonally corrected, but offer a reasonable estimate of house price trends from the date the loan was taken out to the final date of observation.

The dataset contains information on loans originated as early as 2004; however we restrict the first period of observation in the CTS data to January 2007. This allows us to construct a measure we call Underwater$_{t0}$, where we determine if the loan was underwater in January of 2007, the first observation period. We use this loose measure of a mortgage being underwater to control for the fact that loans are not likely to self-cure if underwater in this initial period. We additionally construct a measure to determine if each counseled loan was underwater at

6

the time of counseling, to see if there are differential effects of counseling by whether a borrower's mortgage is underwater.

This combined dataset yields individual data on mortgage status and the receipt of default counseling spanning January 2007 through December 2010. Again, the counseling data covers January 2008 through October 2009, so the CTS data covers a longer period of time than that encompassed by the counseling hotline data. The additional observations on the loans allows us to examine loan performance following the completion of all counseling. Borrowers who were counseled comprise the treatment group, and a randomly selected group of borrowers in the CTS data who were not counseled serve as the comparison group. The final dataset includes loans from 65 servicers, the largest of which was associated with 14 percent of the loans in the dataset.

We were able to match 4,470 mortgage loan records to the counseling database after eliminating observations with missing data for key variables. The data on counseled borrowers are supplemented with data on a comparison group of 4,431 uncounseled borrowers who were randomly selected from the CTS dataset.

This analysis is based on a cross section of the loans in the CTS as of the final month of data (December 2010). We do not use a panel approach, primarily because there are unobserved time-invariant factors that we cannot control for at the month level (i.e. job loss) that could cause a borrower to default and simultaneously seek counseling. Using the full time period of loan information we determine if and when a loan received counseling, if it received a modification after counseling (for loans that received counseling), and if it received a modification in the absence of counseling. For the loans that received a modification, we also look at the changes in the mortgage interest rates as a result of the modification of loan terms.

It is important to note that although the agency that supplied the counseling data for this analysis is one of the largest counseling agencies in the nation, the preponderance of alternative counseling providers available to borrowers means that some borrowers in the

comparison group may have participated in counseling through other agencies. However, the inclusion of borrowers counseled through other agencies in the comparison group would only bias downward our estimates of the effectiveness of counseling.

Table 1 shows summary statistics for uncounseled borrowers, counseled borrowers and the overall sample in the month of December 2010. Counseled borrowers are significantly different from uncounseled borrowers along numerous dimensions. In terms of our outcome variables, counseled borrowers are more likely to receive a loan modification and, among those receiving a modification, counseled borrowers receive a larger reduction in their interest rate. Counseled borrowers were more likely to be minorities, and differ from uncounseled borrowers based on their characteristics at loan origination. At origination, counseled borrowers were much less likely to be underwater, had higher incomes, and bought more expensive home. As of December 2010, counseled borrowers also had higher FICO scores, lived in areas with higher rates of unemployment, were more likely to have ever been delinquent, and were delinquent for longer periods of time.

In Table 1.A of the Appendix, we present descriptive statistics for our December 2010 sample restricted only to those borrowers who were ever delinquent, as uncounseled borrowers who were sufficiently distressed to fall behind on their mortgage payments at some point in the sample period may be a better comparison group for our counseled borrowers. While many of the significant differences between counseled and uncounseled borrowers persist, the differences are generally smaller in magnitude.

Figure 1 and Figure 2 show the difference in rates of modification and magnitude of interest rate reductions on modified loans for the underwater borrowers, minority borrowers, and then the full sample. As shown in Figure 1, minority borrowers appear to be more likely to receive a loan modification than other borrowers. Moreover, counseled borrowers in all categories are much more likely to receive loan modifications. Figure 2 then shows that among borrowers receiving a modification, uncounseled borrowers have similar reductions in their interest rate, while counseled borrowers received greater reductions. Here, counseling

appears to be particularly beneficial for minority borrowers, as counseled minorities receive the greatest reduction in their interest rate of all groups.

Given these unconditional differences between borrowers who receive counseling and those who do not, we next present results from several different regression analyses that attempt to control for both the observable and unobservable factors that affect both the decision to seek counseling as well as subsequent mortgage outcomes.

4   METHOD

In order to examine the effect of default counseling on loan modifications, we first examine the determinants of counseling take-up by estimating a linear probability model (LPM) for receipt of counseling.[2] In this specification, we control for individual level characteristics such as race, income and balance at origination,[3] FICO score at origination (in quintiles), and year of origin. We additionally include the control Underwater$_{t0}$, an indicator for whether or not the loan was underwater in the first period of observation in the CTS data. Lastly, we control for the MSA unemployment rate to examine how local economic conditions might encourage borrower's to seek counseling. We intentionally construct variables that are not associated with the time of counseling, but instead try to predict counseling receipt based on loan characteristics at earlier periods of observation.

Column (1) of Table 2 displays the results from our estimation of the determinants of a borrower's choice to seek counseling. Here we explore loan, market, and borrower factors that might be associated with calling the counseling hotline and receiving a counseling session. The previous literature on vulnerable populations and credit cited above suggested that minority borrowers may be under-served and less knowledgeable about the mortgage market (Bucks and Pence, 2008; Campbell, 2006). While these borrowers may be less knowl-

---

[2]The results presented here are highly similar to the marginal effects from comparable logit specifications. We present results from the linear probability model for ease in interpreting interaction terms.

[3]Since these two variables are skewed, we take a log transformation of each.

edgeable about their mortgages, we find that they are actually the most likely to seek help when having payment difficulty. We find that minorities are 4.15 percentage points more likely to seek counseling than non-minority borrowers. Unsurprisingly, borrowers who were underwater at the first period of observation are 4.34 percentage points more likely to subsequently seek counseling than borrowers who were not. Consistent with unemployment being a major trigger of default and distress, we find that borrowers who live in areas with higher unemployment rates are more likely to seek counseling, with a one percentage point increase in the unemployment rate increasing the percentage of people seeking counseling by 5 points. We also find that those with higher income are less likely to seek counseling via the hotline.[4] Borrowers with larger loans are more likely to receive counseling. In general these results are consistent with borrowers in more economic distress and financial instability seeking counseling. This is suggestive of strong selection into counseling, with the potential to bias estimates of the relationship between counseling and outcomes when adequate controls for these factors are not in place.

We next turn to an examination of the effect of counseling on a borrower's receipt of a loan modification. The model for mod receipt takes the following form:

$$Y_i = \alpha_0 + \alpha_1 C_i + \alpha_2 (C_i \times R_i) + \alpha_3 \phi \boldsymbol{X}_i + \varepsilon_i \qquad (1)$$

where Y is an indicator for receipt of a loan modification, meaning a formal permanent loan modification defined by the servicer as a contractual change in the mortgage, as opposed to temporary modifications or informal loss mitigation. C is an indicator for receipt of counseling. The effects of counseling on loan modifications includes a sub-specification including an interaction between counseling and race, and whether or not the loan was underwater. Therefore, $(C_i \times R_i)$ is an interaction of counseling and the borrower being identified as a minority (non-white) race, or alternatively a binding constraint for a loan being underwa-

---

[4]Though we do not report the results, borrowers with higher FICO scores are similarly less likely to seek counseling.

ter at the time of counseling. **X** contains individual demographic and loan characteristics identical to those present in the counseling take-up regression and ε is the error term.

In Table 2 we see that, across specifications (2)-(4), counseled loans, on average, are more likely to receive a formal change in contract terms (a loan modification). Receiving counseling is estimated to increase the probability of receiving a loan modification by approximately 20 percentage points across specifications, meaning it effectively doubles a borrower's chance of getting a modification. Column (3) shows that minorities and non-minorities do not seem to differentially benefit from counseling in terms of their probability of receiving modifications. However, across specifications, minorities are consistently more likely to receive a modification than non-minority borrowers. Similarly, borrowers with loans that are underwater at the time of counseling appear to be no more likely than other borrowers to receive a loan modification, as shown in Column (4).

Next, we examine the reset interest rate a borrower receives following a modification. This set of estimates is produced using only loans receiving a loan modification by the final period of our sample. The equation estimated in Columns (5) and (6) follows Equation 1; although the dependent variable is now the magnitude of the change in the interest rate before and after the formal modification of mortgage terms takes places.

Columns (5)-(6) of Table 2 show that for the sample of all loans receiving modifications, or loans that lenders choose to help, counseling has little effect on the terms of the loan. In Column (5), however, counseled minorities receiving modifications appear to receive a significantly lower interest rate than non-minorities after counseling of approximately 14 basis points. This provides suggestive evidence that counseling may disproportionately benefit minorities and have a protective effect for vulnerable borrowers. In Column (6), we find that loans that are underwater at the time of counseling tend to receive lower interest rates after modifications than those that are not underwater at the time of counseling by about seven basis points.

Table 3 replicates Table 2, this time controlling for whether or not the loan was ever

delinquent in the sample period. We see in Column (1) that delinquent loans are more likely to seek counseling, and all of the results from Table 2 Column (1) remain consistent, except underwater loans are no more likely to take-up counseling than those with equity. In Columns (2)-(4), we see that delinquent loans are more likely to receive modifications than current loans. Minorities and underwater loans with counseling are still no more likely to receive a modification than un-counseled borrowers of those groups. Columns (5)-(6) of Table 3 shows us that delinquent borrowers tend to get a lower interest rate upon modifications than do current borrowers. Minorities and underwater borrowers who receive modifications still tend to receive lower interest rates than their un-counseled counterparts.

Finally, concern may arise that the variation in the behavior of loan servicers with regards to provision of modifications may be correlated with borrower characteristics, as found in Agarwal et al. (2011), biasing our results. Thus, in Table 2.A of the Appendix, we replicate our previous results, including servicer fixed effects. The robustness of our findings to this specification indicates that specific servicers' actions are not driving our results.

5 CONCLUSIONS

Overall, our findings suggest that mortgage default counseling could have protective effects for borrowers. First, it appears that there is some negative selection into counseling, with borrowers more likely to be suffering some type of financial distress being more likely to seek counseling. Second, counseling appears to be strongly related to receipt of a formal loan modification–that is changes to the mortgage contract. Third, among modified loans, counseling may aid the borrower, particularly a minority borrower, in negotiating lower interest rates and monthly payments. Lower monthly payments are beneficial to consumers on a number of fronts, first by increasing the likelihood that they will be able to afford the mortgage payment, and second by free up additional money for the household.

The nature of these data, linked to income, race and counseling administrative data offers

a unique opportunity not only to examine an extremely policy-relevant problem, but also to better understand the mechanics of how people seek advice. It further allows us to examine the effectiveness of counseling for borrowers in different housing market contexts.

The loan modification negotiation process is costly for lenders, mortgage investors and borrowers. Counseling may play an important role in improving the implementation of modification policies for borrowers, particularly minority borrowers. Counseling potentially overcomes information asymmetry by borrowers and may be an important complement to loan modifications.

In order for the lender to sufficiently reduce the monthly payment on a mortgage so that a borrower can afford a modified loan they must generally increase the amortization period for the loan to 40 or more years. Moreover, the fees accumulated in delinquency are generally added to the mortgage principal. Thus modifications encourage trading off longer term debt for present day decreases in monthly obligations. This may be an appropriate course of action if borrowers have informed expectations about their future ability to repay the loan. However, the performance of loans post-modification in terms of subsequent delinquencies and foreclosure requires further study, so that borrowers can make better weigh the costs and benefits of a mortgage modification. Moreover, future research needs to better track racial differences in loan modifications and the ultimate ability of homeowners to retain their homes, or to efficiently exit ownership with minimal damage to their balance sheet and credit history.

References

Agarwal, S., B. W. Ambrose, S. Chomsisengphet, and A. B. Sanders (2011). Thy neighbor's mortgage: Does living in a subprime neighborhood affect one's probability of default? *Real Estate Economics*, no–no.

Agarwal, S., G. Amromin, I. Ben-David, S. Chomsisengphet, and D. D. Evanoff (2010). Market-based loss mitigation practices for troubled mortgages following the financial crisis. *Working Paper*.

Agarwal, S., G. Amromin, I. Ben-David, S. Chomsisengphet, and D. D. Evanoff (2011). The role of securitization in mortgage renegotiation. *Journal of Financial Economics Forthcoming*.

Avery, R. B., K. P. Brevoort, and G. B. Canner (2009). Credit scoring and its effects on the availability and affordability of credit. *Journal of Consumer Affairs 43*(3), 516–537.

Brevoort, K. P. and C. R. Cooper (2011). Foreclosure's wake: The credit experiences of individuals following foreclosure. *Finance and Economics Discussion Series*.

Bucks, B. K. and K. Pence (2008). Do borrowers know their mortgage terms? *Journal of Urban Economics 64*, 218–233.

Campbell, J. Y. (2006). Household finance. *Journal of Finance 61*, 1553–1604.

Collins, J. M. (2007). Exploring the design of financial counseling for mortgage borrowers in default. *Journal of Family Economic Issues*.

Collins, J. M. and M. Orton (2010). Comparing foreclosure counseling policies in the us and uk. *Journal of Comparative Policy Analysis: Research and Practice 12*(4), 417 – 438.

Collins, J. M. and M. D. Schmeiser (2012). Estimating the effects of mortgage default counseling. *SSRN eLibrary*.

Cutts, A. C. and R. K. Green (2005). Innovative servicing technology: smart enough to keep people in their houses? *Freddie Mac Working Paper No. 04-03*.

Demyanyk, Y. and O. Van Hemert (2011). Understanding the subprime mortgage crisis. *Review of Financial Studies 24*(6), 1848–1880.

Ding, L., R. G. Quercia, and J. Ratcliffe (2008). Post-purchase counseling and default resolutions among low- and moderate- income borrowers. *Journal of Real Estate Research 30*(3), 315–344.

Federal Reserve System, O. o. t. C. o. t. C. (2011). Interagency review of foreclosure policies and practices. Technical report.

Lin, Z., E. Rosenblatt, and V. Yao (2009). Spillover effects of foreclosures on neighborhood property values. *The Journal of Real Estate Finance and Economics 38*, 387–407. 10.1007/s11146-007-9093-z.

Mayer, N. S., C. A. Calhoun, P. A. Tatian, and K. Temkin (2010). Preliminary analysis of national foreclosure mitigation counseling program effects: September 2010 update. Technical report, The Urban Institute.

Orton, M. (2009). The long-term impact of debt advice on low income households. *Institute for Employment Research Working Paper, University of Warwick*.

Pleasence, P. and N. J. Balmer (2007). Changing fortunes: Results from a randomized trial of the offer of debt advice in england and wales. *Journal of Empirical Legal Studies 4*(3), 651–673.

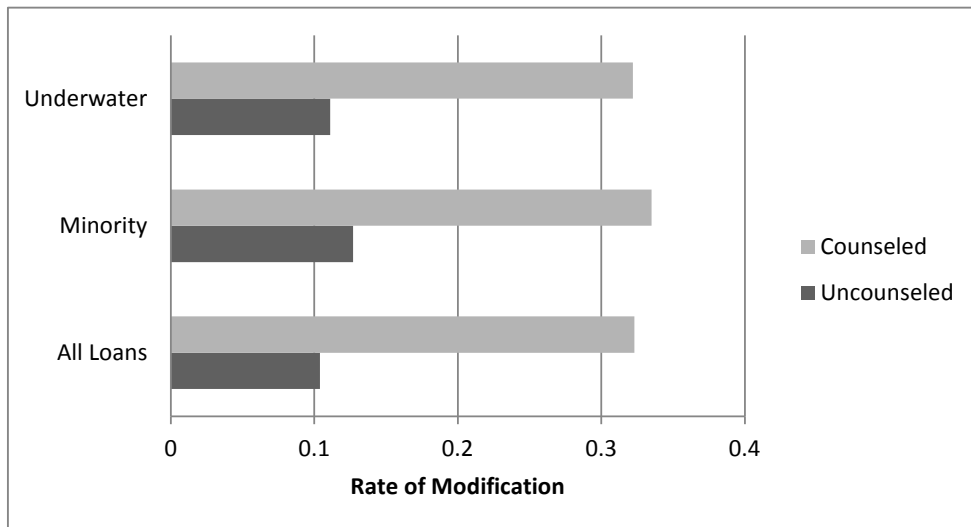Figure 1: Mean Modification Rate Among Groups of Interest

Figure 2: Mean Interest Rate Reduction, Conditional on Modification, Among Groups of Interest
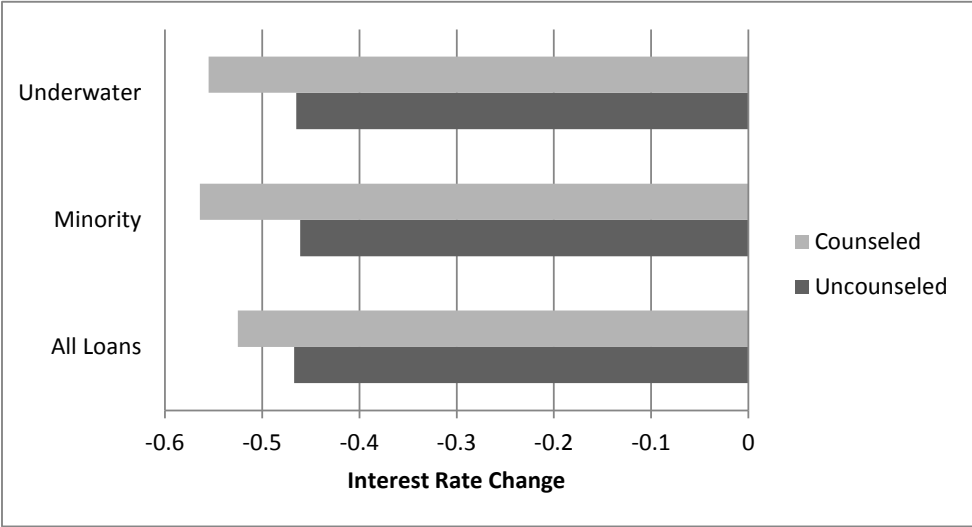
Table 1: Descriptive Statistics: Counseled and Un-Counseled Borrowers

	No Counsel	Counsel	Total
Dependent Variables			
Counsel	0	1	0.502
	(0)	(0)	(0.500)
Modification Indicator	0.102	0.313***	0.208
	(0.303)	(0.464)	(0.406)
Rate Change	-0.467	-0.525**	-0.511
	(0.445)	(0.481)	(0.473)
	No Counsel	Counsel	Total
Control Variables			
Minority	0.481	0.571***	0.525
	(0.500)	(0.495)	(0.499)
$Underwater_{t0}$	0.308	0.217***	0.264
	(0.462)	(0.412)	(0.441)
Applicant Income (000s)	100.97	105.10**	102.97
	(109.41)	(75.22)	(94.43)
Original Balance (000s)	262.81	321.01***	290.98
	(206.08)	(191.52)	(201.27)
FICO	649.9	660.1***	654.8
	(76.27)	(74.41)	(75.54)
Adjustable Rate Mortgage	0.661	0.665	0.663
	(0.473)	(0.472)	(0.473)
Unemployment Rate (MSA)	8.191	10.57***	9.344
	(3.237)	(2.877)	(3.290)
Year Origination	2005.64	2005.56***	2005.6
	(0.643)	(0.633)	(0.640)
Months Delinquent	8.057	18.492***	13.300
	(11.33)	(12.07)	(12.82)
Ever Delinquent	0.486	0.893***	0.690
	(0.500)	(0.310)	(0.463)
Observations	4,431	4,470	8,901

Source: Corporate Trust Services (CTS) December, 2010

Means reported, standard deviations in parentheses.

*** and ** in Column (2) signifies means between counseled and uncounseled loans are statistically different at the 1% and 5% levels repsectively.

Rate Change is conditional on the loan being modified.

Table 2: Borrower Outcomes and Counseling, Baseline

	(1) Counseled	(2) Mod	(3) Mod	(4) Mod	(5) Rate	(6) Rate
Counseled		0.201***	0.197***	0.198***	0.0636*	0.0184
		(0.00875)	(0.0119)	(0.0120)	(0.0384)	(0.0292)
Minority x Counseled			0.00690		-0.138***	
			(0.0155)		(0.0487)	
Underwater at Counseling				0.00436		-0.0695**
				(0.0140)		(0.0292)
Minority	0.0415***	0.0376***	0.0342***	0.0374***	0.0360	-0.0632***
	(0.00994)	(0.00781)	(0.00895)	(0.00783)	(0.0423)	(0.0213)
Underwater$_{t0}$	0.0434***	0.0182*	0.0182*	0.0171*	-0.0113	0.0162
	(0.0115)	(0.00932)	(0.00932)	(0.00965)	(0.0239)	(0.0263)
Unemployment Rate (MSA)	0.0500***	0.00743***	0.00743***	0.00737***	-0.00410	-0.00253
	(0.00161)	(0.00122)	(0.00122)	(0.00123)	(0.00369)	(0.00377)
ln(income)	-0.0890***	-0.0192**	-0.0192**	-0.0191**	0.0314	0.0336
	(0.0125)	(0.00945)	(0.00945)	(0.00945)	(0.0280)	(0.0279)
ln(original balance)	0.146***	0.0267***	0.0268***	0.0265***	-0.0739***	-0.0690***
	(0.0123)	(0.00955)	(0.00955)	(0.00954)	(0.0256)	(0.0257)
Observations	8901	8901	8901	8901	1855	1855

Robust standard errors in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Income is at the time of application. Underwater$_{t0}$ is at the first period of observation.

All models control for year of origin and quintiles of FICO score at origination.

Columns (5) and (6) only include loans that received a modification; change in rate is before and after the modification.

Table 3: Borrower Outcomes and Counseling, Ever Delinquent

	(1) Counseled	(2) Mod	(3) Mod	(4) Mod	(5) Rate	(6) Rate
Counseled		0.158***	0.148***	0.155***	0.0634*	0.0202
		(0.00944)	(0.0124)	(0.0125)	(0.0383)	(0.0291)
Minority x Counseled			0.0185		-0.136***	
			(0.0153)		(0.0485)	
Underwater at Counseling				0.00539		-0.0711**
				(0.0139)		(0.0292)
Minority	0.0175*	0.0315***	0.0222**	0.0312***	0.0363	-0.0614***
	(0.00929)	(0.00773)	(0.00870)	(0.00775)	(0.0421)	(0.0213)
Underwater$_{t0}$	0.0168	0.0112	0.0111	0.00987	-0.0101	0.0180
	(0.0108)	(0.00924)	(0.00924)	(0.00955)	(0.0239)	(0.0263)
Unemployment Rate (MSA)	0.0291***	0.00263**	0.00261**	0.00256**	-0.00385	-0.00224
	(0.00165)	(0.00127)	(0.00127)	(0.00128)	(0.00368)	(0.00376)
Ever Delinquent	0.396***	0.131***	0.132***	0.131***	-0.0978***	-0.102***
	(0.0112)	(0.00854)	(0.00854)	(0.00854)	(0.0302)	(0.0301)
ln(income)	-0.0647***	-0.0149	-0.0150	-0.0148	0.0291	0.0312
	(0.0117)	(0.00936)	(0.00936)	(0.00936)	(0.0279)	(0.0279)
ln(original balance)	0.116***	0.0230**	0.0232**	0.0227**	-0.0702***	-0.0650**
	(0.0116)	(0.00948)	(0.00949)	(0.00947)	(0.0256)	(0.0257)
Observations	8901	8901	8901	8901	1855	1855

Robust standard errors in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Income is at the time of application. Underwater$_{t0}$ is at the first period of observation.

All models control for year of origin and quintiles of FICO score at origination.

Columns (5) and (6) only include loans that received a modification; change in rate is before and after the modification.

6 Appendix

Table 1.A: Descriptive Statistics: Counseled and Un-Counseled Delinquent Borrowers

	No Counsel	Counsel	Total
Dependent Variables			
Counseled	0	1	0.650
	(0)	(0)	(0.477)
Modification Indicator	0.196	0.332***	0.284
	(0.397)	(0.471)	(0.451)
Rate Change	-0.456	-0.514**	-0.499
	(0.449)	(0.485)	(0.477)
	No Counsel	Counsel	Total
Control Variables			
Minority	0.571	0.596*	0.587
	(0.495)	(0.491)	(0.492)
$Underwater_{t0}$	0.258	0.304***	0.288
	(0.438)	(0.460)	(0.453)
Applicant Income (000s)	960.00	108.62***	104.20
	(86.88)	(76.97)	(80.79)
Original Balance (000s)	264.89	336.72***	311.55
	(170.17)	(189.76)	(186.30)
FICO	630.25	662.35***	651.10
	(74.68)	(72.05)	(74.57)
Adjustable Rate Mortgage	0.683	0.680	0.681
	(0.466)	(0.466)	(0.466)
Unemployment Rate (MSA)	9.546	10.962***	10.466
	(3.135)	(2.822)	(3.013)
Year Origination	2005.6	2005.6***	2005.6
	(0.634)	(0.626)	(0.629)
Observations	2152	3990	6142

Source: Corporate Trust Services (CTS) December, 2010

Means reported, standard deviations in parentheses.

All observations were behind at some point over the period.

*** and ** in Column (2) signifies means between counseled and uncounseled loans

are statistically different at the 1% and 5% levels repsectively.

Table 2.A: Borrower Outcomes and Counseling, Ever Delinquent with Servicer Fixed Effects

	(1) Counseled	(2) Mod	(3) Mod	(4) Mod	(5) Rate	(6) Rate
Counseled		0.129***	0.118***	0.123***	-0.0464	-0.0554
		(0.0204)	(0.0267)	(0.0224)	(0.0370)	(0.0366)
Minority x Counseled			0.0199		-0.0612**	
			(0.0176)		(0.0232)	
Underwater at Counseling				0.00951		-0.0517*
				(0.0101)		(0.0283)
Minority	0.0219**	0.0239**	0.0140	0.0235**	0.00816	-0.0346**
	(0.00889)	(0.00927)	(0.0117)	(0.00927)	(0.0249)	(0.0141)
Underwater$_{t0}$	0.0186	0.0134	0.0133	0.0110	-0.0204	-0.000849
	(0.0126)	(0.00960)	(0.00959)	(0.0104)	(0.0215)	(0.0184)
Unemployment Rate (MSA)	0.0207***	0.000298	0.000270	0.000162	-0.00335	-0.00208
	(0.00383)	(0.00144)	(0.00143)	(0.00139)	(0.00407)	(0.00411)
Ever Delinquent	0.360***	0.132***	0.133***	0.132***	-0.0554	-0.0583
	(0.0303)	(0.0136)	(0.0137)	(0.0136)	(0.0585)	(0.0588)
ln(income)	-0.0637***	-0.0164	-0.0165	-0.0163	0.00630	0.00697
	(0.0136)	(0.0106)	(0.0106)	(0.0107)	(0.0342)	(0.0350)
ln(original balance)	0.0856***	0.0384***	0.0386***	0.0379***	-0.0545*	-0.0497
	(0.0202)	(0.0123)	(0.0122)	(0.0120)	(0.0312)	(0.0300)
Observations	8901	8901	8901	8901	1855	1855

Robust standard errors in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Income is at the time of application. Underwater$_{t0}$ is at the first period of observation.

All models control for year of origin and quintiles of FICO score at origination.

Columns (5) and (6) only include loans that received a modification; change in rate is before and after the modification.