

J. MICHAEL COLLINS, MAXIMILIAN D. SCHMEISER, AND
CARLY URBAN

Protecting Minority Homeowners: Race, Foreclosure Counseling and Mortgage Modifications

Millions of minority homeowners are at risk of losing their homes as a result of the housing crisis due to mortgage foreclosure and home repossession. One consumer-oriented policy response to this crisis is mortgage default counseling for borrowers. This study examines the rate at which minority borrowers seek default counseling and the resulting correlation between counseling and the probability that a borrower obtains a modification of his/her original mortgage contract terms. The results suggest that African Americans are more likely to be counseled, relative to Whites. However, Latinos or other non-White groups are no more or less likely to be counseled. The probability of loan modifications among counseled African Americans is also higher than other counseled borrowers. These results suggest that counseling policies and the public subsidy of default counseling may be one approach for promoting consumer financial well-being of these households, but also suggest counseling efforts might be better designed for other minority groups. These results also have implications for the application of counseling to other mortgage decisions, such as refinance.

Mortgage default and foreclosure are among the most financially damaging events that can happen to 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. 2011a; Lin, Rosenblatt,

1. For example, Brevoort and Cooper (2010) 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.

J. Michael Collins (jmcollins@wisc.edu) is an Assistant Professor at the Department of Consumer Science, University of Wisconsin-Madison. M.D. Schmeiser (max.schmeiser@frb.gov) is an Economist at the Federal Reserve Board of Governors, Washington, DC. Carly Urban (carly.urban@montana.edu) is an Assistant Professor at the Department of Agricultural Economics and Economics, Montana State University. The authors gratefully acknowledge the Homeownership Preservation Foundation for its contributions to this project, as well as Jonathon Latner for research assistance. The views expressed in this paper are those of the authors and do not necessarily represent those of the Federal Reserve Board or any part of the Federal Reserve System.

and Yao 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, lenders 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). Default counseling offers the potential to help borrowers experiencing financial distress to receive advice and information useful for responding to problems. 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 payment. However, Agarwal et al. (2011a, 2011b) show a high degree of variation in which mortgage lenders and loan servicers offer borrowers loan modifications.²

It is telling that as many as half of borrowers fail to contact their lender at the time legal foreclosure proceedings are initiated, despite often vigorous outreach efforts by mortgage servicers during the default period (Cutts and Green 2005). A significant proportion of borrowers never speak with their servicer when they find themselves unable to make their mortgage payments (Collins 2007; Cutts and Merrill 2008). This lack of reciprocal contact clearly makes it less likely that the borrower is able to obtain a mortgage modification. Some estimates suggest that only 15% of seriously troubled mortgages enter into either formal modification or an informal loss mitigation program within six months of becoming delinquent (Agarwal et al. 2011a, 2011b).

Moreover, the foreclosure process has been plagued by violations of consumer protections. An interagency review of the foreclosure policies and practices of mortgage servicers conducted by the Federal Reserve 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 military 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

2. We use the terms lender and servicer interchangeably, but for this paper lenders are defined as the financial institution that originated or owns the loan, and the servicer the entity that collects payments and manages defaults.

Reserve System 2011). In many cases borrowers were not aware of the fact that improprieties occurred.

This is a problem of asymmetric information—namely that borrowers are less informed about alternatives to foreclosure than loan servicers. To the extent that some groups of borrowers lack information, they may systematically fail to seek out and receive loan modifications. This is a variation on a problem well documented in the economics of information (Mazis et al. 1981). In most cases borrowers must seek out a loan modification—or at the very least respond to letters and calls from their lender or loan servicer. Borrowers must complete application forms and complicated paperwork. Even if information is available, some borrowers may systematically fail to act on it. Mortgage default counselors may improve the access to information about loan modifications.

The Homeownership Preservation Foundation's Homeowner's HOPE Hotline (888-995-HOPE) offers borrowers a mechanism to contact 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 connect borrowers to mortgage servicers. Counseling provided through these and other programs could particularly aid uninformed consumers in navigating the complexities of dealing with mortgage servicers to obtain modifications.

Prior research suggests the potential for historically underserved borrowers, such as lower-income, minority borrowers, to face more severe information asymmetries than other borrowers. These borrowers are more often first-time homeowners and less experienced in dealing with financial institutions. Prior research on mortgage decision making and knowledge affirms that some vulnerable populations may face information challenges. Campbell (2006) finds consumers with less education are among the least likely to refinance when the terms of their loan could be most improved by seeking a loan at current market rates. Bucks and Pence (2008) show that low-income and minority borrowers with adjustable rate mortgages (ARMs) are among the 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. Previous research has also shown that loans taken out by minority borrowers have less favorable terms than those for White borrowers, even controlling for risk and pricing factors including credit history and credit score (Avery, Brevoort, and Canner 2009).

This article contributes to the literature on the differential experiences of minorities in consumer credit markets and examines whether counseling or advice, in this case foreclosure counseling, can mitigate

these differences. We examine the determinants of borrowers seeking mortgage default counseling, including race, and the subsequent receipt of a loan modification. Recent work by Lee and Hanna (2012) highlights the importance of including race and ethnicity in research on consumer credit issues. To the extent minority borrowers suffer negative consequences from a lack of information about modifications, this study helps document the role of counseling in promoting alternatives to foreclosure. Understanding these issues helps to inform consumer policies being developed by state and federal regulatory agencies, including the extent to which counseling should be supported, subsidized and promoted to targeted populations for a variety of financial products and decisions.

BACKGROUND

Between 2008 and mid-2012, an estimated 2.5 million mortgage loans in the United States have been modified in some form (US Department of Treasury 2012). A modification is a formal change in the loan contract. The process of modifying a loan is quite involved and can take months. The federal Making Home Affordable program and the Home Affordable Modification Program (HAMP) were launched in 2009 to facilitate more loan modifications, with a focus on troubled borrowers.³ Under the program guidelines, eligible borrowers work with the servicer to reduce their monthly payment to 38% of their income, and then HAMP provides a subsidy to further reduce the payment to 31%. Servicers also receive an up-front fee of \$1,000 for each modification, plus “pay for success” fees on performing modified loans of \$1,000 per year for up to five years, thus providing servicers a financial incentive to initiate modifications.

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). Between 2008 and 2011, Congress appropriated \$508 million for default counseling through the National Foreclosure Mitigation Counseling (NFMC) program, which was launched in December 2007.⁴ The NFMC program awarded federal funds to about 1,700 nonprofit counseling agencies nationwide, who served almost 1.2 million borrowers between 2008 and June 2011. By comparison, prior to 2008 the largest annual appropriation for all

3. See <http://www.makinghomeaffordable.gov> for details.

4. NFMC program details are available at <http://www.nw.org/nfmc>.

forms of mortgage counseling was \$50 million (Herbert, Turnham, and Rodgers 2008).

At its broadest definition, default counseling is part of a continuum of services that provides information, advice and guidance on how to deal with debt problems (Pleasence and Balmer 2007). Orton's (2009) in-depth interviews with fifty-nine credit counseling clients identified three areas that 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 nonprofits. 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 lender and then actually connecting them to their lender or mortgage servicer to pursue alternatives. 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. Once the borrower and lender have started to work toward 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 mainly focused on the effects of default counseling on loan repayment. For example, Ding, Quercia, and Ratcliffe (2008) evaluated a program that offered counseling to borrowers who were late on payments, and found that borrowers who accepted and received counseling were more likely to catch up on payments than uncounseled borrowers. Collins (2007) analyzed a small sample of counseling clients, finding that each additional hour of counseling modestly reduced the probability of negative foreclosure outcomes. There are two studies that examine the effects of counseling on modifications, neither of which include race as a factor. Mayer et al. (2011) conducted an evaluation of the NFMC program, and found counseling to have a strong association with receipt of loan modifications and improved loan outcomes. Collins and Schmeiser (2013) also found that mortgage default counseling increases the probability that a borrower receives a loan modification. These studies affirm the role of counseling in overcoming information barriers to modifications, but do not address differences in effects among minority borrowers who are likely to be more information constrained.

DIFFERENCES IN UNDERSTANDING OF CREDIT BY RACE

A mortgage is typically a consumer's largest financial obligation (Bricker et al. 2012). During the 2008 labor and housing market recession many families struggled to keep up with their mortgage payments and by the middle of 2012, fully one in ten (11%) homeowners were behind on their mortgage (Robinson 2012).

Taking out a mortgage can be challenging even for a financially experienced consumer. Consumers who are new to the market or lack financial literacy or numeracy skills may struggle further. Prior studies show that minority borrowers tend to have lower numeracy and financial knowledge levels on average, and these behaviors have also been associated with differential borrowing and debt repayment decisions (Lusardi and Tufano 2009; Soll, Keeney, and Larrick In press). Minority borrowers often have loans with higher costs, and then fail to optimally refinance as market interest rates decline (Bucks and Pence 2008; Lax et al. 2004). Institutional mechanisms in credit markets, including racial discrimination, have in part fostered worsened outcomes for minority consumers.⁵ Economic factors are also related to the decisions of minority borrowers in the mortgage market, including more limited budgets and a corresponding focus on shorter-term financial choices (Cheema and Soman 2006; Heath and Soll 1996). This may then lead to a tendency to neglect longer-term financial planning (Johnson, Atlas, and Payne 2011). Courchane, Gailey, and Zorn (2008) and Perry (2008) both have conducted studies showing minority consumers seek out and use lower levels of information than non-minority consumers when making financial decisions.

For minority borrowers who lack knowledge or financial skills/experience, one solution might be counseling or advice. However, because counseling is voluntary, who shows up at the counseling office is important to consider. There are systematic biases associated with counseling take-up that are also correlated with both positive and negative behaviors (Collins and O'Rourke 2010; Meier and Sprenger 2007, 2010, In press).

Overall, the previous literature suggests that minority mortgage borrowers face information disadvantages related to the mortgage market. It seems likely that the decision to seek out a mortgage modification might be another area that presents problems for borrowers who lack information. Seeking a modification requires communication

5. For an in-depth examination of racial discrimination in mortgage markets see Haughwout, Mayer, and Tracy (2009) or Munnell et al. (1996)

with mortgage servicers, an understanding of alternatives to foreclosure and the ability to navigate the process of renegotiating a mortgage contract. Using a unique dataset, this study provides an opportunity to observe a subset of subprime mortgage holders at risk of foreclosure (having missed at least one payment), including the receipt of counseling and the race of the borrower.

DATA

The data for this study were drawn from a pool of subprime home mortgages administered by Corporate Trust Services (CTS). CTS is a subsidiary of Wells Fargo Bank that serves as the trustee or administrator for investors in mortgage-backed securities, but the majority of loans were originated by other lenders. CTS exists to report on loan payments each month to investors in these mortgage-backed securities, and reports include information on defaults, foreclosures and modifications. Over sixty different mortgage lenders and loan servicers are included in the data, and loans are located in almost all US states. All of the loans are privately securitized and do not involve Fannie Mae or Freddie Mac. The vast majority of the loans have characteristics consistent with subprime mortgages such as low credit scores and high loan-to-home value ratios (LTV). Information on the loans is released via monthly remittance reports uploaded directly from loan servicers. Each monthly loan record includes the loan number, the loan servicer, information on FICO credit scores, the loan-to-value ratio at initial loan origination, the loan's delinquency history over the past year, the property's zip code, the original and current loan balance, and 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. Data on receipt of mortgage default counseling were obtained from an administrative dataset provided by the Homeownership Preservation Foundation (HPF). These data contain information on individuals who received counseling through their 888-995-HOPE counseling hotline that serves borrowers nationwide. The 995-HOPE hotline is available to take calls 24 hours a day. Homeowners who called the hotline received counseling for an average of 60 minutes. All counseling was provided on the phone by one of twelve nonprofit agencies. When the homeowner calls the hotline they are asked a series of questions by the counselor in order to ascertain their current financial

situation, details on their mortgage, and the nature of their payment distress. The counselors are careful to document the loan number and servicer, as HPF collects payments from the homeowner's servicer for the counseling they provide. The counselors work with the borrower to find a solution to the homeowner's payment problem, including working with the servicer or lender to obtain a loan modification or negotiate a short-sale.

The counseling dataset covers callers who contacted the hotline during the period of January 2008 through October 2009, representing approximately 834,000 unique homeowners. The administrative dataset contains information on the first date borrowers contacted the counseling hotline, the length of the counseling session, the property address, the loan servicer and the loan identification number. Loans receiving counseling were matched to the CTS dataset by loan identification number, using other overlapping variables to verify the match. We obtain 25,100 matches of counseled loans between our counseling dataset and the CTS dataset.⁶ As the first stage of creating a control group of uncounseled borrowers we randomly select approximately 51,000 loans from the CTS data that we did not match to the HPF administrative counseling dataset. Thus the CTS and HPF merged data contain information on 76,958 unique subprime securitized loans, including 25,100 that received counseling.

In order to obtain demographic information on the borrowers, the CTS data were matched to Home Mortgage Disclosure Act (HMDA) data from January 2004 through January 2007. The HMDA data contain basic demographic and financial information on the borrower at the time of origination, including race/ethnicity and income. To match the data, we sorted CTS and HMDA loans into the census tracts of the purchased property using a geographic crosswalk file, and then matched loan originations on the following variables: origination date, loan amount, lien status and loan purpose. The HMDA data with a non-missing value for race for 2004 through 2007 contain information on close to two million loan originations. We successfully match approximately 70% of all loans in the CTS/HPF combined dataset to the HMDA records yielding a total matched sample of 47,716 unique loans across the three datasets.

The loans of borrowers who seek counseling are by definition more likely to be at risk of default than the general pool of loans in the CTS data. Therefore, we further refine our sample to loans in the combined CTS/HMDA dataset where the borrower experienced a delinquency of 30

6. This represents approximately 3% of the universe of the counseling records.

days or more at least once during the period from January 2008 to May 2011. We believe that loans experiencing at least one missed payment during the sample period are a more appropriate sample, as a delinquency suggests some form of financial distress. This restriction further reduces the total number of unique loans we study to 26,338.

Further, we remove outliers in the following ways. We drop 1,874 loans where borrower income at the time of application was above \$1,000,000. We additionally remove 3,837 loans where the original balances were greater than \$750,000 (just above the \$729,750 loan balance limit for a HAMP modification)⁷ or below \$50,000 (these smaller loans are often short-term, home improvement loans or other unique situations). Finally, we restrict our sample to owner-occupied single-family homes that are not second liens, reducing our sample by 2,425 loans.

After combining the matched counseled dataset and the matched control group dataset and dropping observations with missing values on key variables, we are left with a total of 18,631 observations, of which 5,960 received counseling and 12,671 are in the control group. The combined dataset covers loans originated from January 2004 through December 2007. The counseled borrowers contacted the 995-HOPE hotline at some point between January 2008 and October of 2009, and we have loan performance information on all loans from January 2008 through May 2011. The final dataset includes loans from eighty-three servicers; the largest of whom was associated with just 13% of the loans in the dataset.

A major trigger of mortgage default and foreclosure is a high ratio of loan balance to current home value. Current loan balance is recorded monthly in the CTS as the borrower makes payments of principal (or late fees and arrears are added to the balance). The value of the home at origination is reported in CTS. These values are adjusted over time by using the Federal Housing Finance Agency (FHFA) housing price index (HPI) at the MSA level. A current loan to value ratio is calculated using the current loan balance and current estimated home value, then broken into common categories including ratios over 100 (“underwater”). Categorical rather than continuous variables are used in order to account for nonlinearity in LTV ratios. Another concern is the initial LTV for the loan, including any reported second or higher lien loans on the home at the time of origination. This is also reported in the CTS, but only for the initial date the loan was taken out; second lien loans added after

7. Further reducing our sample to the HAMP threshold does not substantively change our results.

the initial loan was originated are not observed. We therefore include combined LTV at origination in all estimates.

This analysis is based on a cross section of the loans in the CTS as of the final month of data (May 2011), or the last non-missing observation for a loan that was paid off, repossessed or otherwise dropped out of the sample before the final period. We observe 80% of the loans for all periods of observations, and have at least 15 months of continuous observations for 95% of the loans. Using the full time period of loan information we determine if a loan received counseling since January 2008 and if the borrower received a modification.

It is important to note that 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.

Descriptive Statistics

Table 1 shows summary statistics for uncounseled borrowers, counseled borrowers and the overall sample in the final period they are observed (either May 2011 or the last non-missing period of observation). Demographically, counseled borrowers do not differ significantly from uncounseled borrowers. Where the two types of borrowers do differ is on the receipt of loan modifications, the terms of their mortgages, and credit scores. Counseled borrowers are significantly more likely to receive a loan modification, with 24% receiving a modification over the sample period versus 14% of uncounseled borrowers. The loans of counseled borrowers were more likely to have an adjustable rate than the loans of uncounseled borrowers (68% vs. 66%), were more likely to have been a refinance (57% vs. 48%), and were more likely to have a teaser interest rate (70% vs. 53%). Table 2 shows that, on average, counseled borrowers also had higher incomes, higher loan balances, higher FICO scores and lower LTVs at origination.

In Table 3, we present descriptive statistics for the loan originator's supervising institution and year of origination. These variables are included to capture differences in the underwriting standards and other origination policies used for the loans. Here, we see across the board differences between the loans of counseled and uncounseled borrowers. The loans of counseled borrowers were far more likely to have been originated by an institution supervised by the Office of the Comptroller

TABLE 1
Descriptive Statistics: Counseled and Uncounseled Borrowers

	No Counsel	Counsel	Total
<i>Dependent variables</i>			
Counseled	0 (0)	1 (0)	0.3190 (0.4661)
Modification indicator	0.1411 (0.3482)	0.2396*** (0.4269)	0.1725 (0.3779)
<i>Control variables</i>			
African American	0.1707 (0.3762)	0.1491 (0.3562)	0.1638 (0.3701)
Hispanic	0.2704 (0.4442)	0.2730 (0.4455)	0.2712 (0.4446)
Asian	0.0141 (0.1178)	0.0102 (0.1007)	0.0129 (0.1126)
Hispanic × Counseled	0.0000 (0.0000)	0.2730 (0.4455)	0.0871 (0.2819)
Black × Counseled	0.0000 (0.0000)	0.1491 (0.3562)	0.0476 (0.2128)
Asian × Counseled	0.0000 (0.0000)	0.0102 (0.1007)	0.0033 (0.0571)
Adjustable rate mortgage	0.6576 (0.4745)	0.6835*** (0.4652)	0.6659 (0.4717)
Refinance dummy	0.4820 (0.4997)	0.5712*** (0.4949)	0.5105 (0.4999)
Teaser rate dummy	0.5283 (0.4992)	0.6983*** (0.4590)	0.5825 (0.4932)
Male	0.6423 (0.4793)	0.6317 (0.4824)	0.6389 (0.4803)
ln(income)	4.4619 (0.6387)	4.5651*** (0.5782)	4.4948 (0.6219)
ln(original balance)	5.2867 (0.6677)	5.6842*** (0.5627)	5.4135 (0.6625)
Observations	12,671	5,960	18,631

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

Source: Corporate Trust Services (CTS) December, 2010. Means reported, SDs in parentheses.

of the Currency, the Federal Reserve System or the Office of Thrift Supervision. Moreover, loans to counseled borrowers were more likely to have been originated in 2006 or 2007.

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 the likelihood of receiving a modification.

TABLE 2
Descriptive Statistics: Counseled and Uncounseled Borrowers (FICO Scores and LTVs at Origination)

Control Variables	No Counsel	Counsel	Total
FICO Cat < 580	0.2199 (0.4142)	0.0941 (0.2920)	0.1798 (0.3840)
FICO Cat 580–650	0.2933 (0.4553)	0.1750*** (0.3800)	0.2556 (0.4362)
FICO Cat 651–720	0.3369 (0.4727)	0.4698*** (0.4991)	0.3793 (0.4852)
FICO Cat 720+	0.1499 (0.3570)	0.2611*** (0.4393)	0.1854 (0.3886)
CLTV ≤ 80	0.5355 (0.4988)	0.5994*** (0.4901)	0.5559 (0.4969)
CLTV 81–90	0.1840 (0.3875)	0.1792 (0.3835)	0.1824 (0.3862)
CLTV 91–95	0.0658 (0.2480)	0.0708 (0.2566)	0.0674 (0.2507)
CLTV 95–100	0.2133 (0.4096)	0.1496*** (0.3567)	0.1930 (0.3946)
CLTV 100+	0.0014 (0.0373)	0.0010 (0.0315)	0.0013 (0.0355)
LTV ≤ 80	0.5388 (0.4985)	0.6281*** (0.4833)	0.5673 (0.4955)
LTV 81–95	0.1199 (0.3249)	0.1379*** (0.3448)	0.1257 (0.3315)
LTV 94–115	0.0913 (0.2880)	0.0894 (0.2853)	0.0907 (0.2872)
LTV 115+	0.2487 (0.4323)	0.1434*** (0.3505)	0.2151 (0.4109)
Observations	12,671	5,960	18,631

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

Source: Corporate Trust Services (CTS) December, 2010. Means reported, SDs in parentheses.

METHODS

In order to examine the determinants of counseling take-up, and whether take-up varies with race, we estimate a linear probability model (LPM) for receipt of counseling.⁸ As we structure our data as a cross-section, the model takes the form:

$$C_i = \alpha + \beta R_i + \gamma X_i + \delta Z_i + \varepsilon_i \quad (1)$$

8. The results presented here are highly similar to the estimates from comparable logit specifications. We present results from the linear probability model for ease in interpreting interaction terms.

TABLE 3

Descriptive Statistics: Counseled and Uncounseled Borrowers (Loan Originator's Supervising Institution and Year of Origination)

Control Variables	No Counsel	Counsel	Total
Agency = OCC	0.2059 (0.4043)	0.3165*** (0.4652)	0.2412 (0.4278)
Agency = FRS	0.1024 (0.3032)	0.1849*** (0.3883)	0.1287 (0.3349)
Agency = FDIC	0.1012 (0.3016)	0.0368*** (0.1883)	0.0807 (0.2724)
Agency = OTS	0.1650 (0.3712)	0.1925*** (0.3943)	0.1738 (0.3790)
Agency = NCUA	0.0046 (0.0680)	0.0043 (0.0654)	0.0045 (0.0672)
Agency = HUD	0.4208 (0.4937)	0.2649*** (0.4413)	0.3711 (0.4831)
Originated 2004	0.1175 (0.3220)	0.0748*** (0.2631)	0.1039 (0.3051)
Originated 2005	0.3302 (0.4703)	0.2602*** (0.4388)	0.3079 (0.4616)
Originated 2006	0.4328 (0.4955)	0.4820*** (0.4997)	0.4485 (0.4974)
Originated 2007	0.1195 (0.3244)	0.1830*** (0.3867)	0.1397 (0.3467)
Observations	12,671	5,960	18,631

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

Source: Corporate Trust Services (CTS) December, 2010. Means reported, SDs in parentheses.

where i indexes individual borrowers, C is an indicator for receipt of counseling, R_i is a vector that contains an indicator for the borrower being identified as a Black/African American, Hispanic/Latino or another non-White race (with White as the constant), X contains individual loan characteristics such as log balance at origination, FICO credit score categories at origination, current loan balance to estimated current home value ratio, combined loan to value ratio at origination (including any reported second lien loans), an adjustable interest rate indicator, a refinance loan indicator, an indicator of the loan having an initially low (“teaser”) rate, year of origination indicators (2004–2007), and regulatory agency indicators. 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 either origination or first period of observation (January 2008). Z contains information about the borrower, primarily an indicator for a loan with a male (no female

as borrower or co-borrower) borrower and log income amount at loan origination.⁹ The error term is ε .

Previous research by Agarwal et al. (2011a, 2011b) raises the concern that the variation in the behavior of loan servicers with regard to provision of modifications may be correlated with borrower characteristics, biasing our results. Thus, in certain specifications of our model we include servicer fixed effects to control for this potential bias. The robustness of our findings to this specification indicates that specific servicers' actions are not driving our results. We also add fixed effects for state, in order to account for unobserved variations in legal regimes or economic conditions. Additionally county fixed effects are included as an added robustness check to account for local labor markets.

We next turn to estimating the effect of counseling on a borrower's receipt of a loan modification, again using a LPM. The model for modification receipt takes the form:

$$Y_i = \alpha_0 + \alpha_1 C_i + \alpha_2 C_i \times R_i + \gamma X_i + \delta Z_i + \varepsilon_i \quad (2)$$

where Y is an indicator for receipt of a 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 effect 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 each racial group. X and Z contain individual demographic and loan characteristics identical to those present in the counseling take-up regression and ε is the error term.

RESULTS

Table 4 displays the results from our estimation of various specifications 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 suggests that minority borrowers may be under-served and less knowledgeable about the mortgage market (Bucks and Pence 2008; Campbell

9. Since income at origination and balance at origination are skewed, we include a log transformation of each variable in our model.

TABLE 4
Take-up of Foreclosure Counseling

	Dependent Variable = 1, If the Loan Received Counseling				
	(1)	(2)	(3)	(4)	(5)
African American	1.0376*** (0.009)	1.0251*** (0.009)	1.0282*** (0.009)	1.0353*** (0.009)	1.0359*** (0.009)
Hispanic	0.9928 (0.007)	0.9824** (0.008)	0.9822** (0.007)	0.9948 (0.008)	0.9937 (0.007)
Other non-White race	0.9119*** (0.025)	0.9104*** (0.025)	0.9201*** (0.024)	0.9111*** (0.025)	0.9207*** (0.025)
ln(original balance)	1.2087*** (0.008)	1.1859*** (0.007)	1.1441*** (0.007)	1.2034*** (0.007)	1.1619*** (0.007)
Adjustable rate mortgage	0.8641*** (0.008)	0.8688*** (0.007)	0.8847*** (0.007)	0.8650*** (0.007)	0.8801*** (0.007)
Refi dummy	1.0251*** (0.007)	1.0226*** (0.007)	1.0258*** (0.007)	1.0249*** (0.007)	1.0277*** (0.007)
Male	0.9862** (0.006)	0.9873** (0.006)	0.9915 (0.006)	0.9844** (0.006)	0.9887* (0.006)
ln(income)	0.9005*** (0.006)	0.8967*** (0.006)	0.9033*** (0.005)	0.9011*** (0.006)	0.9072*** (0.005)
Teaser rate dummy	1.1645*** (0.010)	1.1623*** (0.008)	1.1154*** (0.008)	1.1642*** (0.008)	1.1166*** (0.008)
Loan year dummies	Yes	Yes	Yes	Yes	Yes
Servicer dummies	No	No	Yes	No	Yes
Baseline CLTV Cat dummies	Yes	Yes	Yes	Yes	Yes
Current LTV Cat dummies	Yes	Yes	Yes	Yes	Yes
FICO Cat dummies	Yes	Yes	Yes	Yes	Yes
State dummies	No	Yes	Yes	No	No
Regulator dummies	Yes	Yes	Yes	Yes	Yes
County dummies	No	No	No	Yes	Yes
Total observations	18,631	18,631	18,631	18,631	18,631

OLS cross-sectional regression for last period observed. Data organized by payment-month for loans ever missing a payment between January 2008 and May 2011 but current as of January 2008.

* $p < .10$, ** $p < .05$, *** $p < .01$. Exponentiated coefficients.

2006). While these borrowers may be less knowledgeable about their mortgages, we find that African Americans are actually the most likely to seek help when having payment difficulty. Hispanics and other races seek counseling at lower rates than do comparable White borrowers. In our first specification that excludes servicer, state and county dummies, shown in Column (1), we find that African Americans have a 4% higher likelihood of seeking counseling than do White borrowers. The estimate is significant at the 1% level. The magnitude and significance of this estimate remains consistent across the four other specifications presented in Columns (2) through (5) which alternately include the servicer, county and state fixed effects.

For Hispanic borrowers, in only two specifications do we find a significantly lower likelihood of seeking counseling than White borrowers, and then by only 2%. However, borrowers of other races (largely Asian) are consistently less likely than White borrowers to seek counseling. Across specifications we find an 8% lower likelihood of seeking counseling for other race borrowers.

The characteristics of the loan appear to be highly significant predictors of seeking counseling across all specifications. Borrowers with higher loan balances at origination are far more likely to seek counseling, with a 1% increase in loan balance at origination increasing the likelihood of seeking counseling by 1.2%. Similarly, borrowers whose loan was a refinance are approximately 3% more likely to seek counseling, and borrowers with a teaser interest rate were approximately 16% more likely to seek counseling. However, borrowers with ARMs were approximately 13% less likely to seek counseling than those with fixed rate mortgages. Having a higher income at origination also reduced the likelihood of seeking counseling.¹⁰ A 1% increase in income reduced the likelihood of seeking counseling by 0.1%.

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.

In Table 5, we present results from our analysis of the effect of counseling on receipt of a loan modification for different race/ethnicities. Here we see that, across specifications, counseled loans are on average more likely to receive a formal change in contract terms (a loan modification). Receiving counseling is estimated to increase the likelihood of receiving a loan modification by approximately 6%. While Hispanic and other race borrowers receive no significant benefit from counseling over and above the 6% average effect of counseling on modification receipt, African American borrowers who receive counseling are an additional 4% more likely to receive a modification. Thus, African Americans receiving counseling are 10% more likely to receive a modification than White borrowers who do not receive counseling.

Again, loan characteristics are highly significant in determining the likelihood that a borrower receives a modification. Across specifications, higher loan balances at origination are associated with an approximately

10. Though we do not report the coefficients, borrowers with higher FICO scores are similarly less likely to seek counseling.

TABLE 5
Counseling Increases the Rate of Modifications Differentially for African Americans

	Dependent Variable = 1, If the Loan Was Modified				
	(1)	(2)	(3)	(4)	(5)
Counseled	1.0594*** (0.008)	1.0583*** (0.009)	1.0762*** (0.009)	1.0585*** (0.009)	1.0761*** (0.009)
Hispanic × counseled	1.0004 (0.013)	0.9993 (0.014)	1.0023 (0.013)	0.9996 (0.014)	1.0030 (0.013)
African American × counseled	1.0441*** (0.016)	1.0445** (0.019)	1.0353** (0.018)	1.0438** (0.019)	1.0355** (0.018)
Other race × counseled	1.0564 (0.056)	1.0556 (0.067)	1.0715 (0.066)	1.0611 (0.068)	1.0770 (0.066)
African American	1.0271*** (0.009)	1.0244*** (0.009)	1.0269*** (0.009)	1.0252*** (0.009)	1.0269*** (0.009)
Hispanic	0.9882 (0.007)	0.9914 (0.007)	0.9895 (0.007)	0.9921 (0.007)	0.9894 (0.007)
Other race	1.0128 (0.027)	1.0126 (0.028)	1.0080 (0.028)	1.0114 (0.027)	1.0071 (0.028)
ln(original balance)	1.0810*** (0.006)	1.0800*** (0.006)	1.0903*** (0.006)	1.0814*** (0.006)	1.0908*** (0.006)
Adjustable rate mortgage	0.7208*** (0.005)	0.7205*** (0.006)	0.7334*** (0.006)	0.7225*** (0.005)	0.7355*** (0.006)
Refinance dummy	1.0059 (0.006)	1.0045 (0.006)	1.0024 (0.006)	1.0050 (0.006)	1.0030 (0.006)
Male	1.0063 (0.005)	1.0053 (0.005)	1.0041 (0.005)	1.0048 (0.005)	1.0036 (0.005)
ln(income)	0.9422*** (0.005)	0.9421*** (0.005)	0.9428*** (0.005)	0.9427*** (0.005)	0.9430*** (0.005)
Teaser rate dummy	1.2541*** (0.009)	1.2556*** (0.008)	1.2359*** (0.008)	1.2521*** (0.008)	1.2328*** (0.008)
Loan year dummies	Yes	Yes	Yes	Yes	Yes
Servicer dummies	No	No	Yes	No	Yes
Baseline CLTV Cat dummies	Yes	Yes	Yes	Yes	Yes
Current LTV Cat dummies	Yes	Yes	Yes	Yes	Yes
FICO Cat dummies	Yes	Yes	Yes	Yes	Yes
State dummies	No	Yes	Yes	No	No
Regulator dummies	Yes	Yes	Yes	Yes	Yes
County dummies	No	No	No	Yes	Yes
Total observations	18,631	18,631	18,631	18,631	18,631

OLS cross-sectional regression for last period observed. Data organized by payment-month for loans ever missing a payment between January 2008 and May 2011 but current as of January 2008.

* $p < .10$, ** $p < .05$, *** $p < .01$. Exponentiated coefficients.

8% increase in the likelihood of receiving a modification. Loans with teaser rates are substantially more likely to receive loan modifications. Given that teaser rate loans have an obvious modification option available in terms of reducing or fixing the interest rate, it is unsurprising that teaser rate loans are 25% more likely to receive a modification than loans

without a teaser rate. Independent of teaser rate loans, adjustable rate loans are actually less likely to receive a loan modification. Borrowers with an ARM are 28% less likely to receive a loan modification than those with fixed rate loans.

The primary mechanism we observe is that counseling provides information to borrowers and facilitates modifications. Although not shown in the included tables, we do see evidence consistent with Mayer et al. (2011) that counseling makes it more likely for borrowers to obtain lower interest rates and monthly payments. On the basis of an analysis of the loans that received a modification ($n = 2,943$), using a Tobit specification (to account for the left-censored data associated with a change in interest rate) we do not see any differential effects of race once a lender receives counseling.¹¹ Finding no differences in modifications by race is reassuring as the parameters of a modification should in no way be related to a borrower's race, only to their economic situation and existing mortgage.

CONCLUSIONS

Mortgage markets are rife with potential information failures. One form of information failure is that after a loan is made the borrower may not fully understand options for repayment, refinance and modification. We predict that these problems may be more severe for borrowers who have been historically disadvantaged in the mortgage market: first-time borrowers and borrowers with less financial knowledge. Counseling is one form of an information-provision policy that might help remedy this information failure and serve as a consumer protection against unnecessary—and perhaps economically inefficient—mortgage foreclosures. Our analysis of a unique dataset that matches loan modifications to counseling suggests counseling does facilitate formal modifications of loan contracts. African American borrowers appear more likely to receive default counseling, but not Latinos or other non-White groups, relative to Whites. Counseling is also related to higher rates of loan modifications among counseled African Americans. These results suggest the public provision of default counseling is a means of promoting consumer financial well-being, but also suggest there may be problems attracting some racial minority groups into counseling. Mortgage default counseling is

11. These results are available from the authors upon request. While we continue to include all of the control variables from the previous specifications, we are no longer able to include county-level fixed effects with this reduced sample.

associated with a greater likelihood that a borrower receives a loan modification, consistent with previous research. This finding is suggestive that, to the extent modifications of loan terms are a policy goal, counseling is an important complement to programs promoting modifications and should be supported by either public appropriations or resources provided by financial institutions.

We use the CTS data for this analysis, linked to HPF counseling and HMDA data on the borrower's characteristics. There are, of course, millions of mortgage loans in existence and the CTS is not a random selection of loans. However, CTS is one of only a few sources of loan performance data that are accessible to researchers, and is most appropriate for this study because it contains mainly subprime loans including a large share of minority borrowers. Nevertheless, we are cautious not to extend our findings too broadly beyond the subprime mortgage market. It may be that in the more mainstream "prime" market, borrowers are more homogenous in terms of information access and therefore the relationships between counseling and modifications by race are more muted. It is also possible that servicer and lender efforts in this market are less intensive (since default is less prevalent) and the role of counseling is more pronounced. In either case, this is an issue worthy of further attention.

The nature of these data, linked to income, race and counseling administrative records 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. 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 between borrowers and lenders, and may be an important complement to loan modifications.

Several cautions should be noted. The receipt of a modification does not guarantee the long-run well-being of mortgage borrowers. For example, lenders may increase the amortization period for the loan in order to lower monthly payments, but the result is more debt obligations later in life. Modifications may encourage trading off longer term debt for present day gains from payment reductions. This may be an appropriate course of action if borrowers have informed expectations about their future ability to repay the loan. Ideally counseling helps borrowers to better weigh the costs and benefits of a mortgage modification, including these longer term obligations. Future research needs to better track

the ultimate ability of homeowners to retain their homes following a modification, or to efficiently exit ownership with minimal damage to their balance sheet and credit history.

Overall, this study is suggestive that counseling and advice may be useful for borrowers—at least as suggested by the revealed preference of those in these data who have received mortgage counseling. Moreover, minority borrowers—one group who may suffer from lower levels of experience or knowledge about payment options—seem to receive additional benefits from counseling. Obtaining a modification, particularly on the best terms, requires a detailed understanding of mortgages and mortgage markets that not all borrowers possess. The benefits borrowers derive from foreclosure counseling suggest that financial advising could be helpful to consumers confronting other major financial decisions. To assist vulnerable consumers in making the best financial decisions, policymakers might consider well-designed and well-marketed advising programs to aid these borrowers with decisions such as homeownership, mortgage refinancing, student loans or loans against retirement accounts. All are examples of relatively uncommon financial decisions where objective, third-party information could aid decision making.

REFERENCES

- Agarwal, Sumit, Gene Amromin, Itzhak Ben-David, Souphala Chomsisengphet, and Douglas D. Evanoff. 2011a. Market-Based Loss Mitigation Practices for Troubled Mortgages Following the Financial Crisis. Federal Reserve Bank of Chicago Working Paper Series 2011 (03).
- Agarwal, Sumit, Gene Amromin, Itzhak Ben-David, Souphala Chomsisengphet, and Douglas D. Evanoff. 2011b. The Role of Securitization in Mortgage Renegotiation. *Journal of Financial Economics*, 102 (3): 559–578.
- Avery, Robert B., Kenneth P. Brevoort, and Glenn B. Canner. 2009. Credit Scoring and Its Effects on the Availability and Affordability of Credit. *Journal of Consumer Affairs*, 43 (3): 516–537.
- Brevoort, Kenneth P. and Cheryl R. Cooper. 2010. Foreclosure's Wake: The Credit Experiences of Individuals Following Foreclosure. Finance and Economics Discussion Series. Washington, DC: Federal Reserve Board.
- Bricker, Jesse, Brian Bucks, Arthur Kennickell, Traci Mach, and Kevin Moore. 2012. The Financial Crisis from the Family's Perspective: Evidence from the 2007–2009 SCF Panel. *Journal of Consumer Affairs*, 46 (3): 537–555.
- Bucks, Brian and Karen Pence. 2008. Do Borrowers Know Their Mortgage Terms? *Journal of Urban Economics*, 64 (2): 218–233.
- Campbell, John Y. 2006. Household Finance. *Journal of Finance*, 61 (4): 1553–1604.
- Cheema, Amar and Dilip Soman. 2006. Malleable Mental Accounting: The Effect of Flexibility on the Justification of Attractive Spending and Consumption Decisions. *Journal of Consumer Psychology*, 16 (1): 33–44.
- Collins, J. Michael. 2007. Exploring the Design of Financial Counseling for Mortgage Borrowers in Default. *Journal of Family and Economic Issues*, 28 (2): 207–226.
- Collins, J. Michael and Collin M. O'Rourke. 2010. Financial Education and Counseling—Still Holding Promise. *Journal of Consumer Affairs*, 44 (3): 483–498.

- Collins, J. Michael, and Michael 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. Michael and Maximilian D. Schmeiser. 2013. The Effects of Foreclosure Counseling for Distressed Homeowners. *Journal of Policy Analysis and Management*, 32 (1).
- Courchane, Marsha, Adam Gailey, and Peter Zorn. 2008. Consumer Credit Literacy: What Price Perception? *Journal of Economics and Business*, 60 (1–2): 125–138.
- Cutts, Amy C. and Richard K. Green. 2005. Innovative Servicing Technology: Smart Enough to Keep People in Their Houses? In *Building Assets, Building Credit: Creating Wealth In Low-Income Communities*, edited by N.P. Retsinas and E.S. Belsky. Washington, DC: Brookings Institution Press.
- Cutts, Amy C. and William Merrill. 2008. Interventions in Mortgage Default: Policies and Practices to Prevent Home Loss and Lower Costs. In *Borrowing to Live: Consumer and Mortgage Credit Revisited*, edited by N.P. Retsinas and E.S. Belsky. Harrisonburg, VA: R. R. Donnelley.
- Demyanyk, Yuliya and Otto Van Hemert. 2011. Understanding the Subprime Mortgage Crisis. *Review of Financial Studies*, 24 (6): 1848–1880.
- Ding, Lei, Roberto G. Quercia, and Janneke 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. 2011. *Interagency Review of Foreclosures on Neighborhood Property Values*. Washington, DC: Federal Reserve Board.
- Haughwout, Andrew, Christopher Mayer, and Joseph Tracy. 2009. Subprime Mortgage Pricing: The Impact of Race, Ethnicity, and Gender on the Cost of Borrowing. Federal Reserve Bank of New York Staff Reports. New York: Federal Reserve Bank of New York.
- Heath, Chip and Jack B. Soll. 1996. Mental Budgeting and Consumer Decisions. *Journal of Consumer Research*, 23 (June): 40–52.
- Herbert, Christopher., Jennifer Turnham, and Christopher Rodgers. 2008. Report. US Department of Housing and Urban Development, Office of Policy Development and Research.
- Johnson, Eric J., Stephen A. Atlas, and John W. Payne. 2011. Time Preferences, Mortgage Choice, and Strategic Default, Working Paper. New York: Columbia Business School.
- Lax, Howard, Michael Manti, Paul Raca, and Peter Zorn. 2004. Subprime Lending: An Investigation of Economic Efficiency. *Housing Policy Debate*, 15: 533–572.
- Lee, Jonghee and Sherman D. Hanna. 2012. Limitations of Combining Hispanics and African Americans for Analysis of Credit Problems. *Journal of Consumer Affairs*, 46 (3): 506–536.
- Lin, Zhenguo, Eric Rosenblatt, and Vincent Yao. 2009. Spillover Effects of Foreclosures on Neighborhood Property Values. *The Journal of Real Estate Finance and Economics*, 38 (4): 387–407.
- Lusardi, Annamaria, and Peter Tufano. 2009. Debt Literacy, Financial Experiences and Overindebtedness, Working Paper 14808. Cambridge, MA: National Bureau of Economic Research.
- Mayer, Neil S., Charles A. Calhoun, Peter A. Tatian, and Kenneth Temkin. 2011. *National Foreclosure Mitigation Counseling Program Evaluation*. Washington, DC: Urban Institute.
- Mazis, Michael B., Richard Staelin, Howard Beales, and Steven Salop. 1981. A Framework for Evaluating Consumer Information Regulation. *Journal of Marketing*, 45 (1): 11–21.
- Meier, Stephan, and Charles Sprenger. 2007. Selection into Financial Literacy Programs: Evidence from a Field Study. Federal Reserve Bank of Boston Discussion Paper (07-5 (November)).
- Meier, Stephan and Charles Sprenger. 2010. Present-biased Preferences and Credit Card Borrowing. *American Economic Journal: Applied Economics*, 2 (1): 193–210.
- Meier, Stephan and Charles Sprenger. In press. Discounting Financial Literacy: Time Preferences and Participation in Financial Education Programs. *Journal of Economic Behavior & Organization*.
- Munnell, Alicia H., Geoffrey M.B. Tootell, Lynn E. Browne, and James McEneaney. 1996. Mortgage Lending in Boston: Interpreting HMDA Data. *American Economic Review*: 25–53.
- Orton, Michael. 2009. The Long-Term Impact of Debt Advice on Low Income Households. Institute for Employment Research Working Paper. Warwick, UK: University of Warwick.
- Perry, Vanessa Gail. 2008. Is Ignorance Bliss? Consumer Accuracy in Judgments about Credit Ratings. *Journal of Consumer Affairs*, 42 (2): 189–205.

- Pleasence, Pascoe and Nigel 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.
- Robinson, Matt. 2012. Delinquencies Decline in Latest MBA Mortgage Delinquency Survey, Press Release 5/16/2012. Washington, DC: Mortgage Bankers Association.
- Soll, Jack, Ralph Keeney, and Richard Larrick. In press. Consumer Understanding of Credit Card Use, Payments. *Journal of Public Policy & Marketing*.
- US Department of Treasury. 2012. OCC Mortgage Metrics Report for the First Quarter of 2012. Washington, DC: Department of Treasury.