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Exploring the Design of Financial Counseling for Mortgage Borrowers in Default

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Abstract This paper analyzes the effects of counseling provided to borrowers in mortgage default (n = 299). Borrowers receiving more hours of counseling perceive counseling more favorably than those receiving fewer hours of counseling. Using measures of marketing efforts to instrument counseling time confirms the positive effect of counseling duration on borrower ratings of counseling. Borrowers are more likely to attend additional counseling sessions after receiving face-to-face counseling as opposed to telephone counseling, although preference among modes can largely be explained by time in counseling. Each additional hour of counseling reduces the marginal probability of a borrower moving to a more severe stage of foreclosure. Counseling could be more successful if provided for longer durations regardless of the delivery mode.

Keywords Credit counseling · Foreclosure · Mortgage default counseling

Introduction

In 2005, there were nearly 900,000 properties in stages of the mortgage foreclosure process in the U.S., a 25% increase from the previous year (Hairston, 2006). Foreclosure filing rates for all loans increased by nearly 40% from 1994 to 2004 (Mortgage Bankers Association, 2005). Mortgage defaults are particularly concentrated in the higher-risk subprime market, a market that more than doubled in the last decade, growing from less than 5% of mortgages originated to more than 10% between 1994 and 2004 (Gramlich, 2004). In 2005, 1 in 10 subprime loans were delinquent, compared to less than 1 in 23 conventional, prime loans (U.S. Department of Housing and Urban Development, 2005b). A greater prevalence of subprime mortgages loans is associated with an increase in the incidence of borrowers in mortgage default.

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The expansion of subprime mortgages is largely due to the ability of lenders to make mortgages with variable rates and fees based on the expected default risk of the borrower. Arguably the expansion of credit to a new class of borrowers, previously excluded from the marketplace, is a benefit for consumers. However, if growing numbers of these borrowers default and lose their homes to foreclosure, the social costs and benefits of subprime lending would deserve closer scrutiny (Collins, Belsky, & Case, 2005). Of concern to consumer advocates is the concentration of subprime loans, and therefore foreclosures, among lower-income and minority households (Apgar & Duda, 2004). Policy makers have proposed various strategies to mitigate the harm to consumers from foreclosure, including regulations on mortgage lending and restrictions on foreclosures. Lending institutions counter most borrowers in default miss payments because of a job loss, divorce or health problems. These triggering events are not the fault of the loan and restrictions on the market only serve to increase the costs of credit. One alternative to regulation is to offer borrowers default counseling to avoid foreclosure. Counseling potentially helps borrowers change their financial behavior so they can cure their delinquency, or helps them to sell the home in order to pay off their mortgage. While default counseling potentially helps borrowers avoid foreclosure, it remains underutilized by consumers. More than 681,000 mortgages were in some stage of default in 2005, yet only 157,000 people received default counseling from a federally-approved agency (Mortgage Banker's Association, 2005; U.S. Department of Housing and Urban Development, 2005a).

The purpose of this paper is to analyze the delivery of mortgage default counseling for subprime borrowers based on the Chicago Mortgage Default Counseling Survey, a mail survey conducted with 299 predominately low-income, minority households in Chicago in 2005. This survey provides one of the few borrower-level sources of information regarding mortgage default. Analysis of these data will allow for a better understanding of how to design counseling policies to prevent foreclosures. After a brief review of previous literature on default counseling, this paper provides a descriptive analysis of borrower characteristics by the type of counseling received. The paper analyzes the marginal effects of additional hours of counseling, as well as the effect of the mode of counseling on the borrower's preferences and assessments of the usefulness of services received. The paper concludes with a preliminary assessment of the impact of counseling on the probability of losing a home to foreclosure using a subset of borrowers six months after the survey was completed.

Background

The Federal government provides approximately $45 million for all types of housing counseling annually. Approximately 1,500 non-profit agencies receive these funds to support their counseling programs, although programs usually provide counseling for first-time buyers, renters seeking apartments, senior citizens and other purposes in addition to default counseling (U.S. Department of Housing, 2005a).

A leading example of a counseling program designed specifically around default counseling is the Home Ownership Preservation Initiative (HOPI). This program is operated by Neighborhood Housing Services, Inc. of Chicago (NHS) in partnership with the City of Chicago, the Credit Counseling Resource Center (CCRC) and private sector financial institutions. HOPI was started in 2003 to address a rapid rise in foreclosure filings in the city of Chicago, with a 3-year goal of providing default counseling to 3,000 households.

In January 2004, a mortgage default hotline was launched using Chicago's non-emergency "311" telephone service. Callers have the opportunity to receive telephone counseling from the CCRC, a national alliance of U.S. Department of Housing and Urban Development-certified housing counseling agencies funded by the Homeownership Preservation Foundation and private lenders. Borrowers are then connected to their loan servicer to explore a potential loan workout, or referred to local assistance as appropriate. The city of Chicago sent 25,000 postcards promoting counseling to targeted zip codes, as well as public service announcements, media events and bus and subway advertisements. At the same time, NHS performed outreach to nine neighborhoods in which it has offices, also promoting counseling. Over the period of January 2004 to July 2005, approximately 1,300 individuals from the city of Chicago received telephone counseling. Another 800 came to NHS directly for face-to-face counseling for their mortgage problems. About one-quarter of borrowers received both telephone *and* face to face counseling.

The Foreclosure Process

The foreclosure process is often misunderstood by consumers. Lenders generally do not take a borrower's home immediately after a missed payment. An extensive legal regime has developed to protect consumers, while also securing the lender's collateral. Mortgages are legal contracts in which the borrower receives funds to purchase a home, agreeing to repay the loan under specified terms. The contract specifies the lender has a right to take the home and sell it to pay off the loan if the borrower does not repay the debt. The foreclosure process begins as a result of a violation of a mortgage contract, called a default. Although a default can be declared for any violation of loan terms, it is almost always related to nonpayment of loan principal, interest and fees. After a payment is past due, the loan is labeled as delinquent. Each state has laws regarding the timing and disclosures related to foreclosure processes. Typically borrowers receive warnings after a payment is missed, with escalated loan collections efforts for one to two more months. At some point, depending on state laws, but usually at least after 90 days of delinquency, the foreclosure process is started with a legal filing. Properties in foreclosure are listed in public records, and often sold at public auctions. If the bids at an auction fail to meet the lender's reserve, the lender will take possession of the home in its real estate owned inventory (REO).

Previous Research

Benefits of Avoiding Foreclosure

The sale of a home often does not produce enough to pay off unpaid principal and related costs of foreclosure to the lender. According to Cutts and Green (2005), lenders lose an average of $44,000 to $58,000 per completed foreclosure depending on the circumstances. The foreclosure process takes 12–18 months to resolve, tying up human resources and lender assets. To avoid these costs and delays, lenders will often attempt to provide borrowers with loan workouts, including a temporarily reduced interest rate, a restructured payment or another special agreement. Local communities also face significant costs. Homes in the foreclosure process can become vacant, providing a place for crime or other problems in the neighborhood (Immergluck & Smith, 2006). Estimates of losses to local municipalities range from $400 to $34,000 per foreclosure, depending on the condition of the home (Apgar & Duda, 2005). There is therefore a strong motivation for lenders and local government to work to prevent the number of foreclosures from expanding. Meanwhile, borrowers themselves have much to gain from remaining current on their loan, including avoiding financial losses and long-term damage to their credit record.

Underutilization of Counseling Services

Cutts and Green (2005), an expansion of a presentation by Cordell (2001), provide an excellent overview of default and foreclosure processes, with a focus on the ability of loan servicers to develop alternatives to foreclosure. Importantly, Cordell documents the large share of borrowers who never speak with their lender, thus never having the option to explore alternatives before their foreclosure occurs. Cordell noted despite the advances in workout options for borrowers, lenders do not reach about half of borrowers in default before the foreclosure is completed. He concludes that borrowers need to be counseled regarding alternatives to foreclosure. The issue of low contact rates is further documented in Apgar & Duda, (2005) based on data provided by mortgage security ratings agencies. Unpublished results from focus groups conducted by NHS Chicago suggest borrowers avoid their lender due to embarrassment, a lack of knowledge that their lender could help, and fear that the lender will treat them worse if they reveal their payment difficulties (Bruce Gottschall, personal interview, July 20, 2006).

Non-profit financial counselors bring a trusted third-party perspective and can serve as an intermediary between borrowers in crisis and their lender (Quercia, Cowan, & Moreno, 2004). A 2005 poll by Freddie Mac and Roper Public Affairs and Media suggests three-quarters of delinquent borrowers would like to use the services of a counseling agency if they have a default (Roper, 2005). While default counseling collaboratives like the Chicago HOPI program are expanding, there is little evidence of how to structure and deliver counseling in order to best attract and serve borrowers in trouble. There are no standards for how much counseling to provide, nor what format counseling should take.

Effects of Counseling

The literature on mortgage counseling dates back to the late 1960s, during which time the Federal Housing Administration (FHA) mortgage insurance program struggled to manage its troubled Section 235 program (Quercia & Wachter, 1996). A series of studies of FHA default counseling programs were conducted in the 1970s, as cited by Strauss and Phillips (1997). These studies were designed to derive the financial cost-benefit of borrower counseling from the view of the Federal government. However, the design of these studies suffered from a number of flaws, including limited scale, a lack of measures of how the counseling was delivered, and low participation rates. These studies were largely inconclusive (Straus & Phillips, 1997).

Moreno (1994) studied the Mortgage Foreclosure Prevention Program in Minnesota finding that financial assistance has a positive effect on a borrower's ability to avoid foreclosure. The program did not employ an experimental design, but success rates for borrowers only receiving counseling without financial assistance were low. Moreno did not analyze the time in or type of counseling provided, however. Quercia et al. (2004) also studied the Minnesota program, using an expanded dataset. The authors concluded community-based foreclosure prevention services are cost effective compared to industry data on foreclosure times and predicted resolutions. These authors did not examine the amount of counseling provided, the delivery mechanism employed, or borrower perceptions of services. No other studies of mortgage default counseling appear to have been published.

Staten, Ellienhausen, and Lundquist (2003) studied borrowers with consumer debt who received credit counseling. Although this study was not focused on mortgage default counseling, the authors found evidence using a quasi-experimental design that credit counseling improves borrower credit behaviors, including reducing debt and improving repayment patterns. This study did not examine the length of time each borrower was in counseling, nor how counseling was delivered.

Hirad and Zorn (2002) analyzed borrowers in a portfolio of mortgage loans made to low-income borrowers in which counseling was provided to a subset of borrowers before purchasing a home. Although not a study of default counseling, the authors conclude counseling and education is associated with lowered delinquency probabilities for borrowers. The study also suggests counseling's effect may differ by mode of delivery. The authors found the strongest effects for face-to-face counseling and no effects from telephone counseling. This study did not include an assessment of the amount of time in counseling.

Another study of pre-purchase counseling by Hartarska and Gonzalez-Vega (2005) examined a small portfolio of loans from one lender. By exploiting differential access to counseling services, the authors concluded that borrowers receiving counseling before the close of their loan were slightly less likely to default, but also more likely to prepay their mortgage. While this study and the Hirad and Zorn (2002) study did not examine the effect of default counseling, they do suggest a positive impact of counseling on borrowers.

Mortgage Default

There is an extensive housing economics literature on mortgage default. Much of this literature analyzes the performance of pools of mortgages based on loan characteristics or in reaction to macroeconomic events. Many studies examine the borrower decision to default as the exercise of an option, based primarily on a ratio of the value of the home to the borrower's level of mortgage debt. These studies rarely discuss the behavior of individual borrowers in delinquency, however. Vandell (1995) reinforced the idea that default is not simply a calculation of total house value to mortgage amount, instead suggesting household-level trigger events, such as a divorce or medical crisis, are also an important factor. Quercia, McCarthy, and Stegman (1995) analyzed borrower default behavior in a Rural Housing Service subsidized mortgage program. The authors conducted an annual survey to measure changes in household composition, including divorce, death or other events. They found borrowers with larger levels of debt are more likely to foreclose, as are borrowers losing a household member. While these studies provide some indications of borrower behavior and trigger events, no other recent studies have examined borrower behavior at the household level in delinquency. None of these studies included any analysis of counseling. However, these studies are helpful in modeling the outcomes and perceptions of counseling.

Data

In August 2005, NHS Chicago conducted a survey with 750 face-to-face counseling clients and 794 clients receiving telephone counseling from the CCRC. Approximately one-quarter of these households overlapped, receiving both telephone and face-to-face counseling. In addition to demographic and financial characteristics, the 50-item survey included questions related to:

- default counseling services received,
- the borrower's perception of their lender and community programs,
- how and why the borrower took out the mortgage,
- causes of default,
- physical symptoms of stress, and
- financial knowledge.

The survey was mailed to 1,544 households in August, 2005. The survey used a multiple-wave design, including an advance letter, reminder postcards and a second survey to non-responders (Salant & Dillman, 1994). A total of 299 borrowers fully completed the survey, or 25% of valid addresses. Households who foreclosed or moved before receiving the survey obviously failed to respond. Among the 293 addresses returned by the post office, public records shows 55% were foreclosed while 45% were sold prior to foreclosure. Illinois is a judicial foreclosure state, with an average time from the lender initiating foreclosure to completion of 12 months (RealtyTrac, 2006). A cross-sectional survey should include borrowers at various stages of the foreclosure timeline; thus borrowers who ultimately will foreclose but are early in the process are included in the sample.

Additional public data was matched to survey records. Each borrower's neighborhood, defined as a zip code, was matched to the number of City of Chicago *Every minute counts* marketing flyers that were mailed to promote counseling. Zip codes targeted by NHS Chicago for outreach promoting counseling were also flagged. Finally, Cook County property records were matched to each respondent, providing information on initial foreclosure filings, the recorded amount of the mortgage lien and if the home was sold or foreclosed between 2002 and March 2006. The filings therefore capture activity on properties in the six months following the completion of surveys.

Descriptive Analysis

Demographic Characteristics of Borrowers in Default Counseling

Table 1 displays summary statistics by the type of counseling received. Out of a total of 299 valid responses, 129 clients received only telephone counseling (43%), 113 received only face to face counseling (38%), and then 57 received both telephone

Table 1 Demographics of borrowers in default

	Telephone		Face-to-Face		Both Modes		Full Sample	
Observations	129		113		57		299	
	Mean	*SD*	Mean	*SD*	Mean	*SD*	Mean	*SD*
% African American	78%	.42	72%	.45	66%	.48	73%	.45
% Some College Ed.	69%	.47	62%	.49	77%	.42	68%	.47
% Income < $30K	47%	.50	68%	.47	53%	.50	55%	.50
% Retired From Work	22%	.42	24%	.43	19%	.39	22%	.42
Years In Home	11.3	8.48	12.2	8.73	11.2	8.47	11.6	8.55

Source: author's tabulations of 2005 Chicago Mortgage Default Counseling Survey

and face-to-face counseling (19%). Foreclosures in Chicago are concentrated in predominately minority neighborhoods. In this survey 97% of respondents were non-white and 73% African American. More than two-thirds had some college education. The median household income was $25,000, with 55% of respondent's incomes under $30,000 and only 14% of respondents indicating incomes over $60,000. Twenty-two percent of defaulted borrowers in the survey were retired from the workforce and the average respondent owned their home 11.6 years. Face-to-face clients were less educated and lower income than those receiving telephone counseling.

Causes of Delinquency

Respondents were asked what caused them to become delinquent on their mortgage. Table 2 shows the results by mode of counseling. The survey permitted selection of multiple causes, with combinations of employment issues and health problems most common. There is not much variation across counseling mode, although borrowers with injuries and medical problems are less likely to use telephone counseling only and more likely to use both face-to-face and telephone counseling.

Overall reasons cited for delinquency track findings in other studies, including Quercia et al. (2004), as illustrated in Table 3. Like Minnesota, Chicago's borrowers

Table 2 Causes of delinquency: self-reported (exceed 100%)

	Telephone		Face-to-Face		Both Modes		Full Sample	
	Mean	SD	Mean	*SD*	Mean	*SD*	Mean	*SD*
Loss of Job	41%	.49	47%	.50	59%	.50	47%	.50
Credit Card Mismanagement	18%	.39	13%	.34	12%	.33	15%	.36
Home Repair/Improvement	18%	.39	18%	.39	22%	.42	19%	.39
Death in Family	11%	.32	17%	.38	33%	.47	18%	.38
Unfair Loan Terms	21%	.41	19%	.39	19%	.40	20%	.40
Injury/Accident	17%	.38	17%	.38	29%	.46	19%	.40
Tax Problem	13%	.34	12%	.33	9%	.28	12%	.32
Income Reduction	21%	.41	21%	.41	17%	.38	20%	.40
Divorce/Separation	6%	.23	13%	.34	9%	.28	9%	.29
Medical Problem	24%	.43	30%	.46	33%	.48	28%	.45

Source: author's tabulations of 2005 Chicago Mortgage Default Counseling Survey, $n = 299$

Table 3 Causes of delinquency: compared to Quercia et al (2004) (recoded combined categories)

	Chicago (%)	Minneapolis St. Paul (%)
Laid off	46	38
Cut in pay/income reduction	20	39
Health problems	33	23
Domestic problems	9	8
Money management	31	42
Other	18	22

Source: recoded tabulations of 2005 Chicago Mortgage Default Counseling Survey to match Quercia et al (2004) tabulations

in default most often experience employment disruptions, although Chicago's borrowers appear more likely to be laid off than simply face a reduction in pay.

Table 4 shows the average time in counseling by cause of delinquency and counseling mode. Borrowers with health problems or a death in the family received more counseling time, compared to those who experienced job or income loss. These problems represent more difficult challenges to remedy than simply a loss of income. Once a worker is injured or ill, his ability to generate income is reduced and thus requires more support to manage a default. Likewise, borrowers caring for a family member who undergoes a health emergency may also have a reduced ability to generate income. Variation in causes of foreclosure is not significantly different across modes of counseling.

Credit Characteristics of Borrowers and Delivery of Default Counseling

Table 5 summarizes borrower characteristics by mode of counseling. The typical borrower in the survey had a mortgage of $112,500 and refinanced the original purchase loan at least one time. The average borrower was delinquent for 4.5 months at the time of the survey, although delinquencies as long as 3 years were reported. More than one-third (35%) of borrowers took out their refinance mortgage for a home improvement. Fifty-eight percent responded they or their spouse/partner has filed for bankruptcy at some point in their lives and 27% self-identify as having been through a foreclosure on a mortgage before. Although 73% of respondents said they should have been approved for their loan, more than one-third (37%) wished they had shopped around before taking their current mortgage. Survey respondents recall participating in 2.2 counseling sessions for a total of 1.9 hours of counseling. As expected, borrowers receiving both face-to-face and

Table 4 Mean Time in Counseling by Cause Delinquency (Recoded Categories)

	Telephone		Face-to-Face		Both	
	Mean	*SD*	Mean	*SD*	Mean	*SD*
Job or Income Loss	1.2	.6	2.0	1.5	2.6	1.7
Health /Death in Family	1.4	1.1	2.7	1.6	2.7	1.4
Both Job and Health	1.3	.8	2.1	1.7	2.1	1.3
Other	1.4	1.2	1.9	1.3	2.3	1.2
Total	1.3	.8	2.2	1.6	2.4	1.5

Source: author's recoded tabulations of 2005 Chicago Mortgage Default Counseling Survey

Table 5 Financial and credit characteristics of borrowers in default

	Telephone		Face-to-Face		Both Modes		Full Sample	
	Mean	*SD*	Mean	*SD*	Mean	*SD*	Mean	*SD*
Amount of Mortgage	$119,130	55512	$103,116	52445	$115,491	58462	$112,481	55259
Number of Refinance Loans Taken Out	1.5	1.20	1.7	1.34	1.2	1.20	1.5	1.26
Number of months delinquent	5.0	4.46	4.8	6.0	3.6	2.6	4.5	4.9
% Using Home Equity For Home Improvement	38%	.49	38%	.49	22%	.42	35%	.48
% Past Bankruptcy	64%	.48	53%	.50	55%	.50	58%	.49
% Past Foreclosure	25%	.43	28%	.45	29%	.46	27%	.44
% ‘‘I should have been approved for this loan’’	71%	.45	74%	.43	75%	.44	73%	.45
% ‘‘Wish I shopped around more’’	42%	.049	33%	.47	31%	.47	37%	.48
Number of Counseling Sessions	1.5	.93	2.2	1.01	2.9	1.11	2.0	1.11
% ‘‘Already Know’’ Counseling Content	46%	.50	25%	.44	17%	.38	31%	.47
Rating of Counseling Helpfulness (1–4)	1.94	1.09	2.61	1.17	2.76	1.05	2.38	1.16

Source: author’s tabulations of 2005 Chicago Mortgage Default Counseling Survey

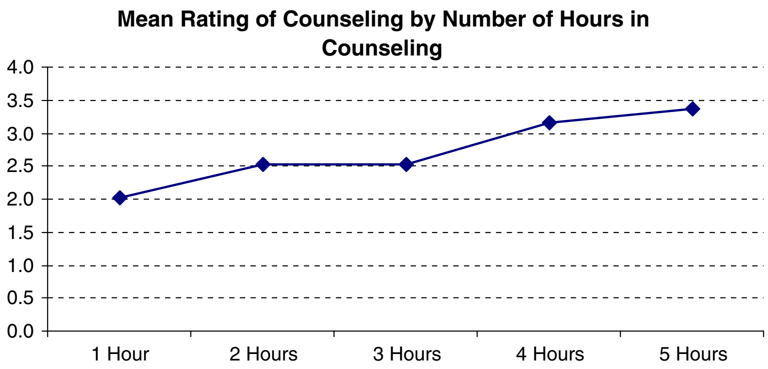

Fig. 1 Mean Rating of counseling by hours in counseling. Source: author's tabulations of 2005 Chicago Mortgage Default Counseling Survey, n = 299

telephone counseling received more counseling sessions and report longer overall counseling durations. Nearly half (46%) of telephone clients suggested "I already knew or was doing what the counselor suggested," compared to only 17% of borrowers receiving both phone and face-to-face counseling. The mean rating of the helpfulness of counseling was lowest for phone counseling, with face-to-face and mixed modes receiving ratings half a standard deviation higher.

Figure 1 shows time in counseling by mean rating of the counseling session. The more total time the borrower spends in counseling, the stronger their rating of counseling.

Table 6 partially illustrates why telephone counseling received lower average ratings. While 82% of phone sessions were reported as being 1 hour in length, only 46% of face-to-face sessions were. Very few borrowers receiving phone counseling received more than two hours of services. Borrowers receiving face-to-face or a mix of both modes of counseling had longer total counseling durations than borrowers receiving only telephone counseling.

Table 7 shows which borrowers are most likely to receive each type of counseling by race and income. Multivariate models of the variation in borrower selection into counseling mode were largely insignificant. However, low-income status and African American race revealed some differences in counseling mode. Among African American borrowers with incomes over $30,000, telephone counseling was more frequently used. These differences disappeared among low-income African Americans, however. For higher-income borrowers the opportunity costs of traveling to and attending face-to-face meetings or pursuing multiple modes of counseling are relatively higher compared to low-income borrowers. Thus the convenience of

Table 6 Distribution of hours of counseling by mode

	1 h (%)	2 h (%)	3 h (%)	4 h (%)	5 h (%)	Total (%)
Telephone	80	14	2	1	2	100
Face-to-Face	27	51	6	8	7	100
Both	23	28	29	9	11	100
Total	49	31	9	5	6	100

Source: author's tabulations of 2005 Chicago Mortgage Default Counseling Survey, n = 299

Table 7 Utilization of counseling by type

	% Telephone	% Face-Face	% Both
Income ≥ 30 k			
Non-African American	32	24	44
African American	59	24	17
All Income > $30 k	53	24	23
Income ≤ =$30 k			
Non-African American	38	38	24
African American	38	42	20
All Income < =$30 k	38	41	21

Source: author's tabulations of 2005 Chicago Mortgage Default Counseling Survey, $n = 299$

telephone counseling may be preferred. Low-income borrowers have the most significant limitations on their ability to repay even a restructured loan are therefore also more likely to seek out more time intensive counseling.

Hypotheses

While this survey does not allow an evaluation of the receipt of default counseling relative to the non-receipt of counseling, it does provide evidence of the effectiveness of counseling based on borrower ratings, take-up rates and foreclosure outcomes. This paper tests the following hypotheses:

H1: There is a positive relationship between time in counseling and the borrower's perception of counseling.

H2: There is variation in the borrower's perception of counseling based on the mode of counseling used.

Borrower's perception of counseling is based on responses to the following survey question:

> Q. "How would you rate the helpfulness of the counseling services you received on your situation?"

Low: I already knew or was doing what the counselor suggested.
Fair: The counselor presented useful options.
Moderate: Because of the counseling I am able to handle my situation better.
High: Without this counseling I would not have known what to do.

In addition, a third hypothesis regarding foreclosure outcomes is tested:

H3: Borrowers in default receiving more hours of counseling will be less likely to experience foreclosure.

Foreclosure outcomes are measured for a subset of the data. A total of 148 survey responses show that an initial foreclosure was filed in Cook County public property records. Of these 14 transitioned to a foreclosure sale or lender taking the property in the six months after the survey was conducted (from September, 2005 through

March, 2006). An additional 16 transitioned from no foreclosure filing to having a foreclosure filing. This panel with 30 changes in status is suggestive of the impact of counseling.

Estimation

The rating of counseling is estimated using the following specification, in reduced form:

$$\begin{aligned}Y\,(\text{rating}) = \alpha + \beta 1\,(\text{hours counseled}) + \beta 2\,(\text{telephone counseling dummy}) + \beta 3\,(\text{mix of}\\ \text{telephone and face-to-face counseling dummy}) + \beta 4\,(\text{financial knowledge index}) + \beta 5\\ (\text{retired from work dummy}) + \beta 6\,(\text{loan amount}) + \beta 7\,(\text{physical indicators of stress}) + \beta 8\\ (\text{foreclosure process started dummy}) + \beta 9\,(\text{ever filed bankruptcy dummy}) + \varepsilon\end{aligned}$$

The dependent variable, Y, is a continuous 1–4 scale of the helpfulness of counseling on the borrower's situation, as discussed above. Counseling time is measured in hours. Counseling mode can be telephone, face-to-face or a mix of both types, indicated using a dummy variable. Face-to-face counseling is in the omitted category.

Since counseling is intended to overcome gaps in borrower financial literacy, it is assumed borrower financial knowledge and behavior will affect both the perception of and willingness to attend counseling. A series of eight questions in the survey asks the respondent to self-grade themselves using a 5-point scale for financial, credit and budget issues similar to that used by Perry and Morris (2005). These questions include topics of spending and budgeting, financial planning, providing for the household, saving and investing, the ability to find credit and knowledge of credit ratings. Responses were compiled into a single aggregated index, ranging from 1 to 5.[1]

Several variations of the specification were modeled, each using an ordinary least squares estimation, followed by an ordered probit model treating the 1–4 rating of counseling as a ranked discrete dependent variable.

While a number of demographic variables are included in the survey, such as race, age and income, all were highly correlated. Since a critical factor in managing a mortgage default is a borrower's ability to earn income, retired borrowers will be less likely to recover from default. The dichotomous indicator for a retired household is consistent with the theoretical construction of the model and serves as a proxy for borrowers of older ages and lower incomes. Specifications using age, income, race and other demographic factors did not yield significant coefficients or change the magnitude or direction of other coefficients.

Previous research (Quercia et al., 2004) showed larger debts present added difficulties in repayment. Because mortgage amount and income are correlated, loan size serves as a proxy for income in this analysis. Loan amount is measured based on publicly recorded filings of mortgage liens in thousands of dollars.

The degree of stress due to trigger events and pressure to repay a delinquent mortgage is likely to have an effect on borrower's perceptions of counseling and level of cooperation. The survey includes seven questions regarding the frequency of

[1] Average inter item covariance: .667; Scale reliability coefficient: .8723 (Cronbach's alpha)

Table 8 Means, standard deviation and range

		n	Mean	Std Dev	Min	Max
Dependent variables						
1	Rating of Counseling	189	2.38	1.16	1	4
2	Obtained Additional Counseling	296	.59	.49	0	1
3	Foreclosure Completed/Lost Home	76	.13	.39	0	1
Independent variables						
$\beta 1$	Counseling Time (hours)	299	1.86	1.14	0	5
$\beta 2$	Only Phone Counseling; Y/N	299	.43	.50	0	1
$\beta 3$	Both Phone and Face-to-Face: Y/N	299	.19	.39	0	1
$\beta 3$	Financial Literacy Index (1–5)	299	2.59	.86	1	5
$\beta 4$	Retired from Work: Y/N	299	.23	.40	0	1
$\beta 5$	Loan Amount (000s)	261	112.48	55.26	18.98	411
$\beta 6$	Physical Indications of Stress	271	2.61	1.09	1	5
$\beta 7$	Past Bankruptcy: Y/N	299	.58	.46	0	1
$\beta 8$	Foreclosure Process started	274	.55	.50	0	1

Source: author's tabulations of 2005 Chicago Mortgage Default Counseling Survey, $n = 299$

insomnia, headaches, back pain, fatigue, loss of appetite, and feelings of embarrassment and loss of control. Frequency was reported on a 5-point scale, ranging from *almost never* to *almost always*. Like financial knowledge, these questions have been aggregated into an index.[2]

Based on public records, about half of the sample had been served with initial foreclosure filing proceedings at the time of the survey. In this model a filing is an indicator of the severity of the borrower's situation.

A mortgage borrower in bankruptcy, depending on the phase and chapter of filing, has some protections under the law, as well as reduced direct interactions with creditors. Bankruptcy is respondent-reported, and measures if the borrower has ever filed for bankruptcy. In this model ever filing for bankruptcy primarily serves as an indicator of a borrower with history of poor credit behavior.

Tests for interactions between counseling mode and income, education, and race were not significant. Other models including loan amount squared and other nonlinear specifications also did not yield useful results. A summary of the variables used in the model is shown in Table 8.

Results

Rating of the Helpfulness of Counseling

Table 9 displays eight variations of the specification for the borrower's rating of counseling. Each is shown as an OLS followed by an ordered probit. Models 1 and 2 include the mode of counseling but not the amount of time. These models indicate a significant and strongly negative rating for telephone counseling. The rating is .57–.67 lower for telephone counseling, or about half a standard deviation. The only other significant variable is stress symptoms, with a negative effect on rating.

Models 3 and 4 include the amount of time in counseling, but not the mode of counseling. These models suggest an additional hour of counseling is associated with

[2] Average inter item covariance: .103 Scale reliability coefficient: .8333 (Cronbach's alpha).

Table 9 Ratings of Counseling

	1 OLS Rating –mode	2 Ordered Probit Rating – mode	3 OLS – time	4 Ordered Probit Rating – time	5 OLS Rating – time and mode	6 Ordered Probit Rating – time and mode	7 OLS Rating – sessions and mode	8 Ordered Probit Rating – sessions and mode
Counsel Time			0.343 [0.069]**	0.368 [0.077]**	0.29 [0.072]**	0.313 [0.082]**		
Number of Sessions							0.26 [0.079]**	0.271 [0.086]**
Only Telephone Counseled	–0.571 [0.218]**	–0.606 [0.225]**			–0.313 [0.218]	–0.349 [0.237]	–0.43 [0.217]*	–0.484 [0.239]*
Both Telephone & Face-to-face	0.162 [0.234]	0.159 [0.235]			0.098 [0.229]	0.119 [0.237]	0.026 [0.234]	0.022 [0.238]
Financial Knowledge	0.044 [0.110]	0.013 [0.111]	0 [0.106]	–0.019 [0.112]	–0.01 [0.109]	–0.039 [0.113]	0.081 [0.106]	0.05 [0.113]
Retired From Work	–0.189 [0.223]	–0.26 [0.228]	–0.196 [0.211]	–0.276 [0.227]	–0.233 [0.194]	–0.33 [0.232]	–0.252 [0.199]	–0.35 [0.220]
Loan Amount	–0.002 [0.002]	–0.002 [0.002]	–0.002 [0.001]	–0.003 [0.002]	–0.002 [0.002]	–0.002 [0.002]	–0.002 [0.002]	–0.003 [0.002]
Stress Symptoms	–0.194 [0.081]*	–0.202 [0.083]*	–0.187 [0.077]*	–0.203 [0.084]*	–0.183 [0.074]*	–0.203 [0.084]*	–0.21 [0.077]**	–0.23 [0.086]**
Foreclosure Started	–0.21 [0.191]	–0.286 [0.196]	–0.33 [0.184]+	–0.413 [0.198]*	–0.303 [0.175]+	–0.401 [0.200]*	–0.218 [0.179]	–0.31 [0.194]
Filed Bankruptcy	–0.256 [0.193]	–0.273 [0.195]	–0.163 [0.186]	–0.163 [0.198]	–0.153 [0.183]	–0.157 [0.200]	–0.18 [0.188]	–0.188 [0.195]
Constant	3.465 [0.465]**		2.703 [0.444]**		2.884 [0.499]**		2.811 [0.503]**	
Observations	151	151	151	151	151	151	151	151
R-squared	0.17		0.23		0.25		0.23	
(Chi–2) Likelihood Ratio $P>X^2$ =		(8) 28.94 .0003		(7) 40.06 .0000		(9) 44.04 .0000		(9) 39.35 .0001

Robust standard errors in brackets + significant at 10%; * significant at 5%; ** significant at 1%

higher borrower ratings of services received, controlling for other factors. The mean rating is 2.4; each additional hour increases ratings by almost .34–.37, or one-third of a standard deviation.[3] Again stress symptoms have a significant and negative effect on ratings. The severity of the borrower's situation, as measured by the start of foreclosure proceedings, also has a significant and negative effect on ratings of counseling, as expected.

Models 5 and 6 include both counseling time and mode of counseling. Since borrowers in telephone counseling tend to have less total time in counseling, the effect of mode in Models 1 and 2 appears to be driven by counseling time. Stress symptoms and foreclosure status has significant and negative effects. These models show an additional hour in counseling increases borrower ratings of counseling by .29–.31, or one-quarter of a standard deviation. The variance inflation factor (VIF) test rejects the presence of multicollinearity; the VIF is less than 1.6 for all variables and 1.2 overall.

Models 7 and 8 replace counseling time with the number of sessions the borrower received. These models affirm the direction and general magnitude effects of more counseling displayed in models 5 and 6. However, telephone counseling has a significant and negative effect on ratings in these models, relative to face-to-face counseling.

Reveled Preferences for Counseling

One complication with the survey responses regarding a rating of counseling is that it is a subjective measure. Borrowers may rate counseling poorly even though they relied on it heavily and it ultimately aided their situation, despite their negative perceptions. A more objective measure of actual behavior is the number of counseling sessions each borrower obtained. A borrower who returns for an additional counseling session, or refuses to do so, is revealing preferences. As such, the additional number of sessions can serve as a measure of positive perceptions of counseling. Table 10 shows the results of models for sessions. Models 9 and 11 use a continuous measure of the number of sessions. Models 10 and 12 use a binary measure of a borrower receiving any number of additional counseling sessions (more than one session). These models exclude borrowers receiving both telephone and face-to-face counseling since these borrowers all attend more than one session. While telephone counseling appears to have a negative effect on the take-up of additional counseling sessions in models 9 and 10, the addition of counseling time in models 11 and 12 reduces this effect significantly.

Instrumenting for Counseling Time

A potential problem with the finding of a positive marginal effect of an additional hour of counseling is perceptions of counseling and time in counseling are jointly determined. Borrowers who have a negative initial perception of counseling are not likely to cooperate and will refuse to participate in more counseling. This is addressed by using an instrumental variable for counseling time. Each observation was matched with the number of flyers promoting counseling in that zip code, as well

[3] Counseling time squared was also include in a variation of this specification to test for diminishing effects. The coefficient was not statistically significant.

Table 10 Number of sessions

	9 OLS Sessions	10 Probit more than 1 Session	11 OLS Sessions, including time	12 Probit more than 1 Session including time
Counsel Time			.5 [.078]**	.227 [.078]**
Only Telephone Counseled	–.616 [.152]**	–.415 [.070]**	–.165 [.145]	–.282 [.078]**
Financial Knowledge	–.011 [.078]	.009 [.043]	–.061 [.067]	–.011 [.050]
Retired From Work	.143 [.188]	–.04 [.090]	.036 [.140]	–.081 [.090]
Loan Amount	.003 [.001]+	.001 [.001]*	.002 [.001]*	.002 [.001]+
Stress Symptoms	–.018 [.070]	–.033 [.038]	.011 [.059]	–.019 [.038]
Foreclosure Started	.059 [.147]	.076 [.081]	.014 [.131]	.079 [.085]
Filed Bankruptcy	–.122 [.157]	–.006 [.085]	–.127 [.144]	–.007 [.088]
Constant	1.958 [.364]**		.979 [.354]**	
Observations	189	187	189	187
R-squared	.1		.32	
(χ^2) Likelihood ratio $P > X^2$ =		(7) 31.21 .0001		(8) 28.80 .0003

Robust standard errors in brackets
+Significant at 10%; * significant at 5%; ** significant at 1%

Table 11 Rating of counseling with an instrument for counseling time

	13 Counsel Time IV: 2SLS rating	14 Sessions IV: 2SLS rating
Counsel Time	.647 [.191]**	
Number of Sessions		.662 [.223]**
Financial Knowledge	–.113 [.130]	.114 [.120]
Retired From Work	–.267 [.241]	–.257 [.248]
Loan Amount	–.001 [.002]	–.002 [.002]
Stress Symptoms	–.209 [.086]*	–.272 [.089]**
Foreclosure Started	–.399 [.205]+	–.189 [.203]
Filed Bankruptcy	–.055 [.216]	–.145 [.214]
Constant	2.253 [.573]**	1.75 [.719]*
Centered R-Squared	.158	.145
Observations	137	137

Standard errors in brackets
+Significant at 10%; * significant at 5%; ** significant at 1%

as a binary variable for a zip code being an NHS target area. Higher numbers of mailings combined with being in a target area will result in a greater probability of a borrower obtaining counseling. The marketing effort is unrelated to borrower rating but can be used to predict the amount of time in counseling or number of sessions.[4] Table 11 shows the results of these models, although mode was excluded, based on its correlation with the variables being instrumented. In both Models 13 and 14, more counseling, as instrumented by marketing efforts, results in more positive ratings. The findings are significant at the 1% level and suggest a magnitude greater than half a standard deviation. As in previous models physical stress indicators have significant and negative effect on ratings of counseling.

[4] Using a two stage least squares model, counseling time is effectively modeled, resulting in a first stage *f*-test of 4.2, $P < .0014$; sessions resulted in an *f*-test of 3.6 and $P < .0008$

Exploring the outcomes of counseling

The final approach is to model the incidence of foreclosure conditional on having an initial foreclosure filing before the survey was conducted. Because this is only a 6-month follow-up period, and the sample size is reduced (n = 148 with 30 changes in status), these results are suggestive but not conclusive. Table 12 displays the results. In each case worsened foreclosure status is a binary variable estimated using a probit model (marginal effects presented). Model 15 includes mode, finding only that borrowers retired from the workforce are more likely to foreclose. This is consistent with the negative effect of income constraints discussed in the default literature. Model 16 includes only hours in counseling, finding a negative relationship as expected. The magnitude is weak, with an additional hour reducing the probability of foreclosure by 3.5%. Model 17 includes sessions, with no notable results except a small effect of larger mortgage balances. Models 18 and 19 include measures of more hours or sessions of counseling and mode of counseling. More counseling still is associated with reduced foreclosure probabilities. Borrowers receiving both telephone and face-to-face counseling have an increased probability of foreclosing. However, this is likely due to borrowers with the most problems seeking multiple sources of help as the threat of foreclosure becomes more imminent.

Summary of Findings

Revisiting the initial hypothesis, H1, that there is a positive relationship between time in counseling and the borrower's perception of being helped, fails to be rejected. More counseling results in more positive perceptions of counseling, including using instrumented measures of counseling time or number of sessions. The second hypothesis, H2, that there is variance in the borrower's perception of being helped based on the mode of counseling provided can be rejected. There is weak evidence telephone counseling results in lower ratings or reduced revealed preferences for counseling; however, most of this effect appears to be due to telephone counseling being shorter in duration. Although the sample is small and the time period limited, there is evidence to support the third hypothesis, H3, that additional counseling results in a reduced probability of a negative foreclosure outcome.

Implications and Recommendations

This survey provides insights into mortgage borrowers in default and the role of counseling. The marginal effect of additional hours of counseling is positive. There is little evidence of differences in the mode of counseling overall, although for face-to-face counseling is more frequently used and rated more highly among low-income borrowers than telephone counseling before controlling for counseling duration and the severity of the borrower's situation. The two modes appear to serve complementary roles for some borrowers, especially those with multiple problems, and both are rated highly by some survey respondents. Counseling is not only rated positively by borrowers, it also appears to have a positive effect on a borrower's ability to avoid

Table 12 Foreclosure Outcomes After Counseling

	15 Worsened Foreclosure Status-mode	16 Worsened Foreclosure Status-time	17 Worsened Foreclosure Status-sessions	18 Worsened Foreclosure Status-time & mode	19 Worsened Foreclosure Status-sessions & mode
Counseling Time		–.035 [.021]+		–.041 [.023]+	
Counseling Sessions			–.011 [.018]		–.024 [.018]
Only Telephone Counseled	.05 [.056]			.011 [.023]	.031 [.053]
Both Telephone Face-to-Face	.203 [.127]			.29 [.154]+	.227 [.133]+
Retired from Work	.074 [.041]+	.039 [.040]	.048 [.044]	.027 [.025]	.07 [.040]+
Mortgage Amount	0 [.000]	.001 [.000]*	.001 [.000]*	0 [.000]	0 [.000]
Filed Bankruptcy	.019 [.038]	.009 [.038]	.013 [.043]	.005 [.016]	.015 [.037]
Observations	148	148	148	148	148
(χ^2) LR	(5) 12.01	(4) 9.27	(4) 6.59	(6) 23.03	(6) 13.91
$P>X^2 =$	.0347	.0546	.159	.0008	.031
Pseudo R-Sqr	.153	.118	.084	.249	.178

Standard errors in brackets

+ significant at 10%; * significant at 5%; ** significant at 1%

foreclosure, although the results remain preliminary based on the limited follow up period in this study and weaker statistical significance.

Additional research on default counseling needs to be conducted, including how borrowers select into counseling and which populations are most likely to decline counseling. More structured studies comparing counseling outcomes to a control group would also clarify the impact of default counseling on foreclosure. An analysis of the economic costs and benefits of default counseling by various modes and durations would also provide useful evidence to guide the design of counseling programs.

This study suggests default counseling may indeed be a useful strategy for borrowers in distress, although the duration and to a lesser extent mode of delivery is important to consider when designing a program. These results should be instructive for housing counseling provided by the U.S. Department of Housing and Urban Development and for mortgages backed by FHA or other government agencies insuring against the costs of foreclosure. A well-designed default counseling program has the potential to improve the repayment behavior of borrowers in distress. Lenders and policymakers should examine current default counseling services to ensure that when counseling is provided, it is provided for long enough to each borrower. Also, counseling programs and lenders need to more carefully consider the role of stressors in preventing borrowers from cooperating with counseling and achieving fuller benefits of services.

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