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Lender discrimination during default

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LENDER DISCRIMINATION DURING DEFAULT

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Abstract

We evaluate lender discrimination during the mortgage default process. A telephone survey was conducted to evaluate the extent of lender discrimination in defaults that lead to foreclosure in New Orleans, Louisiana between 1985-1990. We use these data to estimate the independent effects of race and neighborhood characteristics on the extent of lender assistance or forbearance during the foreclosure process. Our analysis indicates that the proportion of black residents in the neighborhood where the property was foreclosed is a more significant predictor of forbearance than the race of the borrower. This is a foreboding indication of the possibility that recent gains in black home buying may be partially offset by the persistence of residential segregation in U.S. cities.

LENDER DISCRIMINATION DURING DEFAULT

Controversy continues to define the literature on race discrimination in urban credit markets. For every study which shows that banks make fewer loans in predominantly minority communities than in majority white ones or that banks discriminate against individual minority loan applicants, another study concludes that race discrimination has all but disappeared from housing finance. Some scholars argue that place discrimination has replaced individual discrimination or that only the interaction of an individual's race and neighborhood characteristics reveals the sources of potentially discriminatory behavior (Ambrose and Capone 1996; Holloway 1998). Another stream of research is criticized for omitting critical variables related to credit worthiness or for using counterfactual methods and logic to address critical issues related to race discrimination. One clear message from this literature is a mandate to continue research on various aspects of discrimination in urban credit markets.

This article addresses several important issues in the literature on discrimination in urban credit markets through an investigation of lender forbearance in the mortgage default process. The idea is that a shift in focus away from loan origination and onto the mortgage default process may create some new insight. Is there race discrimination in the mortgage default process? How does credit worthiness compare with other reasons for default? Are individual or neighborhood characteristics more closely linked to discrimination in the default process? The article proceeds with a review of several issues in the literature on race discrimination in housing finance. Results will then be presented from an analysis of census data and data from a survey of forbearance in

the default process that was administered to 197 homeowners who were foreclosed on in New Orleans between 1985 and 1990.

RACE DISCRIMINATION IN HOUSING FINANCE

Race discrimination in residential mortgage lending has been empirically evaluated using a counterfactual model based in the economics of discrimination (Becker 1971; Berkovec et al 1996). The argument made is that if lenders consider blacks and/or other minority applicants a higher default risk, all other things being equal, they will require higher returns on their investment and will impose more stringent underwriting standards. This practice is structured to monetarily compensate for the higher default risk and decrease other known risk factors. If minorities are held to stricter loan origination standards then it follows that minority borrowers should exhibit a lower default and foreclosure rate than non-minority borrowers. The counterfactual argument is then made that if minority borrowers do not experience a lower default and foreclosure rate, then the risk reduction compensatory practice was either not used (i.e., statistical discrimination based on race did not occur), or the stringency of the underwriting standards was not severe enough to compensate for the actual increased risk.

While this approach has been severely criticized methodologically for omitting critical variables from the empirical models estimated (Galster 1996; Ross 1996; Yinger 1996), the counterfactual argument itself has not. We will address a logical flaw in the counterfactual argument. We assert, along with Yinger (1996), Ross (1996; 1997), and Ambrose and Capone (1996, 90), that the logical flaw in the counterfactual argument is the unexamined assumption

that racial discrimination is not practiced during the mortgage default and foreclosure process. We believe this is a particularly grievous assumption when empirical tests only address whether or not racial discrimination occurred at an earlier point in the residential mortgage process.

An examination of potential discrimination in the default process provides insight into several other issues in the literature. One issue concerns the possibility of race related yet unobserved credit unworthiness. Most research on the topic is limited methodologically because the lender provides all information about the mortgage process. For example, Ambrose and Capone's (1996) useful study of the default process does not resolve the problem because they use lender data to infer that race related credit unworthiness is absent. We start from an alternative theory that cultural barriers between white loan officers and minority borrowers reinforce discriminatory myths that reduce trust and militate against nondiscriminatory loan practices (Holloway 1998, 258-59). To address the issue empirically our survey of foreclosed homeowners contains questions that ask the reason for default, whether borrowers received any lender assistance and/or forbearance, and how they attempted to resolve the default problem (see Appendix A). These data allow us to examine whether discrimination occurred during the default and foreclosure process in New Orleans during the late 1980s.

A most contentious issue in the literature is obviously whether discrimination based on race is still practiced in urban credit markets. A related issue concerns the extent to which any discrimination that exists is directed against individuals or against neighborhoods. Discrimination against minority individuals in the mortgage lending process is illegal. However, widespread evidence supports the conclusion that many whites still prefer to live in all white neighborhoods and that many financial professionals place obstacles in the path of minorities

who want to move into these areas (Farley et al 1978; Farley et al 1994; Massey and Denton 1993). Steven Holloway (1998) recently reported that being black significantly increases the probability of having a loan application denied in the all white neighborhoods of Columbus, Ohio. However, the uncovering of individual level discrimination in loan origination is complicated by the fact that it is so highly correlated with variables like credit history, wealth, and loan to value ratio that can legitimately be used to allocate credit (Munnell et al 1996). Despite these difficulties, scholars like Geoffrey Tootell (1996, 1078) insist that many lenders remain reluctant to make loans to minorities wherever they apply.

Geoffery Tootell (1996) is also among the scholars who believe that the evidence for redlining, the denying of credit to a neighborhood, is weak. The case is made that legislation like the Community Reinvestment Act (CRA) and Home Mortgage Disclosure Act (HMDA) has been largely successful in monitoring the lending practices of financial institutions so that redlining does not continue. But the issue remains a tricky one. Despite revealed preferences to live in integrated neighborhoods, most black home buyers actually buy into segregated ones (Clark 1991; Immergluck 1998). Continued place stratification is attributed partially to racial myths and stereotypes that condition decisions about lending and residential location (Massey and Denton 1993; Stone 1986). These racial stereotypes then interact with economic concerns about the potential for declining house values in minority neighborhoods to restrict lending in these areas. The economic association of undesirable future outcomes with minority group membership perpetuates discrimination in lending practices to minority dominated neighborhoods. This logic can be extended to investigate the potential for place-based discrimination in the default process. We address the question of whether more forbearance is

granted delinquent borrowers in majority white than in majority black neighborhoods. The denial of forbearance to borrowers in predominantly black neighborhoods would be read as discrimination against those neighborhoods.

METHODOLOGY

The data used in the analysis come from three sources: Civil District Court records; a telephone survey; and the U.S. Census. We first collected data on 4,154 residential mortgage foreclosures in New Orleans between 1985 and 1990 from Civil District Court records. We then conducted a telephone survey of persons whose property in New Orleans was foreclosed between 1985 and 1990. Finally, aggregate data were collected at the block group level for New Orleans from the 1980 and 1990 U.S. Census of Population and Housing, Summary tape Files 3-A (U.S. Census Bureau 1982; 1992). The Census data were merged with the survey data and the data on residential mortgage foreclosures.

Using the total population of foreclosures in New Orleans from 1985 to 1990, we employed a proportionate stratified sampling technique (see Appendix B) to construct a sampling frame of 2,224 phone numbers of people who had been foreclosed on in that period. The sampling frame was tested and found to be representative of the population of foreclosures. We then selected a proportional random sample of 876 foreclosure cases which was stratified by race and income. The final interview sample contains 197 respondents. The low response rate to the telephone survey is understandable given the fact that any person whose property is foreclosed on has moved from that address. In addition, we were contacting people seven to twelve years after their foreclosure experience. In order to assess the representativeness of the

sample, we performed a one-sample ‘t’ test to compare the means of variables in the sample of completed questionnaires with the means of variables in the population of foreclosures (see Appendix C). Based on the test results, there is no statistically significant difference between the population means and the sample means on any of the variable tested. We are therefore confident that our sample well represents the population of foreclosures in New Orleans from 1985 to 1990.

The survey data enriches the analysis in two ways. The socio-economic and demographic data collected in the survey allow us to avoid ecological problems associated with attaching block group data (spatial group characteristics) to loan specific data (individual characteristics). In addition, the data on lender treatment during default allow us to directly evaluate lender discrimination in the default process. A full description of all variables used in the analysis is found in table 1.

TABLE 1
Variable Description and Measurement

Acronym	Variable description	Measurement or Source	Mean (SD)
Monthdel	number of months delinquent prior to default	Court records	5.94 (3.93)
Notelife	number of years between loan origination and loan default	Court records	5.43 (3.92)
Ltv ¹	Loan amount at default divided by mean value of owner-occupied housing in the block group 1990	Court records	1.34 (1.20)
Delinqnt	Were you delinquent on mortgage payments prior to this default	Survey	.193

Valu9080	percent change in mean value of owner occupied housing, 1980-90	mean value of owner occupied housing 1990 minus the mean value of owner occupied housing 1980 divided by the mean value of owner occupied housing 1980	-.038 (.46)
Propbl80	proportion black in block group, 1980	black population divided by the total population in block group	.615 (.320)
Income	Total household income at time of default	Survey, categories based on proportions of city median	
Race	Race of borrower	Survey	.652
Rsdflt	reason for default	Survey	
Emploss	default related to employment loss	Survey	.269
Hoodown	default related to neighborhood decline	Survey	.066
Nopay	default related to inability to make payments	Survey	.188
Persloss	default related to divorce or illness	Survey	.163
Speclose	default related to decline in rental market	Survey	.234
Occudef	occupation at time of default	Survey - categorized below by 1990 Census of Occupations	
Bluecoll	precision production/craft/repair, machine operators/assemblers/inspectors, transportation/material moving, & handlers/equipment cleaners/helpers/laborers		.113
Clerk	administrative support occupations (including clerical)		.103
Mgrpro	managerial/professional, professional speciality, & technicians/related support		.289
Saleser	sales, private household, protective service, & service occupations		.273

Note: Categorical proportions indicated are for positive, while race is proportion black.

We estimated ordinary least square (OLS) regression models to determine the effects of race of borrower, racial composition of block group, total household income at time of default, loan to value ratio at time of default, relative change in value of owner-occupied housing in the block group, credit history (prior delinquency), occupation at time of default, and reason for default on the extent of lender forbearance. The main hypothesis is that delinquent black borrowers receive less forbearance from lending institutions than delinquent white borrowers. Alternative hypotheses concern the effects of employment status, reason for default, and location of default on the fate of delinquent loans.

The dependent variable in the analysis is the number of months a borrower was delinquent before the bank declared the loan to be in default. There was little point in using any other indicator of forbearance (e.g., FHA mortgage assistance or payment rescheduling) because these options were made available to so few delinquent borrowers in the sample. Independent predictors are drawn from the survey of foreclosed homeowners, data collected from court records of foreclosed homeowners surveyed, and census data on the block group characteristics of the properties foreclosed.

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Descriptive Statistics

As indicated above, means of variables in the survey data were not statistically different

from the means of variables in the population of residential mortgage foreclosures in New Orleans. The real median household income in block groups with representatives in the sample was approximately \$19,800 in 1980 and declined to \$16,200 by 1990; while the real mean value of owner-occupied housing in these block group declined from approximately \$48,300 in 1980 to \$41,600 in 1990. These block groups experienced a 10% average increase in black population while experiencing a net out-migration of approximately 87 households (273 individuals each) and a 3% foreclosure rate (see Lauria 1998 for a detailed descriptive account of foreclosure in New Orleans). Thirty-three percent of the respondents were white and 62 % black. The mean duration of mortgage prior to foreclosure was 5.4 years and the mean monthly housing cost was \$623.

To evaluate whether there was differential treatment in the default/forbearance process based on the race of the borrower or the racial composition of the neighborhood we asked individuals whether the lending institution offered any remedial assistance such as FHA mortgage assignment, rearrangement or decrease of monthly payments, lower interest rate, or any other method of helping them meet their obligations. While only 19% (38 individuals) had ever been delinquent with mortgage payments in the past, lenders in New Orleans were not very flexible during this period. The mean time to default was 5.94 months, while only 10% of our sample (20 individuals) received any form of forbearance (e.g., rearrangement of payment schedule, decreased monthly mortgage payments, or lower interest rates), with two individuals assigned to the FHA Mortgage assistance program. In simple racial comparisons, black respondents were significantly less likely than whites to receive lower interest rates (see Table 2) or a reduction in monthly payments (see Table 3). This suggests that what little lender

forbearance was provided, was provided disproportionately to white borrowers. One has to be careful not to infer too much from the bivariate relationships because, at the same time, black respondents were significantly less likely than whites to be employed in better paying managerial/professional occupations ($p < .001$, Fisher's Exact Test), were more likely to be unemployed (see Table 4), and were more likely to have been delinquent on mortgage payments prior to this default (see Table 5). All of these factors suggest a higher risk of default among black borrowers.

TABLE 2

Lender Forbearance: Lower Interest Rates

	Yes	No	Total
White	6	58	64
Black	3	115	118
Total	9	173	182

Pearson Chi-Square 4.12, with 1 degree of freedom, $p < .05$ (2-sided).

Table 3

Lender Forbearance: Rearrange Payments

	Yes	No	Total
White	9	56	65
Black	5	116	172
Total	14	172	186

Pearson Chi-Square 5.73, with 1 degree of freedom, $p < .05$ (2-sided)

Survey respondents were asked why they defaulted on their mortgages. The distribution of reasons for default is as follows: 23.4% defaulted because it was rental property lost in a depressed market; 26.7% due to unemployment/underemployment or job change; 12.2% due to divorce or separation; 4.1% because of illness or death; 18.8% could not make payments or sell the property; 6.6% cited neighborhood decline; 2.5% Resolution Trust Company (RTC) or bank takeover; 4.1% business failure; and 1.5% other. In simple racial comparisons, black respondents are not significantly different (Fisher's Exact Test) from white respondents in terms of listing rental property market decline, divorce or illness, or inability to make payments or sell the property as the reason for default. Black respondents are significantly more likely to list unemployment/underemployment or job change (see Table 6) and are less likely to list neighborhood decline (see Table 7) as the reason for default. These findings suggest that while blacks were disproportionately affected by the oil related recession (see Lauria and Baxter 1999), they did not face discrimination based on their race during the default and foreclosure process.

TABLE 4

Unemployed at Time of Default

	Yes	No	Total
White	7	58	65
Black	29	93	122

	Yes	No	Total
Total	36	151	187

Fisher' Exact Test, $p = .023$ (1-sided)

TABLE 5

Delinquent on Mortgage Payments Prior to Current Delinquency

	Yes	No	Total
White	5	53	58
Black	32	90	122
Total	37	143	180

Pearson chi square, 7.46 with 1 degree of freedom, $p < .01$; Fisher' Exact Test, $p = .004$ (1-sided)

TABLE 6

Default Related to Employment Loss

	Yes	No	Total
White	9	56	65
Black	41	81	122
Total	50	137	187

Fisher' Exact Test, $p = .002$ (1-sided)

TABLE 7

Default Due to Neighborhood Decline

	Yes	No	Total
White	9	56	65
Black	3	119	122
Total	12	175	187

Pearson chi square, 9.16 with 1 degree of freedom, $p < .01$; Fisher' Exact Test, $p = .004$

(1-sided)

In order to evaluate whether the pre-existing racial composition of the neighborhood of the delinquent property affected lender forbearance, we tested many of these same relationships with a categorical version of proportion black in a black group (probl80): 0-30% black =1, 31-50%=2, 51-70%=3 and 71-100%=4. Neither occupation at time of default or employment related default were significantly related to the racial composition of neighborhoods. This suggests that particular areas were not discriminated against based on their social class composition. Rental property market decline was a significantly more important reason for default in majority black and solidly black neighborhoods (see Table 8). Recall that black respondents were less likely to default because of neighborhood decline and that rental property market was not a significantly more important reason for default for white versus black respondents. These findings suggest that white landlords in black neighborhoods were more likely to default than black landlords. Correspondingly, delinquent borrowers in majority white neighborhoods were more likely to default because of the inability to make mortgage payments or sell their property (see Table 9). Let us now proceed to a multivariate analysis in order to unpack these relationships and further examine their significance.

TABLE 8**Default due to Rental Market Decline**

% Black 1980	Yes	No	Total
0-30%	5	41	46
31-50%		18	18
51-70%	11	29	40
71-100%	30	63	93
Total	46	151	197

Pearson Chi-Square = 13.99 with 3 degrees of freedom, $p < .01$ (2-sided)

TABLE 9**Default due to Inability to Make Mortgage Payments or Sell Property**

% Black 1980	Yes	No	Total
0-30%	17	29	46
31-50%	6	12	18
51-70%	33	7	40

% Black 1980	Yes	No	Total
71-100%	78	15	93
Total	45	152	197

Pearson Chi-Square = 13.99, $p < .05$ (2-sided)

Multivariate Analysis

The OLS regression results reveal some interesting relationships that help us address the research questions outlined above. Relative change in the value of owner-occupied housing (Valu9080) is most significantly and positively related to the number of months a mortgage is in default prior to foreclosure. Value of owner-occupied housing has the largest unstandardized and standardized coefficients and the highest t-ratio in all models. Clearly, if property in the neighborhood where a foreclosed property is located sustains its market value, lenders are willing to allow delinquent borrowers more time to resolve their payment problems. At the same time, these results suggest that the racial composition of the neighborhood where delinquent property is located is a more significant predictor of forbearance than the race of the borrower. Properties were delinquent significantly fewer months before default in neighborhoods with a larger proportion of black residents, while race of the individual borrower is not a significant predictor of months delinquent before foreclosure. This finding provides some evidence of racial discrimination in the default process but points more strongly toward discrimination against the neighborhood than discrimination against the minority individual.

Separate dummy variable regressions were run of months delinquent before foreclosure on reasons for default and on employment status. Borrowers who defaulted because of divorce or

illness received significantly more forbearance than those who defaulted because they could not make payments and could not sell the property. Default due to employment loss is moderately statistically significant ($p < .072$) and receives the second longest delinquent period when compared with those who are unable to make mortgage payments or sell their property. At the same time, while not statistically significant, it seems that delinquent investors in rental property were defaulted on quicker than people who defaulted for any other reason.

TABLE 10

OLS Regression of Forbearance on Predictors of Default

(Dependent Variable = Months in Default)

Variable ^a	Model 1 (p =.001)			Model 2 (p =.000)		
	b	(t-ratio)	Significance	b	(t-ratio)	Significance
Constant	6.65	(3.91)	.000	5.68	(3.26)	.001
LTV	8.74E-2	(.197)	.844	.164	(.374)	.709
Proportion Black in Block Group, 1980	-2.27	(-2.25)	.026	-2.53	(-2.50)	.014
Total Household Income at Default	-7.41E-2	(-.445)	.657	2.00E-2	(.118)	.906
Relative Change in Value of Owner-occupied Housing in Block Group	2.50	(3.87)	.000	2.69	(4.23)	.000
Race of Borrower	-.870	(-1.14)	.257	-.990	(-1.29)	.201
Delinquent on Prior Mortgage Payments	.814	(1.14)	.257	.728	(1.03)	.304
Reason for Default ^b						
Rental Property Market				-2.39E-2	(-.027)	.978
Neighborhood Decline				1.28	(.823)	.412
Divorce or Illness				2.64	(2.79)	.006
Employment Loss				1.45	(1.82)	.071
R ²	.148			.215		
Adjusted R ²	.109			.154		
N	140			140		

(a) See text for data sources, table 1 for description of variables.

(b) Omitted reason for default is Unable to Pay or Sell.

CONCLUDING COMMENTS

The analysis of lender forbearance during default presented in this article is consistent with the findings of Ambrose and Capone (1996) in that we found little discrimination based on the race of the borrower. On the other hand, these results are inconsistent with recent research which suggests that there has been a decline in lender redlining of particular neighborhoods based on racial composition (Tootell 1996). Our analysis of lender forbearance, with forbearance defined as time allowed in delinquency prior to default declaration, indicates that relative change in the value of owner-occupied housing and prior racial composition of the block group are the most significant predictors in all models. The correlation between these two variables is rather small (.128) but it is statistically significant, which suggests that they measure distinct phenomena. It should therefore be clear that the racial composition of the neighborhood is an important consideration in lender forbearance, net of all other factors considered. It is much too premature to dismiss the influence of cultural stereotypes and racial preferences on racial discrimination in residential location and lending practices in American cities.

The discovery of statistically insignificant relationships are an important part of our story. Loan to value ratio, total household income at the time of default, and prior credit history (measured as a prior delinquency) are nowhere near significantly related to time in default before foreclosure (see Table 10, model 2). This reinforces the conclusion that during this recessionary period in New Orleans lenders were more concerned with the characteristics of the neighborhoods in which delinquencies occurred than with any borrower or loan characteristics.

The results presented in this article are also largely consistent with Steven Holloway's analysis of the relationship of lender discrimination and the racial composition of neighborhood

in Columbus Ohio (1998), and Daniel Immergluck's (1998) assertion that increases in black home buying are occurring in highly segregated black neighborhoods, which reinforces racial residential segregation. The results presented in this article are cause for some alarm because they indicate that during recessionary periods highly segregated neighborhoods with many black owner-occupants are likely to face disproportionate default and foreclosure pressure. Part of this pressure appears to be institutional discrimination which further depresses housing markets and the quality of life in predominantly minority neighborhoods.

NOTES

1. In Louisiana appraisals are not required for foreclosure proceedings. Since only 25% of our survey respondents had property appraisals at the time of foreclosure, we could not construct a loan to value ratio that used such data. Instead we used the 1990 mean value of owner-occupied housing in the block group of the foreclosed property. This provides us with a loan to value ratio of the property to the average value of owner-occupied property in the neighborhood in which it resides. While insignificant in our models, this surrogate variable provided better models than our other potential surrogate variable (Notelife). Notelife measures a slightly different concept. As Notelife increases, the amount of equity a homeowner accrues increases while the principal loan amount should decrease. Thus, one would expect Notelife and Ltv to be negatively correlated. Notelife is a better measure of the amount of equity to be lost through foreclosure and thus as it increases the probability for default and perhaps time to default should decrease. On the other hand, with the loan to value ratio used, as it increases the probability for default and time to default should increase.

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Appendix A: Telephone Script

Fannie Housing Foundation Lender Discrimination and Housing Foreclosure Survey Project

INTRODUCTION

Hello, may I speak to (name of interviewee)?

Hi, this is (name of interviewer) from the University of New Orleans. We're doing research for the Fannie Mae Foundation on the effects of housing foreclosures on neighborhoods and individuals in New Orleans. The research we are conducting is specifically about individuals who were foreclosed upon in New Orleans from 1985-1990; so the information we need has to come from those individuals. We located your name in the Civil District Court public case docket. Although those listings are available to the public, UNO and the Fannie Mae Foundation will not republish your name. If you help us out with this survey, your answers will be kept confidential. Would you mind answering a few questions to help us out with the project. It will take roughly ten minutes.

[If "No."] Is there a time I can call back that is more convenient?

[Record day and time on list for call back.]

[If "No."] Well, thank you for your time.

[Record refusal on list]

[If "Yes."] Terrific. Let's begin, then.

SURVEY

1. First of all, I need to make sure I am speaking with (say and spell the name of person) whose property at (list the address of the property) was foreclosed upon on (date of foreclosure.) Is this right?

[If "No."] I am sorry to have bothered you. Thank you for your time. [Indicate that it was the wrong individual on the your sample list.]

[If "Yes," move to next question.]

2. All right. I have your current address as (address given on the list). Is that right?

[If "No."] Okay, what is your current address?

[If "Yes," move to next question.]

[If "Why do you need to know this?"] Our project involves understanding the effects of foreclosures on different neighborhoods.

3. What were the reasons for your mortgage default?

I am going to read you a list of common reasons why people are foreclosed upon. Please tell me how important these reasons were regarding your default?

A. Could not afford monthly payments.

Very important (1)	Somewhat important (2)	Not very important (3)	Not a reason (4)
—	—	—	—

B. Not able to sell the house.

Very important (1)	Somewhat important (2)	Not very important (3)	Not a reason (4)
—	—	—	—

C. Loss of income.

Very important (1)	Somewhat important (2)	Not very important (3)	Not a reason (4)
—	—	—	—

D. There was a significant illness or accident in the family which increased medical expenses.

Very important (1)	Somewhat important (2)	Not very important (3)	Not a reason (4)
—	—	—	—

E. Divorce from husband/wife.

Very important (1)	Somewhat important (2)	Not very important (3)	Not a reason (4)
—	—	—	—

F. Separation from husband/wife.

Very important (1)	Somewhat important (2)	Not very important (3)	Not a reason (4)
—	—	—	—

G. Loss of employment.

Very important (1)	Somewhat important (2)	Not very important (3)	Not a reason (4)
—	—	—	—

[If respondent answers 1 or 2 to Question 3G, then ask Question 3H]

H. How long were you unemployed before the foreclosure took place?

4. Were you ever delinquent with your payments on this mortgage prior to the delinquency that lead to the foreclosure?

A. If yes, how was that prior delinquency handled?

5. Were you ever given delinquency assistance with the FHA Mortgage Assignment Program?

6. How many months were you behind with your payments when the bank decided to foreclose on your mortgage?

7. Did the bank offer to rearrange your payment schedule, lower the interest rate or otherwise decrease your monthly payment prior to deciding to foreclose?

Okay, for our project we're also going to need some basic demographic information so we can attempt to explain how the foreclosure process in the city works. Once again, any information you share with us will be held confidential.

8. Which of the following describe your racial/ethnic background?

- 1 White
- 2 Black
- 3 Hispanic
- 4 American Indian, Eskimo or Aleut
- 5 Asian or Pacific Islander
- 8 Other background [If so, have respondent specify.]
- 9 Don't know/refused to answer

9. What is your current age?

10. I'm going to read some categories of income. Please tell me when I get to your TOTAL yearly household income in (year of foreclosure.) In other words, how much did everyone living with you at that time make in that year?

- 1 Below \$13,000
 - 2 \$13,001 to \$21,000
 - 3 \$21,001 to \$32,000
-

- 4 \$32,001 to \$39,000
- 5 \$39,001 to \$47,000
- 6 \$47,001 to \$53,000
- 7 \$53,001 and over
- 9 Don't know/refused to answer

11. What was your housing situation immediately after the foreclosure; were you a homeowner, a private renter, a renter in public housing, staying with friends or family, or what?

- 1 Homeowner
- 2 Homeowner and owns rental property
- 3 Private renter
- 4 Public housing renter
- 5 Stayed with friends or family
- 8 Other housing situation [If so, please have respondent specify.]
- 9 Don't know/refused to answer

[If answer for Question 11 is 2, then ask Question 11A, otherwise go on to Question 12.]

A. How many properties did you continue to own after the foreclosure?

12. Were you personally occupying the foreclosed property at the time of default?

13. What was your job at the time of the default?

14. What was your (husband/wife)'s occupation at the time of the default?

15. I'm now going to read some categories of income. Please tell me when I get to your TOTAL yearly household income for this past year.

- 1 Below \$17,000
 - 2 \$17,001 to \$27,000
 - 3 \$27,001 to \$41,000
 - 4 \$41,001 to \$51,000
 - 5 \$51,001 to \$62,000
 - 6 \$62,001 to \$69,000
 - 7 \$69,001 and over
 - 9 Don't know/refused to answer
-

16. What is your current occupation?

17. What is your (husband/wife)'s current occupation.

18. What is your current housing situation? Have you purchased another home, are you renting an apartment, in public housing, staying with friends or family, or what?

- 1 Now a homeowner
- 2 Now own a home and rental property
- 3 Now a private renter
- 4 Now a public housing renter
- 5 Now staying with friends or family
- 8 Now have other housing situation [If so, please have respondent specify.]
- 9 Don't know/refused to answer

[If answer to Question 18 is 3, then ask Question 18A, otherwise go on to Question 19.]

A. Assuming you had the money, would you be interested in purchasing another home?

- 1 Yes
- 2 No
- 9 Don't know/refused to answer

19. How much do you currently spend each month for housing?

CONCLUSION

Okay, that's all the questions we have.

20. Would you be willing to participate in a follow-up interview or focus group in the future?

[If "What does that involve?" explain follow-up interview or focus group.]

- 1 Yes
- 2 No

Appendix B: Sampling

Foreclosure Population

Income	Percentage Black - 1980				Total
	0-30%	31-50%	51-70%	71-100%	
\$0-\$9,272	9 [.2]	3 [.1]	39 [.9]	340 [8.2]	39 [9.4]
\$9,273-\$13,908	79 [1.9]	75 [1.8]	233 [5.6]	618[14.9]	1005[24.2]
\$13,909-\$23,182	299 [7.2]	238 [5.7]	244 [5.9]	614[14.8]	1395[33.6]
\$23,183 and above	666[16.0]	190 [4.6]	207 [5.0]	291 [7.1]	1359[32.7]
Total	1053[25.4]	506[12.2]	723[17.4]	1868[45.0]	4150

Spatially matched foreclosure data set stratified by race and income. Numbers in brackets represent the percentage of population in the cell.

Telephone Number Sampling Frame

Income	Percentage Black - 1980				Total
	0-30%	31-50%	51-70%	71-100%	
\$0-\$9,272	5 [.2]	3 [.1]	20 [.9]	204 [9.2]	232[10.4]
\$9,273-\$13,908	45 [2.0]	35 [1.6]	122 [5.5]	340[15.3]	542[24.4]
\$13,909-\$23,182	144 [6.5]	129 [5.8]	136 [6.1]	335[15.1]	744[33.5]
\$23,183 and above	356[16.0]	109 [4.9]	91 [4.1]	150 [6.7]	706[31.7]
Total	550[24.7]	276[12.4]	369[16.6]	1029[46.3]	2224

Spatially matched foreclosure data set with phone numbers. Numbers in brackets represent the percentage of population in the cell.

Telephone Survey Oversample

(Stratified and Randomly drawn)

Income	Percentage Black - 1980				Total
	0-30%	31-50%	51-70%	71-100%	
\$0-\$9,272	3 [0.3]	1 [0.1]	9 [1.0]	75 [9.6]	88[10.0]
\$9,273-\$13,908	26 [3.0]	29 [3.3]	54 [6.2]	128[14.6]	237[27.0]
\$13,909-\$23,182	61 [7.0]	49 [5.6]	47 [5.4]	123[14.0]	280[32.0]
\$23,183 and above	131[15.0]	37 [4.2]	44 [5.0]	59 [6.7]	271[30.9]
Total	221[25.2]	116[13.2]	154[17.6]	385[44.0]	876

Over sample drawn from sampling frame. Numbers in brackets represent the percentage of total sample in the cell.

Survey Respondents

Income	Percentage Black - 1980				Total
	0-30%	31-50%	51-70%	71-100%	
\$0-\$9,272			2 [1.0]	19 [9.6]	21[10.7]
\$9,273-\$13,908	6 [3.0]	2[1.0]	13 [6.6]	31[15.7]	52[26.4]
\$13,909-\$23,182	15 [7.6]	8[4.0]	13 [6.6]	27[13.7]	63[32.0]
\$23,183 and above	25[12.7]	8[4.0]	12 [6.1]	16 [8.1]	61[31.0]
Total	46[23.4]	18[9.1]	40[20.3]	93[47.2]	197

Survey respondents stratified by race and income. Numbers in brackets represent the percentage of total respondents in the cell.

APPENDIX C

Difference of Means Tests on Selected Variables

Variable	Population Mean (N=4154)	Sample Mean (N=197)	t	df	Significance (2-tailed)
Hsinc80	19506.54	18842.18	-1.036	196	.301
Hsinc90	16382.70	16211.24	-.267	196	.790
Meanva80	50015.79	48347.98	-.762	196	.447
Meanva90	41751.33	41639.43	-.068	196	.946
Bl9080	.1164	.1083	-.649	196	.517
Popchg	227.7716	273.5803	.681	196	.497
Hsld9080	92.3766	87.4191	-.221	196	.825
Inco9080	-.122447	-.0898	.848	196	.398
Chgrelco	.8262	1.8502	1.535	196	.126
Agmi9080	.00992	-.00832	.637	196	.525
Pro9080	.02675	.02239	-.712	196	.477
Propfc	.02843	.03152	1.721	196	.087

Appendix D: Correlations of Interval Level Variables in the Models

Variable ^a	1	2	3	4
1. Monthdel				
2. Notelife	.122			
3. Ltv	.017	-.279**		
4. Valu9080	.216**	.121	-.050	
5. Probl80	-.184*	-.037	.145*	.158*

^a See Table 1 for description of variables

* $p < .05$, ** $p < .01$