

Cityscape

*A Journal of Policy
Development and Research*

BORROWER BEWARE
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U.S. Department of Housing and Urban Development
Office of Policy Development and Research

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Contents

Symposium

<i>Borrower Beware</i>	1
------------------------------	---

Guest Editors: Padmasini Raman and Pamela Lee

Guest Editors' Introduction

Borrower Beware: Challenges in Providing and Using Consumer Credit	3
---	---

Credit Invisibles and the Unscored	9
---	---

by Kenneth P. Brevoort, Philipp Grimm, and Michelle Kambara

What's the Point(s)? Information Content and Messaging Strategies in Mortgage Loan

Advertisements	35
-----------------------------	----

by Vanessa G. Perry, Carol M. Motley, and Robert L. Adams, Jr.

A Roll of the Dice: Debt Settlement Still a Risky Strategy for Debt-Burdened

Households	55
-------------------------	----

by Leslie Parrish

Prepurchase Counseling Effects on Mortgage Performance: Empirical Analysis of

NeighborWorks® America's Experience	73
--	----

by Neil S. Mayer and Kenneth Temkin

Commentary: How Housing Counseling, Financial Education, and Consumer

Guardrails Can Support Responsible Borrowers	99
---	----

by Sarah Gerecke

<i>Refereed Papers</i>	107
------------------------------	-----

Housing Decisions Among Low-Income Hispanic Households in Chicago	109
--	-----

by Laura Carrillo, Mary Pattillo, Erin Hardy, and Dolores Acevedo-Garcia

The Role of Nonprofit Organizations in Homeless Policy Networks: A Research Note	151
---	-----

by Jesus N. Valero and Hee Soun Jang

<i>Departments</i>	163
--------------------------	-----

Data Shop

Trend-Spotting in the Housing Market	165
---	-----

by Nikos Askitas

Graphic Detail

Leveling the Playing Field: School District Spending in Diverse Communities	179
--	-----

by Alexander Din

Industrial Revolution

Breathing Wall: Concept and Thermal Performance	183
--	-----

by Zhiqiang (John) Zhai

Foreign Exchange

Promoting Access to Affordable Housing Finance: Morocco's Fogarim Guarantee Fund and U.S. Housing Finance..... 189
by Alven Lam and Christopher Feather

Evaluation Tradecraft

Tracking and Interviewing Family Options Study Participants..... 201
by Debi McInnis and Brenda Rodriguez

Referees 2015–16 221

Symposium

Borrower Beware

Guest Editors: Padmasini Raman and Pamela Lee

Guest Editors' Introduction

Borrower Beware: Challenges in Providing and Using Consumer Credit

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The views expressed in this introduction are those of the guest editors and do not necessarily reflect the official positions or policies of the Federal Housing Finance Agency, Federal Housing Administration, U.S. Department of Housing and Urban Development, or U.S. government.

The provision of consumer credit is a critically important part of the U.S. economy. Since 1987, consumer spending has accounted for more than two-thirds of gross domestic product (GDP) and, in recent history, has averaged roughly 70 percent of GDP. Consumer spending is a key driver of economic growth, fueling demand for goods and services, which, in turn, generates jobs. This growth in consumer spending has been facilitated by the development of the consumer financial services sector, enabling households to leverage their assets and smooth consumption over time. The use of consumer financial services, including various kinds of debt instruments, has become a backbone of the U.S. economy. Access to consumer credit (including mortgage debt) has emerged as a critical bridge that must be crossed to access the mainstream economy, which in turn requires that consumers possess adequate credit histories and demonstrate their ability to manage such credit. Historically, however, the path to the provision and use of consumer credit has been uneven and strewn with pitfalls. Credit costs and access vary, and information asymmetries abound, making the path perilous for all but the savviest borrowers.

The articles in this symposium of *Cityscape* examine some of the challenges in making credit available to consumers. The first article in this issue (Brevoort, Grimm, and Kambara, 2016) provides new insight into the characteristics of borrowers with limited or no credit history, and it examines the implications for recent efforts to reach some of these borrowers through alternative credit-scoring models that rely on rent or utility payment histories. The next two articles examine information asymmetries faced by borrowers who are able to access mainstream financial services and products. One article (Perry, Motley, and Adams, Jr., 2016) looks at the content of mortgage

advertising, and the other (Parrish, 2016) examines the performance of for-profit debt-settlement companies. The final article (Mayer and Temkin, 2016) examines a key policy emphasis in recent years: prepurchase counseling to improve financial literacy and prevent borrowers from becoming delinquent on their debt.

Access to Credit

The 7 years since the end of the Great Recession have been marked by a recovering economy, but many indicators suggest that, as the mortgage market has shifted toward borrowers with pristine credit scores, credit rationing has impeded a more robust recovery. Compared with more typical lending periods, median FICO™ scores for purchase loans have increased by nearly 50 points, to the 750s, and the composition of FICO scores has changed, with substantially reduced lending to mid- and lower-range FICO borrowers. Many postcrisis policies have focused on expanding access to lower-credit, responsible borrowers. These policies are important for creating economic opportunity for lower-income, credit-impaired borrowers, but they fail to address the needs of the millions of borrowers with thin or no credit history. To reach these Americans, policymakers have largely focused on alternative credit-scoring models, such as those that rely on rent, utility, or cell phone payment history, to inform a credit score that models borrowers' ability to assume and pay off debt.

As the first article in this symposium discusses, however, alternative credit-scoring models can address only part of the problem. Kenneth P. Brevoort, Philipp Grimm, and Michelle Kambara analyze the data records of three major nationwide credit reporting agencies. Such records form the basis by which mainstream credit providers assess creditworthiness while underwriting and pricing for risk. They have also evolved into a screen for areas unrelated to credit provision, including employment and access to rental housing. As a result, such credit records, or the lack thereof, can fundamentally affect a borrower's financial well-being and access to the mainstream economy. Brevoort, Grimm, and Kambara (2016) estimate that about 26 million adults (approximately 11 percent of the adult population) can be classified as being without credit records, or "credit invisibles"; these individuals are severely limited in their ability to access mainstream financial products. Alternate credit-scoring models do not help this segment at all. In addition, another 19.6 million adults (or 8.3 percent) have credit records that cannot be scored using traditional or conventional scoring models; these individuals are termed the "unscored." The authors explore the composition of both segments and find that they are skewed toward young, elderly, minority, and lower-income individuals.

Brevoort, Grimm, and Kambara find that current policy prescriptions, such as establishing alternative credit data sources or credit-scoring models, will help only some of the unscored population. For example, alternative credit models will help only the unscored population with utility accounts or rental agreements in their own name. Further, because credit-scoring models (conventional or alternate) rely on the observable performance of a sufficiently representative sample of consumers, they may not be able to produce unbiased estimates for all subsegments. Lenders react to the poorly performing models by imposing credit overlays or screens, thereby negating the impact of alternative credit models.

Deceptive Practices

The problematic extension of credit and deceptive lending practices were evident during (and some would say precipitated) the recent housing and financial crisis. In response to these practices, regulators reformed the financial system and enhanced consumer protections through regulations such as the Dodd-Frank Wall Street Reform and Consumer Protection Act.¹ Despite new mortgage disclosure forms and regulations, borrowers face significant barriers to collecting information, and those barriers may lead them to make less optimal financial decisions.

Mortgage Advertising

In their article, Vanessa G. Perry, Carol M. Motley, and Robert L. Adams, Jr., find that postcrisis regulations may not go far enough to enhance consumer decisionmaking in the mortgage market. The authors point out that the 2011 Mortgage Acts and Practices—Advertising Rule,² which prohibits false and misleading claims in mortgage advertisements, primarily applies to advertisements that convey verifiable facts (such as interest rates or loan fees and terms). By contrast, transformational advertisements that rely on subjective claims and emotional responses to drive consumer behavior are not subject to the same regulatory standard. In their content analysis of thousands of mortgage advertisements placed in television, radio, print, and online media, Perry, Motley, and Adams (2016) find that incidences of factual or verifiable information were relatively rare and that advertisements tend to rely on transformational messaging. Moreover, the type of transformational messaging differed depending on the target audience—ads targeted to general audiences relied on positive frames, which emphasized the product as a gateway to an opportunity, but ads targeted to African-American and Hispanic audiences more often relied on negative framing, emphasizing negative outcomes or situations to be avoided by using the advertised product.

The authors note that these findings underscore that mortgage advertisements cannot be relied on to convey useful data to inform a consumer's search for mortgage credit. Regulators have implemented rules to curb deceptive advertising but, to date, have not forced mortgage lenders to convey useful data and facts that ensure borrowers obtain the most appropriate product for their economic situation and needs. How can regulators support consumers' ability to critically evaluate mortgage offerings? The authors suggest that mortgage regulators look to the Food and Drug Administration's (FDA's) oversight of pharmaceutical drug advertisements. FDA regulations require pharmaceutical advertisements to use standard language and to include risk information whenever promoting product benefits. In addition, the FDA prohibits advertisers from relying on strictly transformational advertisements.

Debt Assistance

The ability to take on debt can fuel economic growth and contribute to economic mobility, quality of life, and wealth creation; however, it can also create problems for borrowers who fall behind on their payments. With about \$700 billion in total credit card debt outstanding nationwide, the

¹ Pub. L. 111–203 (July 21, 2010).

² 16 CFR Part 321. Federal Register 76 (141) July 22, 2011.

average household with a credit card balance owes about \$15,800 (El Issa, 2015; Federal Reserve Bank of New York, 2015). Most borrowers will be able to resolve their outstanding payments, but some will need assistance in dealing with their debt loads. Through television and radio advertising, for-profit debt-settlement companies have marketed themselves as one reliable, affordable option for borrowers who need help resolving their debt issues.

In her article, Leslie Parrish examines whether consumers benefit from using for-profit debt-settlement companies. Analyzing a data set of 56,000 consumers who enrolled in debt-settlement programs, Parrish (2016) finds that, in contrast to claims made in debt-settlement company advertisements, most enrolled consumers did not experience a positive or improved financial position, despite improved consumer protections enacted by the Federal Trade Commission in 2010. Parrish specifically finds that few consumers remain enrolled long enough or settle enough debts to improve their financial position. Further, the author finds that the business model that debt-settlement companies use presents significant risks that are not made clear to consumers. On their enrollment in a debt-settlement program, consumers are instructed to stop making payments on their debts, cease contact with their creditors, and grant the debt-settlement company authority to negotiate on their behalf. Consumers face a significant risk that creditors will refuse to negotiate with the debt-settlement company and will instead pursue collection activity or a lawsuit against the borrower after payments cease.

Similar to findings by Perry, Motley, and Adams, Parrish finds that consumers cannot rely on debt-settlement companies to convey reliable information to consumers about the risks and realities of using their programs to resolve their debt problems. To help vulnerable consumers navigate the complex debt-settlement process and industry, Parrish urges regulators to provide more transparency regarding consumer outcomes through data-reporting requirements and to hold debt-settlement firms accountable for borrowers' outcomes through fee limits and relief for consumers who do not benefit from the debt-settlement companies' services.

Promising Practices

In response to the struggles of homeowners during the recent financial crisis, housing counseling has emerged as a helpful tool for making consumers aware of the pitfalls of the financial products they are opting for. In their article, Neil S. Mayer and Kenneth Temkin analyze 75,000 loans originated between 2007 and 2009 to evaluate the impact of prepurchase counseling and education on the performance of counseled borrowers' mortgages compared with the performance of the mortgages of borrowers who received no such services. Their analysis suggests that prepurchase counseling has a "substantial effect" on the performance of mortgages for home purchase: the counseled borrowers in their study were one-third less likely to become 90 or more days delinquent during the first 2 years of the mortgage than borrowers who were not counseled (Mayer and Temkin, 2016).

Conclusion

In the commentary by Sarah Gerecke, the author notes the need for "guardrails" to protect consumers from excessive or inappropriate debt (Gerecke, 2016). The articles in this symposium

provide insight into the kind of issues that would need to be addressed as these guardrails are being developed. Brevoort, Grimm, and Kambara focus on borrowers with limited credit histories and provide a call to policymakers for further research to enhance policymaking efforts to reach such borrowers. Perry, Motley, and Adams urge policymakers to strengthen mortgage advertising rules to support consumers' ability to critically evaluate mortgage offerings, and Parrish advocates for more transparency regarding consumer outcomes in the debt-settlement process. Finally, research by Mayer and Temkin suggests that policymakers should focus on funding evidence-based practices that improve borrowers' education and outcomes.

Guest Editors

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Credit Invisibles and the Unscored

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The views expressed in this article are those of the authors and do not necessarily reflect the official positions or policies of the Consumer Financial Protection Bureau or the U.S. government.

Abstract

Having a credit record and a credit score can be an important determinant of credit access. Surprisingly little is known, however, about people who lack credit records or scores. This article provides the first documented analysis of the characteristics of consumers without credit records, called “credit invisibles,” and of consumers whose records are treated as “unscorable,” by a widely used credit-scoring model. Our estimates suggest that 26 million adults, representing about 11 percent of the adult population, lack credit records. An additional 8.3 percent, or 19.6 million adults, have credit records that are unscored. We find that the incidence of having a credit record is not evenly distributed. Young, elderly, minority, and lower-income consumers are more likely to be credit invisible or have an unscored record. In addition, our analysis finds that observable credit performance is not widely available for such consumers, which may hinder the ability of alternative data to expand credit access for these consumers.

Introduction

In the United States, nationwide credit-reporting agencies (NCRAs) compile and sell records that detail the credit histories of millions of consumers.¹ Lenders use these records pervasively to assess creditworthiness when underwriting or pricing credit. They are widely used for purposes beyond credit granting as well. For example, they may be checked when setting auto and homeowner insurance premiums, establishing new utility accounts, renting housing, or hiring new employees. As a consequence, credit records affect the financial well-being of consumers in many ways.

¹ The three NCRAs are Equifax, Experian, and TransUnion.

The widespread use of credit records has drawn the attention of policymakers toward consumers with limited credit histories, meaning either that their credit record contains very little information or that they have no credit record at all. Much of this attention has focused on alternative sources of data that might supplement the information collected by the NCRAs and mitigate the problems that these consumers face. Examples of alternative data that have been suggested include utility payments (Experian, 2014; Schneider and Schutte, 2007; Turner et al., 2006), rental histories (Experian RentBureau, 2014), and remittance histories (CFPB, 2014).²

Despite this attention, very little is known about the scale of the problem or about the characteristics of consumers who are affected. Estimates of the number of people without credit records vary widely and the methodology used to produce these estimates has rarely been disclosed.³ Moreover, the varying estimates of the number of consumers with limited credit histories provide little information about the populations themselves. Yet, such information is crucial for evaluating potential solutions. For example, utility payments may have a lot of value in predicting credit performance, but they can help only consumers with limited credit histories who have utility accounts in their own names.

Our analysis takes the first detailed look at consumers with limited credit histories. We focus on two groups of such consumers. The first group, “credit invisibles,” includes consumers without NCRA credit records. These consumers likely face restricted access to credit because lenders cannot use NCRA records to assess their creditworthiness. The second group, the “unscored,” consists of consumers whose NCRA credit records cannot be scored by conventional credit-scoring models. Generally speaking, a credit record may be treated as unscorable for two reasons: (1) it contains insufficient information to generate a reliable score, meaning that the record has too few accounts with sufficiently long payment histories; or (2) the information has become “stale,” in that the record has no recently reported information.⁴ Because many lenders rely on credit scores to assess creditworthiness, an unscored credit record can impair credit access in much the same way as not having a credit record. We present results for both types of unscored credit records, which we refer to as “insufficient-unscored” and “stale-unscored.”

Reliable data on the population with limited credit histories are difficult to come by, particularly for the credit invisibles. Although samples of credit bureau data will generally contain information about the number of consumers with unscorable records, by definition, they contain no information on credit invisibles. Credit-record samples also do not contain any information about the demographic or other non-credit-related characteristics of the consumers, making profiling even those with unscored records difficult based on credit-record data alone. Other data sets, such as the Survey of Consumer Finances or the American Community Survey (ACS), that contain representative information about the adult population do not indicate which consumers have limited credit histories and, therefore, by themselves, are of limited use in profiling consumers with limited credit histories.

² These data sources have not been without their critics. For example, see Howat (2009).

³ See, for example, VantageScore (2015), which provides estimates of the number of consumers with different types of limited credit history but does not describe how the estimates were derived. In particular, no information is provided about how fragment files were handled.

⁴ Credit records will also generally be treated as unscorable when they indicate that the consumer is deceased. Because our focus is on living consumers with limited credit history, we ignore this cause of an unscored credit record.

Our approach combines multiple sources of data. We start with the Consumer Financial Protection Bureau's (CFPB's) Consumer Credit Panel (CCP), a 1-in-48 random sample of deidentified credit records from one of the NCRAs. These data include the census tract where each consumer resides and a commercially available credit score that indicates whether a credit record was unscorable and, if so, the reason. We compare these data from 2010 with the distribution of the U.S. population from the 2010 census. The difference between a census tract's population and our estimate of the number of credit records in that tract provides an estimate of the number of consumers who are credit invisible. The number of consumers in each tract with an unscorable record can be estimated directly from the CCP. We use these tract-level estimates, along with the demographic characteristics of each tract from the 2010 census and the 2008–2012 ACS, to estimate the demographic characteristics of consumers with limited credit histories.

Using these data, we conducted three related analyses. First, we estimate the number of consumers with limited credit histories and profile some of their demographic characteristics. In producing these estimates, we carefully detail how the estimates were calculated and provide detail on how the underlying assumptions affect the final estimates. Second, we use multivariate analysis to better understand the factors (such as income, education, and living conditions) that may affect the likelihood of having a limited credit history. These results are instructive in helping to identify the potential for different types of alternative data to reduce the problems caused by having a limited credit history. Finally, we use the data assembled in this study to investigate an often-ignored issue to expanding the universe of consumers with scorable credit records, the necessity of having observable performance. Expanding the coverage of credit-scoring models requires more than just alternative data that can serve as predictive factors (or right-hand-side variables) to forecast performance. It also requires observable performance on credit obligations. Because this performance information generally comes from credit-record information, we look at how often such information is available for consumers with limited credit histories.

Background and Data

This section provides background information about the analysis described in this article. We begin by describing the types of information contained in the credit records maintained by the three NCRAs. We then describe the specific sources of data that are used in this study to conduct our analysis.

Credit-Record Background

The credit records assembled by the NCRAs contain detailed information about the past and current credit usage of American consumers. These records include four types of information.⁵ The first type of information is “tradelines”—credit accounts voluntarily reported by lenders or loan servicers. Each tradeline contains information about a single credit account that details the date the account was opened, the original amount on the loan, the credit limit (if a revolving account), the current balance, whether the account remains open, and up to 7 years of payment history. The second type is “collections”—accounts reported by third-party debt collectors. Although some

⁵ For a more in-depth discussion of the types of information included in credit records, see Avery et al. (2003).

collection accounts derive from credit accounts, most of the reported collections are for non-credit-related items, such as unpaid medical or cell phone bills. The third type of information is “public records,” such as bankruptcy filings and tax liens. The final type is “inquiries”—records created by the NCRAs whenever a consumer’s credit record is accessed in connection with an application for credit.⁶

The credit records maintained by the NCRAs contain nearly comprehensive information about many mainstream credit products, including auto loans, mortgages, and credit cards. Largely missing from this information, however, are accounts with nontraditional credit sources such as payday or auto-title lenders and pawnshops. Non-credit-related bills, like medical and utility bills, are sometimes reported to the NCRAs, although such reporting is rare and often limited to reporting by debt collectors.

Any one of the four types of information, by itself, is sufficient to trigger the creation of a credit record. So, a consumer can have a credit record with as little information as a single inquiry. The four information types, however, are not equally informative. Inquiries, although they can be treated as negative risk factors in credit-scoring models, contain little information about past credit experiences. Collections and public records both provide only information about negative experiences (although if these have been paid in full, they may be less negative than those that remain unpaid). Establishing a positive credit history requires having at least one tradeline that has been reported to the NCRAs with a long enough history to reflect either positive or negative payments.

An important challenge in working with credit-record data is dealing with so-called “fragment files”—credit records that contain a portion of a consumer’s credit history that exists outside the consumer’s primary file. For example, a consumer with a credit record opens a new credit card. When the lender reports that account, the NCRA attempts to match it with the correct credit record. If the NCRA is unable to find a match or finds multiple matches, perhaps reflecting erroneous or incomplete information reported with the new account, then the newly reported credit card will be placed in its own credit record. Most fragment files are temporary. Over time, as more information comes in, the NCRA may realize that the accounts in a fragment file belong to a consumer with an existing credit record. When this happens, the fragment file and all the information it contains will be subsumed into the consumer’s primary credit record.

The existence of fragment files suggests that some consumers will have multiple credit records. Left unaddressed, the presence of fragment files will cause the number of credit invisibles to be understated. Moreover, because many of these fragment files will be unscorable, reflecting their limited contents, failing to exclude fragment files will overstate the number of consumers with unscorable credit records. In the next section, we describe in detail the steps taken to prune fragment files from our sample.

⁶ The types of inquiries used in this article are also referred to as “hard inquiries.” Inquiries can also be created for other reasons, such as when credit records are accessed to solicit new business, for account maintenance purposes, or for other reasons. Such “soft inquiries” are not included in the CCP and are not supplied to lenders who receive credit records.

Data

The analysis described in this paper proceeds by comparing the geographic distribution of records in the CFPB CCP with the distribution of demographic characteristics of the population of adults in the United States from multiple sources. In this section, we provide background information about the CCP and describe the sources of demographic information that we use.

CFPB Consumer Credit Panel

The primary source of data we use is the CFPB's CCP. The CCP is a nationally representative, 1-in-48 sample of deidentified consumer credit records from one of the NCRAs. We use archive data from December 2010, which provides a representative sample of credit records as they existed at that time.

Each credit record contains deidentified information about the consumer's credit history, including information on each account's type, the date it was opened, outstanding balance, payment history, and current status. The CCP includes, when available, the consumer's year of birth.⁷ We calculate each consumer's age at the end of December 2010.⁸

As shown in Exhibit 1, the CCP data for 2010 include about 4.96 million records. From these, we exclude records that indicate the consumer was deceased or living outside the United States. These exclusions make the composition of sample credit records more comparable with the census population.

We also attempt to remove fragment files using three methods. First, we exclude credit records that were consolidated into other credit records during the next 4 years (through December 2014, which was the most recently available data at the time of this analysis). When two credit records are consolidated, the newer of the records, the fragment, is destroyed and the older record remains (with the additional information absorbed from the fragment). Dropping the newer files removes an additional 2.8 percent of sample records.

Exhibit 1

Count of Excluded Records by Reason

	Observation Count	Percent of Sample	Stale-Unscored (%)	Insufficient-Unscored (%)
Total observations	4,956,746	100	5.1	6.9
Exclusions				
Outside United States	43,828	0.9	5.0	2.4
Deceased	179,279	3.6	4.1	2.1
Consolidated	138,152	2.8	18.1	35.9
Disappeared	104,575	2.1	9.2	66.4
Age missing	153,308	3.1	4.9	6.6
Bad geography	2,804	0.1	6.5	8.6
Sample observations	4,334,800	87.5	4.6	4.8

Source: Consumer Financial Protection Bureau, Consumer Credit Panel

⁷ Actual credit records include the date of birth. The CCP excludes the month and day of birth to enhance the anonymity of the data.

⁸ Although the ages we calculated are not perfectly comparable with the age data from the 2010 census, which asks consumers their age as of April 2010, the differences should be negligible, particularly because our analysis primarily uses 5-year age buckets.

Second, we exclude credit records that were destroyed between 2010 and 2014, despite not being involved in a consolidation. Although these excluded records were not absorbed by another file, their disappearance suggests that the information they contained was removed, which resulted in the destruction of the file. Although this disappearance could reflect information that has become so old it has migrated off the credit record (such as information on delinquent accounts that is required by law to be removed after 7 years), most of these credit records were recently reported in December 2010. The recent reporting suggests that most of these records were not destroyed because the information aged.⁹ Instead, we believe the disappearance of these records likely reflects erroneous information that was subsequently re-reported by the data furnisher and correctly associated with the proper file. This exclusion removed another 2.1 percent of credit records.

Third, we exclude credit records without a year of birth. To help ensure that the lack of a reported year of birth was not a temporary characteristic of these records, we supplement the year of birth information in 2010 with the information from 2014 and exclude only those records missing years of birth in both periods. The absence of this information suggests that these are fragment files created because of incomplete information that prevented successfully assigning the information in these records with the right consumer's primary credit record. Consistent with this theory, most of these credit records involve authorized user accounts. As described in detail by Brevoort, Avery, and Canner (2013), authorized users are people who are permitted to use a revolving account (normally a credit card), but who are not legally liable for any charges incurred. Because they are not liable for the charges, lenders may collect only partial information, which inhibits the ability of the NCRA to match the account information to the correct credit record. Excluding these records removes 3.1 percent of the sample.

After these exclusions, we are left with a sample of about 4.3 million credit records.¹⁰ Although we think these data restrictions provide the best available measure of the number of consumers with credit records, we may be excluding a nontrivial number of primary credit records. If so, our estimate of the number of credit invisibles will be overstated and, because many of the excluded credit records are unscorable, our estimate of consumers with unscorable records would be understated. It is also likely, however, that some of the credit records that remain in the sample are themselves fragment files. For example, we have opted not to exclude credit records containing only collection accounts or public records. Although some of these are likely fragments, we concluded that they were more likely primary files. Nevertheless, to the extent that these credit records include a material number of fragment files, our estimate of the number of credit invisibles will be understated and the number of unscorables overstated.

For each credit record in our sample, we determine whether the sample record contained a credit score. For records without a score, a code was provided indicating whether the record was insufficient-unscorable or stale-unscorable. The exact definition of what makes a credit record insufficient or stale

⁹ Additional evidence that information aging was not a significant cause of the disappearance of these records is provided by the fact that two-thirds of the records that were excluded because they had disappeared were insufficient-unscorable compared with less than 10 percent that were stale-unscorable. If account-information aging was an important cause of the disappearance of these records, a much larger share should have been stale-unscorable in 2010.

¹⁰ We also exclude from the sample a small number of records that had either missing or invalid census tract information. Excluding these records removed 0.1 percent of the sample.

differs across credit-scoring models, because each model uses its own proprietary definition. Our analysis is based on the commercially available credit-scoring model that generated the scores included in the CCP. We think this credit-scoring model uses a relatively narrow definition of a scorable credit record, but a definition that is consistent with most credit scores in use today.

Using the CCP data, we estimate the number of consumers in each census tract whose credit record was insufficient-unscored, stale-unscored, or scored by multiplying the number of sample credit records in each tract by 48 to account for the sampling rate. We then estimate the number of credit invisibles in each tract as the difference between the adult population of the census tract from the 2010 census and our estimate of the number of consumers with credit records. We calculate these totals for each of 13 different age categories, discussed in more detail in the next section.

Demographic Data

The credit-record data contained in the CCP contain no demographic information other than age. To develop our profile of consumers with limited credit history, we supplement the CCP data with information from the 2010 census and the 2008–2012 ACS.

From the 2010 census, we use information about the racial and ethnic composition of each census tract. We calculate the share of the population in each tract that was in each of the following groups: Hispanic or Latino (“Hispanic”); non-Hispanic Black or African-American (“Black”); non-Hispanic Asian (“Asian”); non-Hispanic White (“White”); and other non-Hispanic (“Other”), which includes American Indian or Alaska Native, Native Hawaiian or Other Pacific Islander, and multiracial individuals.

We also use data from the 2010 census on the share of the population that lives in group quarters. We calculate the share of the population that was living in college or university student housing, correctional facilities for adults, military quarters (nondisciplinary), and nursing facilities.

Additional demographic information was taken from the 2008–2012 ACS. To better understand the relationship between the likelihood of having a limited credit history and income level, we use ACS data to calculate the “relative income” of each tract. Relative income is the ratio of the median household income in the tract and the median household income of the surrounding area. The surrounding area is defined as the metropolitan statistical area (MSA) for tracts in MSAs or the tract’s county otherwise. Following the definitions used by the Community Reinvestment Act, a tract is considered “low income” if its relative income is less than 0.5, “moderate income” if it is between 0.5 and 0.8, “middle income” if it is between 0.8 and 1.2, or “upper income” if it is 1.2 or higher.

We also use the ACS to calculate the share of adults in each tract by citizenship status (native, foreign-born citizen, and noncitizen) and for five levels of education (less than a high school diploma, high school, some college, bachelor’s degree, or graduate degree). ACS data also provide the share of consumers living below the poverty level, the share who speak a language other than English at home, and the share who moved in the past year. Finally, we use the ACS to provide information about the share of households in the tract across four different types: married-couple families, other families, nonfamily households, and single-person households.

The analyses using these demographic data, which are described in more detail in the next section, are conducted separately for the 13 different age groups shown in the left column of exhibit 2. Most of the demographic variables included in this study are not available at the tract level for each age group. For example, the population living in group quarters is provided only at the tract level for two adult age groups: 18 to 64 and 65 and older. In other cases, such as income and household type, which are both calculated at a household level, tract-level information was not available broken out by age at all. In such cases, we use the narrowest age group available for each of 13 age categories. A list of demographic variables (some expressed as variable groups), along with the age group mappings, is provided in exhibit 2. A complete list of variables along with selected summary statistics are provided in exhibit 3.

Exhibit 2

Age Groups of Explanatory Census Variables

Age Group	Moved Last Year	Race/Ethnicity	Percent Below Poverty	Education	Group Quarters	Non-English Speaking	Citizenship
18-19	18-19	18-19	18-24	18-24	18-64	18-64	18+
20-24	20-24	20-24					
25-29	25-29	25-29	25-34	25-34			
30-34	30-34	30-34					
35-39	35-39	35-39	35-44	35-44			
40-44	40-44	40-44					
45-49	45-49	45-49	45-54	45-64			
50-54	50-54	50-54					
55-59	55-59	55-59	55-64				
60-64	60-64	60-64					
65-69	65-69	65-69	65-74	65+	65+	65+	
70-74	70-74	70-74					
75+	75+	75+	75+				

Sources: 2010 census; 2008-2012 American Community Survey 5-year data

Exhibit 3

Sample Summary Statistics (1 of 2)

Variable	Mean	Median	Standard Deviation
Race/ethnicity			
Asian	4.8	1.6	9.3
Black	11.6	3.3	19.8
Hispanic	14.2	5.1	20.9
White	67.0	77.6	29.9
Other	2.3	1.5	4.7
Citizenship status			
Native citizen	84.3	91.0	17.3
Foreign-born citizen	7.2	4.1	8.6
Noncitizen	8.5	4.1	11.0
Moved in last year	16.0	10.3	17.6
Relative household income			
Lower income	0.1	0.0	0.2
Moderate income	0.2	0.0	0.4
Middle income	0.4	0.0	0.5
Upper income	0.3	0.0	0.5
Poverty rate	13.5	9.2	14.3

Exhibit 3**Sample Summary Statistics (2 of 2)**

Variable	Mean	Median	Standard Deviation
Education			
Less than high school	14.5	10.6	13.7
High school diploma	28.4	28.2	13.6
Some college	31.1	30.0	13.6
Bachelor's degree	16.7	14.0	12.6
Graduate degree	9.3	6.2	10.3
Group quarters			
College	1.0	0.0	6.7
Correctional	0.8	0.0	5.8
Military	0.1	0.0	2.9
Nursing	0.6	0.0	3.1
Household type			
Married-couple family	49.5	51.0	16.0
Other family	17.7	15.7	9.6
Nonfamily	6.1	4.8	5.7
Living alone	26.6	25.4	11.2
Credit record type			
Scored	80.6	77.7	47.7
Limited credit history	19.4	22.3	47.7
Insufficient-unscored	4.2	0.0	11.6
Stale-unscored	4.1	0.0	9.6
Credit invisible	11.0	14.3	49.3

Notes: Summary statistics are calculated across census-tract/age-group pairs, with each observation weighted by the population in that census tract/age group. Variable values reflect the percentage of the population in that age group (for example, the percentage of the population that is Asian or is a native citizen), except for the relative household income variables, which are dummy variables reflecting the household income level of the tract, and the household type variables, which reflect the share of households in the tract.

Sources: 2010 census; 2008–2012 American Community Survey 5-year data

Who Has Limited Credit History?

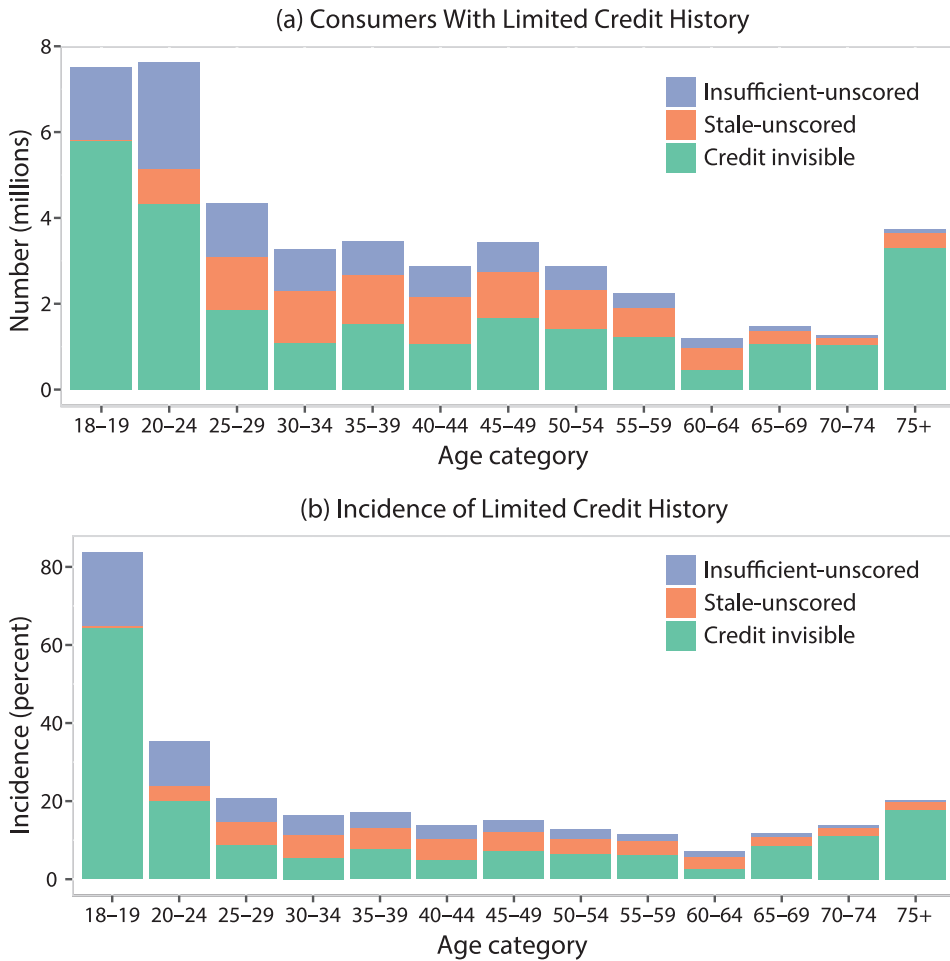
The data assembled for this study indicate that 45 million adults in the United States have a limited credit history.¹¹ This figure includes the 26 million credit-invisible adults in the United States who lack a credit record, representing about 11 percent of the adult population. It also includes 19.4 million people, or 8.3 percent of the adult population, who have unscored credit records, which are nearly evenly split between those whose records are insufficient-unscored (9.9 million) and stale-unscored (9.6 million). The remaining adult population of 188.6 million has scored credit records.

The likelihood of having a limited credit history varies significantly by age. As shown in panel (a) of exhibit 4, most consumers with limited credit histories are either younger than 30 or older than 74. This pattern is generally consistent with patterns of credit usage by age in the Survey of Consumer Finances (Bucks et al., 2009). Limited credit histories appear to be found among the young in particular. Consumers younger than 30 account for one-third of adults with limited credit histories. Moreover, as shown in panel (b), 18-to-19-year-olds are significantly more likely to have a limited credit history than any other age group.

¹¹ A preliminary version of the analysis in this section was originally released as a CFPB Data Point (Brevoort, Grimm, and Kambara, 2015).

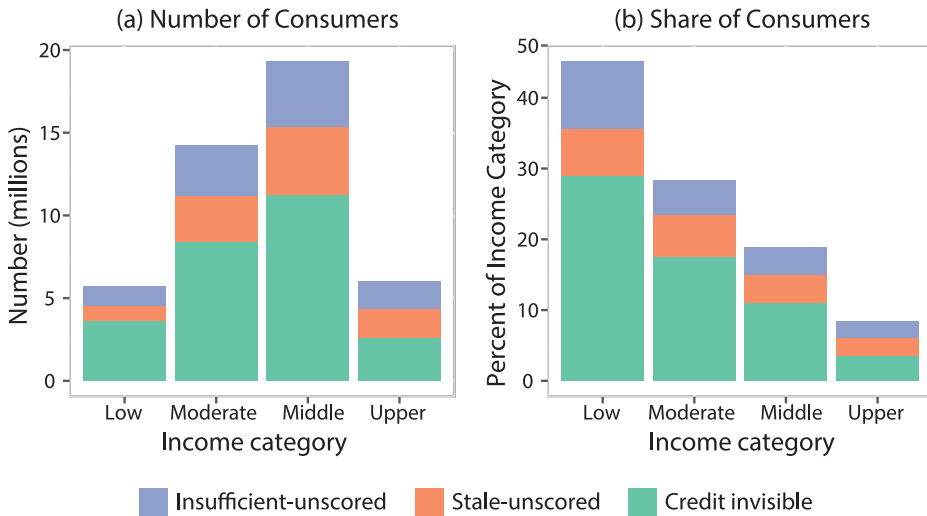
Exhibit 4

Distribution and Incidence of Limited Credit History by Age



The age-related patterns vary by the type of limited credit history. The incidence of being credit invisible largely mirrors the general pattern for limited credit histories, with older and younger consumers being more likely to be credit invisible. For consumers with unscored credit records, the patterns are different. The incidence of having an insufficient-unscored credit record decreases with age, and the incidence of having a stale-unscored record is highest for middle-aged consumers (ages 30 to 49) and notably lower for younger or older consumers.

Income also appears to be highly related to the likelihood of having a limited credit history. Exhibit 5 shows both the distribution of consumers with limited credit histories by the relative income level of their tract in panel (a) and the incidence of having a limited credit history for each income level in panel (b). A little more than one-half of consumers with limited credit histories

Exhibit 5**Distribution and Incidence of Limited Credit History by Income**

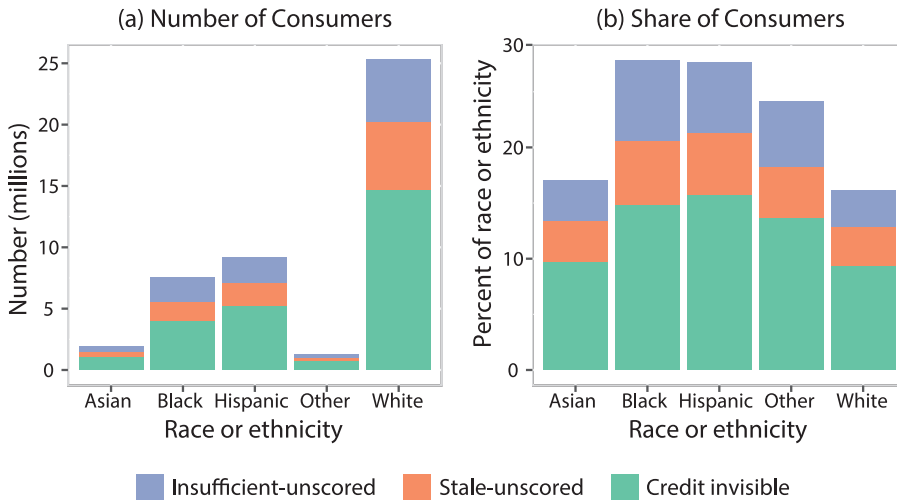
live in middle- or upper-income neighborhoods. This statistic is not surprising, given that these neighborhoods are home to most adults in the United States. The incidences, however, show that consumers in lower-income neighborhoods are much more likely to have a limited credit history. Indeed, 30 percent of consumers in low-income neighborhoods are credit invisible and an additional 15 percent have an unscored record.

There also appear to be significant differences in the likelihood of having a limited credit history by race or ethnicity. Assuming that within each tract, each racial or ethnic group has the same likelihood of being credit invisible or having an unscored credit record, we can estimate the number of consumers of each racial or ethnic group with a limited credit history. The results of these calculations are provided in exhibit 6, which shows the distribution and incidence of having a limited credit history by race or ethnicity. A higher proportion of Black and Hispanic consumers have limited credit histories than do either Asian or White consumers, who have similar incidences of being credit invisible or having an unscorable credit record. Although the incidence of having a limited credit history in general is similar for Black and Hispanic consumers, Hispanic consumers are more likely to be credit invisible (by about 1 percentage point) and less likely to be unscorable.

These univariate patterns in the incidence of having a limited credit history across age, income, and race or ethnicity suggest that the problems associated with limited credit histories are borne unevenly across these groups of consumers. In the next section, we employ multivariate analyses to better understand how these and other characteristics are associated with the likelihood of having a limited credit history.

Exhibit 6

Distribution and Incidence of Limited Credit History by Race or Ethnicity



Factors Associated With Limited Credit History

To better understand the factors that are associated with the likelihood of having a limited credit history, we conduct a multivariate analysis that exploits variation across tracts. We examine how the share of the population in a tract with limited credit history h varies with the demographic characteristics of consumers in the tract. Using t to index census tracts and j to index the 13 age categories, we estimate equations of the form

$$L_{tj}^h = \alpha_{jc}^h + R_{tj}\beta_j^h + I_{tj}\delta_j^h + X_{tj}\gamma_j^h + \epsilon_{tj}^h, \tag{1}$$

where L_{tj}^h is the percentage of population in tract t in age group j that has the type of limited credit history indexed by h . R_{tj} , I_{tj} and X_{tj} are row vectors with population characteristics described in more detail in the following paragraphs. β_j^h , δ_j^h , and γ_j^h are coefficient vectors to be estimated, ϵ_{tj}^h is an i.i.d. error term, and α_{jc}^h is a county-level fixed effect.

The first row vector of population characteristics, R_{tj} , contains variables related to the race, ethnicity, or national origin of the tract's population. This vector includes variables that reflect the percentage of the population that is in each of the five racial or ethnic groups described in the previous section (with the White group serving as the omitted group). We include these variables to better understand how limited credit histories are associated with race or ethnicity after controlling for other observable tract-level factors.

Avery, Brevoort, and Canner (2012) found that the credit scores of immigrants (in particular, recent immigrants) tend to understate their creditworthiness. This result derived from immigrants having shorter credit histories reflected in NCRA files than natural-born citizens have. This result suggests that tracts with relatively more immigrants should have a higher incidence of limited credit

histories. To test for this pattern, we include in R_{tj} the percentage of the population in a tract that consists of foreign-born citizens or noncitizens. We also include the percentage of the population that speaks a language other than English at home.

The second vector, I_{tj} , contains information about the income and education levels of consumers in the tract. We measure income using the four relative income levels discussed in the previous section and include in I_{tj} dummy variables that reflect whether the tract was low, moderate, or upper income (middle income is the omitted category). Because higher-income individuals tend to have greater access to credit, we would expect income to be negatively associated with limited credit histories.

We would also expect the education levels of the population to be similarly related to the incidence of limited credit histories. To test for this relationship, we calculate the percentage of the tract's adult population at each of five education levels: less than high school, high school diploma, associate's degree or some college, a bachelor's degree, or a graduate degree. In the estimations, the percentage of the population with a high school diploma is the omitted category. We would expect education to be negatively related to limited credit history.

The final vector, X_{tj} , contains information about the living arrangements of consumers in the tract. This vector includes four variables that measure the percentage of the tract's population residing in four types of group quarters: college dormitories, correctional facilities, military quarters, and nursing homes. Consumers in these different living arrangements may differ from the rest of the population in their credit usage patterns, which could affect their likelihood of having a limited credit history.¹²

We also include in X_{tj} variables relating to the type of households in each tract. These variables include the percentage of households comprising a single person living alone, a married-couple family, a non-married-couple family, and nonfamily households (with the percentage of households comprising single persons serving as the omitted category). Including this set of explanatory variables serves two purposes. First, living conditions may affect credit usage patterns. For example, students who continue to live with their parents might have less cause to establish a credit history than consumers of the same age who are living independently.

The second purpose is to gain some insight about the potential for alternative data to enhance the credit records of consumers with limited credit histories. As discussed previously, two of the most commonly cited sources of alternative data are rental histories and utility payments. Although several studies have explored the predictive value of this information, no study that we are aware of has addressed how much of the population with limited credit histories might be helped. Even if rental histories or utility payments are highly predictive of future credit performance, unless a significant share of the population with limited credit histories has rent or utility payments in

¹² An alternative possibility is that the address on file at the NCRA may not be the actual address for consumers living in group quarters. For example, if the percentage of the population that lives in a correctional facility is positively correlated with the number of credit invisibles, this could indicate that prisoners are less likely to have credit records; however, it could also reflect a mismatch between the address in the credit record and the address information collected by the Census Bureau. Such a mismatch could result if prisoners in correctional facilities do not fill out change-of-address forms upon being incarcerated. If so, this would be expected to increase the number of credit invisibles in a tract, although it should not affect our estimate of the number of consumers with unscored credit records (which are directly observed in the CCP).

their own name, the potential of these data sources to help this population will be limited. We conjecture that people who live alone are more likely to be making rental payments and to have utility payments in their own names than are consumers in other household situations. To the extent that other household types are more prevalent in areas with higher incidences of limited credit histories, rental histories and utility payments may have less potential to provide information about consumers with limited credit histories.

We estimated equation 1 for each of the 13 age groups using the percentage of each tract's population with a limited credit history as the dependent variable. To facilitate the comparison of the estimated coefficients across age groups, we present the results graphically in exhibit 7. In appendix A, we also present the results obtained from estimating equation 1 for each type of limited credit history (that is, credit invisible, insufficient-unscored, and stale-unscored) separately.

Exhibit 7

Coefficient Estimates, Limited Credit History



The results of these estimations are largely consistent with our expectations. A positive correlation appears to exist between the percentage of the population that is Black or Hispanic and the percentage of the population with a limited credit history. We were somewhat surprised to find that census tracts with larger elderly Asian populations tend to have a higher incidence of elderly consumers with limited credit histories, although little relationship appears to exist between the Asian share of the population and limited credit history at younger ages.

Consistent with the results by Avery, Brevoort, and Canner (2012), we find that the percentage of noncitizens in a tract is associated with a higher incidence of having limited credit history for most age ranges. We were somewhat surprised to find that the percentage of the population composed of foreign-born citizens is negatively related to the percentage of the population with a limited credit history. We find little consistent relationship between the likelihood of having a limited credit history and either the percentage of the population that speaks a language other than English at home or the percentage of the population that moved in the past year, although moving in the past year appears to be associated with a higher incidence of having a limited credit history for young consumers.

As expected, both income and education appear to be important factors associated with having a limited credit history. The incidence of having a limited credit history is significantly higher in low- and moderate-income tracts for consumers age 30 or older. Consumers in upper income tracts appear to have a persistently lower likelihood of having a limited credit history. Moreover, tracts where a larger percentage of consumers have spent time in college tend to have lower incidences of limited credit history, and tracts with more consumers with less than a high school education have significantly higher incidences, particularly in the middle-age estimations.

The percentage of the population that lives in group quarters also appears to be strongly related to the incidence of having a limited credit history. Incidences are notably higher in tracts with more people living in correctional facilities, particularly among the young and middle aged. The percentage of the population in college dormitories or in military housing also appears to be related to having a limited credit history, although the direction of these effects changes across ages. Both are positively associated with having a limited credit history for younger consumers and negatively associated for older consumers. The percentage of consumers living in nursing homes is also positively associated with the limited credit history for older consumers. These results suggest that consumers in these environments (college, prison, military service, and nursing homes) are more likely to have a limited credit history. Because these populations tend to be small relative to the entire population, however, these populations likely account for only a small share of the total population with limited credit history.

Finally, a significant relationship appears to exist between living arrangements and the incidence of a limited credit history. Compared with the omitted group—the percentage of households composed of single adults—a larger percentage of households involving nonfamily members was associated with a higher incidence of limited credit history among younger consumers. A greater percentage of family households not including a married couple similarly was associated with a higher incidence of limited credit history among middle-aged consumers. By contrast, married-couple family households were associated with a lower incidence of limited credit history among young consumers.

By themselves, these results cannot establish that rental and utility histories will be insufficient to score the credit records of consumers with limited credit histories. Nevertheless, to the extent that consumers with limited credit histories do not have rental or utility payment information that might be used to supplement their credit records, we would expect them to live in non-married-family or nonfamily households. The fact that the incidence of limited credit histories is higher in areas with a larger percentage of these households suggests that there may be a significant portion of the population that would continue to fall through the cracks in the credit-reporting system even after rental and utility payment histories were incorporated. Additional research is necessary to establish the extent to which these forms of alternative data may help alleviate the problem of limited credit histories.

The Challenge of Assessing the Accuracy of Models Using Alternative Data

As discussed previously, credit records will not be scored when they have characteristics that the model's builders considered "unscorable." The term *unscorable*, which is widely used to refer to records that remain unscored, is somewhat misleading. Credit scores *could* be empirically derived for any credit record using the same model-building techniques that generate standard credit-scoring models. In fact, scores could be generated for consumers without credit records by, for example, estimating a scoring model that includes only an intercept using an estimation sample of credit records created after the start of the performance period used in model development.¹³ The reasons these records remain unscored, therefore, go beyond a lack of explanatory variables, which is the problem that alternative data is meant to alleviate.

Among the most important reasons relates to the difficulty in assessing the credit performance of consumers with insufficient, stale, or nonexistent credit records. Consumers with such records tend not to have outstanding credit accounts on which performance can be evaluated. This lack of accounts with observable performance is almost tautological, because the records of these consumers would likely be considered scorable if they had such accounts. The lack of observable performance makes building and validating a credit-scoring model much more difficult.

For example, consider the case of stale-unscored records. These records have enough credit history to be scored (otherwise, they would have been insufficient-unscored), but their lack of recent updates suggests that they are unlikely to have active accounts on which to assess performance. Any attempt to build or validate a model for stale-unscored records would be limited to only those records with observable performance. But after it is estimated, the model would score all stale-unscored records.¹⁴

¹³ Of course, this sample of credit records would have to contain some created early enough in the performance period to have credit accounts with observable performance. Such credit records could occur as a result of consumers opening their first accounts during the performance period or as a result of the reporting of accounts that had not been reported previously to the NCRAs.

¹⁴ Model builders could segment the population of stale-unscored records based on observable characteristics; for example, by creating a scorecard for people with "moderately" instead of "severely" stale records. In this case, the model could be limited to that subset—in this case, moderately stale records. The underlying point, however, remains valid: models that are estimated on a portion of a subset of the population with observable performance will score the entire subset. A model built for the moderately stale will score all moderately stale records, even if only a small subset is expected to have observable performance.

Having observable performance for a small and possibly unrepresentative share of the sample leads to a well-known problem. Records with observable performance may misrepresent the performance that is observed when the model is deployed. Consumers with observable performance were able to find willing lenders, perhaps based on characteristics not observable in credit records or on the strength of co-applicants. By contrast, consumers who wanted credit but could not find willing lenders, perhaps because of weaker unobservable characteristics, will not have observable performance.¹⁵ Putting the model into practice alters the ability of consumers to obtain credit, possibly enabling some consumers to borrow who otherwise would have been unable to find willing lenders. The result could be default rates that are higher than were expected based on the experience of consumers with observable performance before the model was implemented.

One way that lenders respond to this bias in performance is to employ “credit overlays,”¹⁶ which are restrictions that lenders impose in addition to credit score cutoffs. For example, VantageScore (2015) suggests mortgage lenders typically consider only applicants whose credit records have at least three tradelines with updates during the past 6 months, regardless of their credit score. To the extent that lenders employ credit overlays, the effects of expanding the number of consumers with scored credit records will be reduced. Even if scores are generated for consumers with limited credit histories, lenders’ credit overlays may prevent credit from being extended to these populations.

A credit score, therefore, is not necessarily a sufficient condition for improved credit access for consumers with limited credit histories (even for those consumers whose new score generally would be considered prime). One must also establish that the new scores can accurately reflect the creditworthiness of such consumers when the models are deployed; otherwise, lenders will likely use credit overlays. Being able to demonstrate that little bias exists in using observable performance is an important aspect of establishing that the new scores can accurately reflect the creditworthiness of such consumers when the models are deployed.

To shed some light on the extent to which performance is observable for consumers with limited credit histories, we use the December 2012 CCP archive to calculate credit performance for the 2-year period immediately following the rest of the data in this study. When estimating or validating generic credit history models, 2 years is a commonly used performance period (Board of Governors of the Federal Reserve System, 2007). Performance is measured using an “any account” performance measure, which includes performance on accounts that were open and in good standing at the start of the performance period or that were opened during the first 3 months of the performance period. For consumers with observable performance, we determine whether the person was 90 or more days past due on any credit obligation during the performance period. We use this performance definition to construct our measure of delinquency.

¹⁵ The population with unobservable performance will also include those consumers who did not want credit during the performance period. Because consumers who do not demand credit are unlikely to start when the model is applied, for simplicity, we ignore the portion of consumers who lacked observable performance because of a lack of demand for credit. This population also, however, should raise some concern about the accuracy of models estimated on observable performance.

¹⁶ An alternative method is to employ “reject inference” methods when developing the scoring model. It is unclear, however, how successful these efforts can be (Crook and Banaskik, 2004; Hand and Henley, 1993), and to the best of our knowledge these methods are not widely used in estimating the generic scoring models explored in this study.

Exhibit 8, which illustrates the performance measures calculated for the population of consumers with credit records, shows that nearly 90 percent of consumers with scored credit records had observable performance during the ensuing 2 years. The delinquency rate for consumers with observable performance was about 12 percent. Exhibit 8 also shows the performance for the scored population broken down by the number of tradelines contained in the credit record. “Thick” files are those with at least three tradelines and “thin” files are those with two or fewer tradelines. For both groups, performance is available for most records and delinquency rates are similar to those of the overall scored population (although the delinquency rate for the thin-file population is a bit lower).

Consumers with unscored credit records were much less likely to have observable performance. Only 21.8 percent of insufficient-unscored and 12.3 percent of stale-unscored consumers had observable performance. Delinquency rates for these consumers were also notably higher than they were for consumers with scored credit records. The relatively high delinquency rates are not necessarily a problem, providing that the alternative data can adequately predict the likelihood of delinquency, although they do suggest that any model estimated for this population will likely produce scores for these populations that are below those of consumers with currently scored records.¹⁷ These numbers, particularly the relatively lower shares of consumers with observable performance, also help explain why the people who built the credit-scoring model that produced the scores used in this study considered these records to be unscorable.

Absent from the numbers in exhibit 8 are the credit invisibles. Because we had no data on these consumers from December 2010, it is not possible to determine how many of these consumers had performance during the next 2 years. One approach would have been to identify all credit records that appear in the December 2012 archive that did not exist in December 2010 and assume that these were the credit records of previously credit-invisible consumers. The problem with this approach is that we expect most of the newly created records in December 2012 to be fragments. As such, this approach would overcount the number of credit invisibles who obtain credit records in the ensuing 2 years. Although we could have attempted to filter out the fragments using methods similar to those we used for the December 2010 data, at the time of this study we did not have access to a comparable 4 years of data.

Instead, we take the population of consumers with a credit record in December 2010 and identify which of those records did not exist 2 years earlier. Of the 4.3 million records from 2010, 156,269

Exhibit 8

Incidence of Performance for Scored and Unscored Consumers

Population	Number (millions)	Share With Performance (%)	Delinquency Rate (%)
Scored	188.7	89.5	12.2
Thick file	180.7	90.2	12.4
Thin file	8.1	72.9	6.3
Stale-unscored	9.6	12.3	26.0
Insufficient-unscored	9.9	21.8	22.4

¹⁷ Indeed, the average delinquency rate for these consumers is consistent with a sub-600 credit score, suggesting that any scores generated for these consumers will be disproportionately subprime. For these consumers, credit access may still be very limited, even if their credit records were to become “scorable” with alternative data.

records did not exist in 2008, and, of those records, only 11,738 (7.5 percent) had observable performance during the 2-year performance period from January 2009 to December 2010, with a delinquency rate of 17.8 percent. Using these sample percentages to construct population estimates, we estimate that only about 0.5 million consumers who were credit invisible in December 2008 had observable performance. Unless the number of credit invisibles in 2008 was substantially lower than the 26 million who were credit invisible in 2010, observable performance is potentially available for only a very small portion of credit invisibles.

The lack of performance data for credit invisibles and consumers with unscored credit records suggests that efforts to expand the universe of scored credit records will likely be hampered by a lack of observable performance data with which to estimate credit-scoring models.

Discussion

The data assembled for this analysis suggest that about 45 million adult consumers in the United States are credit invisible or have a credit record that is considered to be unscorable by a widely used credit-scoring model. As a result, these consumers likely face impaired credit access. In addition to the direct consequences that impaired credit access has for these consumers, it will also make establishing a credit history more difficult, potentially perpetuating the problem. For those consumers who are able to obtain credit despite their limited credit histories, credit costs will likely be higher as a result of the limited history, which could increase their likelihood of default and increase the likelihood of establishing a negative credit history.

Efforts to help consumers with limited credit histories have focused on forms of alternative data that might be used to supplement NCRA credit records. In general, these studies have sought to establish that specific forms of alternative data are predictive of future credit performance, which would indicate that alternative data provide valuable additional information. Although these studies are useful in establishing the types of data that might help alleviate the problems associated with limited credit histories, they have largely ignored two issues that might limit the effectiveness of these sources of alternative data.

The first issue is that alternative data will be useful only in alleviating the problems of limited credit history to the extent that people with limited credit histories have utility accounts or rental agreements in their own names (in the case of rental or utility payment histories) or have otherwise engaged in the activities (such as remittance histories, checking accounts, or even social media) that alternative data may reflect. Our results suggest that these forms of alternative data (rental or utility payments) may be able to supplement NCRA information for many consumers; nevertheless, our results also suggest that a significant number of consumers may be in housing situations that would not generate rental or utility histories for these consumers.

The second issue is specific to the use of credit records in credit-scoring models. Scoring models estimate conditional correlations between credit-record information (plus any alternative data) and subsequent credit performance. Having observable performance with which to build and validate a model using alternative data is difficult, given that this performance is observed in credit records. Although alternative data can expand the scope of information that might be related to

performance, it cannot expand the number of consumers for whom performance is observed (at least without altering the type of credit performance the score is meant to predict). When credit performance is not observed for a sufficiently representative sample of consumers, scoring models can produce biased estimates of creditworthiness. If lenders respond to this bias by employing credit overlays, as many do today, then producing scores for consumers with limited credit histories will do little to enhance their access to credit.

To date, these two issues have gone largely unmentioned by studies that examine the potential of alternative data to alleviate the problems of limited credit histories. Future research on these topics should confront these issues directly. If the goal is to expand credit access to a significant portion of consumers with limited credit histories, our results suggest that it is not enough for alternative data to produce high goodness-of-fit measures when added to a credit-scoring model. Studies also need to evaluate how widely available those data are for the population of consumers with limited credit histories and establish that any statements about the predictiveness of alternative data are based on a sufficiently representative sample of consumers with limited credit histories. Our results suggest that these limitations may be significant hurdles for most types of alternative data.

Appendix A

This appendix presents the results of estimating equation 1 for each of the three types of limited credit history: credit invisible, insufficient-unscored, and stale-unscored. Like the results for all types of limited credit history, we present the results graphically. Exhibit A-1 shows results for the incidence of being credit invisible, exhibit A-2 shows results for insufficient-unscored, and exhibit A-3 shows the results for stale-unscored.

Looked at separately, these results can be more difficult to interpret. Any factor that is positively correlated with being insufficient-unscored must be negatively correlated with the (sum of) other types of limited credit history. As a result, factors that appear to be positively related to one of the types of limited credit history will tend to have the opposite effect on at least some of the other types, which is the reason we focused on the results for all types of limited credit history earlier.

Nevertheless, these results may be helpful in identifying specific characteristics that lead to particular types of limited credit history.

Exhibit A-1

Coefficient Estimates, Credit Invisibles

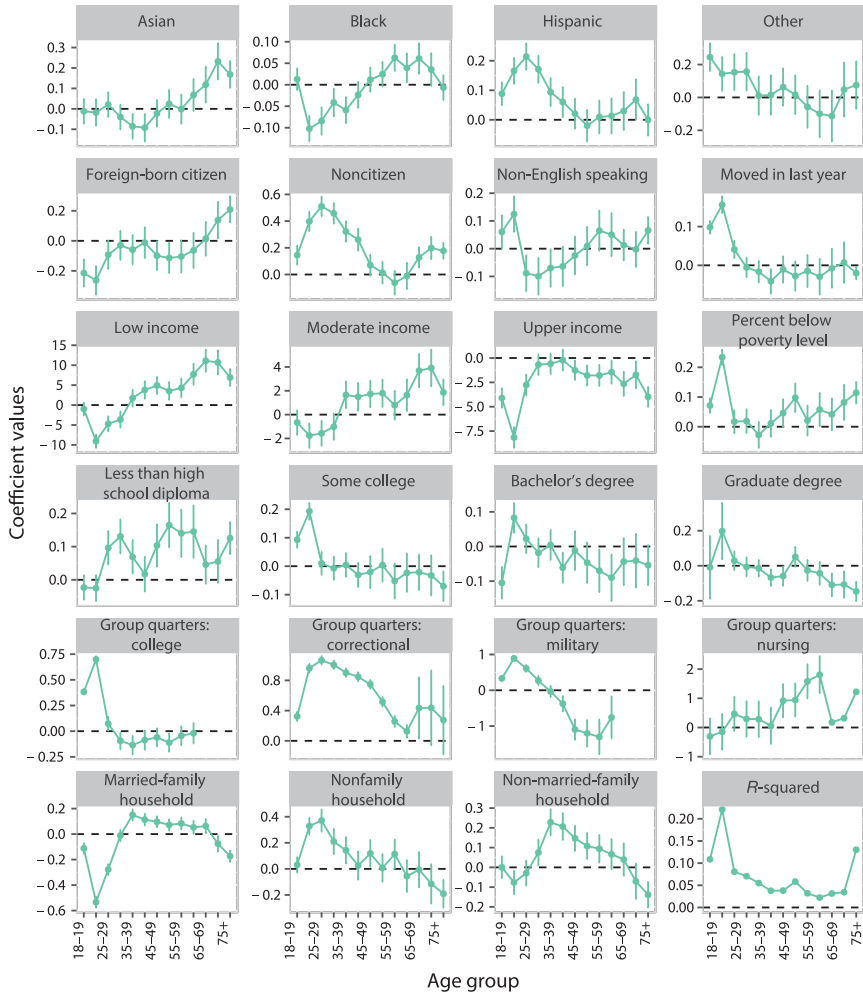


Exhibit A-2

Coefficient Estimates, Insufficient-Unscored

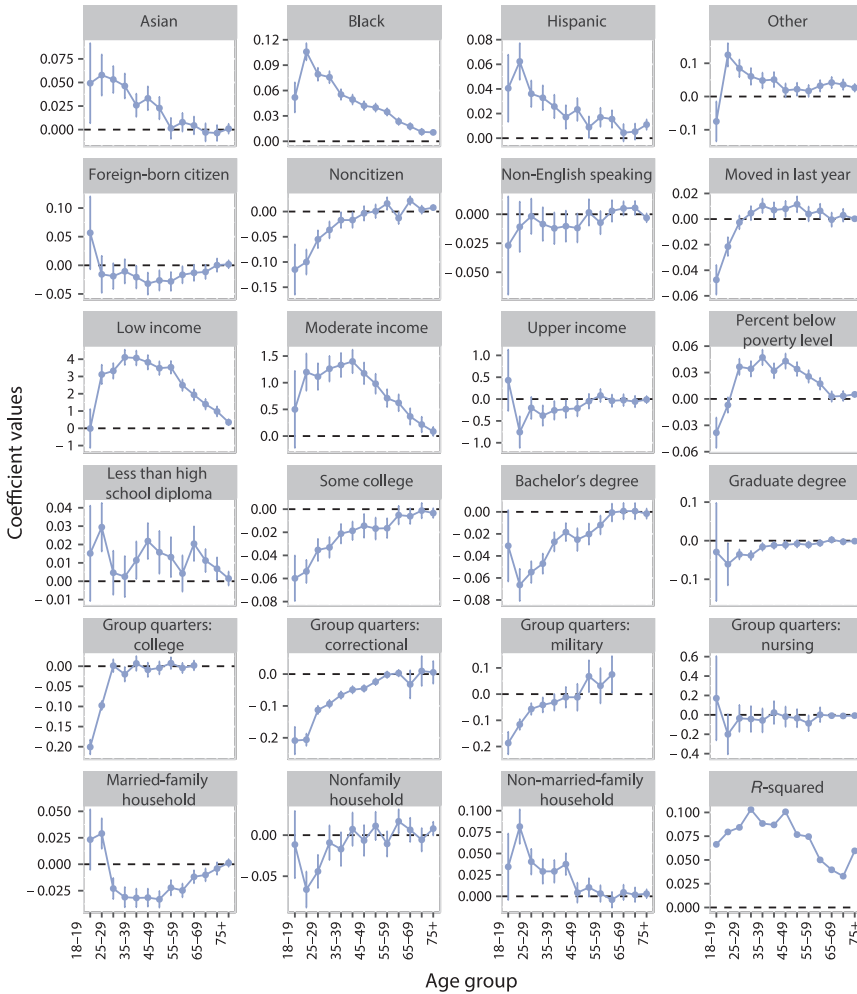
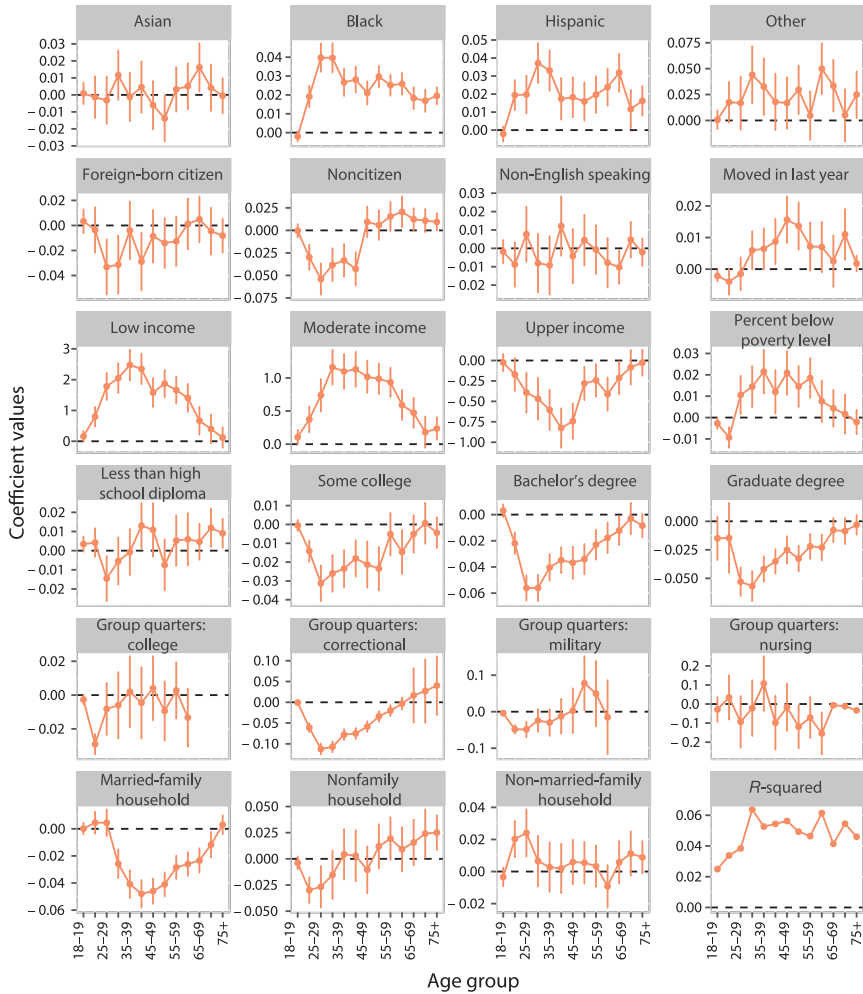


Exhibit A-3

Coefficient Estimates, Stale-Unscored



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What's the Point(s)? Information Content and Messaging Strategies in Mortgage Loan Advertisements

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Abstract

According to the Federal Trade Commission, claims in advertisements must be truthful, cannot be deceptive or unfair, and must be evidence based. These rules apply primarily to advertisements that are informational in nature—that is, they are intended to convey verifiable facts. Many advertising messages, however, are intended to evoke an emotional or affective response to the ad; this emotional response would be transferred to the firm sponsoring the ad (Gresham and Shimp, 1985; Shimp, 1981). This widely used message tactic serves to protect advertisers from scrutiny regarding the standards for truth versus deception because of the subjective nature of the claims. The purpose of this research is to examine the thematic content of mortgage loan ads and to determine if marketing messaging tactics vary for general, African-American, and Hispanic/Latino audiences. Using our quantitative and qualitative content analyses of mortgage loan ads, we find that, although lenders rely on a number of framing and message strategies to inform and persuade their target audiences, incidences of factual or verifiable informational content in these ads, such as pricing or loan terms, are relatively rare. We also find significant differences in the use of informational versus transformational themes and in the presence of pricing information in ads placed in general versus African-American and Hispanic/Latino media. We discuss implications for public policy and lending practice.

Introduction

Multiple governmental agencies and nonprofit organizations scrutinize the advertising environment to help protect consumers in the marketplace. One concern about this environment is the extent to which the information contained in advertising messages is deceptive. According to the Federal Trade Commission (FTC), claims in mortgage advertisements must be truthful, cannot be deceptive or unfair, and must be evidence based (FTC, 2016). Further, section 5 of the Federal Trade Commission Act¹ generally prohibits advertisers from making false or misleading claims. The Mortgage Acts and Practices—Advertising Rule, enacted in 2011, provides 19 specific examples of prohibited types of deceptive claims and allows the FTC to penalize those who engage in deceptive mortgage advertising (FTC, 2011).²

These requirements primarily apply to advertisements that are informational—that is, the messages convey verifiable facts. Many advertising communications, however, are transformational and are intended to evoke an emotional or affective response to an ad. The expectation is that this emotional response will transfer to the firm sponsoring the advertisement, the advertised product, or both. The transformational messaging tactic is widely used and protects advertisers from scrutiny regarding the standards for truth versus deception because of the subjective nature of the claims in the advertisements.

The purpose of this research is twofold: (1) to examine the thematic content of mortgage loan ads and (2) to determine if marketing messaging tactics (informational versus transformational) for mortgage products vary across multiple communication modes (for example, traditional television, radio, print, online banner display, online video) targeted to general audiences and those targeted specifically to African-American and Hispanic/Latino audiences. This study builds on previous research by the Consumer Financial Protection Bureau (CFPB) (2015) that explored advertisements for reverse mortgages and by Perry and Motley (2009) that examined advertising messages for subprime versus prime mortgage loans. The CFPB (2015) findings indicate that many of the advertisements in their sample were deceptive and contained confusing, incomplete, and inaccurate information. Further, focus group participants were “... confused or had misconceptions about important features and terms of reverse mortgage loans” (CFPB, 2015: 3). Perry and Motley (2009) found that transformational messages were common in mortgage advertising, particularly for higher-risk subprime mortgage products; that is, communications touting subprime mortgage products used the transformational approach and provided less factual information than those for prime mortgages. Thus, it is difficult for consumers receiving these transformational messages to critically evaluate mortgage offerings. To address the research objective, we draw on the target marketing concept, and research addressing the informational/transformational content of advertisements and on message framing.

¹ 15 U.S.C. 45.

² “Mortgage Acts and Practices—Advertising; Final Rule,” 16 CFR Part 321. Federal Register 76 (141) July 22, 2011. https://www.ftc.gov/sites/default/files/documents/federal_register_notices/16-c.f.r.part-321-mortgage-acts-and-practices-advertising-rule-final-rule-and-statement-basis-and-purpose/110719mortgagead-finalrule.pdf. See FTC (2011) for a summary of the key elements of this rule.

Foundation

Market segmentation is a longstanding concept used and strategy employed in marketing. Alfred P. Sloan is credited with developing the General Motors (GM) market segmentation strategy of “a car for every purse and purpose.” His concept was explained in the GM 1924 annual report to shareholders: products in the GM product line did not compete with other GM products. As a buyer climbed the ladder of success, a GM automobile was available at a price point that met that consumer’s needs and ability to pay. The Chevrolet was GM’s entry-level car and the Cadillac was the premier automobile for the financially successful buyer. This strategy served GM well and allowed the company to outsell the competitor, Ford Motor Company, which offered only the Model T (Davidson, 2007).

As the GM example illustrates, market segmentation is based on the idea that it is more effective to use a “magic bullet” rather than a shotgun approach to reach consumers (Dickson and Ginter, 1987; Smith, 1956; Wedel and Kamakura, 2000). Market segmentation is prevalent in multiple industries. For example, fragrances are targeted to males and females, retailers target different age groups, and specialized television channels reach individuals with unique interests (for example, the Food Network for those interested in cooking, the Disney Channel for children, and ESPN for sports enthusiasts). This commonality can be based on needs, psychographic information, and demographic characteristics. The assumption is that consumers who share a common characteristic respond in a predictable manner to elements of the marketing mix—in particular, marketing communications (Gresham and Shimp, 1985; Shimp, 1981). Marketing messages targeted to a particular group will resonate with members of that group and the message, the firm, and the advertised offering will be more positively received than those that are targeted in a more generic fashion. This positive reception is manifested as positive attitudes, beliefs, and behaviors toward the sponsoring firm, the offering, or both (Dickson and Ginter, 1987; Smith, 1956; Wedel and Kamakura, 2012).

Caveats to ethnic-based target marketing exist, however, especially in the use of ethnic stereotypes in advertisements. These ads can be perceived as entertaining by some and offensive to others. Furthermore, the appropriation of cultural symbols can have negative consequences for the sponsoring firm, the brand, or both (Johnson and Grier, 2011). In this research, the commonality is demographic (ethnicity)³ and is operationalized by the intended audience of the marketing media in which the message is placed; for example, the general population, African-American consumers, and Hispanic/Latino consumers.

Marketing messages can be either informational or transformational. Informational advertisements contain factual material that is concrete and verifiable (Perry and Motley, 2009; Puto and Wells, 1984). These messages help consumers develop beliefs and attitudes that are based on facts and, therefore, result in behavior that should be relatively “rational.” On the other hand,

³ The terms “race” and “ethnicity” are often used as interchangeable; however, the meanings of these categorizations differ. In general, race refers to biological components of an individual or group and includes physical characteristics such as skin color, facial features, and hair type. The three generally recognized races are Caucasoid, Negroid, and Mongoloid. By contrast, researchers suggest that ethnicity has more variability; is based on commonalities in nationality, culture, or language; and can include historical and psychological factors (Betancourt and López, 1993; Jackson, 1991). We use ethnicity in this research to reflect this distinction and to be consistent with the categories in the Competitrack database.

transformational advertisements attempt to develop a mental connection between the firm or the firm's offerings and the consumer's psychological state. These messages bypass the consumer's cognitive capacities: the response is not based on factual information but is heavily influenced by an emotional or affective response. In addition, these transformational messages are not regulated by the FTC Act or the Advertising Rule and are not scrutinized by the FTC, the CFPB, or other governmental entities. We examine whether differences exist in the informational/transformational content of mortgage ads and whether differences exist in the messages targeted to the aforementioned intended audiences.

Message framing refers to constructing the message in a manner that resonates with and is relevant to the targeted audience (Entman, 1993). With framing, the sponsoring firm emphasizes some attribute or characteristic of the offering that is important to the intended audience. In doing so, the focus attribute is made salient and this salience will influence receptivity to the message and the brand (Kahneman and Tversky, 1984, 1979; Scheufele and Tweksbury, 2007). People interpret and respond to messages based on how the messages are presented. In this research, the message frames can be either positive or negative. A positive frame is one in which the message highlights a positive outcome and represents a reward, but a negative frame focuses on an undesirable circumstance that the consumer wants to avoid. The frame provides a context and can influence the memories activated to interpret a message. For example, a home loan product ad with a headline such as "We're Here To Get You Home" will resonate with some segments of the population more than "Mortgage in Trouble?" The former is a positive frame alluding to a promise, a desired end state, or both, whereas the latter is a negative frame suggesting a condition from which one should escape. This research explores if differences exist in the message frames used in mortgage ads and if differences exist by the targeted media.

Method

To address our objectives, we performed a content analysis of ads for mortgage loan products placed in television, radio, print, and online media during the 2015 calendar year. Our sample was drawn from the Competitrack database,⁴ which monitors and collects ads from 22 different types of media,⁵ including traditional television, radio, and print and also online ads (for example, online banner display, online video) from all major markets in the United States and in 60 other countries. We selected ads that ran in U.S. markets anytime during 2015 in the mortgage or home equity product categories and that had been placed in general media or in multicultural media targeted to the African-American or Hispanic/Latino markets.⁶ The resultant sample included all 1,358 ads that Competitrack reported during 2015 in the mortgage loan/home equity product categories. Of those ads, 246 were placed in African-American media and 192 in Hispanic/Latino media; all other

⁴ <https://homepage.competitrack.com/us-creative-monitoring>.

⁵ These media include television—network, cable, syndicated, spot; newspapers—national, local; magazines—national, local, trade, newspaper distributed; free-standing inserts; retail circulars; radio; outdoor; alternative out-of-home; online display; online video; mobile; cinema; viral; opt-in e-mail; direct mail.

⁶ Competitrack offers multicultural reporting from national and local Hispanic/Latino and African-American media, using the same message-content tracking as with general market media. See <https://homepage.competitrack.com/multicultural-advertising>.

ads were placed in general media outlets. Spanish language ads were translated using the backward and forward translational method recommended by Brislin (1980), in which an experienced translator (one of the authors) initially translated the message from Spanish to English and another translator (a native Spanish speaker) verified the translation.

A combination of qualitative and quantitative methods was employed to evaluate the messages. Content analysis is widely used in consumer and public policy research to understand the message meanings, understand the possible impacts of media, and to gain insight into societal attitudes (Kolbe and Burnett, 1991; Shoemaker and Reese, 1996). We performed a content analysis of the ads using a deductive approach based on the framework developed by Perry and Motley (2009). This framework identified four key themes in mortgage advertising, which varied in two dimensions—(1) the message frame and (2) the informational versus transformational content. We applied this framework using MeaningCloud qualitative data analysis software.⁷ We used MeaningCloud's Topics Extraction tool, which extracts salient elements from unstructured text, such as advertising slogans, taglines, and narrative content. This detection process is based on statistical classifications and rule-based filters that are used to analyze narrative text material based on its morphological, syntax, and semantic structure (MeaningCloud, 2015). In addition, the MeaningCloud Topic Extraction tool was used to identify the central topic of the ad's headline and narrative description (for example, home, dream, Obama, discount, rate, consolidate, bills, expert, adviser, stress). The sentiment analysis feature of this tool classifies the polarity of the message (positive, negative, or neutral) and the objectivity versus subjectivity of the content. These classifications roughly corresponded to the framing and informational dimensions described in the Results section and were used to aid in the assignment of ads to thematic categories. In addition, ads identified as subjective by MeaningCloud were evaluated and coded as informational versus transformational. Because these groupings are not mutually exclusive, an ad could have multiple themes. For purposes of the qualitative analysis, however, emphasis was placed on the central or main message presented in an ad (for example, the headline or tagline, a tagline attached to a picture, large versus small print, the first phrase in a voiceover) rather than on all of the messages in the ad. After ads were coded into thematic categories, we interpreted each theme, developed a descriptive characterization, and selected illustrative examples (Coffey and Atkinson, 1996; Miles and Huberman, 1994).

After these ads were assigned to thematic categories, we performed frequency analyses of ad themes and cross-tabulations by media target market, which are presented in exhibits 1 and 2. Exhibit 1 shows results for the entire sample. Because nearly one-half of the ads were online display ads dominated by a single company, we repeated this analysis after omitting those online ads. Exhibit 2 shows findings from this subsample of 509 ads.

⁷ <https://www.meaningcloud.com/>.

Exhibit 1

Mortgage Loan Advertising Themes by Target Market (total sample)

Target Market		Advertising Theme					Total Sample	
		Negative/ Problem Framing	Positive/ Opportunity Framing	Informational	Transformational	Brand/ Trust		Government/ President
General	Ads	58	237	46	144	164	162	811
(64.9%)	%	7.2	29.2	5.7	17.8	20.2	20.0	—
African-American	Ads	30	32	28	45	51	60	246
(19.7%)	%	12.2	13.0	11.4	18.3	20.7	24.4	—
Hispanic/Latino	Ads	13	25	35	31	40	48	192
(15.4%)	%	6.8	13.0	18.2	16.2	20.8	25.0	—
Total	Ads	101	294	109	220	255	270	1,249
(100%)	%	8.1	23.5	8.7	17.6	20.4	21.6	—

Frequency missing = 108.

Statistic	DF	Value	Probability
Chi-square	10	71.9483	< .0001
Likelihood ratio chi-square	10	70.7523	< .0001
Phi coefficient	—	0.24	—
Contingency coefficient	—	0.2334	—
Cramer's V	—	0.1697	—

DF = degrees of freedom.

Exhibit 2

Mortgage Loan Advertising Themes by Target Market (sample, excluding online display ads)

Target Market		Advertising Theme					Total Sample	
		Negative/ Problem Framing	Positive/ Opportunity Framing	Informational	Transformational	Brand/ Trust		Government/ President
General	Ads	27	86	20	70	107	5	315
(62.38%)	%	8.6	27.3	6.4	22.2	34.0	1.6	—
African-American	Ads	24	20	10	32	39	6	131
(25.94%)	%	18.3	15.3	7.6	24.4	29.8	4.6	—
Hispanic/Latino	Ads	6	8	12	12	16	5	59
(11.68%)	%	10.2	13.6	20.3	20.3	27.1	8.5	—
Total	Ads	57	114	42	114	162	16	505
	%	11.3	22.6	8.3	22.6	32.1	3.2	—

Frequency missing = 24.

Statistic	DF	Value	Probability
Chi-square	10	37.9193	< .0001
Likelihood ratio chi-square	10	33.7293	0.0002
Phi coefficient	—	0.274	—
Contingency coefficient	—	0.2643	—
Cramer's V	—	0.1938	—

DF = degrees of freedom.

Findings

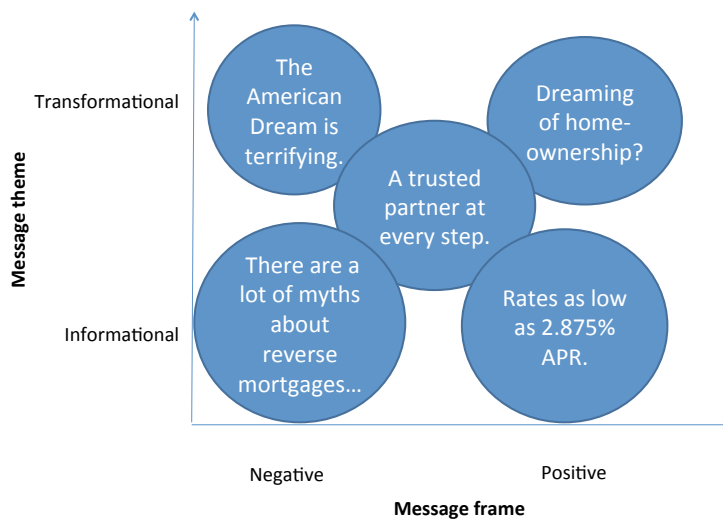
To determine if a relationship exists between the ad theme and the target audience, we performed chi-square tests of association. These results are reported in exhibits 1 and 2. Exhibit 1 shows that the proportion of ads in general media that were framed as positive opportunities was 29.2 percent compared with 13 percent of ads in both Hispanic/Latino and African-American media. Approximately 5.7 percent of general media ads fell into the informational category compared with 18.2 percent of ads in Hispanic/Latino media and 11.4 percent of ads in African-American media. These differences in proportions are statistically significant, $\chi^2(10, N = 1,249) = 71.9483, p < 0.001$.

Because a single advertiser dominated the online banner ads in the sample, we repeated the chi-square analysis excluding those ads. These results, reported in exhibit 2, also support a significant association between ad theme and target audience, $\chi^2(10, N = 505) = 37.9193, p < .0001$. Similar to the patterns observed in exhibit 1, we find that ads framed as positive opportunities were significantly more likely to appear in general media (27.3 percent) than in African-American (15.27 percent) or Hispanic/Latino (13.56 percent) media outlets. In addition, a significantly higher share of informational ads was in Hispanic/Latino media (20.34 percent) than in general media (6.35 percent) or in African-American media (7.63 percent). We also find that ads framed in negative terms or as problems are significantly more common in African-American media (18.32 percent) than in general media (8.57 percent) or in Hispanic/Latino media (10.17 percent).

Exhibit 3 includes a framework for classifying mortgage loan ad messages based on an analysis of the content of mortgage loan ads placed in 2015. Consistent with Perry and Motley (2009), we find that these ads tend to be largely transformational (“Dreaming of homeownership?”) or informational (“Rates as low as 2.875% APR [annual percentage rate]”) and use either positive framing in which the

Exhibit 3

Themes and Framing of Mortgage Loan Advertisements



APR = annual percentage rate.

lender highlights an opportunity (“Great new home; great low rate”) or negative framing in which the lender emphasizes problems or fear (“The American Dream is terrifying”). Exhibit 3 provides examples of ad messages with each of these themes and frames. In addition, a neutral category of ads (“A trusted partner at every step”) is represented in this framework.

We also found two variants of these themes and frames: (1) ads that focus on government or Presidential sponsorship of the loan product or program and (2) ads that highlight trustworthiness and experience of the lender. Qualitative findings describing each theme and including illustrative sample ads are presented in the following sections.

Mortgage Loan Ads as Transformational: “Dreaming of Homeownership?”

Approximately 17.6 percent of the ads in our sample were transformational messages (Aaker and Stayman, 1992; Perry and Motley, 2009; Puto and Wells, 1984). Those ads include imagery and language associated with the so-called “American dream” of homeownership and its tangible and intangible benefits. The messages are intended to evoke a positive emotional response from the prospective borrower by linking positive images and memories of the homeownership experience to the lender. If the ad is able to establish an association in the consumer’s mind between this imagined experience and the lender, presumably the consumer will focus on the desired end state of homeownership rather than the intermediate process of obtaining a loan.

Explicit references to the positive aspects of the “American Dream” are common.

Sample Ad 1

Male voiceover (v/o): *It’s not just a place to live. It’s an accomplishment. A dream. Park Community Credit Union is committed to help first-time buyers purchase a home with the financing program like no other. Including no downpayment, fixed rate, and no private mortgage insurance. Turn your dream of home ownership into a reality.*

In many of these ads, advertisers use imagery that focuses on the physical characteristics of the home, or they use emotional appeals that emphasize family and togetherness.

Sample Ad 2

BMO Harris knows that a home is more than a place you live; it’s a place you love.

“I love the floors in the family room, I love the open layout, love the bay window, the basement, etc.”

Yes, there’s a lot to love at the place you live. BMO Harris wants to help make it yours, from home purchase to home improvement, a home loan to help make it possible. We’ll work with you from start to finish. Whether buying a new home or renovating the one you’ve got, we want to help you find the home loan or line of credit right for you.

“I think I’m in love, with the wallpaper in the bathroom.”

Special limited-time offers are available. Stop at a nearby branch or visit [URL].

Sample Ad 3

These moments are what being home is all about, surrounded by family in a place you love. It’s where you celebrate coming together and, as you start the homebuying process, the local lenders at BB&T share knowledge all along the way. Find your way home by first stopping at BBT.com.

The following television ad explicitly associates a mortgage refinance loan with funding a college education, thereby elevating the significance of this product from mere financial savings to a mechanism for transforming a family's future.

Sample Ad 4

Visuals: Mom and daughter.

Male v/o: *Lily Baker is preparing for college...her Mom just refinanced her home, putting an extra \$312 a month to support Lily's education. Lily is about to take over the world. Who is with her? Buy in.*

The following radio ad begins by describing the benefits of homeownership to the macroeconomy before presenting very specific home-improvement possibilities that could be achieved with a loan from this lender. Note that this ad is both transformational and informational because it includes a specific interest rate offer.

Sample Ad 5

[I am] *Marc Stefanski, Chairman and CEO of Third Federal. And I'm here to tell you that when people buy homes, it creates more jobs, increases demand for products, and creates overall momentum in the economy. So wouldn't a Home Buyer's Credit help? Of course it would. I'm happy to announce Third Federal's Home Buyer's Credit. Right now, when you purchase a home and finance with Third Federal, we'll give you \$1,000 Home Buyer's Credit. Use to buy new carpet, update your kitchen, enhance your landscaping or use it for whatever you want. Only available at Third Federal, where every day is sunshine and blue skies. Right now, get 3.69 percent APR, 3.78 percent on a 30-year fixed-rate mortgage. Apply on line, visit a branch, or call [800#].*

Mortgage Loan Ads as Solutions to Problems: "Mortgage in Trouble?"

Our analysis revealed that approximately 8 percent of our sample feature negatively framed messages. These messages emphasize problem situations, fear, and uncertainty. In addition, they reference credit problems, fear of the homebuying process, and the possibility of loan rejections in the case of home-purchase mortgage products. Ads for refinance, home equity, and Home Equity Conversion Mortgages (HECMs) often mentioned struggling to pay bills and the possibility of foreclosure.

According to previous research on framing and prospect theory, negative information often draws more attention than positive information (Kahneman and Tversky, 1984; Puto and Wells, 1984). Fear appeals, however, may inhibit rational deliberation in favor of more affective processing. Many of these problem-focused ads highlight financial difficulties and credit problems, as in the following sample ad.

Sample Ad 6

Woman says: *I was in a tough place. I had a lot of credit card debts: that was 6 years ago. Cal Coast has changed my life.*

Text: *Zero closing cost home loans.*

In that advertisement, the consumer is presented with a negative, vulnerable financial situation (credit card debts), followed by a proposed solution from the lender (zero closing cost home

loans). Zero closing costs will presumably resonate more with those facing financial hardship. In addition, the reference to changing one's life is an example of using transformational language to elicit a positive emotional response.

The following sample ad also presents a negative possibility along with a lender-provided solution. This ad is referencing the government to enhance the credibility of the lender.

Sample Ad 7

Male v/o: *Think you're going to lose your home to foreclosure? Think again. Qualifying for up to \$100,000 in mortgage assistance from our free government program has never been easier.*

Mortgage Loan Ads as Financial Opportunities: "Great New Home; Great Low Rate"

Another common mortgage advertising theme (which characterized approximately 23 to 24 percent of our sample) was framed in positive terms as an opportunity for the consumer to save money, particularly for refinance loans. Many of these ads emphasize low transaction costs, such as no points or fees.

Sample Ad 8

Can you really refinance with Valley National Bank for just \$499? With no points, no search and title fees, no hidden Valley fees. You can count on it. In fact it's so easy the only thing you need to worry about is what to do with the money you save.

Gerry Lipkin, Chairman and CEO of Valley National Bank: *You can refinance your home for just \$499 and start saving today.*

Text: *Available for 1–4 family homes.*

These loan terms, however, tend to be fairly standard in a particular market; they are not actually differentiating attributes.

Sample Ad 9

Male v/o: *Up to \$3,000 year in savings could be yours if you refinance your mortgage with the Home Affordable Refinance Program, or HARP, through Quicken Loans. Homeowners who refinance through HARP save an average of \$250 a month. There's less paper work, often no appraisal required, and we'll work to get you closed in 30 days or less. It's that simple. Call Quicken Loans today.*

Statements such as those in the sample ad that provide vague estimates of prices and cost savings (for example, "up to \$3,000 in savings") are known as *tensile price claims*. Tensile claims are messages that include some factual, yet vague, content that can have multiple interpretations (Biswas and Burton, 1993; Mobley, Bearden, and Teel, 1988). For example, "up to \$3,000" can include any amount from zero to \$2,999 in savings. Previous research on tensile pricing in advertising has found that stating a maximum of a discount range, as in this sample ad, has a significant effect on consumers' price perceptions and also on their purchase intentions. Licata, Biswas, and Krishnan (1998) found that ambiguous, even implausible, price claims can affect price perceptions and behavioral intentions. In addition, these kinds of claims avoid FTC and CFPB scrutiny because they do not explicitly offer a price.

Ads for reverse mortgages also often rely on positive framing. Some of these HECM messages highlight the elimination of mortgage payments and additional cashflow features of these products. These reverse mortgages ads also rely heavily on celebrity spokespersons (such as Fred Thompson and Henry Winkler), which research shows can enhance credibility (for example, Goldsmith, Laferty, and Newell, 2009).

Sample Ad 10

Fred Thompson/Male v/o: *Turning your home's equity into tax-free cash when you need it is a simple way to eliminate your existing monthly mortgage payments, pay off debt, and gets you and your family the financial resources you need. If you're 62 or older and own your own home, you may qualify for a government-insured reverse mortgage. Call [#800] to receive a free information pack with no obligation.*

Sample Ad 11

Male v/o about reverse mortgages: *Myth: The bank can take away my home if I have a reverse mortgage. Fact: Reverse mortgage doesn't affect the ownership of your home.*

John: *We're not threatened with the economy any longer. We know that we'll have a place to stay for the rest of my life or the rest of my wife's life.*

Male v/o: *Trust Goldwater Bank for the real facts. See if a reverse mortgage is right for you. Goldwater Bank will come to you and walk you through the process with honest, personalized service.*

Text: *Fact: You can trust Goldwater Bank to help you find out if a reverse mortgage is right for you.*

These ads, however, do not mention costs or risks associated with reverse mortgage products. These products are targeted primarily to senior citizens, who could be more susceptible to deceptive or overly aggressive marketing tactics. Previous evidence has questioned the legitimacy of lender marketing practices for these products, and several regulatory efforts have been implemented to provide increased protection for consumers from these practices (for example, consumers are required to participate in HUD-mandated in-person counseling sessions before obtaining a reverse mortgage approval). Further, a recent study by the CFPB found that these ads led to consumer confusion, inaccurate interpretations about these products, and misinformation about the role of government in providing these loans (CFPB, 2015).

Many ads mention the government, President Obama, government insurance, or government sponsorship. Extant research suggests that government and nonprofit sources are perceived to be more credible than for-profit organizational sources (Haley, 1996).

Sample Ad 12

You know some people think a reverse mortgage sounds too good to be true. I mean get cash out of your home; no monthly payments and you still own your home. You think there has to be catch, right? Well there isn't. If you're 62 years and older and own your home, you may qualify for a government-insured reverse mortgage with AAG that allows you to turn the equity of your home into tax-free cash. AAG can help you to eliminate monthly mortgage payments, pay off credit card debt or other bills, and provides some retirement security. Call [#1800] to get the free information kit and bonus DVD.

The website “lowermybills.com” mentions President Obama in numerous online display ads similar to the one in the following sample ad.

Sample Ad 13

Obama waives refi requirement. If you owe less than \$625,000 on your home, the President is pleading with you to refinance.

This site promises to connect prospective borrowers with lenders based on information consumers provide on line. A number of consumer complaints have been made about this site, and several blogs have been dedicated to these concerns. The following narrative is an excerpt from the blog.

I was lured by the ad offering president Obama's plan to refinance my mortgage to a 15-year term. Obama's plan helped me years ago when I was late with my mortgage. So I fell in the trap. First of all, our president has nothing to do with this scam named "Lower my bills."⁸

Lenders as Trusted Partners: “A Trusted Partner at Every Step”

Approximately 32 percent of the ads in our sample explicitly or implicitly focused on building trust, either by using language related to expertise or trustworthiness or by simply emphasizing the lender's name. Trust is an important attribute of strong brands. Thus, reinforcing the brand name is likely to resonate with consumers, especially those with whom there is an existing relationship.

Sample Ad 14

WELLS FARGO. When you're looking to finance your home, look for a local mortgage consultant who is knowledgeable, cares about your goals, is accessible when you want to be in touch, and knows the neighborhood you're interested in. Make sure the home mortgage consultant and lender you choose can provide not only a competitive rate, but also the right financing options that work for your situation. Wells Fargo Bank NA, equal housing lender.

Sample Ad 15

I want to be your banker. Our local appraisers mean a better mortgage experience for you. Cutting-edge technology made simple and professional service you can count on. Because, at Southern First, we really do care. You can count on Southern First. Serving is our privilege.

Previous research suggests that consumers rely on the trust of service providers as a signal of service quality, particularly when the provider has asymmetric information about the product or when it is difficult for the consumer to discriminate among providers (Chiou and Droge, 2006; Zeithaml, Berry, and Parasuraman, 1996). According to Johnson and Grayson (2005), in the case of financial services providers, an important distinction exists between cognitive and affective trust. These authors argue that cognitive trust, defined as a willingness to rely on the expertise or experience of the service provider, is based on the consumer's knowledge. Furthermore, “the need to trust presumes a state of incomplete knowledge” (Johnson and Grayson, 2005: 501). The emphasis on trust and the prevalence of trust-related cues in these ads implies that consumers need to rely on a lender or other third-party source to inform their decisionmaking, which further implies that consumers cannot make effective decisions on their own. Further, these trust-based ads tend to not contain information about loan costs or risks.

⁸ <http://reviewopedia.com/workathome/lowermybills-com-reviews-is-lowermybills-a-scam/>.

Mortgage Loan Ads as Information: “Rates as Low as 2.875% APR!”

In our sample, 8.7 percent of ads could be classified as primarily informational. These messages included at least one reference to an interest rate or APR, as presented in the following sample television ad.

Sample Ad 16

Get your next jumbo mortgage from Pawtucket Credit Union and get a great fixed rate as low as 3.029 percent APR. Refinance, purchase, or construction. Loans up to \$1.5 million...

Text: Jumbo Mortgages New Lower Fixed Rates 3.00% rate, 3.029% APR.

The following television ad includes an average range of dollar savings from refinancing and also a prospective fixed rate on a 30-year loan. Although these amounts and rates are not necessarily intended to be firm offers, they do attract attention from those focused on obtaining the best deal.

Sample Ad 17

If you've been waiting to refinance your mortgage, today is the time to act. Refinancing now could save you thousands. Shop for a refinance loan at [URL], where our average customer saves between \$11,000 and \$24,000 over the life of their loan. This week, 30-year fixed rates are as low as 3.5 percent APR. Go to [URL] to get multiple offers in minute. It's all free to shop and won't affect your credit. Then, just compare and choose the one you want. Act now before rates rise again. Calculate your new payment.

These terms may be too good to be true, at least for some borrowers. As is common in these kinds of ads, important disclaimers, such as information about restrictions, limitations, and terms of these rates and fees were provided in very small print at the bottom on the screen. To illustrate, the following message was included in a font that was approximately 25 percent of the size of the rest of the print on the screen, and disappeared more rapidly than the other printed material.

Rates, terms, APRs, monthly payments and lender fees vary by lender and your creditworthiness. All amounts assume a credit score of 720 or higher, loan-to-value of 80% or higher, and a \$225,000 loan amount. Rates and terms may not be available in all states.

The viewer would have to be watching very carefully to read these disclaimers that were not mentioned in the voiceover.

It is also worth noting that, according to tabulations based on McDash mortgage market data for 2015, only approximately 6.6 mortgage refinance applicants met these criteria.⁹ Thus, the terms mentioned in this ad would not apply to approximately 93 percent of prospective refinance borrowers who viewed this message.

⁹ Estimates are based on 779,268 refinance mortgage loan originations reported by McDash Online in 2015. Of those loans, 51,064 (6.6 percent) had (1) an original loan amount of \$225,000 or more, (2) an original loan-to-value ratio of 80 percent or more, and (3) a borrower credit score of 720 or more. McDash reports loan-level mortgage performance data representing nearly 70 percent of the mortgage market. See <http://www.bkfs.com/Data-and-Analytics/DivisionInformation/Our-Data/Pages/default.aspx>.

Mortgage Loan Ads in African-American and Hispanic/Latino Media

As shown in exhibits 1 and 2 and revealed by the chi-square analysis, a significant association exists between the type of advertising message strategy and the target market media. Negatively framed ads, particularly fear appeals, were more common in ads targeting African-American and Hispanic/Latino borrowers.

Sample Ad 18

The American dream is terrifying. American history is the history of the scary thing that is the exact thing we have to do. Cross that ocean, walk on that moon, sign a 30-year mortgage on a home. Buy in. (African-American media)

Sample Ad 19

Don't let mortgage problems petrify you... Some people who have mortgage problems stay still, but those who do something have more possibilities to get better results. (Hispanic/Latino media)

Extensive evidence indicates that African-American and Hispanic/Latino borrowers are more likely to suffer from financial and credit difficulties, have different experiences in the mortgage market, and, as a result, might be more likely to face negative outcomes such as foreclosure (for example, Aughinbaugh, 2013; Bocian, et al., 2010; Carr, Anacker, and Hernandez, 2013; Wolff, 2015). Thus, messages that address these issues may be more likely to attract attention or resonate with members of these target markets. This messaging strategy may evoke apprehension and even fear in Hispanic/Latino consumers (Bradley and Zorn, 1996). Previous research has noted the mistrust of financial institutions among Hispanic/Latino communities stemming from historical instability in Latin American financial markets (Perry, 2008).

Consumers in these segments may rely on different sources for financial information. For example, Perry and Ards (2002) found that African-American consumers were more likely to rely on informal sources such as word of mouth from friends, co-workers, or peers. Other evidence suggests that African-American borrowers have less access to knowledge about real estate (Morrow-Jones and Haurin, 2006) or access to mainstream financial services providers (Anacker, 2015). Given what is known about the effects of fear-based appeals, this heightened exposure to negatively framed information forms the basis of a different informational environment for these consumers (Entman, 1993).

Results from these analyses (exhibits 1 and 2) also reveal that lenders are more likely to target Hispanic/Latino media with ads that include price-related information—particularly, tensile price claims.

According to a 2015 report released by the Joint Center for Housing Studies of Harvard University, African-American and Hispanic/Latino borrowers are more likely to pay high rates for mortgages and have fewer opportunities for mortgage refinancing (JCHS, 2015). This report also states that 25 percent of Hispanic/Latino borrowers and 29 percent of African-American borrowers have outstanding mortgage loan amounts that exceed the value of the home (JCHS, 2015). According to data reported by the Board of Governors of the Federal Reserve System, African-American and Hispanic/Latino homebuyers are two times more likely to obtain high-price loans than are non-Hispanic White homebuyers (Becerra and Calderon, 2014; Bhutta, Popper, and Ringo, 2015).

When considering these patterns, we would expect mortgage loan ads targeted to both of these groups to focus more on interest rates (that is, informational) and, perhaps, to emphasize credit problems (problem framing). Instead, results shown in exhibits 1 and 2 suggest that informational ads are more common in Hispanic/Latino media, and ad content focused on solving credit problems is more common in African-American media.

These findings may also reflect recent trends in homeownership and in the mortgage market for Hispanic/Latino households. For example, according to Becerra (2012), despite the significant and negative impact of the foreclosure crisis on Hispanic/Latino homeownership rates, the number of Hispanic/Latino homeowners has increased because of the growth of the Hispanic/Latino population and also because of growth in incomes. This trend may also reflect the greater incidence of multigenerational members in Hispanic/Latino households (Becerra and Calderon, 2014). Since 2010, Hispanic/Latino households have accounted for approximately one-half of the net increase in owner households in the United States, and aspirations toward homebuying were reportedly higher than ever (Becerra and Calderon, 2014). Instead of including more transformational content in their advertising messages, lenders were more likely to rely on informational appeals when targeting this segment of consumers.

Discussion and Implications

Our objective was to determine if lenders employ multiple mortgage advertising themes and frames and if differences exist among media targeted to the general population and media targeted to African-American and Hispanic/Latino markets in the United States. Findings from our quantitative analysis suggest that lenders are more likely to use positive framing when targeting general audiences. The use of informational ads is more prevalent in Hispanic/Latino-targeted media and somewhat more prevalent in African-American media as well. At the same time, advertisers are more likely to place negatively framed messages in African-American media. These tendencies may reflect the disproportionate shares of African-American and Hispanic/Latino borrowers in the subprime market and also the higher incidences of negative equity among these borrowers (Bhutta, Popper, and Ringo, 2015).

Both our qualitative content analysis and quantitative analysis of mortgage loan ads suggest that, although lenders rely on a number of framing and message strategies to inform and persuade their target audiences, incidences of factual or verifiable informational content of these ads, such as pricing or loan terms, are relatively rare. Even the informational claims tend to present information that applies to only a small segment of the market, and they do so in such a way that it would be difficult for a consumer to determine whether he or she would qualify for the stated terms without significant additional investigation. These findings suggest that ads for mortgage products cannot be relied on for their substantive and informational content. Given what we know about informational overload and decisionmaking under uncertainty, these ads may serve as a distraction rather than as a facilitator of informed decisions. It is important to note that, in general, the content of these ads is not explicitly misleading as defined by the FTC. With the themes described previously as the undergirding of the informational environment, however, these results provide a sense of what attitudes and beliefs consumers develop after repeated exposure to these messages.

Another important implication of these findings is the dearth of information about the costs or risks of mortgage loans. By contrast, direct-to-consumer (DTC) ads (targeted to consumers rather than medical professionals) for pharmaceutical drugs are regulated through the Food and Drug Administration (FDA) Division of Drug Marketing, Advertising, and Communications (DDMAC). The DDMAC ensures that all DTC is truthful, balanced, and accurately communicated. These advertisements are required to use standard language to convey information. In addition, DTC ads are mandated to include details about risks whenever promoting benefits of these products (FDA, 2015a, 2015b). Print ads are to include what is referred to as a “Brief Summary.” This title is a misnomer: the summary would take a lot of time to read or scroll down a television screen. Only the most important details are included in broadcast ads; however, these ads inform consumers about how to obtain the full FDA-approved prescribing information, which describes all of the drug’s risks (FDA, 2015a). These FDA regulations prohibit strictly transformational DTC advertisements. A nonscientific review of a few television ads revealed that 60-second ads included 30 seconds of risk information; these ads were both transformational and informational. The FDA uses a comprehensive surveillance, enforcement, and education program to help ensure that these requirements are met. Perhaps consumers would be more informed and, as a consequence, would make more optimal decisions if advertisements for mortgage loan products were required to adhere to guidelines similar to DTC ads for prescription drugs.

The ads in our sample included transformational themes that focused on the American dream of homeownership or on the importance of finding a trustworthy mortgage lender; however, the ads had few signals of lender quality or reliability (Boulding and Kirmani, 1993; Fluet and Garella, 2002; Linnemer, 2002). In other high-risk or high-involvement product categories, advertisers report customer satisfaction ratings or other presumably unbiased third-party endorsements. Because the mortgage industry is highly regulated, it would seem that lenders would at least include legitimate information about their standing with relevant regulatory agencies. Instead, we find ads that use language that implies that the government or the President approved or recommended the product. In addition, the advertising lender (a known and “trusted” entity) is also used as a credible resource to approve and promote the offering.

We also found significant variation in the use of these message themes, depending on the target audience, and that these themes could interact with socioeconomic characteristics and with differences in cultural meanings. For example, a local lender produced mortgage loan ads with differing themes for the general population and for the African-American media. The general market ad was informational and included both visual and written informational content (that is, billboards imbedded in house/neighborhood scenes).

Sample Ad 20

Now is one of the best times in history to buy and to lock into a great low fixed interest loan before rates go back up ... first time homebuyers are eligible for up to \$8,000 in home tax credits ... call your trusted hometown lender [###].

The ad targeted to African-American media used a baseball game scene and nomenclature. The scene was a baseball field; the at-bat team had 2 outs, 2 strikes, and 3 balls; characters were animated zoo animals as baseball players and the coach was a human male (also animated). The players had names such as “Bearez,” “Moose,” and “Horsmer,” and a monkey perched on the scoreboard.

Sample Ad 21

Okay guys, this is a royal opportunity to bring some runs home before interest rates go up ... score big with Nutter. We're not gonna throw any curves or junk fees at ya ... Well, you always save more than peanuts when you get your home loan with James B. Nutter.

The purpose of this advertisement was to amuse rather than provide specific information about the loan product. It might be perceived as portraying stereotypical ethnic images by African-American viewers and as entertaining by others.

These findings should be interpreted in light of the following caveat. In addition to advertising, consumers rely on many other sources of information when making decisions, including previous experience, advice from professionals, and a host of other formal and informal sources. Future research should explore the influence of advertising relative to other information sources, such as social media, mandatory disclosures, and homebuyer-counseling materials. This information would be important for policymakers in determining how to efficiently allocate consumer protection resources.

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A Roll of the Dice: Debt Settlement Still a Risky Strategy for Debt-Burdened Households

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Abstract

Consumers with unmanageable debt loads face challenging options for dealing with their obligations, including filing for bankruptcy. Debt-settlement companies purport to offer indebted consumers an alternative way to become debt free while paying substantially less than what they owe. Though this sounds like an attractive option, consumers are likely to underestimate the risk that they will be unable to settle enough debt to benefit. Using data reported by the industry's trade association, I find that debt settlement is likely to leave consumers financially worse off, despite improved consumer protections enacted by the Federal Trade Commission (FTC) in 2010. The model specifically shows that consumers must settle at least two-thirds of their debts to benefit from enrolling in a debt-settlement program. Recent data from state regulators suggest that—similar to the outcomes before the 2010 FTC rule—debt settlers routinely fail to settle enough debts for this positive outcome to occur.

Introduction

Although aggregate consumer debt levels have declined in recent years, many American households remain highly indebted. The total outstanding credit card debt for all U.S. households exceed \$700 billion, and the average American household carrying a credit card balance owes about \$15,800 (Chen, 2015; Federal Reserve Bank of New York, 2015). One in five credit card users who carry a balance pay only the minimum each month, thereby accruing significant interest and prolonging the amount of time they will remain indebted (Morrison, 2013).

If this debt load becomes unmanageable, a consumer has a few options other than continuing to make minimum monthly payments until the debt is eventually retired. Some options provide a process by which the consumer and her creditors enter into an agreement regarding how the debt

will be handled. For example, the consumer could file for bankruptcy, resulting in either a liquidation of the debt or the establishment of a repayment plan. A consumer alternatively could reach individual agreements with each creditor on her own or, through a credit counseling agency, could set up a debt-management plan to which all creditors agree. These agreements usually require the consumer to repay the full outstanding balance but may waive the interest and fees.

Debt settlement is an alternative approach to dealing with debt, especially credit card debt. This option is marketed through television and radio ads, with the promise of being able to pay less than the balance currently owed, which may make it seem like a more attractive and affordable option. When consumers enroll in a debt-settlement program, they stop making payments on their debts (if not already in default) and instead may be directed to save funds into a dedicated account (GAO, 2010). Consumers also must grant the debt-settlement company, typically through a power of attorney, the authority to negotiate on their behalf and cease any contact with their creditors.

After the dedicated account has an adequate balance, the debt-settlement firm attempts to negotiate settlements with the consumer's creditors for less than the amount owed. Settlement agreements can be structured to be paid from the dedicated account in a single, lump-sum payment or, more frequently, as a "term settlement" with a series of payments made over time from the dedicated account. Term settlements can range in length from just a few months to more than a year.¹ The debt-settlement company earns its fee after the consumer agrees to the settlement agreement negotiated with the creditor and after at least one payment is made to the creditor, regardless of whether it is the sole settlement payment or the first in a series. To settle most or all of their debts, consumers typically need to remain enrolled in a debt-settlement program for 3 to 4 years (Regan, 2013).

Debt-settlement advertisements claim that typically consumers see "over 50% of their debt written off..." and are "...debt free in as little as 36 months" (DMB Financial, 2013). Debt-settlement companies promote themselves as being faster and less expensive than slowly paying off credit card debt through minimum payments and as providing a less drastic strategy than filing for bankruptcy (Freedom Debt Relief, 2013a, 2013b; US Financial Options, 2013). Debt settlement, however, comes with significant risks not present in the other options previously outlined that involve an upfront agreement between a consumer and her creditors. Two key differences between debt settlement and other approaches is that (1) consumers using debt settlement stop payments to their creditors and thus default on their debt and (2) consumers face the risk that the creditor will refuse to negotiate with the debt-settlement company and instead pursue collection activity or even a lawsuit against them after they stop payment.

In this article, I summarize existing findings from state and federal regulators and discuss research on the significant uncertainties and risks consumers undertake when enrolling in a debt-settlement program. Using an evaluation of consumer outcomes that was developed for the industry's trade association, I then estimate the share of debt a consumer needs to settle to benefit from a debt-settlement program relative to their financial position at the time of enrollment. I close with policy options that may lower risks to consumers.

¹ See, for example, settlement letters posted on a debt-settlement company's website at <http://clearoneadvantage.com/testimonials/debt-settlement-letters.php> that show term settlements of varying lengths.

Regulatory and Literature Review

Debt-settlement firms are regulated at both state and federal levels. Some states ban debt settlement entirely, and others limit the allowable fees that can be charged to such an extent that companies opt not to do business in those states. At the federal level, the Federal Trade Commission (FTC) and the Consumer Financial Protection Bureau (CFPB) are the primary regulators that oversee the industry.

Modern-day debt settlement experienced strong growth in the early 2000s, when several states authorized the practice based on a model bill, the Uniform Debt Management Services Act, promoted by the debt-settlement industry (Association of the Bar of the City of New York, 2012). At the time, the two debt-settlement trade associations—the United States Organizations for Bankruptcy Alternatives (USOBA) and The Association of Settlement Companies (TASC)—represented approximately 200 and 265 companies, respectively (Association of the Bar of the City of New York, 2012).

With that growth came increasing concerns regarding industry practices, leading to investigations and hearings by state attorneys general and federal agencies. One of the more troubling of these industry practices was charging high fees at the time of enrollment and continuing monthly charges before debts were settled. Companies historically would charge an upfront fee of around 15 percent of the amount of debt enrolled (Regan, 2013). Thus, many consumers paid thousands of dollars to the companies before those companies made any attempts to settle their debts.

Multiple state attorneys general and regulators successfully sued debt-settlement companies for fraudulent and deceptive acts and practices. State attorneys general and their regulators took at least 127 enforcement actions against debt-settlement firms by 2010.² In 2008 and 2009, the FTC hosted public meetings on the debt-settlement industry, and, in 2010, the Government Accountability Office (GAO) issued a report outlining its concerns about the industry. These actions culminated in 2010 with the FTC's promulgation of new regulations that required changes regarding when fees can be charged and added other reforms. Now, debt-settlement firms may collect a fee only when they reach a settlement agreement with a consumer's creditor and the consumer agrees to the settlement and makes a payment.

The FTC's 2010 reforms dramatically changed the scope and size of the industry. Many companies changed their business models to charge fees only when debts settled. Other companies went out of business, presumably because they were unable to profitably operate under the new rules. In addition, some firms argued that they were not subject to the advance fee ban and continued to charge fees upon enrollment. USOBA's membership dropped to 30 firms, and eventually the trade association folded (Ody, 2011). TASC rebranded itself as the American Fair Credit Council (AFCC) and asked that members be in compliance with the FTC's ban on advance fees. Membership in AFCC now consists of just 33 debt-settlement companies (AFCC, 2013).

² Federal Trade Commission. 2010. Amendments to the Telemarketing Sales Rule. Federal Register 75 (153), 48458–48523. http://www.ftc.gov/sites/default/files/documents/federal_register_notices/telemarketing-sales-rule-final-rule-amendments/100810tsr.pdf.

Certain debt-settlement companies continue to charge advance fees despite the FTC rule, arguing that they are using an “attorney model” of debt settlement, in which a loosely affiliated attorney is part of the debt-settlement program (though non-attorneys continue to conduct the actual debt-settlement work) (Becker and Harnick, 2013). Although attorneys are not exempt from the FTC rule per se, some companies employ attorneys or paralegals to hold face-to-face meetings with consumers. Because the FTC’s rule does not cover such in-person communication, the companies claim that their conduct is exempt from the rule (Becker and Harnick, 2013). This type of debt settlement is increasingly under attack by federal regulators, however, with the CFPB placing particular focus on firms that use the attorney model to continue to charge advance fees (CFPB, 2015, 2014, 1013a, 2013b, 2013c, 2012). Because of this scrutiny and the success of recent enforcement actions, it is likely that the dominant model of debt settlement in the future will be one that complies with the 2010 FTC rules barring advance fees.

Relatively little research or data about the debt-settlement industry are available to evaluate consumer outcomes, particularly after the advance fee ban took effect. During the time the FTC was considering regulatory changes, a debt-settlement trade association survey showed that about 42 percent of consumers who enrolled at member firms had none of their debts settled and nearly two-thirds failed to have most of their debts (70 percent or more) settled.³ Independent investigations of the industry before the 2010 changes took effect also found low settlement rates. A GAO investigation concluded that debt-settlement companies overstate their success rates, noting, “The success rates we heard [from debt-settlement companies] are significantly higher than is suggested by the evidence obtained by federal and state agencies. When these agencies have obtained documentation on debt settlement success rates, the figures have often been in the single digits” (GAO, 2010: 10). Data obtained through litigation by states’ attorneys general similarly showed completion rates in the low single digits before the advance fee ban took effect (Association of the Bar of the City of New York, 2012).

One might expect to see settlement rates increase after the advance fee ban took effect, because debt-settlement companies are now unable to collect a fee until an agreement is reached. An analysis of industry data by a forensic accountant for AFCC shows a higher percentage of debts settled in the first 2 years after the ban took effect than in the years before the reform (Regan, 2013). According to the report, approximately 35 to 40 percent of debts enrolled in 2011 had settled by the end of 2012 and an additional 20 to 25 percent remained active (Regan, 2013). It is unclear, however, how these settlements are distributed among consumers (because each consumer typically enrolls multiple debts) and what percentage of a given consumer’s debts will eventually settle.

Annual reports published by the Colorado Office of the Attorney General call into question whether consumer-level outcomes have improved since the advance fee ban came into effect. The data in these reports enable us to compare preliminary outcomes 24 to 36 months after enrollment for two groups of consumers: (1) those who enrolled in 2009, the last full year in which debt-settlement companies operated without the advance fee ban and (2) those who enrolled in 2011, the first full year in which the advance fee ban was in effect. Exhibit 1, showing how these consumers fared by the end of 2011 and 2013, respectively, offers no indication of an improvement in outcomes for consumers. In both cases, more than 60 percent of consumers terminated their participation in

³ In its Final Rule, in a discussion of outcomes for consumers who drop out of debt-settlement programs, the FTC notes that the TASC survey found that 65.2 percent of dropouts had no debts settled, the equivalent of more than 42 percent of all debt-settlements clients.

Exhibit 1

Distribution of Colorado Consumer Debt Settlement Outcomes 24 to 36 Months After Enrollment

Percent of Consumers Who...	After Advance Fee Ban (outcomes at year-end 2013 for consumers who enrolled in 2011)	Before Advance Fee Ban (outcomes at year-end 2011 for consumers who enrolled in 2009)
Settled all debts	7%	11%
Remain active in program	28%	27%
Terminated participation in program	64%	62%

Note: Numbers may not add to 100 percent because of rounding.

Sources: Colorado Attorney General (2014, 2012)

debt settlement, and less than 10 percent had managed to complete their program by settling all their debt (Colorado Attorney General, 2014, 2012). As a best-case scenario, if all the remaining active consumers were to complete their debt-settlement programs in the future, it would still result in less than one-half of all who enrolled in a debt-settlement program settling all their debt.

Perhaps two reasons for low settlement rates and a large share of consumers terminating their participation in these programs are (1) the refusal of creditors to negotiate with debt settlers and (2) creditors suing consumers after they default and cease communication. A 2012 survey of credit card issuers, debt buyers, and debt collectors found that only one-half of respondents would engage with debt-settlement firms (InsideARM, 2013). The responses vary by creditor type, with 63 percent of credit card company respondents reporting that they will work with debt-settlement companies compared with 40 percent of collection agencies and 59 percent of debt buyers (InsideARM, 2013). A study by the Association of the Bar of the City of New York (2012) found that one-third of consumers who enrolled with a particular debt-settlement company faced lawsuits from their creditors; in some cases, consumers were not even aware of the legal action until their wages were garnished. Among more recent cases, the Maryland debt-settlement regulator reported that, among those consumers who enrolled in a debt-settlement program after the advance fee ban took effect in October 2010, one-fourth had a lawsuit filed against them by at least one creditor by the end of 2011 (Maryland Office of the Commissioner of Financial Regulation, 2014).

An analysis by a researcher at the Federal Reserve Bank of Philadelphia notes that, despite the low completion rates and risks of debt settlement, consumers may still find such programs attractive because of a tendency to be over-optimistic about future outcomes, to seek a strategy that offers instant gratification due to impatience to improve their financial situation, and to have an inclination to discount problems that may result in the future (Wilshusen, 2011). She notes that debt-settlement advertisements are persuasive to vulnerable consumers who have no way to properly evaluate claims that these companies make (Wilshusen, 2011). Only after significant time has passed after enrolling in a program will these consumers have a sense of whether their experience will turn out to be a positive one. The author of a recent law review article is similarly critical of the industry, noting that consumers may endure negative impacts to their credit scores, lawsuits, and poor settlement outcomes and still end up filing for bankruptcy (Nelson, 2014). The author believes that these programs will not be safe for consumers unless debt-settlement firm principals are held criminally liable for bad practices and regulators engage in intensive monitoring (Nelson, 2014).

Methodology and Findings

Although the risk of a creditor lawsuit or inability of a debt-settlement company to settle some of its debts is difficult for a consumer to predict at the outset, the share of overall debt that must be settled for a consumer to financially benefit from enrolling in a debt-settlement program, relative to her financial position just before enrollment, can be estimated. To calculate this estimate, I draw on data from an account-level analysis of outcomes conducted for AFCC (Regan, 2013). This analysis shows that consumers enroll six debts on average, totaling slightly more than \$30,000. The report also notes that these debts will experience an average “accretion” (or an increase in outstanding balance) of 20 percent from the time they are enrolled until they are settled due to interest charges and other fees that accrue on defaulted debts.⁴ Because some debts settle relatively quickly and others may remain in default for several years, however, the actual accretion rate per account varies, with those debts settled more quickly having less overall accretion than others.⁵ We also know from the report that debts are settled for an average of 48 percent of the balance owed at the time the agreement is reached and from industry statements that a typical firm may charge 20 to 25 percent of the amount of the debt enrolled as a settlement fee.

The model is constructed by applying the applicable accretion rate to each debt until the time at which we would expect a settlement to occur. I then weigh the costs (the increase in outstanding balance, total debt owed to the creditor per the settlement agreement, and the fee assessed by the debt-settlement company) against the savings the consumer achieves through the settlement (the reduction in debt owed) to determine the net benefit or cost experienced by a given consumer who is able to settle one, two, three, four, five, or all six of the debts enrolled. Because the debt-settlement industry notes that programs are typically completed within 3 to 4 years, I model findings at 36 months of enrollment.

The findings are presented in two ways: one that is quite conservative and the other that is more inclusive of common costs consumers in a debt-settlement program may pay. The conservative estimate of how many debts must be settled for a benefit does not take into account the costs associated with maintaining a dedicated account into which the consumer makes deposits and through which the creditor is paid in accordance with the settlement agreement. These fees may vary, depending on the account provider, and, in some cases, the account may not be required. This conservative estimate also does not take into account any tax liability. Under federal tax law, when a creditor cancels some or all of a debt owed, the amount of the debt reduction is generally counted as taxable income if the debt's outstanding principal balance is reduced by at least \$600 (Internal Revenue Service, 2013; Prater, 2013). State tax laws, in general, are similar. The debt-settlement industry claims that most clients do not face this liability because they can successfully qualify for a tax exemption available to people who are insolvent at the time the debt is reduced.

⁴ If a debt remains unsettled after the 36-month period used in our model, it will have also grown by 20 percent and remain outstanding.

⁵ Note that accretion does not accrue at a uniform rate throughout the 36-month period because of the timing of interest charges, late fees, and other penalties that are assessed on delinquent and defaulted credit card debt. For example, a higher interest rate and late fees may be charged until a creditor charges off a debt and either begins collection attempts or sells the debt to a debt buyer. At that point, no further interest charges would apply.

The second, more inclusive estimate of how many debts must be settled for a consumer to benefit incorporates typical fees associated with a dedicated account. Such fees include a \$9 setup fee plus \$10 per month in continuing fees—\$369 in total fees for a client who spends 36 months in a debt-settlement program.⁶ It also includes tax liability at a combined state and federal 15-percent rate on all debt that is cancelled through settlements. A quick glance at online reviews of debt-settlement companies reveals testimonials from customers who say they incurred tax liability on their settled debts (Prater, 2013; Weisbaum, 2013). Even if a consumer qualifies for an exemption from tax liability, she must be aware of that fact and be able to complete the proper tax forms to avoid that cost.

Assumptions

This model includes three key assumptions that likely cause the resulting findings to be conservative.

First, all debts that a consumer enrolls in a debt-settlement program are assumed to be equal in size. In practice, debt-settlement companies may settle a somewhat smaller debt first to enable the consumer to experience a faster initial settlement agreement, leaving the larger debts to be settled later. The larger the debts left unsettled, the greater the accretion that will accrue. Therefore, this assumption likely understates the accretion that accrues on unsettled debts.

Second, all settlements are assumed to be successfully repaid as stipulated in the agreement. Settlement agreements increasingly are structured for repayment in installments over time (called “term settlements”). In a survey of creditors dealing with term settlements, approximately 40 percent of respondents reported that 20 percent or less of term settlements fail; however, another 29 percent of respondents reported a failure rate of 40 percent or higher (InsideARM, 2013). A broken settlement agreement will result in the returning of the debt to a default status, with the consumer still owing the debt settler a fee.

Third, the potential that one or more creditors may sue a consumer while she is participating in a debt-settlement program is not taken into account. The difficulty in predicting which creditors would likely sue and the variability of the costs involved⁷ led me to exclude these costs from the calculation.

Finally, the analysis shows the change in financial position only at 36 months from enrollment, although it is possible that unsettled debts may continue to grow past this point until the consumer reaches an agreement with her creditors, files for bankruptcy, or dies. Therefore, the model may further underestimate the extent of a client’s negative change in financial position if debts are left unsettled past the 3-year period.

Findings

As exhibit 2 shows, the AFCC report notes that the 56,000 consumers in the data set enrolled a total of \$1.7 billion in debt after the advance fee ban took effect (Regan, 2013). This overall total

⁶ *Carlsen v. Global Client Solutions, LLC, et al.* 2011. Washington State Supreme Court, No. 84855-6. <http://caselaw.findlaw.com/wa-supreme-court/1567511.html>.

⁷ Such costs could include attorneys’ fees, court costs, out-of-pocket expenses, and lost income.

Exhibit 2

An Average Consumer’s Debt at Enrollment in a Debt-Settlement Plan

Total debt enrolled after the advance fee ban	\$1,700,000,000
Average number of debts enrolled per consumer	6
Total number of consumers enrolled after the advance fee ban	56,000
Average total debt enrolled per consumer (\$1.7 billion/56,000)	\$30,357
Average size of each debt enrolled per consumer (\$30,357/6)	\$5,060

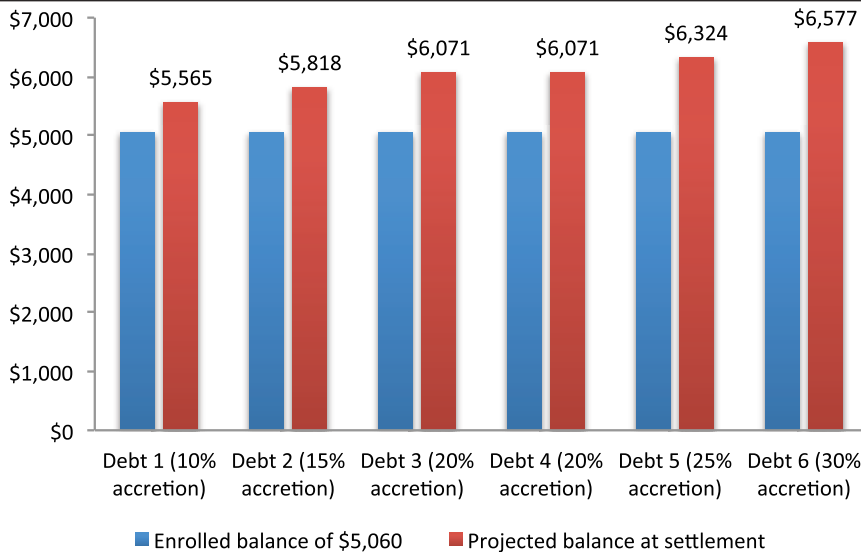
equates to an average total enrolled debt of \$30,357 per consumer. In addition, each consumer enrolled six debts on average (Regan, 2013). Therefore, the average size of each debt a consumer enrolls is approximately \$5,060.

Each of these debts experiences accretion, as interest, late fees, and other penalties accrue over time while the consumer waits for the debt-settlement company to reach settlement agreements with her creditors. The report notes a consumer’s total enrolled balance will grow by 20 percent before all debts are settled (Regan, 2013). Because settlement agreements are reached sequentially, however, one debt may settle relatively soon after enrollment and thus incur less total accretion than another debt that remains in default for a longer time (or never settles). According to AFCC, the first debt settles just a little after 4 months from enrolling in the program, and—assuming all creditors are willing to settle—a debt-settlement program should complete within 36 to 48 months (Regan, 2013).

We therefore construct a model, shown in exhibit 3, which estimates the amount by which each of the six debts enrolled would grow before settlement. The amount ranges from 10-percent growth

Exhibit 3

Projected Accretion of Each Account From Time of Enrollment Until Settlement (assuming all accounts settle within 36 months)



Note: This chart assumes all debts are eventually settled; however, if any unsettled debts remain outstanding, they will grow from \$5,060 to \$6,577 at the 36-month mark.

in debt balance for the first debt to 30-percent growth for the final debt. Although the growth of each individual debt varies by the time it takes to settle, the consumer's total debt grows by 20 percent overall from \$30,357 to \$36,429, consistent with the finding in the AFCC report.

The AFCC report found that, if an agreement is reached on a given debt, this settlement typically reduces the outstanding balance on that debt (which includes accretion from the time of enrollment to settlement) by 48 percent (Regan, 2013). In exchange for reaching a settlement, the consumer owes a fee, which varies by company. Because fees often range from 20 to 25 percent of the debt balance at the time of enrollment, we use the midpoint: 22.5 percent.⁸

Exhibit 4 provides an illustration of these calculations on the settlement of the first account, which generally happens after 4 months in a debt-settlement program.

With these calculations based on data from the AFCC report and the assumptions outlined in the previous section, the share of debts that must be settled for a consumer to experience a positive financial change relative to her position at enrollment in a debt-settlement program can be measured. As noted previously, the model shows what share of debts must settle for a *typical* debt-settlement client; that is, a consumer who enrolls with the average level of debt and experiences the average rate of accretion.

A consumer must settle at least two-thirds (four of six) of her debts to have a positive change in financial position after 36 months of participating in a debt-settlement program, as exhibit 5 illustrates. A consumer who can do this will still be in default on two of six debts—risking lawsuits and continued collection activity from creditors—but will experience a positive change in financial position of more than \$1,350 (relative to the amount of debt when she enrolled).

For example, a consumer who settles one-half (three of six) of her debts within a 36-month timeframe would owe her three creditors a total of \$8,379 and the debt-settlement company a total of \$3,415 for negotiating those settlements. Those funds would be paid from the consumer's dedicated account to which she regularly deposits funds over time. She would have three remaining unsettled debts, which originally totaled \$15,179 when she began her debt-settlement program but grew during the 36 months by \$4,554. This consumer ultimately would end up with \$31,526

Exhibit 4

Illustration of First Debt Settled

Balance at enrollment	\$5,060
Accretion (growth) in balance by 10%	\$505
Balance at settlement (\$5,060 + \$505)	\$5,565
Debt owed to creditor per settlement agreement (48% of \$5,565 outstanding balance)	\$2,671
Fee owed to debt-settlement company (22.5% of \$5,060 balance at enrollment)	\$1,138

Note: Numbers do not add exactly because of rounding.

⁸ Many debt-settlement companies do not disclose the fee charged on their website. One exception to this is Debtmerica, which notes “[t]he total fees for our programs range from 20 to 24 percent of the enrolled debt balances that are settled” (Debtmerica, n.d.). In addition, the General Counsel for Century Negotiations, a large debt-settlement company and AFCC member, noted a 25 percent fee was an appropriate fee (Haber, 2011).

Exhibit 5**Change in Financial Position 36 Months After Enrollment (conservative estimate)**

	Unable To Settle Any Debts	Settle One of Six Debts	Settle Two of Six Debts	Settle Three of Six Debts	Settle Four of Six Debts	Settle Five of Six Debts	Settle All Debts
(A) Total debt enrolled	\$30,357	\$30,357	\$30,357	\$30,357	\$30,357	\$30,357	\$30,357
Costs associated with settled debt(s)							
(B) Total due to creditor on settled debts	NA	\$2,671	\$5,464	\$8,379	\$11,293	\$14,329	\$17,486
(C) Total debt-settlement fees due	NA	\$1,138	\$2,277	\$3,415	\$4,554	\$5,692	\$6,830
Costs associated with unsettled debt(s) and outstanding balance							
(D) Original balance of total unsettled debt remaining	\$30,357	\$25,298	\$20,238	\$15,179	\$10,119	\$5,060	NA
(E) Accretion on unsettled debt during 36 months	\$9,107	\$7,589	\$6,071	\$4,554	\$3,036	\$1,518	NA
Total costs and financial position 36 months after enrollment							
(F) Total debt balance plus costs (B+C+D+E)	\$39,464	\$36,697	\$34,051	\$31,526	\$29,001	\$26,598	\$24,316
Change in financial position 36 months after enrollment (A-F)	-\$9,107	-\$6,340	-\$3,693	-\$1,169	\$1,356	\$3,759	\$6,041
Number of debts that remain in default	6	5	4	3	2	1	0

NA = Not applicable.

Note: For more information on the calculations in this table, see appendix A.

in total obligations to creditors and her debt-settlement company, an increase from her original \$30,357 debt at the beginning of the debt-settlement program of \$1,169. Had she instead been able to settle four of six debts, she would achieve a positive change in financial position of \$1,356 at the 36-month mark.

As noted previously, the finding that a consumer would need to settle two-thirds of her debt to benefit is our conservative estimate. If, instead, factors such as the cost of the dedicated account and tax liability are taken into consideration, the threshold for a positive financial benefit increases to settling at least five of six debts.

As exhibit 6 shows, this more inclusive estimate would mean, for example, that a consumer who settles four of six debts during 36 months would have had total debt reduction of \$8,945. Assuming a combined federal and state income tax rate of 15 percent, this consumer, if not “insolvent” as

Exhibit 6

Change in Financial Position 36 Months After Enrollment (inclusive estimate)

	Settle One of Six Debts	Settle Two of Six Debts	Settle Three of Six Debts	Settle Four of Six Debts	Settle Five of Six Debts	Settle All Debts
(A) Change in financial position 36 months after enrollment (from exhibit 5)	– \$6,340	– \$3,693	– \$1,169	\$1,356	\$3,759	\$6,041
(B) Cumulative debt reduction	\$2,388	\$4,655	\$6,800	\$8,945	\$10,969	\$12,871
(C) Potential tax liability (assuming 15% rate)	\$358	\$698	\$1,020	\$1,342	\$1,645	\$1,931
(D) Dedicated account fees if enrolled for 36 months	\$369	\$369	\$369	\$369	\$369	\$369
Revised change in financial position, taking these costs into account (A-C-D)	– \$7,067	– \$4,761	– \$2,558	– \$355	\$1,745	\$3,741

Note: For more information on the calculations in this table, see appendix A.

defined by tax law, would owe taxes of \$1,342 on the debt reduction. If \$369 in dedicated account fees are also included, this consumer would experience a negative change in financial position of \$355 instead of the positive change of \$1,356 reported in exhibit 5.

Conclusion and Policy Implications

Consumers overwhelmed by their credit card and other forms of unsecured consumer debt face tough decisions when determining whether to continue paying on those debts as agreed. If they are unable to do so, options such as negotiating directly with a creditor, entering into a debt-management plan, or filing for bankruptcy can at least provide consumers with the certainty that, as long as they complete the program, their creditors will not pursue collection activities or initiate lawsuits. By comparison, debt settlement is a risky gamble in which consumers cut off communication with their creditors, stop making payments, and hope that negotiations conducted on their behalf are successful in settling most or all of their debts. Data from state and federal regulators and from independent studies of consumer outcomes, although limited, show that consumers incur significant risk of a creditor lawsuit and that many consumers' debts are left unsettled.

Because vulnerable consumers will naturally be attracted to an option that promises to reduce the amount of debt that they owe, regulations providing for more transparency regarding outcomes and accountability of debt-settlement firms for the impact of those outcomes are needed. Specifically, the following measures may help lessen risks to consumers.

- **Provide relief for consumers who do not benefit from debt-settlement services.** To discourage debt-settlement companies from enrolling people who have a significant chance of failing to settle much, if any, of their debts, consumers could be provided with some form of refund or concession if they end up worse off after they enroll in a debt-settlement program. Such a provision could require debt-settlement firms to provide refunds to clients who ultimately have to file for bankruptcy to cover some or all of their associated expenses. Debt-settlement firms could similarly be required to refund all fees paid if the client's total expenses (settlements owed to creditors, fees owed to debt-settlement firm, balance on any unsettled debt, etc.) exceed the original principal balance. This requirement would result in debt settlers having an incentive to enroll only consumers for whom debt settlement will likely be successful.
- **Establish meaningful limitation on fees.** Debt-settlement fees should be calculated based on the amount of savings achieved rather than on the size of the debt enrolled. Fees should be calculated by taking the difference between the amount of the debt at enrollment and the settlement amount. Setting the fee in this manner better aligns the debt-settlement firm's incentives with the interest of the consumer, because they would be paid more if they negotiate a larger debt reduction. It also ensures that a fee could not be larger than the debt reduction achieved, which may occur when fees are set as a percentage of the balance at enrollment.
- **Require detailed data reporting.** Debt-settlement companies should be required to report on the outcomes achieved for their clients, at a minimum, indicating for each consumer the number and amount of enrolled debts and for each such debt the date and amount of settlement (if any); the structure of each settlement (and whether term settlements are completed); the fees charged; and whether any of these debts are the subject of a creditor lawsuit. This data reporting is most helpful if it tracks enrollees' progress in a debt-settlement program over the course of several years, allowing for outcomes to be assessed over time for groups of consumers who enroll in a given year. Providing data reporting in this manner would not only enable consumers to better assess whether debt settlement is worth the risk but also would provide a tool for regulators to determine whether particular companies are delivering on promised results.
- **Ensure broad coverage of the law.** To establish a level playing field and to ensure that consumers can be confident that they are receiving the same level of protection regardless of the company they choose, any applicable laws or regulations should include all debt-settlement providers, including attorneys and others whose activities are not covered by the FTC rule.

Appendix A

This appendix provides more detail on how the change in consumer financial position is modeled in this article. (Note: All figures are rounded to the nearest dollar.)

Exhibit A-1

Consumer's Debts at Enrollment

Total debt enrolled after advance fee ban (AFCC report)	\$1,700,000,000
Average number of debts enrolled per consumer (AFCC report)	6
Total consumers enrolled after advance fee ban (AFCC report)	56,000
Average total debt enrolled per consumer	\$30,357
Average size of each debt enrolled per consumer	\$5,060

AFCC = American Fair Credit Council.

Exhibit A-2

Overall Accretion (AFCC Study) and Estimated Accretion on Each of Six Accounts

Debt Number	Debt Balance at Enrollment (\$)	Estimated Accretion (%)	Debt Balance With Accretion (\$)
1	5,060	10	5,565
2	5,060	15	5,818
3	5,060	20	6,071
4	5,060	20	6,071
5	5,060	25	6,324
6 (or any debt unsettled after 36 months)	5,060	30	6,577
Total	30,357	20	36,429

AFCC = American Fair Credit Council.

Exhibit A-3

Settlement Amounts Due to Creditor and Fee Owed to Debt Settler per Debt Settled

Debt Number	Debt Balance at Enrollment (\$)	Debt Balance at Settlement ^a (\$)	Amount Due to Creditor ^b (\$)	Cumulative Amount Owed to Creditor(s) (\$)	Fee Owed to Debt Settler ^c (\$)	Cumulative Fees Owed to Debt Settler (\$)
1	5,060	5,565	2,671	2,671	1,138	1,138
2	5,060	5,818	2,793	5,464	1,138	2,277
3	5,060	6,071	2,914	8,379	1,138	3,415
4	5,060	6,071	2,914	11,293	1,138	4,554
5	5,060	6,324	3,036	14,329	1,138	5,692
6	5,060	6,577	3,157	17,486	1,138	6,830

^a From exhibit A-2.

^b American Fair Credit Council report states that debt settles at 48 percent of current debt balance.

^c Assumes fee of 22.5 percent of debt balance at enrollment.

Exhibit A-4

Tax Liability Assessed on Principal Reduction

Debt Number	Debt Reduction ^a (\$)	Cumulative Debt Reduction (\$)	Cumulative Tax Liability at 15-Percent Rate (\$)
1	2,388	2,388	358
2	2,267	4,655	698
3	2,145	6,800	1,020
4	2,145	8,945	1,342
5	2,024	10,969	1,645
6	1,902	12,871	1,931

^a Difference between debt balance at enrollment and amount due to creditor; see exhibit A-3.

Calculations for Exhibit 5: Change in Financial Position 36 Months After Enrollment (conservative estimate)

The findings for exhibit 5 are calculated as follows—

Row A, Total debt enrolled: The starting balance at enrollment in the debt-settlement program, \$30,357.

Row B, Total due to creditor on unsettled debts: The cumulative amount of settlements owed to creditors, given the number of debts settled. See exhibit A-3.

Row C, Total debt-settlement fees due: The cumulative fee owed to the debt settler as a result of settlement agreements reached. See exhibit A-3.

Row D, Original balance of total unsettled debt remaining: The total debt that has not been settled, not taking into account any accretion (growth in balance) from the time of enrollment. This row is calculated by multiplying the number of unsettled debts by \$5,060 (the amount of each unsettled debt at the time of enrollment). For example, a consumer who is unable to settle three of six debts has a balance of \$15,179, which is \$5,060 x 3 (all numbers rounded).

Row E, Accretion on unsettled debt during 36 months: The accretion on unsettled debts from the time of enrollment until 36 months later. As shown in exhibit A-2, each debt that remains unsettled at month 36 experiences an accretion rate of 30 percent, resulting in a debt of \$5,060 at the time of enrollment, increasing to \$6,577—a total increase of \$1,518. Thus, total accretion is calculated by multiplying the number of unsettled debts by \$1,518. For example, a consumer who is unable to settle three of six debts has accretion of \$4,554 on those debts, which is \$1,518 x 3.

Row F, Total debt balance plus costs: The sum of rows B, C, D, and E.

Change in financial position 36 months after enrollment: The difference between the initial \$30,357 debt balance at enrollment (row A) and row F.

Calculations for Exhibit 6: Change in Financial Position 36 Months After Enrollment (inclusive estimate)

The findings for exhibit 6 are calculated as follows—

Row A, Change in financial position 36 months after enrollment: This is from exhibit 5.

Row B, Cumulative debt reduction: See calculation in exhibit A-4. Note that principal reduction calculation may be conservative, because it is calculated by taking the difference between the debt balance at enrollment (rather than the debt balance at the time of settlement) and the amount due to creditor.

Row C, Potential tax liability: See calculation in exhibit A-4.

Row D, Dedicated account fees if enrolled for 36 months: This assumes only a \$9 setup fee and a \$10 monthly maintenance fee are assessed ($9 + (10 \times 36) = \$369$).

Revised change in financial position, taking these costs into account: Subtract rows C and D from row A.

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Prepurchase Counseling Effects on Mortgage Performance: Empirical Analysis of NeighborWorks® America's Experience

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Abstract

NeighborWorks® America has a nationwide network of nonprofit affiliates offering prepurchase counseling throughout the country. This study, based on 75,000 loans originated between 2007 and 2009, analyzes the effect of prepurchase counseling and education provided by the network on the performance of counseled borrowers' mortgages compared with the performance of borrowers who received no such counseling services. The counseling includes help in avoiding deceptive practices, such as misleading starter interest rates without disclosure of their later increase.

The study shows that NeighborWorks® America's prepurchase counseling works. Clients receiving counseling are one-third less likely to become 90 or more days delinquent during the first 2 years than those not receiving counseling. The finding is consistent across years of origin, even as the mortgage market changed, and it applies equally to first-time homebuyers and repeat buyers. The analysis uses two methods to avoid a common pitfall of such studies: selection bias. It employs propensity scoring to reduce the differences between counseled and noncounseled samples and includes many variables available from credit-reporter Experian to measure borrowers' credit attitude and approach that would usually be unobservable. The effect of counseling remains strong after selection bias is limited, reducing the likelihood that borrowers get into trouble through deceptive practices and other means.

Introduction

Neighborhood Reinvestment Corporation—doing business as NeighborWorks® America (hereafter, NeighborWorks)—has a nationwide network of affiliates offering prepurchase homebuyer counseling throughout the country. Although the network members started to provide prepurchase counseling in 1978, the effect of these services on mortgage performance has not yet been formally evaluated.

Using information on about 75,000 loans originated between October 2007 and September 2009, this study analyzes the effect of NeighborWorks-network-provided prepurchase counseling on the performance of counseled borrowers' mortgages within 2 years after they are originated compared with the mortgage performance of borrowers who receive no such services.¹

The study hypothesis is that education and counseling help buyers sustain their mortgages by avoiding mortgages with unexpected increases in interest rates over time; borrowing loans within their means to repay; promoting strengthened and realistic budgeting; improving financial management, including maintaining necessary reserves for home maintenance or income downturns; and raising borrowers' understanding of the terms and obligation of mortgage instruments. Those receiving prepurchase counseling may have avoided many of the deceptive practices by mortgage lenders that contributed to delinquency and default in the later 2000s.

Our research deals directly with a primary challenge to previous work on the effects of prepurchase counseling: selection bias. The concern is that people who enter counseling may have unobserved characteristics in the way they manage credit that both lead them to counseling and improve (or reduce) their mortgage performance. Without a way to control for the “unobservables,” statistical analysis could yield an overstatement (or understatement) of the effect of counseling in statistical estimations. This analysis mitigates the effect of selection bias in two ways.

First, Experian, a credit-reporting agency that partnered with us on this study, employed a procedure called *propensity scoring* to identify and create a comparison group that has the same observable characteristics as counseling clients. Second, we estimated program effects with data from Experian that contain extensive detailed information about borrowers' credit practices and behaviors both at origination and before receiving their mortgage. Many of these oft-unobservable characteristics are, in fact, observed in specific operationalized terms in our study. Given these methodological elements, our findings are based on data and methods that control for factors that may influence both an individual's choice to select counseling and their mortgage performance, significantly reducing any selection bias. We find that prepurchase counseling retains its highly significant and substantial effect after biasing factors have been removed.

These means of dealing with selection and missing variables biases are not perfect. It is possible (with anything but a strictly randomized experiment) that unobservable factors are still playing a role in homebuyers' selecting to participate in the prepurchase counseling program—factors that may correlate with the decision to enter counseling and that may bias our analysis of counseling's effect. In addition, as discussed later in the article, there are measures of loan characteristics and of

¹ NeighborWorks also provides training for counselors who work for other organizations. We did not measure the impact of counseling performed by these non-NeighborWorks organizations.

noncounseling assistance to buyers that our study does not account for, which, again, if correlated with entering counseling, could bias these results. Our study, however, does address many of the credit history, attitude, and financial capability variables, which numerous other researchers have highlighted as being prominent among the unobserved factors that might bias their studies. Our research, by drawing on credit data not previously available to others, addresses one of the major limitations of past work.

NeighborWorks Prepurchase Counseling Programs

Congress created NeighborWorks in 1978 to revitalize America's underserved communities. Local NeighborWorks organizations are independent, resident-led, nonprofit community development corporations that include business leaders and government officials on their boards. More than 230 local organizations make up the NeighborWorks network, and many of them actively promote homeownership through counseling, lending, and other means.

Prepurchase counseling provided by NeighborWorks organizations consists of a minimum of 8 hours of group education and individual counseling sessions. Homebuyer education includes an initial orientation and overview of the home purchase process; an indepth analysis of the potential homebuyer's personal and financial situation; details about house selection, the financing process, the closing, and other key issues of the homebuying process; and postpurchase concerns, such as home maintenance and community involvement. NeighborWorks recommends that counseling sessions cover the following topics.

1. Assessing readiness to buy a home.
2. Budgeting and credit.
3. Financing a home.
4. Selecting a home.
5. Maintaining a home and finances.

Most clients first attend a 1- or 2-hour orientation session that enables participants to self-select into the different tracks of homebuyer education according to their readiness. Individual counseling supplements other kinds of homebuyer education by focusing on problems and issues that are specific to a particular homebuyer. The sessions generally include information on budgeting, developing a savings plan, credit issues and repairing credit, and selecting a home (NeighborWorks® America, 2016).

Literature Review

Three recent comprehensive reviews of previous studies on the effect of prepurchase counseling are Cackley (2011), Collins and O'Rourke (2011), and Turnham and Jefferson (2012). All the prepurchase counseling programs included in these reviews are designed to give borrowers information and specific strategies to understand mortgage options and avoid predatory lending. Prepurchase

counseling programs are expected to result in better subsequent mortgage performance because they create well-informed consumers and promote responsible homeownership that reduces the risk of default to lenders (Turnham and Jefferson, 2012).

All three reviews (Collins and O'Rourke's summary is presented in exhibit 1, augmented with one study that postdated their review) conclude that the existing literature on prepurchase counseling provides ambiguous findings regarding prepurchase counseling's effectiveness as measured by mortgage loan performance, credit scores, and borrowers' self-reported financial capacity. Cackley (2011: 3) concludes "[t]he limited body of literature on homeownership counseling does not provide conclusive findings on the impact of all types of homeownership counseling."

Previous studies on prepurchase counseling's effectiveness, according to reviews of the literature, are hampered by the difficulty of tracking counseling recipients after the counseling ends and by the fact that no studies used an experimental design that randomly assigned clients into a treatment group that received counseling and a control group that did not receive these services. Existing quasi-experimental studies, according to the reviews, do not adequately correct for selection bias. None had use of detailed measures of homebuyer past performance with various forms of credit with which to control for the characteristics that might lead to selection into counseling.

Nonetheless, as detailed in exhibit 1, all but two of the studies that analyze prepurchase counseling's effect on mortgage performance found that mortgage performance improved with counseling. The order of magnitude of these findings was large in two studies: Hiran and Zorn (2002) found that rates for 90 or more days of delinquency were 34 percent lower among clients receiving counseling; Agarwal et al. (2009a) found that the prepurchase counseling reduced delinquency rates by 30 percent but attributed this difference to lenders' changing their behavior rather than the services received by counseling.

At least four recent studies overlapped in timing with our research and writing and postdated the literature reviews cited previously. The first of those studies (Avila, Nguyen, and Zorn, 2013) analyzed nearly 38,000 mortgages originated under Freddie Mac's affordable lending programs between 2000 and 2008. First-time borrowers were required to obtain counseling for most of the period and comprised the bulk of the "treatment" group while repeat borrowers and first-time borrowers between 2006 and 2008 were not counseled. Probit models, including both models of 90-day delinquencies and of selection into counseling, including variables for some credit characteristics, were estimated to deal with selection bias. The key result was that counseling reduced the delinquency rate of first-time buyers by 29 percent and the overall population by 15 percent. Repeat buyers did not show a significant response to counseling. The significant relationship between being a first-time buyer and being required by the programs to obtain counseling raises questions about this sharp difference.

Another study drew on a smaller sample of potential homebuyers (not all of whom eventually bought homes) participating in a program of the Federal Reserve Bank of Philadelphia (Smith, Hochberg, and Greene, 2014). Some 898 households, first-time buyers only, were randomly assigned to a control group, which received only a 2-hour homeowner education presentation, or a treatment group, which received one-on-one counseling (in most cases) in addition to the presentation. This random assignment addresses directly the selection bias issue that challenged

Exhibit 1

Summary of Previous Evaluations of Prepurchase Counseling (1 of 2)

Author(s)	Year	Method	Sample Size	Intervention	Outcome Measure(s)	Key Findings
Agarwal et al.	2009a	Quasi-experimental with matched pairs comparison	1,200 borrowers receiving counseling	Mandatory prepurchase financial counseling for high-risk mortgage applicants	Default rate	Default decreased by 30%; authors attribute the decline to lenders' screening rather than counseling per se.
Agarwal et al.	2009b	Quasi-experimental with multiple estimations strategies	12,919 observations	Voluntary prepurchase financial counseling for mortgage applicants with barriers to homeownership; borrowers who became delinquent were also offered postpurchase counseling	Mortgage delinquency rate	Lower default rates that the authors attribute to the mortgage characteristics originated to participants, the skills participants gained during prepurchase counseling, and the program's postpurchase component.
Archer, Fitterman, and Smith	2009	Quasi-experimental with logistic regression	41 Florida participating jurisdictions	Florida nonprofit organization offering education after purchase contract is signed	Default rate	Homebuyer education has a statistically significant negative effect on aggregate, jurisdictionwide loan performance. The authors caution that this finding is likely not causal.
Avila, Nguyen, and Zorn	2013	Quasi-experimental selection model (probit)	38,000	Prepurchase homeownership and education counseling	Mortgage performance	Counseling reduced the delinquency rate of first-time buyers by 29% and the overall population by 15%.
Birkenmaier and Tyuse	2005	Descriptive pretest	203	Homeownership education and counseling	Credit scores	No statistically significant change in credit scores.
Brown	2015	Natural experiment	732	Classroom education	Default and foreclosure	Default effect not significant; foreclosure effect 42% decrease in odds.
Carswell	2009	Descriptive retrospective pretest	405	Prepurchase homeownership counseling	Self-reported financial behaviors	75.2% of respondents agreed that they had no difficulty paying their mortgage; 85.5% of respondents agreed that their mortgage took top priority over other bills.
Hartarska and Gonzalez-Vega	2005	Quasi-experimental selection model	919	Prepurchase credit counseling	Mortgage loan default and prepayment	For observations before 1996, when counseling was not mandatory, those counseled did not default less but prepaid more often. For the sample as a whole, the counseled defaulted less often and prepaid more often.

Exhibit 1

Summary of Previous Evaluations of Prepurchase Counseling (2 of 2)

Author(s)	Year	Method	Sample Size	Intervention	Outcome Measure(s)	Key Findings
Hartarska and Gonzalez-Vega	2006	Quasi-experimental selection model	233	Prepurchase credit counseling	Mortgage loan default	Counseled borrowers' default rate was 39%.
Hirad and Zorn	2002	Quasi-experimental selection model	39,318	Prepurchase homeownership counseling delivered through classroom, home study, individual, or telephone	90-day delinquency rate	Borrowers who received counseling were 34% less likely to become 90 days delinquent. Correcting for selection bias showed statistically significant effects for classroom delivery of counseling services.
Moulton et al.	2015	Random assignment	425	Monitoring	Loan performance	10% improvement in loan performance for previously delinquent owners.
Quercia and Spader	2008	Quasi-experimental selection model	2,688	Prepurchase homeownership and education counseling	Mortgage loan prepayment and default	Counseling produced a statistically significant increase in probability of prepayment; no statistically significant increase in mortgage performance.
Shelton and Hill	1995	Descriptive comparisons of borrowers before and after counseling	35	Financial education for low- and moderate-income first-time homebuyers	Self-reported financial behaviors	50% increase in the proportion of participants who totaled the value of things they owned "all of the time" and the proportion of participants who compared their income and expenses "all of the time."
Smith, Hochberg, and Greene	2014	Random assignment	898	One-on-one versus group counseling	Obtaining loans and ownership	Individual counseling affected credit scores, total debt, and all types of delinquencies (not mortgage performance).
Turnham and Jefferson	2012	Descriptive comparisons of borrowers before and after counseling	573	Prepurchase homeownership and education counseling	Mortgage performance	After 12 months, 1 of the 200 clients purchasing a home within 18 months of receiving counseling services defaulted.

Sources: Collins and O'Rourke (2011); the authors

other pieces of work on the topic. This study, however, focused on outcomes affecting the potential for households to obtain home loans and homeownership rather than on the effect of counseling on loan performance after home purchase occurred. It found statistically significant effects of more extensive counseling on changes in credit scores, total debt, and delinquencies for all types of debt combined, but it not address mortgage delinquency or default.

A third paper (Moulton et al., 2015) tested a “low-touch” strategy of monitoring borrowers in the Ohio Housing Finance Agency’s first-time homebuyer program to remind them of their mortgage payments. The authors studied buyers randomly assigned to receive the treatment (primarily phone calls) or not (the nontreatment group received only an initial financial assessment), following them for a year after purchase. The random assignment deals directly with the challenges of selection bias among buyers choosing to participate in the monitoring/contacting program. The intervention is not literally prepurchase, however. The modeling also includes a modest set of credit measures (credit scores) and a common set of identical loan terms from the program. Principal findings are that this relatively limited intervention produced substantial reductions in delinquency for buyers who have had some history of delinquent payments—10 percentage points relative to a 15-percent average delinquency rate. For those with clean mortgage payment records, the intervention did not show a significant effect.

A fourth recent paper (Brown, 2015) tested the effects of prepurchase counseling on defaults and—unlike most previous studies—on foreclosures. The study found that prepurchase counseling, covering both purchase and dealing with postpurchase financial difficulties, had no significant effect on default rates but did have a large (42 percent) impact on reduced odds of foreclosure. The study of 732 mortgages, accompanied by downpayment assistance from the Tennessee Housing Development Agency and a counseling requirement, had the advantage of 7 years of tracking data in pursuing default and foreclosure outcomes. It took advantage of the “natural experiment” that the counseling requirement did not take hold for the first 6 months of the program, addressing some of the issues of selection bias. The author acknowledges, however, that the postrequirement buyers might differ from “early adopters” in such things as their patience for counseling, time preferences, and mortgage options. Most important from the point of view of this paper, the data set used only credit scores as a measure of past credit experience and practice. It is notable that empirical modeling results showed that credit scores had a very large effect on mortgage performance. This effect of the limited credit history measure suggests that if the precounseling-requirement borrower population differed in unobserved credit practice from those who entered later and received counseling, an important element of missing variables/selection bias could remain.

Overall, existing research shows a somewhat mixed but promising set of effects of prepurchase counseling, inviting further testing and methodological improvements to further address selection bias, including measures of homebuyers’ credit behaviors.

Data and Methods

The data used in this study consist of information on 18,258 clients who received prepurchase counseling from NeighborWorks organizations at some point between October 2007 and September 2009 and who also purchased a home within this 24-month period. Experian (a credit

repository), using propensity scoring, selected a comparison group of 56,298 borrowers with similar observable characteristics to those of NeighborWorks prepurchase clients. We augmented information included in Experian's credit files with county-level data on unemployment rates and metropolitan statistical area (MSA)-level measures of changes to house prices.² With these data, we estimated a binomial logit model in which the dependent variable equals 1 for loans that are observed to *avoid* becoming 90 or more days delinquent within 24 months of loan origination.³ In such a model, the estimates (odds ratios) reflect the effect of a one-unit change of an explanatory variable on the odds of observing a loan's avoiding becoming 90 or more days delinquent within 24 months of origination. Some previous studies have used a dependent variable valued at 1 for avoiding delinquency and others at 1 for becoming delinquent. The choice has no effect on the results of analysis as long as the reporting is clear, and we chose 1 for avoidance so that the expected effect of the policy variable—providing counseling—on the outcome is positive.

Propensity-Scoring Comparison Group

Propensity scoring is a technique for developing a comparison group that closely matches the characteristics of those who received treatment. Those who obtain prepurchase homebuyer counseling, in general, and NeighborWorks network's counseling, in particular, are not a representative sample of all potential homebuyers. For example, most are first-time buyers, relatively young, and of modest income (see exhibit 2).⁴ It is helpful on two counts to select a comparison sample that is similar to the set of counseled homebuyers on a variety of dimensions rather than to all buyers.⁵

First, although many variations between the counseled buyers and loans and a random sample of noncounseled loans would be controlled for in the subsequent logit modeling, large differences in the distributions of the control variables would reduce the efficiency of the model estimates. The issue of efficiency of the model estimates can be described as follows. Suppose that nearly all the counseled-borrower loans were to first-time buyers and almost all the noncounseled-buyer loans were to repeat owners. It would be very difficult (if not impossible) to separate statistically the effect of prepurchase counseling program on serious delinquencies from the effect of the past ownership history on delinquencies, because very few buyers of the same history would be in the different treatment groups. The problem, therefore, is not that we would get the *wrong* answer regarding counseling effects but, rather, that we would get *no answer at all*. By having counseled and noncounseled samples that are relatively similar on observable borrower and loan characteristics, our models will be more likely to separate program effects from other statistical "noise."

Second, choosing samples that are similar on observable characteristics likely reduces their dissimilarity along unobservable dimensions because they are likely correlated with one another.

² State-level housing price data were used for locations outside MSAs.

³ Logit models are used when the dependent variable is categorical and, thus, can take on a limited number of values. In this case, the model estimates the explanatory power of variables that results in the dependent variable's taking the value of 1.

⁴ Note that the ratio of total credit outstanding to income is higher for borrowers who did not receive NeighborWorks counseling when compared with borrowers who did receive such counseling. This mean value is different across the two groups because it was not included in the propensity-scoring model. The difference is controlled for in the models that measure the impact of NeighborWorks counseling on loan performance by including the variable in the models' specification.

⁵ See, for example, the use of propensity scoring in analysis of a similar outcome in Ding et al. (2011).

Exhibit 2

Descriptive Statistics for All Variables Included in the Logit Model by Comparison and NeighborWorks-Counseled Groups (1 of 2)

Variable Name	Variable Description	Comparison Group	NeighborWorks-Counseled Borrowers	All Borrowers
Dti	Ratio of total credit outstanding to income	0.6396	0.3690	0.5733
Ind	Indicator of borrower's receiving counseling	0.00	1.00	0.24
enhtype19	Indicator of FHA loan	0.40	0.42	0.41
income w/o over 200k	Income (excluding those of more than \$200,000)	58,309	55,941	57,730
Incomeclsq	Square of income	4,423,878,038	4,077,075,828	4,339,133,684
vantage cleaned	VantageScore	740	723	736.1271
yr 2008 loan	Year 2008 loan	0.3131	0.3055	0.3112
yr 2009 loan	Year 2009 loan	0.5231	0.5437	0.5281
jan 2008 unemployment rate; if no MSA could be matched, state is used; if county could not be matched, left blank	January 2008 unemployment rate; if no MSA could be matched, state is used; if county could not be matched, left blank	5.153	5.009	5.117
% change between jan 08 and jan 10 UE rate; an increase from 5% to 10% would produce a value of 100	Percent change between January 2008 and January 2010 unemployment rate; an increase from 5 to 10% would produce a value of 100	96.998803	99.398760	97.590895
Q1 2008 HPI, if no MSA could be matched, state is used; if county could not be matched, left blank	Q1 2008 HPI; if no MSA could be matched, state is used; if county could not be matched, left blank	240.076944	228.402819	237.196825
% change between Q1 08 and Q1 2010 HPI	Percent change between Q1 2008 and Q1 2010 HPI	- 10.402717	- 9.866913	- 10.270529
DTI2cl	Ratio of annual mortgage payment to income	0.2897	0.2740	0.2857
mtf_int_rate	Mortgage interest rate computed based on total mortgage payment	7.4182	7.5599	7.4529
ALL6250 recoded cleaned	Dummy for credit \geq 90 days in 12 months since open	0.1087	0.1334	0.1147
OVERALL BTL OPEN TRD RP6	Balance-to-credit amount ratio on 6 months of trades	46.04	45.97	46.02
ALL7357D cleaned	Percent of trades \geq 60 days in past 12 months	4.5344	4.2399	4.4625
ALX0436 cleaned	Total trades open in past 6 months	3.3597	2.8476	3.2343
TTL COL WBAL>250	Total external collections with balance > 250	0.28	0.21	0.26
TTL COL INQ IN 6M	Total external collect inquiries in past 6 months	0.06	0.07	0.06
TTL INQ IN 3M NO DEDUPE	Number credit inquiries in past 3 months	1.55	1.87	1.63

Exhibit 2

Descriptive Statistics for All Variables Included in the Logit Model by Comparison and NeighborWorks-Counseled Groups (2 of 2)

Variable Name	Variable Description	Comparison Group	NeighborWorks-Counseled Borrowers	All Borrowers
REV3422 cleaned	Total open revolving trades with balance/credit amount \geq 75 reported in past 6 months	0.6296	0.5671	0.6144
chargeoff indicator (from ALL8164)	Chargeoff indicator	0.1474	0.1543	0.1491
indicator of past bankruptcy	Indicator of past bankruptcy	0.0737	0.0997	0.0801
mta0301	Dummy for NOT first-time buyer	0.14	0.13	0.14
indintractmta0301	Interaction between NOT first-time buyer and counseling	0.0000	0.1277	0.0313
Ext_Age	Borrower's age	39.88	37.78	39.61
N		56,284	18,258	74,542

FHA = Federal Housing Administration. HPI = housing price index. MSA = metropolitan statistical area. NeighborWorks = NeighborWorks® America.

Such a reduction in unobservables' differences reduces the likelihood and likely size of selection bias, which, if substantial, might produce a higher- or lower-than-accurate estimate of counseling's effects. Providing for a similar comparison sample is the first of the two methods we use to reduce such bias.

Instead of a random sample, we used Experian's comparison sample created by implementing a propensity-scoring model to align the characteristics of the counseled loans and noncounseled loans as closely as possible on several important dimensions. For each loan in the counseled sample, the propensity-scoring model found the three closest matches among the noncounseled loans in the Experian database.

Propensity scoring has been used in other evaluations of prepurchase counseling, including in Agarwal et al.'s 2009 study of the Indianapolis Neighborhood Housing Partnership's counseling program (Agarwal et al., 2009a).⁶ Their primary purpose was to reduce selection bias, whereas we focus on both statistical efficiency and on reducing selection bias. NeighborWorks engaged Experian to construct the comparison group using its own databases. The propensity-scoring model that Experian used included the following variables.

- Total open trades (a trade is any type of credit account, such as a credit card or an auto loan).
- Total trades opened in past 6 months.

⁶ The authors report that they attempted to use a borrower's physical and commute-time distance from a counseling location as an instrument that predicts whether a borrower entered counseling. This instrument did not predict group membership accurately enough to use in the final analyses.

- Total trades ever 60 or more days delinquent in past 24 months.
- Total balance of trades opened in past 6 months.
- Ratio of balance to credit amount, trades opened in past 6 months.
- Dummy for Florida.
- Dummy for California.
- Income (excluding those more than \$200,000).⁷
- VantageScore.⁸
- Mortgage amount.
- Total monthly house payment.
- Interest rate.
- Year 2008 loan.
- Year 2009 loan.
- Federal Housing Administration (FHA) loan.
- Repeat homebuyer.

Note that the borrower income and mortgage interest rate are not reported directly in Experian's database from income tax returns and mortgage documents. Experian estimated borrower income using a proprietary algorithm that uses all sources of income in Experian's files to determine which self-reported income value collected by Experian is most consistent and reliable. Where values are missing or no sources or reliable income sources are provided for a consumer, an income value is imputed based on an algorithm that applies an income value based on the information contained in other records with characteristics similar to those of the missing consumer (for example, realty, age, marital status, presence of children, occupation).

To impute the mortgage's interest rate, Experian used the total monthly payment associated with the loan (which may include escrow items such as property taxes and insurance), the loan amount, and the loan term (all three of these variables are in Experian's database) to calculate a mortgage's interest rate. Because Experian's database does not have information on just the monthly principal and interest payment, the imputed interest rate is not the same as the actual mortgage interest rate. Nonetheless, the imputed interest rate was used as a control in the propensity-scoring model as a best-available, but imperfect, substitute.

⁷ Only a few incomes are more than \$200,000, none are in the treatment group, and several are of very large values that appear to be errors. To avoid having a few observations dominate the analysis unduly, these observations were eliminated.

⁸ A VantageScore is a generic credit score model developed by the three credit repository companies. With a range between 501 and 900, the score predicts the likelihood of future serious delinquencies (90 days late or greater) on any type of account. A consumer's score is based primarily on a 24-month review of a consumer's credit file. <http://www.vantagescore.com/about/vantagescoremodel/>.

Using the propensity-scoring method, Experian selected 56,298 borrowers who received their loans at the same time as the NeighborWorks clients (between October 2007 and September 2009). As shown in exhibit 3, the propensity-scoring method was successful, with average characteristics for the variables used in the propensity-scoring model just about the same as those for NeighborWorks clients and the comparison group members, with the exception of the total balance of trades opened in the past 6 months.⁹

Exhibit 3

Means for Variables Used in Propensity-Scoring Model

Variable	Comparison Group	NeighborWorks-Counseled Group	Total
Total open trades	13.4181	13.6778	13.4813
Total trades opened in past 6 months ^a	1.90	2.78	2.12
Total trades ever 60 or more days delinquent in past 24 months	0.8848	0.9060	0.8900
Total balance of trades opened in past 6 months	31,896	17,325	28,335
Ratio of balance to credit amount, trades opened in past 6 months	46.04	45.97	46.02
Florida ^b	0.0461	0.0421	0.0451
California ^b	0.1010	0.0907	0.0985
Income (excluding those of more than \$200,000)	58,309	55,941	57,730
VantageScore	740.5	722.9	736.1
Mortgage amount	133,124	128,880	132,084
Total monthly house payment	900	881	895
Interest rate	7.4182	7.5599	7.4529
Year 2008 loan	0.3131	0.3055	0.3112
Year 2009 loan	0.5231	0.5437	0.5281
FHA loan	0.40	0.42	0.41
Repeat homebuyer	0.14	0.13	0.14

^a This variable differs slightly from the 6-month trades variable in exhibit 2 because of different treatment of authorized user trades.

^b Experian actually used all state designations as part of the propensity scoring. We report here only the two states with largest numbers of delinquencies; additional results are available from the authors.

FHA = Federal Housing Administration. NeighborWorks = NeighborWorks® America.

Logit Model of Performance

Prepurchase counseling can have at least two types of effects on loan performance. The first is a direct effect, helping homebuyers with such matters as overall budgeting, managing their other borrowing on credits cards and elsewhere, and setting aside reserves for emergencies to enable them to make their regular mortgage payments. A second effect is helping homebuyers select a mortgage product that is affordable and otherwise appropriate, including gaining a desirable interest rate on the loan, given their credit rating and downpayment¹⁰ and choosing a home at a price that makes mortgage payments a manageable fraction of income. That second element, product choice, may then affect mortgage performance, in part, because of counseling. Our modeling estimates the first, direct effect.

⁹ Note that the intent of propensity scoring is not to produce exact matches. The dual purposes here are to increase the efficiency of model estimation by increasing overlapping of the treatment and control groups variables and to reduce the impact of missing variables, which may be correlated with the treatment variable.

¹⁰ According to a recent survey of prepurchase counseling clients, 44 percent of clients enter counseling to find the most appropriate mortgage; see Turnham and Jefferson (2012).

We considered modeling the second effect as well and conducted some initial trial runs. Because of three limitations in the Experian data set, we cannot perform satisfactory analyses of counseling's effect on product choice. The first limitation: Experian's data does not include a direct measure of interest rate, the size of the mortgage payment alone (without escrowed taxes and insurance), or loan-to-value (LTV) ratio. The second limitation: by using information on the loan's payment and the imputed interest rate in the propensity-scoring model, Experian eliminated much of the variation in key indirect effects of counseling between counseled and noncounseled homebuyers. Re-doing the control sample was beyond the purview of this study. The third limitation: some people are referred to counseling, sometimes as a condition for financing, precisely because they are seeking certain types of mortgage products or levels of financial commitment, which complicates the assessment of the direction of causation between product choice and counseling.

Therefore, we focus our analyses on one central potential effect of counseling: that providing clients with information about being a homeowner, general budgeting, and financial management skills will result in better loan performance over time, holding other factors constant. The dependent variable is binary and takes the value of 1 if a loan *avoids* becoming 90 or more days delinquent at any point within 24 months of origination, regardless of when the loan was originated. (The data include loans originated in the fourth quarter of 2007, all of 2008, and the first three quarters of 2009.) Measurement is truncated at 2 years, and only loans made at least 2 years before the end of our observation period in the third quarter of 2011 are considered, so that each loan's performance is viewed during the same length of time.

Descriptions of the model's explanatory variables, as listed in the Description column of exhibit 4, follow.

- To identify potentially different effects of counseling for first-time homebuyers compared with repeat buyers, the prepurchase counseling intervention is measured by two explanatory variables. The first, *indicator of borrower receiving counseling*, is a dummy for whether NeighborWorks prepurchase counseling was provided to the borrower before the acquisition of the owner's current home. Its coefficient by itself measures the effect of counseling for first-time buyers. The second intervention variable, *interaction between repeat buyer and counseling*, is the product of dummy variables for counseling and for repeat buyers, and its coefficient potentially amends the estimated effect of counseling found for first-time buyer performance to estimate counseling effects for repeat buyers in particular.¹¹
- The dummy variable for repeat buyers provides for measurement of whether repeat purchasers experience different mortgage outcomes than first-time buyers, aside from any difference in the effect of counseling.
- Income-related measurements of a buyer's ability to meet mortgage obligations, measured at the time of loan origination, include *annual income*; *square of income* (to allow for nonlinearity in income's effect on performance); *ratio of annual mortgage payment to income*, the conventional housing ("front-end") debt-to-income (DTI) ratio, including principal, interest, and taxes and

¹¹ Receiving counseling is a dummy variable with a value of 1 or 0. Being a repeat buyer is also a dummy variable. The product of the two values (1 x 0, 1 x 1, 0 x 1, and 0 x 0) yields 0 three-fourths of the time and 1 in only one-fourth of situations in which the client is a repeat buyer and is being counseled.

Exhibit 4

Variables Used in the Logit Model of Loan Performance

Variable Name	Description
ind	Indicator of borrower receiving counseling
indintractmta0301	Interaction between repeat buyer and counseling
Dti	Ratio of total credit outstanding to income
enhtype19	Indicator of FHA loan
incomecl200k	Annual income (ignoring those of more than \$200,000)
incomeclsq	Square of income
vantageocl	Vantage credit score (500 to 990 is Experian's range for this variable)
yr2008	Loan originated in 2008
yr2009	Loan originated in 2009
UE08	County unemployment rate in Jan 2008
UEch0810	Change in unemployment rate Jan 2008 to Jan 2010
HPI08	Housing price index Jan 2008
HPlch0810	Housing price index change Jan 2008 to Jan 2010
DTI2cl	Ratio of annual mortgage payment to income
mtf_int_rate	Mortgage interest rate computed based on total mortgage payment
ALL6250cl	Dummy for credit ≥ 90 days in 12 months since open
ALL7110	Balance-to-credit amount ratio on 6 months of trades
ALL7357Dcl	Percent of trades ≥ 60 days in past 12 months
ALX0436cl	Total trades open in past 6 months
COL3210	Total external collections with balance > \$250
IQC9416	Total external collections inquiries in past 6 months
IQT9425	Number of credit inquiries in past 3 months
REV3422cl	Total open revolving trades with balance/credit amount ≥ 75 reported in past 6 months
Chargeoff	Whether a chargeoff
ALL9220bkrptcyind	Whether a bankruptcy
EXT_AGE	Age of borrower
mta0301	Dummy for NOT first-time buyer

FHA = Federal Housing Administration.

insurance when paid into escrow; and *ratio of total credit outstanding to income*, a modified form of “back-end” all-debts DTI employed by Experian, using the stock amount of credit rather than the flow of debt repayments as its numerator, which is the more standard method of calculating DTI.

- *Vantage credit score* (ranging 500 to 990) at time of loan origination.
- Ten measures of the homebuyer’s credit history and experience, with time of observation looking backward from the time of loan origination.
 1. A dummy for whether the buyer has been delinquent 90 or more days on one or more credit trades in 12 months since the trades were opened (*dummy for credit ≥ 90 days in 12 months since open*).
 2. Overall balance-to-credit amount ratio on open trades reported in the past 6 months (*balance-to-credit amount ratio on 6 months of trades*).
 3. Percentage of trades 60 days or more delinquent or derogatory in the past 6 months (*percent of trades ≥ 60 in past 12 months*).
 4. Total number of trades open in the past 6 months (*total trades open in past 6 months*).

5. *total external collections with balance > \$250.*
 6. *total external collections inquiries in the past 6 months.*
 7. *number of credit inquiries in past 3 months.*
 8. Total open revolving trades with a balance-to-credit amount ratio at or above 75 percent reported in the past 6 months (*total open revolving trades with balance/credit amount \geq 75 reported in past 6 months*).
 9. Whether the homebuyer has ever had a credit charged off as uncollectible (*whether a chargeoff*).
 10. Whether the homebuyer has ever experienced a bankruptcy (*whether a bankruptcy*).
- Other loan and borrower characteristics: *indicator of FHA loan, mortgage interest rate computed based on total mortgage payment,¹² and age of borrower.*
 - Measures of housing market conditions include MSA (or state for nonmetropolitan-area mortgages) housing price indices (*housing price index Jan 08*) and changes in them during 2 years (*housing price index change Jan 2008 to Jan 2010*), as provided by the Federal Housing Finance Agency.
 - Unemployment measures *county unemployment rate in Jan 2008* and *change in unemployment rate Jan 2008 to Jan 2010* provide a rough proxy for the likelihood that borrowers have lost jobs and income since loan origination.
 - Dummy variables for *loan originated in 2008* and *loan originated in 2009*, respectively, represent changing underwriting standards and economic conditions affecting loan performance, with origins in 2007 being the excluded category.

Note that, in a minority of counseling cases, NeighborWorks' partners may provide additional services to the buyers with whom they work, including lending and broker services. It would be desirable to have variables representing those other services to avoid biasing the effect of counseling alone. NeighborWorks unfortunately did not include that information in the counseling file provided to us for the period under study. A bias may be most likely if NeighborWorks-provided loans were on sharply advantageous terms compared with other loans, sufficient to help prevent serious delinquencies. The data we have for first-time owners in the 2008-to-2009 period suggest limited bias. Only 12 percent of new homeowners received NeighborWorks loans that were forgivable or had deferred payments, and only 15 percent received any loan from NeighborWorks funds. Furthermore, we have a separate control for the ratio of mortgage payment to income, separately accounting for any advantage in mortgage burden a NeighborWorks loan may provide. In addition, we do not know that counseling was tightly correlated with loan assistance.

¹² As indicated in the Methods and Data section, in discussion of product choice, Experian data do not actually include a lender-reported interest rate. Experian computed an "interest rate" based on total mortgage payment, often including property taxes and insurance if they are paid into escrow accounts with lenders/servicers; loan term; and loan amount at origin. Using the total mortgage payment, together with the mortgage amount and term, overestimates the interest rate. Because these extra costs (property taxes and insurance) are included in that payment, the variable inherently overstates the interest rate. We tested whether this variable nonetheless had value in comparing borrowers, including it in the logit analysis even though it often overstates actual rates.

Findings

The findings of our mortgage-performance model analysis are summarized in exhibit 5. The exhibit shows the parameter estimate, odds ratio, and *p*-value for each variable. In interpreting the results, we focus on two factors: the odds ratio and the *p*-value. The odds ratio reflects the effect of a one-unit change of the explanatory variable on the odds of a borrower's not having a loan become 90 or more days delinquent within 24 months of origination. Therefore, a variable that has an odds ratio of greater than 1.0 means that a one-unit change *increases* the odds of having a borrower not become delinquent on his or her loan. Conversely, an odds ratio of less than 1.0 means that a one-unit change to the explanatory variable *decreases* the odds that a borrower will avoid becoming 90 or more days delinquent on his or her mortgage within 24 months of origination.¹³

Exhibit 5

Parameter Estimates of the Logit Model of Loan Performance With Prior-Use-of-Credit Variables

Variable	Parameter Estimate	p-Value	Odds Ratio
Indicator of borrower's receiving NeighborWorks counseling	0.411	0.000	1.51
Interaction between first-time buyer and counseling	-0.021	0.900	0.98
Ratio of total credit outstanding to income	-0.001	0.909	1.00
Indicator of FHA loan	-0.520	0.000	0.59
Annual income (ignoring those of more than \$200,000) (\$000s)	0.010	0.000	1.01
Square of income (\$000s)	0.000	0.001	1.00
Vantage credit score (500 to 990 is the score's range)	0.010	0.000	1.01
Loan originated in 2008	0.436	0.000	1.55
Loan originated in 2009	0.895	0.000	2.45
County unemployment rate in Jan 2008	-0.006	0.749	0.99
Change in unemployment rate Jan 2008 to Jan 2010	-0.001	0.154	1.00
Housing price index Jan 2008	0.001	0.000	1.00
Housing price index change Jan 2008 to Jan 2010	0.027	0.000	1.03
Ratio of annual mortgage payment to income	-0.877	0.000	0.42
Mortgage interest rate computed based on total mortgage payment	0.074	0.000	1.08
Dummy for credit ≥ 90 days in 12 months since open	-0.111	0.038	0.90
Balance-to-credit amount ratio on 6 months of trades	-0.004	0.000	1.00
Percent of trades ≥ 60 days in past 12 months	-0.001	0.439	1.00
Total trades open in past 6 months	-0.026	0.000	0.97
Total external collections with balance > \$250	-0.032	0.045	0.97
Total external collections inquiries in past 6 months	-0.058	0.187	0.94
Number of credit inquiries in past 3 months	-0.124	0.000	0.88
Total open revolving trades with balance/credit amount ≥ 75 reported in past 6 months	-0.010	0.481	0.99
Whether a chargeoff	-0.244	0.000	0.78
Whether a bankruptcy	-0.321	0.000	0.73
Age of borrower	-0.003	0.064	1.00
Dummy for not first time buyer	-0.291	0.000	0.75
Constant	-3.698	0.000	0.02

FHA = Federal Housing Administration. NeighborWorks = NeighborWorks® America.

¹³ Note that odds are not the same as probability; odds are calculated by dividing the probability (*p*) by 1 minus the probability, or *p*/(1-*p*). Therefore, in the case where the probability that an event will occur is 25 percent, the odds are 0.25/(1-0.25) = 0.33. Assume, for example, that the odds that an event will occur are 0.33 without counseling but are 0.25 with counseling. The odds ratio between those events happening without and with counseling is 0.33/0.25 = 1.32.

The second factor we use in interpreting the results is the *p*-value for each variable. In most statistical analyses, the null hypothesis is that a parameter estimate is equal to 0. In this context, the null hypothesis is that an explanatory variable has no effect on loan performance. The standard used in most studies is to reject this hypothesis and conclude that the explanatory variable has an effect on loan performance if the *p*-value is less than .05. Therefore, a parameter estimate with an odds ratio that is greater than 1.0 and a *p*-value of less than .05 can be interpreted as a factor that has a positive effect on loan performance.

The coefficient for the basic NeighborWorks counseling indicator impact on *avoiding* serious delinquency and default is positive and highly statistically significant (the *p*-value is .000, well below the .05 threshold), with a substantial odds ratio of more than 1.5. First-time buyers who obtain counseling achieve significantly better loan performance than do comparable buyers without counseling during the important first 2 years of their loans.

The coefficient of the interaction between counseling and being a repeat buyer is not at all statistically significant.¹⁴ First-time buyers and repeat buyers both receive the same substantial benefit from counseling, measured by the counseling indicator's coefficient and odds ratio.

Note that we attempted to estimate separate models for first-time and repeat buyers, thinking that their performances might be different in reaction to a variety of variables in addition to counseling. The number of repeat buyers, however, at 1/7 of the counseled total, is small enough that, when we did then differentiate between people counseled and those not and then look at the cases in which 90-day delinquencies occur, the number is too small to allow for stable separate modeling. Including the interaction between counseling and repeat buyers in our single model enables us to isolate our key concern about counseling while retaining sufficient sample size to estimate the model effectively.

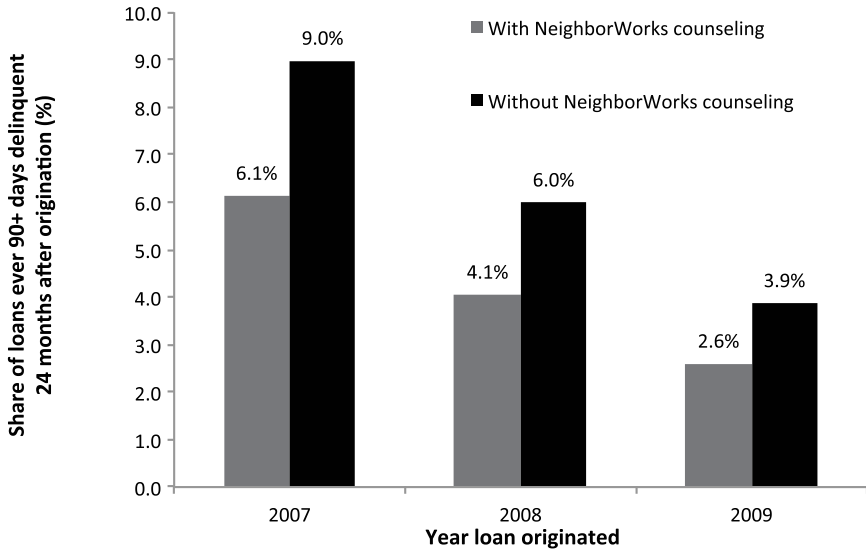
Because it is difficult to interpret odds ratios, we used the model's parameter estimates and population means to translate that metric into the probability of loans becoming 90 or more days delinquent within 24 months of origination with and without NeighborWorks prepurchase counseling. We calculated separate probabilities for loans originated in 2007, 2008, and 2009 for clients who were not first-time homebuyers. The results of those simulations are presented in exhibit 6. The estimates are made with continuous variables at their mean values and dichotomous variables at their mode, as is standard procedure.

We also estimated the share of loans that become 90 or more days delinquent for first-time homebuyers only. Exhibit 7 graphically presents these findings, which are very similar to the estimates for all borrowers in the sample.

¹⁴ As Norton, Wang, and Ai (2004) have pointed out, the interaction's impact in a nonlinear regression structure such as logit is not simply the coefficient of the single interaction term. We computed the proper interaction and significance test using the procedure Norton, Wang, and Ai lay out.

Exhibit 6

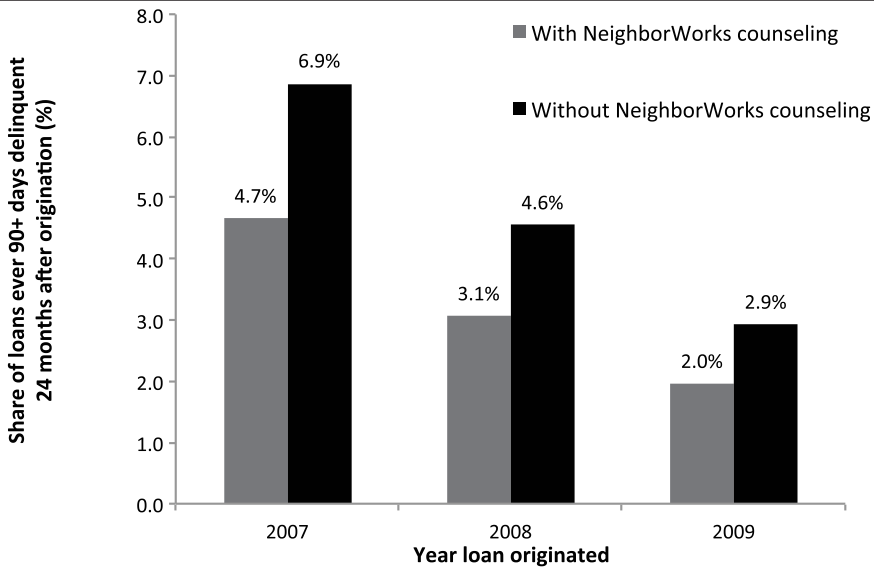
Estimated 90-or-More-Days Delinquency Rates for Repeat Homebuyers With and Without NeighborWorks Prepurchase Counseling



NeighborWorks = NeighborWorks® America.
Source: Authors' analyses of logit model parameter estimates

Exhibit 7

Estimated 90-or-More-Days Delinquency Rates for First-Time Homebuyers With and Without NeighborWorks Prepurchase Counseling



NeighborWorks = NeighborWorks® America.
Source: Authors' analyses of logit model parameter estimates

The estimates of counseling's effects show a one-third reduction in the share of loans for prepurchase clients who are 90 or more days delinquent when compared with borrowers who receive no such services (exhibit 8). The results are highly consistent across years, despite the strong shocks to the mortgage market in this period.¹⁵ Given the results of the logit analysis, the findings are nearly identical for first-time and repeat buyers.

This reduction in the delinquency rate (using an approach that reduces potential selection bias issues) is consistent with studies conducted by Hiran and Zorn (2002) and Agarwal et al. (2009a) that reported declines in delinquency of 34 and 30 percent, respectively. They are also similar in magnitude with the findings of Avila et al. (2013) for first-time homeowners, although not for repeat buyers.

Model parameter estimates other than the counseling variables, as reported in exhibit 5 make sense and have important implications of their own. A lower housing DTI ratio produces significantly lower odds (0.42) of a serious delinquency. Should it be the case that NeighborWorks prepurchase counseling leads homebuyers to take on lower housing payments relative to income, counseling could have an additional substantial effect by way of DTI. Although, as we discuss in the Data and Methods section, various circumstances left us unable to model successfully the effect of counseling on mortgage product choice, including DTI, additional research might be fruitful in pursuing that connection.

Higher credit score has positive and significant link to performance. All 10 of the coefficients of measures of past high level of use and misuse of credit have the expected negative signs for impact on avoiding serious delinquencies and defaults, and 7 of them are statistically significant. These measures seem to well represent the characteristics of homebuyers/mortgage borrowers in terms of their knowledge of, approach to, and ability to manage credit. Past difficulty with credit use is a good predictor of future mortgage performance.

Exhibit 8

Estimated Share of Loans That Are 90 or More Days Delinquent Within 24 Months of Origination With and Without NeighborWorks Prepurchase Counseling

	Year Loan Originated		
	2007 (%)	2008 (%)	2009 (%)
First-time homebuyers			
With NeighborWorks counseling	4.7	3.1	2.0
Without NeighborWorks counseling	6.9	4.6	2.9
Difference	- 2.2	- 1.5	- 1.0
% decline	- 32.2	- 32.7	- 33.1
Repeat borrowers			
With NeighborWorks counseling	6.1	4.1	2.6
Without NeighborWorks counseling	9.0	6.0	3.9
Difference	- 2.8	- 1.9	- 1.3
% decline	- 31.7	- 32.4	- 32.9

NeighborWorks = NeighborWorks® America.

Source: Authors' analyses of logit model parameter estimates

¹⁵ We estimated separate equations for each year, with very little variation in the impact of counseling.

Most importantly for our focus on the effects of NeighborWorks prepurchase counseling, inclusion of these 10 measures of what are, in many studies, the “unobservables” about household ability to handle credit by no means eliminates the separate effect of counseling. It is not the case that the effect of counseling disappears after we control for people’s measured past ability to handle credit. That might have been the case after we introduced the strong measures of credit history, if any perceived effect of counseling is actually the result of selection bias. That bias could occur in the case in which credit-savvy homebuyers are the people who—because of their savvy—both more frequently choose counseling (perhaps to gain access to homebuying financial assistance) and perform better with their mortgages, with counseling itself making no difference while personal approach to credit does. Because this selection bias issue has been so critical in questions about the validity of previous research on counseling effect, we shall return to it in the next section.

Income shows very little effect, even as measured in thousands of dollars. The results suggest that lower-income households can avoid serious mortgage trouble as well as other households can, if they are comparable in terms of past credit behaviors, current DTI ratios, and other factors. People obtaining FHA loans are faring much worse than others, for reasons we have not explored in this study. Performance is substantially better for people with more recent loan origination dates, which may well reflect—by 2008 and 2009—tightened underwriting standards and the sharp reduction in the payment-option adjustable-rate mortgage (ARM) and other types of loans that have proved hazardous to buyers. We were surprised to find that repeat buyers generally were more likely to suffer serious delinquencies than were first-time buyers, even while that distinction had no effect on the impact of counseling. We were also surprised to find that buyers with higher interest rates are more likely to avoid delinquency. Perhaps the imprecision in measuring that variable by imputation from total escrow payments has an effect on that variable, but we do not know for certain.

Our available measures of housing market conditions show statistically significant but limited-scale impacts, with worse housing price declines pulling down mortgage performance at least modestly. The unemployment variables, available only at county level when we would ideally have household-level measures, show no significant effect. Finally, the large odds ratios for the dummy variables indicating whether a loan was originated in 2008 or 2009 may reflect improved underwriting standards used by lenders after the financial crisis started in 2007.

Analysts think that issues related to selection bias have until now made it difficult to reach any conclusions about counseling’s effect. To illustrate this problem, Collins and O’Rourke (2011) posit that counseling clients are of two potential types: (1) those with a high financial capability with a high degree of future motivation and so have a strong credit profile and (2) people with low financial capability who are present-oriented and so have a weak credit profile. In previous studies, measures of financial capability generally have not been available, so that these unobserved financial-management skills may link entrance to counseling and good mortgage performance and may bias estimates of counseling’s own effects. If people with high financial capability consistently choose to enter counseling compared with others, analysis may overstate counseling’s effect; and if people with low financial capability recognize that and systematically seek out counseling, analysis may understate counseling’s effect.

The inclusion in this study of 10 credit management indicators, however, should capture the degree of a client’s financial capability, orientation toward future economic well-being, and related

elements and thus should minimize the bias. The methods used provide for this reduced bias both through inclusion of credit measures in the logit analysis and their earlier inclusion, for some identical and some similar variables, in the propensity scoring. The logit analysis—with its inclusion of an array of measures that actualize concepts of financial knowledge, savvy, judgment, and discipline—shows strong evidence that NeighborWorks prepurchase counseling has an independent effect on mortgage performance. If entrance to counseling were acting only as a proxy for characteristics that both drew people to counseling and helped them avoid mortgage trouble, our inclusion of Experian credit data variables as extensive controls should have wholly or largely eliminated counseling's estimated effects. In fact, they remain very substantial.

We undertook a further test for selection bias. If counseled buyers are in fact self-selecting to be counseled because they are also more adept in handling credit, then eliminating all the credit history and performance variables from the basic model should *increase* the apparent estimated impact of the retained counseling indicator variables. We tested this possibility by rerunning the performance model, dropping all 10 of the credit variables. The results are in exhibit 9.

Exhibit 9

Parameter Estimates of Logit Model of Loan Performance Without Prior-Use-of-Credit Variables

Variable	Parameter Estimate	p-Value	Odds Ratio
Indicator of borrower's receiving NeighborWorks counseling	0.376	0.000	1.46
Interaction between first-time buyer and counseling	- 0.121	0.420	0.89
Ratio of total credit outstanding to income	- 0.014	0.151	0.99
Indicator of FHA loan	- 0.570	0.000	0.57
Annual income (ignoring those of more than \$200,000)	0.000	0.000	1.00
Square of income	0.000	0.001	1.00
Vantage credit score (500 to 990 is the score's range)	0.012	0.000	1.01
Loan originated in 2008	0.491	0.000	1.63
Loan originated in 2009	0.921	0.000	2.51
County unemployment rate in Jan 2008	- 0.024	0.146	0.98
Change in unemployment rate Jan 2008 to Jan 2010	- 0.002	0.020	1.00
Housing price index Jan 2008	0.001	0.000	1.00
Housing price index change Jan 2008 to Jan 2010	0.024	0.000	1.02
Ratio of annual mortgage payment to income	- 0.914	0.000	0.40
Mortgage interest rate computed based on total mortgage payment	0.060	0.000	1.06
Age of borrower	- 0.005	0.000	1.00
Dummy for repeat buyer	- 0.362	0.000	0.70
Constant	- 5.626	0.000	0.00
Total trades open in past 6 months	- 0.026	0.000	0.97
Total external collections with balance > \$250	- 0.032	0.045	0.97
Total external collections inquiries in past 6 months	- 0.058	0.187	0.94
Number of credit inquiries in past 3 months	- 0.124	0.000	0.88
Total open revolving trades with balance/credit amount ≥ 75 reported in past 6 months	- 0.010	0.481	0.99
Whether a chargeoff	- 0.244	0.000	0.78
Whether a bankruptcy	- 0.321	0.000	0.73
Age of borrower	- 0.003	0.064	1.00
Dummy for not first time buyer	- 0.291	0.000	0.75
Constant	- 3.698	0.000	0.02

FHA = Federal Housing Administration. NeighborWorks = NeighborWorks® America.

Our findings are just the opposite of those suggested by the notion of strong positive selection bias. The coefficient of our counseling indicator *declines* modestly in the revised model relative to that in our basic analysis. The odds ratio goes from 1.51 to 1.46 for the basic first-time buyer indicator. The coefficient for interaction for repeat buyers remains not significant. Both first-time buyers and repeat buyers are perceived to benefit less, not more, when the credit characteristics are not used in the model. Letting people's self-selection biases go uncontrolled in the model does not create a false increase in the perceived effect of counseling at all.¹⁶

It is further instructive regarding selection bias to look back at some of the specifics of the set of 10 credit-history-and-performance variables we have included in our analysis. Suppose we had only one measure: whether a buyer underwent bankruptcy in the past. Then—if we were hunting for selection bias—we might suspect that such a buyer could be chastened about credit use and also perceive a need for counseling; for example, to escape the stigma of bankruptcy that lenders would use to decline financing. This newly careful borrower might be more likely to go to counseling and to perform well on his or her mortgage—creating a version of selection bias in which counseling seemed to correlate with good performance but was not necessarily the cause of improved performance.

Our analysis shows that the buyers with bad credit history perform worse on their new home mortgage, not better. Furthermore, this chastened borrower's changed behavior should be showing up in, and controlled for by, our host of other measures of recent credit management behavior besides bankruptcy. Alternatively, suppose we assume that our buyer with a past bankruptcy was singularly stubborn both about taking bad risk-management behaviors and refusing to go to counseling, leading to a false conclusion that lack of counseling produced poor mortgage performance. It might be argued that we do not have a measure of this "stubbornness" trait that might connect bad performance and nonreceipt of counseling, at least within the bankruptcy indicator itself. We do have, however, controls for this persistent behavior/attitude among our 10-variable (plus credit score) package. Although the bankruptcy indicator measures whether one ever occurred for this buyer, we have numerous other credit-performance measures that control for behavior in the past 3, 6, 12, and 24 months. The bad-credit recidivist will be very much identified and his characteristics controlled.

Our research data do have some weaknesses that may produce other selection or missing variables bias. We lack a precise measure of interest rates and any measure of LTV ratio, we do not know the payment period or downpayment terms, and we lack individual client data on noncounseling

¹⁶ A common method for dealing with selection bias in measuring interventions' impacts more broadly is to use instrumental variables that predict whether a person seeks treatment but that do not influence the outcome of interest. In a recent analysis of foreclosure-prevention counseling (Collins and Schmeiser, 2010), the authors measured an organization's outreach advertising in Chicago as an instrumental variable that predicts entry into counseling but does not affect outcomes for clients who receive counseling, to good effect in their work. The results of this analysis suggest that the factors influencing selection into counseling affect outcomes negatively. A similar instrumental variable approach unfortunately does not work here. We are analyzing counseling across many different cities, and we do not know when particular NeighborWorks organizations made outreach efforts that would influence selection into counseling nor that any such outreach for prepurchase counseling would have a sufficiently substantial effect to serve as an effective instrument. Moreover, we do not have an alternative instrumental variable available that would be correlated with the decision to enter counseling but not to the mortgage outcomes that concern us. We believe that our ability to directly operationalize and measure financial capability by looking at past credit behavior and performance provides a powerful and certain tool for handling selection bias in this kind of intervention.

assistance received from NeighborWorks. Any of these variables might be correlated with entrance into counseling, particularly because some NeighborWorks members do counsel buyers on loan selection and, thus, bias positively or negatively the computed effect of counseling.

Conclusion

Our analysis demonstrates clearly that NeighborWorks network's prepurchase counseling and education have a substantial effect on the performance of mortgages for home purchase. Counseling produces a consistent one-third reduction in serious delinquency during the 2 years following origination. The effect is the same for both first-time buyers and previous homeowners.

Although we do not have the ability to detail exactly what counseling and education information and advice were key to the reduced delinquency, it is reasonable to assume—based on counseling topics—that counselors helped homebuyers avoid such pitfalls as taking on too much debt relative to income, being surprised by interest rates rising over time on nonfixed rate mortgages, and failing to understand and make provision for the true full costs of mortgage loans and homeownership. NeighborWorks counseling's mix of assistance to homeowners no doubt included the avoidance of deceptive mortgage practices that were so widespread in the period preceding our analysis of mortgage performance.

The finding is consistent with evidence from other research on the same topic. It breaks crucial new ground in dealing directly with the possibility that bias was being introduced into those estimates by the role of unobservable financial capabilities of borrowers. We were able to employ strong operational measurements of previous “unobservables” to control for homebuyers' capacity to handle credit. We find that NeighborWorks prepurchase counseling retains—indeed increases—its substantial independent effect when such measures are included in the analysis.

Our data, and thus our models, also leave out some important variables, including important loan terms such as LTV ratio. It would be highly desirable to develop data that include both the financial variables we had access to and the stronger loan characteristics that some other researchers have been able to assemble.

Our work also breaks important ground in examining counseling taking place throughout the United States by a large number of separate nonprofit organizations, rather than in a single place or organization. At the same time, that the NeighborWorks' network has common counseling standards provides for some consistency in the counseling services provided. Further work on the role of the nature of the counseling could well be a fruitful future direction for research.

It is possible that NeighborWorks prepurchase counseling's effect is still larger than we have estimated. Two directions deserve additional attention. First, our data constrained us to focus on counseling's impacts on serious delinquency during only the first 2 years of mortgage lives. NeighborWorks does not have satisfactorily precise homebuyer-level data for counseling activity before 2007, and we looked at originations for the 2007-to-2009 period to obtain an adequate sample size. Experian data available at the time for the research ran only to later 2011 so that only 2 years

of data could be consistently provided. To the extent that counseling reduces delinquencies during longer periods of observed loan performance, it may be worthwhile to measure counseling's effect for more than 24 months.

Another issue of timing and the size of NeighborWorks counseling's effect is the nature of the mortgage market in the particular years under study. In reaction to the mortgage crisis, lenders largely stopped making subprime loans and specific types of exotic mortgages during the period. Counseling may have been more important in protecting counseled households from default in periods in which mortgage products, underwriting, and other lending market conditions were less constrained by recent events.

In addition, the issue of counseling's effect on product choice and then of product choice's effect on mortgage performance deserves further investigation. We have seen in our modeling that at least the ratio of housing payment to income has a major effect on mortgage performance. Interest rates properly measured may have such an effect as well. If, at least at certain times in the mortgage market, counseling substantially affects people's choice in size and cost of mortgage in relation to their incomes and also the choice of riskiness of the product to the consumer (for example, payment-option ARMs), then counseling may affect mortgage performance additionally through mortgage choice. Additional thinking about how to structure modeling and obtain data to examine the product-choice issue could well be worthwhile in assessing prepurchase counseling's total effects.

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Kenneth Temkin was Principal at Temkin Associates. Sadly, Ken died suddenly while the authors were finishing this article. His great head and heart both will be missed.

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Commentary: How Housing Counseling, Financial Education, and Consumer Guardrails Can Support Responsible Borrowers

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The views expressed in this commentary are those of the author and do not necessarily represent the official positions or policies of the U.S. Department of Housing and Urban Development or the U.S. government.

The symposium in this issue of *Cityscape* shares timely research to inform housing policy and homeownership programs. Policymakers are concerned with the dilemma posed by historically low homeownership rates, on the one hand, and a fear of encouraging irresponsible borrowing and lending on the other. Two of the symposium articles shed light on consumer behavior toward mortgages and consumer credit, providing important insights as public and private policymakers look for new opportunities to help families build assets and modulate spending through the responsible use of credit.

Understanding and influencing consumer behavior around credit is extremely important (Durkin et al., 2014). The runup to the mortgage crisis featured excessive and inappropriate consumer debt; misunderstanding, misinformation, and fraud in credit transactions; and extensive miscalculation of the costs and benefits of debt. The overextension of credit and the ensuing defaults have consequences that are still felt by families, the financial industry, the global economy, and taxpayers.¹

The improvement to the economy since the Great Recession officially ended in June 2009 is undeniable; however, the effects of the economic downturn are still with us. Since 2009, families have lost 6.2 million homes to foreclosure, and another 6.6 million families have received mortgage modifications in which a single missed payment could result in foreclosure. Indeed, more than 1,000 homes are still foreclosed on *every day*. Families affected by unemployment during the

¹ Families: See <http://researchmatters.blogs.census.gov/2015/05/01/housing-crisis-and-family-well-being-examining-the-effects-of-foreclosure-on-families/>.

Financial industry: See <https://www.imf.org/external/pubs/ft/gfstr/2008/01/pdf/text.pdf>.

Global economy: See <http://www.economywatch.com/us-subprime/effects-banking-sector.html>.

Taxpayers: See <http://www.propublica.org/article/the-bailout-by-the-actual-numbers>.

recession were often reemployed at significantly lower wages.² The monthly cost of many loan modifications is likely to rise because standard modifications are indexed to interest rates.³ RealtyTrac recently estimated that about 3.3 million home equity credit lines totaling \$158 billion and originated between 2005 and 2008 were still open and were scheduled to reset or begin amortizing between 2015 and 2018. For those loans, the average increase in monthly payments is estimated to range from \$138 for loans resetting in 2016 to \$161 for those resetting in 2018 (RealtyTrac, 2015).

Mortgage debt is not the only challenge that consumers face. Both student loan debt and credit card debt are at record levels. In the nation, more than \$700 billion in total credit card debt is outstanding, meaning the average household carrying a credit card balance owes about \$15,800 (El Issa, 2015). In 2013, nearly 70 percent of graduating college seniors carried student loans, with the average borrower owing more than \$28,000 (Maloney, 2015). The ability of these households to live within their means and pay down their debt will determine whether they can afford suitable housing, rebuild their savings, and choose to access the myriad benefits of responsible and affordable homeownership.⁴

Congress has put in guardrails to protect consumers from excessive or inappropriate debt, including Dodd-Frank⁵ reforms relating to the ability to pay, Qualified Mortgage rules for mortgage originations, and various credit protections such as the Credit Repair Organizations Act⁶ and the Unfair and Deceptive Practices Act.⁷ Caveat emptor, however, remains (and should remain) a fundamental principle of our economy, and no law ensures that a consumer receives the best-priced mortgage for his or her situation, or that he or she receives the most appropriate loan modification or most affordable path to resolve unpaid credit card debt. The consumer has a responsibility to shop around and become educated on the responsibilities of borrowing, and lenders should be rewarded for efficient business models and successful market innovations. For reasons explored in the following paragraphs, however, consumers encounter significant headwinds on their way to gaining unbiased information for optimal decisionmaking.

² For more information, see <http://www.corelogic.com/about-us/news/corelogic-reports-37,000-completed-foreclosures-in-april-2016.aspx>, http://www.hopenow.com/industry-data/HopeNow.FullReport.Updated_April2016.pdf, and Daly and Hobijn (2015).

³ More than 500,000 Home Affordable Modification Program modifications, for example, had an interest rate reset in 2015. See <http://www.dsnews.com/news/01-26-2015/can-hamp-borrowers-absorb-higher-payments-mods-reset>. According to Black Knight Financial Services, Inc., the number of modifications facing a future interest rate reset is 2 million (Dayen, 2014).

⁴ Homeownership also bestows a host of nonfinancial benefits on individuals and families. Research suggests that children who grow up in homeownership households perform better academically, are more likely to graduate from high school, and are less likely to become teen parents (Dietz and Haurin, 2003). In addition, studies have shown homeowners to be happier (Dietz and Haurin, 2003) and to have higher levels of satisfaction (McCarthy, Van Zandt, and Rohe, 2001) than similarly situated renters. It is not known exactly why homeowners are happier or more satisfied, but some potential reasons include greater feelings of control, the more desirable locations of owner-occupied properties, longer tenure, and the relatively limited tenants' rights in the United States.

The advantages of homeownership extend beyond the direct benefits to homeowners. Neighborhoods with high homeownership rates tend to have higher property values (Rohe and Stewart, 1996) and, as a consequence, higher levels of tax revenues. These resources can then be used to support community assets, such as schools, parks and recreational facilities, and public safety programs, that benefit all residents. The evidence also suggests that homeownership increases civic engagement, because homeowners are more likely to vote and volunteer in civic and philanthropic activities (McCarthy, Van Zandt, and Rohe, 2001).

⁵ The Dodd-Frank Wall Street Reform and Consumer Protection Act. Pub. L. 111–203 (July 21, 2010).

⁶ 15 U.S.C. § 1679.

⁷ 15 U.S.C. § 45.

Two of the symposium articles in this issue of *Cityscape* document benefits of consumer protections or programmatic interventions in credit transactions and point the way for policies and programs that address the availability of consumer and mortgage credit, balance information asymmetries, and reduce risk for the family, the creditor, and neighborhoods and for city, regional, and national economies.

The article by Leslie Parrish is a deep dive into a market for “debt-settlement programs,” a type of default resolution of outstanding credit card balances (Parrish, 2016). Debt settlement is offered by for-profit providers, unlike self-help direct negotiation with the creditor or nonprofit debt-management programs. Borrowers appoint the providers to settle debts with creditors on their behalf, through power of attorney and the payment of fees. The article analyzes 56,000 debtors’ agreements to determine whether debt settlement improved or worsened borrowers’ financial situation compared with common alternatives (negotiating directly with the creditor, entering a debt management plan, or filing for bankruptcy). Parrish finds that even after the Federal Trade Commission (FTC) implemented regulations designed to reduce abuses, consumers still received a negative outcome from selecting this mode of dealing with consumer debt.

This finding is all the more unfortunate when reliable (and more highly regulated) nonprofit options exist, such as U.S. Department of Housing and Urban Development (HUD)-approved housing counseling agencies and nonprofit credit counseling agencies. The Consumer Financial Protection Bureau (CFPB) provides a good comparison between credit counseling services and debt-settlement services.⁸ Of course, their comparison chart not only points out the confusing nuances of a complex industry but also provides a guide to consumer vulnerabilities. The Parrish study describes an industry that profits by obscuring information and instead tells desperate people what they want to hear: that their problems will be solved without effort or cost. The fact that the “solution” is rarely effective is neither advertised nor discovered by consumers whose first wish, according to Parrish, is to stop the collection calls.

Neil S. Mayer and Kenneth Temkin’s article explores a different type of intervention into the credit market—voluntary, nonprofit prepurchase housing counseling (Mayer and Temkin, 2016). Housing counseling agencies are nonprofit or government entities that provide independent, expert, and individualized assistance to help people achieve their housing goals and address barriers such as savings, credit, discrimination, or scams. Their research confirms that borrowers working with a nonprofit, HUD-approved housing counseling agency affiliated with NeighborWorks® America have better outcomes, including better loan performance and fewer defaults and foreclosures, than do similar borrowers who are not counseled.

What are some of the reasons that housing counseling is effective? First and foremost, these agencies educate consumers on the rights and responsibilities of homeownership and are forbidden by HUD regulations from steering consumers into a particular product or decision or from profiting personally from the consumer. Housing counselors view the consumer’s decision to remain a renter as a win if that is appropriate for the family’s situation. Housing counselors teach families to create a sustainable budget; to assess housing affordability within the confines of the household budget;

⁸ See <http://www.consumerfinance.gov/askcfpb/1449/whats-difference-between-credit-counselor-and-debt-settlement-company.html>.

to address existing credit issues and understand how to manage credit; to shop for a home and a mortgage; to avoid fraud and discrimination; to understand the role of various housing professionals and how they are compensated; and to plan for emergency repairs and ongoing maintenance, insurance, and tax expenses. Default prevention and referrals to state and local resources are a critical part of HUD standards governing prepurchase education and counseling.

Mayer and Temkin find that “NeighborWorks® America’s prepurchase counseling works” (Mayer and Temkin, 2016: 73). Counseled clients (both first-time homebuyers and repeat homebuyers) are one-third less likely to experience a 90-day delinquency within 24 months of loan origination compared with similar borrowers who were not counseled. This finding was consistent whether the loans were originated at the height of the mortgage boom in 2007 or at the height of constricted lending in the postcrash year of 2009. Income and past credit behaviors did not have the same impact as housing counseling on loan performance.

Both studies have impressively large data sets and explain their methodologies clearly. Each also has methodological shortcomings. Parrish’s study uses a data set developed by a forensic accountant hired by an industry trade association to compare 56,000 consumers enrolled in debt settlement plans after an FTC regulatory change occurred. She compares actual results to predictive results based on a model of debt-settlement plan economics, and from that she assesses whether the decision to engage in debt settlement improved or worsened the borrowers’ financial situations. Her assumptions are critical to the validity of her conclusions, and it is unclear whether other researchers can access the data set to replicate her results. She mitigates these concerns with what appear to be very conservative assumptions. Mayer and Temkin’s study, with more than 75,000 clients, uses propensity scoring to correct for possible selection bias in the results, but it is not a true randomized experiment.⁹

We should not overstate these methodology questions; each study contains important insights into consumer behavior, and both should be used to inform policy decisions. Parrish’s analysis of the business model of debt settlement points to many areas in which the consumer cannot have sufficient information to determine whether the advertised claims are valid nor ascertain the actual costs and risk of the program. Even if selection bias explains all the impressive results of housing counseling, it would still validate investment in greater access to and visibility for housing counseling to attract consumers who are unaware of the availability of this network but who would benefit if given the opportunity to self-select into a housing counseling program.

The authors point to many policy implications of their work. I note the following takeaways.

- 1. Whom to trust?** Consumers need to trust service providers who have a duty to put their interests first, and they need to avoid misplaced trust. Legitimate and highly regulated nonprofit providers lack access to the marketing, advertising, and creative resources that attract the attention of consumers by contrast with debt-settlement providers who not only have advertising budgets but who also make claims that appear to push the envelope

⁹ HUD is undertaking a true randomized, experimental demonstration of the long-term impact of prepurchase housing counseling and education on household outcomes. See DeMarco et al. (2016).

of FTC regulatory guidelines. One debt-settlement provider actually cautions consumers against reliance on what are described as misleading claims of an industry trade association that encourages members to display logos on their website: “Most consumers are under the impression that TASC (The Association for Settlement Companies) is some sort of regulatory organization, which it is not.”¹⁰ Government can perform an important service by promoting the use of regulated entities and by providing easy-to-access educational materials for consumers to help identify scams, red flags, and positive alternatives.

- 2. Evidence matters.** Research results should be disseminated widely, not only through professional publications like *Cityscape* but also through social media and news outlets. Consumers can access simple tips through .gov websites, but these sites may not link easily to research that shows, for example, the effectiveness of HUD-approved housing counseling¹¹ or the relative ineffectiveness of debt-settlement agreements. Consumers need easy access to reliable information at the point in time when they are making decisions about credit products and services.
- 3. Invest in the consumer guardrails.** The cost of public awareness campaigns and the cost of oversight by FTC, CFPB, and HUD are small compared with the cost to families, the economy, and society of a single foreclosure (\$34,000; Apgar, Duda, and Gorey, 2005), failing to shop for the best-priced loan (\$3,500; CFPB, 2015), or choosing an expensive and risky solution to resolve consumer credit balances (\$9,107; Parrish, 2016). Increases in direct federal spending are unlikely, but policies to enforce responsible private payment, as Parrish suggests, are promising. Some lenders are unwilling to incorporate housing counseling into their services, perceiving it both as a competitive disadvantage (creating additional time and cost) and a barrier to a closing (for those originators whose business model depends on consumers’ avoiding shopping for the best-priced mortgage or most-affordable home for their needs). All lenders, however, benefit from informed consumers who are prepared for the costs and responsibilities of homeownership. As the Bipartisan Policy Center’s Housing Commission noted in 2013,

The Commission believes that housing counseling can improve borrowers’ access to affordable, prudent mortgage loans, especially for families who might otherwise not qualify or who experience other barriers to mainstream lending. There is a wide public benefit from investment in housing education and counseling programs....

Thanks to the infrastructure created by HUD, the counseling field will be able to maintain its depth and capacity. The HUD Housing Counseling Assistance Program is an excellent example of an effective and highly functional public-private partnership that should be thought of as a credit enhancer and important entry point for underserved communities to achieve homeownership. (BPC Housing Commission, 2013: 33, 35)

Caveat emptor exacts a high price in the consumer debt arena. A single mistake, such as an unaffordable mortgage product or attempting to resolve overextended credit lines, can have enormous consequences for borrower households on housing, education, employment, and health outcomes

¹⁰ See <http://damonday.com/270/the-association-of-settlement-companies-tasc-an-introduction/>.

¹¹ See Myhre and Watson (2016).

for parents and children in addition to the direct consequences on assets, savings, disposable income, and credit scoring. Evidence-based policy can correct market information asymmetries while still protecting consumer choice and creativity in mortgage and consumer credit products.

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Housing Decisions Among Low-Income Hispanic Households in Chicago

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Abstract

Scholars have begun to study housing search processes to better understand how they are shaped by and affect racial and class residential sorting and segregation. Existing research has focused on subsidized renters and on Black and White populations. This article fills a gap in the literature by using qualitative interviews with 23 low-income Hispanic immigrant and nonimmigrant mothers living in Chicago without government housing assistance. We explore interview respondents' reasons for moving, their sources of housing information, and the primary factors they considered in choosing their housing. We find that—in the context of financial constraints, unplanned moves, limited transportation, and immigrant or undocumented status—social networks were most determinative of the housing search strategies that our respondents used. The reliance on social networks in turn led to short-distance moves that did not alter patterns of racial and class segregation in Chicago or increase respondents' access to more advantaged neighborhoods in the city and beyond.

Introduction

Racial and income segregation, which characterizes the residential geography of many U.S. cities, largely stems from historical and enduring practices of discrimination (Bobo and Zubrinsky, 1996; Massey and Denton, 1993; Rugh and Massey, 2014). Scholars recognize that individual-level mobility decisions both are shaped by the realities of segregation and have the cumulative effect of

maintaining segregated neighborhoods. Hence, researchers are increasingly turning their attention to individuals' housing search processes to better understand the factors underlying neighborhood sorting in the 21st century (Krysan and Bader, 2009; Rosenblatt and DeLuca, 2012). Residential segregation by race and class is important because of the documented negative effects that living in high-poverty and predominately minority areas can have on individual outcomes (Osypuk et al., 2009; Sharkey, 2013; Wilson, 1996).

Federal housing policy has attempted to mitigate inequalities in residential opportunities by passing fair housing legislation. The 2015 Affirmatively Furthering Fair Housing Final Rule reiterates that, in matters of housing and urban development, the federal government is bound by “not only a mandate to refrain from discrimination but a mandate to take the type of actions that undo historic patterns of segregation and other types of discrimination and afford access to opportunity that has long been denied” (HUD, 2015a: 42274). One primary method of promoting access to neighborhoods of high opportunity has been with housing subsidy programs, but these programs serve only a minority of the low-income population; thus, studies of these programs are insufficient for understanding the moving behaviors of most people who do not receive housing assistance.

In addition, housing research has largely overlooked the Hispanic population.¹ Housing problems—from affordability to crowding and poor housing quality—disproportionately affect Black² and Hispanic households (Eggers and Moumen, 2013; McConnell, 2008).³ Possibly because of eligibility restrictions for immigrants or limited outreach and cultural competency, however, Hispanic households are underrepresented in many housing assistance programs.⁴ For example, the Housing Choice Voucher (HCV) program serves approximately 34 percent of income-eligible Black renter households with children but only 6 percent of similar Hispanic households and 10 percent of similar White households (Acevedo-Garcia, 2014). Thus, paradoxically—considering the demographic reality that the Hispanic population is the largest minority group—housing research often centers on issues that pertain to the Black and White populations.

This article addresses the research gap by drawing on 23 qualitative interviews with low-income Hispanic mothers without housing assistance in Chicago. Given the thin existing literature on

¹ Although most Hispanic/Latino people do not have a preference for one pan-ethnic label over another, *Hispanic* is preferred by those individuals who do express a preference (Taylor et al., 2012); thus, we use *Hispanic* throughout this article for consistency.

² Similar to the ambivalence shown toward the labels *Hispanic* and *Latino*, most people of African descent show no preference for *Black* or *African-American* (Jones, 2013). *Black*, however, is a more encompassing term than *African-American* and is preferred by Black immigrants, and thus we use *Black* throughout this article for consistency (Smith, 2014).

³ Among very low-income, unassisted renters—the category that most closely reflects our sample in this article—83, 87, and 88 percent of White, Black, and Hispanic renter households, respectively, experience severe or moderate housing problems (authors' calculations of data in table A-9, HUD, 2015b).

⁴ Among renter households with incomes below 30 percent of Area Median Income (AMI), Hispanic households are underrepresented in the HCV program and the project-based Section 8 program but are slightly overrepresented in public housing (see National Low Income Housing Coalition, 2012). Figures from the U.S. Department of Housing and Urban Development's 2015 *Worst Case Housing Needs* report (HUD, 2015b), however, show that, among renter households earning less than 50 percent of AMI, Hispanic households were nearly equally as likely as White households to be “assisted” in 2013 (20.5 percent for Hispanic households compared with 20.9 percent for White households), but that statistic did not break down this label by program. Black households are overrepresented among assisted renters in both reports.

Hispanic households, we did not aim to test explicit hypotheses. Instead, we set out to explore a wide range of topics with Hispanic mothers by using open-ended questions (see the interview guide in appendix B) and to build our findings inductively from their narratives. We designed the interview guide with the following research questions in mind: How and from whom do low-income Hispanic mothers learn about neighborhoods as possible moving destinations? What factors are most consequential in determining where they move? How do such moves fit into the larger geography of opportunity?

Hence, we contribute to the small but growing body of knowledge regarding the factors and mechanisms influencing the housing decisions of low-income urban residents. Understanding why people move, how they search, and where they end up is important for explaining observed spatial patterns of segregation by race/ethnicity and class. It also puts the issue of residential segregation in the context of more immediate housing considerations for households, such as affordability, transportation, and unit size. In other words, unlike the salient role that neighborhood racial composition (or assumed proxies for it—see Ellen, 2000) plays in the housing decisions of White households (Charles, 2009; Krysan and Bader, 2007), residential mobility for racial/ethnic minority and low-income households is not primarily prompted by or directed toward achieving some racially ideal neighborhood. Nonetheless, the microdecisions of those households can contribute to the reproduction (or disruption) of segregated housing patterns.

Our research highlights several important characteristics of the moves and decisions of (mostly immigrant) Hispanic households in Chicago. First, affordability was the most important concern for interview respondents, but affordability does not go very far in explaining why people do not disperse across the full array of lower-cost neighborhoods in a metropolis; hence, we must look to other factors to explain where people move. Second, because of financial insecurity, moves were more sudden and unpredicted than deliberated and planned; thus, they required households to make relatively quick decisions about neighborhoods and housing units (see also DeLuca, Wood, and Rosenblatt, 2012). Third, the Hispanic mothers we interviewed were closely tied to their social networks, and those ties pushed people to move and shaped how and where households searched for housing. In the context of immigrant status and limited transportation options, the strategies and the geographic scope of the housing search were primarily informed by social network members and by the desire to maintain connections to kin and friends. The reliance on social networks seems to reinforce segregated residential patterns. Fourth, and finally, all these factors—quick moves, affordability pressures, transportation challenges, immigrant status, and influential social networks—lead to short-distance moves that contribute to maintaining racial and class segregation. We show that, in a self-reinforcing pattern, social networks contained in separate neighborhoods within a segregated metropolitan geography define the parameters of the housing search (Galster and Killen, 1995), which, in turn, reproduces segregation and maintains the geographic insularity of people's ties.

To elaborate this argument, the article proceeds as follows. The first section reviews the literature on residential mobility and housing decisions of low-income and minority households. In the second and third sections, we discuss the data and methods used for our study and place the study participants within the racial and class geography of Chicago. The fourth section presents the results and identifies why respondents moved, how they obtained information during their housing

search, and how they chose their current neighborhood and housing unit. The importance of social networks is apparent in each of these steps in the process, and the result is relatively local moves that do not alter the racial or class geography of Chicago. Finally, we discuss the implications of the findings for housing inequality and housing policy and consider directions for future research.

Poverty, Race/Ethnicity, and Residential Mobility

In the United States, the federal government's involvement in providing housing for the lowest-income Americans dates back to the inception of the public housing program with the United States Housing Act of 1937.⁵ Later, research documenting the negative effects of living in deteriorating and disinvested public housing developments influenced, in part, the shift of federal housing programs toward racial and poverty deconcentration by the 1980s and 1990s (Basolo and Nguyen, 2005; Briggs, 1998; Oakley and Burchfield, 2009). The goal of dispersal programs was to expand the geography of opportunity by enabling housing choice and, in some cases, even assisting in the relocation of public housing residents to wealthier or more racially integrated neighborhoods. Such neighborhoods were thought to have better living environments, with access to resources such as good jobs, better schools, and higher-income residents that could serve as leveraging social networks (Briggs, 1998; Galster and Killen, 1995).

Many studies of poor and minority urban residents' housing choices have therefore relied on samples of recipients of government housing assistance, such as the HCV program, which enables households to pay roughly 30 percent of their income toward rent, and the voucher covers the rest. Assisted renters, however, differ in significant ways from the general population of unassisted renters. For example, as mentioned previously, Black households are overrepresented and Hispanic households are underrepresented among assisted renters. In addition, Phinney (2013) found that receipt of housing assistance increases housing stability, tenure, and satisfaction with one's rental housing arrangement (also see Skobba, Bruin, and Yust, 2013; Wood, Turnham, and Mills, 2008).

Housing mobility programs vary in the degree to which they ensure that recipients successfully relocate to—and *remain in*—better neighborhoods. For example, in the Moving to Opportunity program, many participants expressed desires to remain in the low-poverty neighborhoods to which they made their first move, but many were forced to move again because of circumstances such as rent increases, high utility costs, conflicts with landlords, and housing-related factors such as structural damage and rodent infestations, which made the unit ineligible to receive government voucher payments. Moreover, a shortage of affordable rental housing and of landlords who would accept vouchers resulted in their relocation to predominantly minority or downward transitioning neighborhoods (Basolo and Nguyen, 2005; Briggs, Comey, and Weismann, 2010; Briggs, Popkin, and Goering, 2010; Briggs and Turner, 2006; Clampet-Lundquist, 2003; Rosenblatt and DeLuca, 2012).

For assisted movers, social networks and the support they provided proved to be central in decisions about whether and where to move during initial and secondary moves (Boyd, 2008; Kleit and Galvez, 2011). For example, a valuable resource provided by supportive ties was informal or

⁵ P.L. 75-412, 50 Stat. 888.

off-the-books childcare, which was essential for low-income women who were either unable to afford traditional childcare or worked unconventional hours (Boyd, 2008; Curley, 2009; Dominguez and Watkins, 2003). Evidence also shows that some voucher households moved to escape negative or “draining” ties (Boyd, 2008; Curley, 2009; Kleit, 2010). Emerging research about the outcomes of housing mobility participants demonstrates the potential importance of social networks in low-income people’s housing and neighborhood selection decisions, the difficulty of building support and leveraging ties in new destinations, and the lack of knowledge about the complexity of low-income people’s social networks, which can work “in tandem or in tension” (Dominguez and Watkins, 2003: 131) with an individual’s self-sufficiency and social mobility goals.

Given the challenges that households receiving housing assistance experience in improving their neighborhoods, understanding the residential searches, decisions, and experiences of unassisted low-income, minority, and immigrant households is critical. Unassisted households presumably face even worse affordability constraints because of their lack of housing subsidies. In addition, immigrant households are more likely to rely on social networks than are their nonimmigrant counterparts (Basolo and Nguyen, 2009; Menjivar, 2000).

Low-income households display high levels of residential mobility and often move from one disadvantaged neighborhood to another (Sampson, Sharkey, and Raudenbush, 2008; Skobba, Bruin, and Yust, 2013; South, Crowder, and Chavez, 2005). In their study of residents of low-income neighborhoods in 10 cities, Coulton, Theodos, and Turner (2012: 69) classified 46 percent of movers in those neighborhoods as “churning movers,” who “moved short distances (median 1.7 miles) and did not gain much in terms of neighborhood amenities and satisfaction... [likely in] response to financial stress or problems in their rental housing arrangements.” DeLuca, Wood, and Rosenblatt (2012) report that 80 percent of their sample of assisted and unassisted Black renters in Baltimore, Maryland, and Mobile, Alabama, made such “reactive moves,” which forced them to make a quick decision about where to go. Because neighborhoods of the same racial/ethnic composition often are clustered together (Massey and Denton, 1993), short-distance churning often indicates moves within and among neighborhoods that are racially/ethnically similar.⁶ Indeed, Quillian (2014) found that distance is the best predictor of where households end up and that the probability of moving to a specific neighborhood declines the farther away it is from the originating neighborhood.

The importance of distance cannot be detached from the issue of neighborhood racial/ethnic composition. The clustering dimension of residential segregation creates contiguous neighborhoods of the same racial/ethnic composition (Iceland, Weinberg, and Steinmetz, 2002). Neighborhood clustering by racial composition also creates clustered social networks. In other words, proximity is in many ways a proxy for the familiarity with nearby neighborhoods that are similar in race/ethnicity and class and that are home to close and extended social ties (Kleit and Galvez, 2011).

Familiarity is important because a household cannot take advantage of a place about which it is unaware. Variances in familiarity might explain why Black and Hispanic households are

⁶ National survey data from the American Housing Survey show that a greater proportion of Black and Hispanic households than White households move locally, with 70 and 73 percent of Black and Hispanic households, respectively, moving within the same county compared with only 60 percent of White households (U.S. Census Bureau, 2013).

underrepresented in some affordable parts of metropolitan areas (Harris and McArdle, 2004). In a study of Black, White, and Hispanic movers in Chicago, Krysan and Bader (2009) showed that Hispanic households have considerably more community “knowledge blind spots”—or communities of which they are unaware—than do the other two groups, especially regarding their knowledge of predominately White communities. These findings show how “racialized knowledge,” or the flow of information within racially homogeneous social networks—which is partially a function of racial residential segregation (Freeman, 1978)—may limit searchers’ exposure to the full range of housing opportunities.

Studies of unassisted renters also emphasize the emergency nature of many moves and the general instability of various living situations. Black and Puerto Rican respondents in Clampet-Lundquist’s (2003) study resorted to doubling up with partners, family, and friends as a strategy for avoiding homelessness and shelters in Philadelphia. Such arrangements, however, were characterized by overcrowding, instability, feelings of dependency, and tension and conflict surrounding household management. These households also endured substandard housing conditions amid landlords’ refusal to do repairs.

Recent works examining the international migration process have highlighted the critical importance of networks for immigrants (Dominguez, 2010). In her examination of West Indian immigrant networks, Vilna Bashi (2007) extends the social network as an analytical concept, describing the prominent role of hubs (for example, hosts and sponsors) in facilitating the migration and resettlement processes of spokes (or beneficiaries). Nadia Flores-Yeffal (2013) found that migration-trust networks often are forged on the basis of a shared community of origin. Mexican and Salvadoran emigrants often mobilize their networks’ “social capital” *before* their migration journey, obtaining referrals to trustworthy smugglers or securing financial help to pay smuggling fees. Network contacts continue to provide tangible and intangible aid on arrival, providing migrants with necessities such as clothes, food, and lodging but also trustworthy information about local laws and how to manage undocumented status.

As the preceding review illustrates, social networks are a salient factor in the residential situations and decisions of vulnerable and low-income citizens and immigrants. The significance of, and cohesion among, such ties may be greater for immigrants, however, precisely because they rely on those ties not only for their success on arrival but also for their survival during the migration journey.

Finally, although part of the housing decision is under the control of the mover, the realities of the housing market play an important role in housing outcomes. Structural factors that limit housing choice include a shortage of affordable rental housing, landlord discrimination, and existing patterns of racial and class segregation resulting from political and legal decisions about issues such as taxation, zoning, desegregation, policing, and infrastructure (Rugh and Massey, 2014). Housing that is affordable to the lowest-income households often is concentrated in predominately Black and Hispanic neighborhoods that are either already poor or on a downward trajectory (Clampet-Lundquist, 2003; Oakley and Burchfield, 2009). Although this article focuses on the individual considerations of Hispanic households, it acknowledges the importance of not losing sight of how markets, laws, and policies set the contours within which households make decisions.

To summarize, inquiry is emerging into understanding why low-income people move, what structural and personal factors influence their decisions, and where they end up. Although instructive, the

current literature is also limited because it disproportionately relies on beneficiaries of government housing programs; focuses on Black, urban, low-income households, with occasional comparisons with White households; and understudies Hispanic households (native born and immigrant). Finally, the reviewed research findings uncover the important role of social networks within the housing search and attainment process but stop short of theorizing how the geographic proximity of social networks is shaped by segregation and contributes to short-distance moves that maintain segregation.

Data and Methods

This article draws on a purposive sample of 23 qualitative interviews conducted in Chicago in 2011 with Hispanic mothers with young children. The small sample reflects our interest in depth rather than breadth. Given how little we know about the on-the-ground substantive experiences of low-income Hispanic households in the rental market, we designed this research to be exploratory in nature and inductive in analytical method. As Johnson and Rowlands (2012: 101) wrote, “Largely associated with an inductive mode of research, in-depth interviewing is best suited to research questions of the descriptive or exploratory type (i.e., questions that focus on *what* and *how* rather than *why* social processes are enacted in everyday life).” We are specifically interested in *how* households learned about and decided to move to their neighborhoods.

We did not aim to test explicit hypotheses about Hispanic households’ housing decisions because, at present, an insufficient empirical basis exists on which to build such hypotheses. Rather than generalize from the research on low-income Black and White renters, assisted renters, or recent Hispanic immigrants (as reviewed previously), we set out to qualitatively explore a broad range of topics with mothers, without bias as to what we would find (for a similar example, see Yoshikawa, 2011). Having reviewed the relevant literature, we included questions about matters such as information sources, transportation, and affordability (see interview guide in appendix B), but we were not sure how relevant or salient these topics would be. We conducted this research to prepare for a multicity, mixed-methods study of the effects of housing affordability, quality, location, and stability on children’s educational and socioemotional development, which is currently ongoing and which will be able to test the ideas generated in this article.

Subjects were recruited using flyers that we posted and distributed at churches, parks, “L” stops, community centers, and grocery stores primarily in the Pilsen (an established Hispanic enclave) and Rogers Park (a newer Hispanic destination) neighborhoods of Chicago (see flyer in appendix A). The flyers promised participants \$50 for an interview. This monetary incentive likely made participation more attractive for lower-income mothers, which aligned with our intention to study that population. Although we concentrated recruitment in two neighborhoods, we did not require respondents to live in those neighborhoods. Hence, our final sample included 12 respondents from Rogers Park (52 percent), 6 from adjacent Edgewater (26 percent), 3 from Pilsen (13 percent), and 2 from Logan Square (9 percent), which is a nonadjacent, majority non-White neighborhood on Chicago’s Northwest Side. This section describes our target neighborhoods, and the next section provides additional information about the nontargeted neighborhoods and the rest of Chicago.

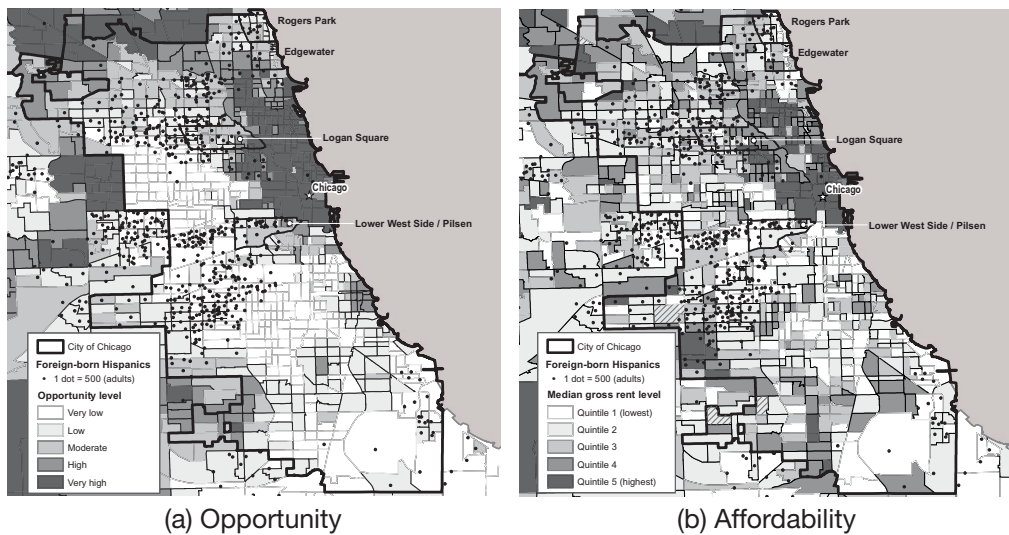
In the Lower West Side community area (commonly referred to as Pilsen), 82 percent of the residents identify themselves as Hispanic, 12 percent as non-Hispanic White, 3 percent as

non-Hispanic Black, and 1 percent as Asian. Rogers Park, on the city’s far North Side, is more racially mixed: 38 percent White, 27 percent Black, 25 percent Hispanic, and 7 percent Asian, although racial segregation exists within this racially diverse demography (see exhibits 1a and 1b). In the Lower West Side, the population is 42 percent foreign born and 40 percent of the residents speak Spanish at home compared with 29 and 10 percent, respectively, in Rogers Park. The two neighborhoods are somewhat more similar in terms of Median Family Income (Rogers Park: \$39,194; Lower West Side/Pilsen: \$36,088). The neighborhoods have near-equal poverty rates, at 27 percent. The U.S. Census Bureau considers 20 percent to be the threshold for defining a “poverty area” (Bishaw, 2014).⁷ Moreover, all four of the community areas where respondents lived have pockets of “racially and ethnically concentrated areas of poverty,” as defined by the U.S. Department of Housing and Urban Development (HUD), which uses an even higher threshold of 40 percent poor to determine areas of poverty (see Chicago Metropolitan Agency for Planning, 2015, map 5; HUD, 2015a).

Potential respondents who called the phone number on the flyer were screened for income and parental status. Our sample was limited to Hispanic parents with incomes below 100 percent of the Area Median Income (\$67,400 for a family of three) and—because we were also interested in school decisions—who had children between the ages of 3 and 8. Interviews were conducted by two graduate research assistants in Spanish (17 interviews) or English (6 interviews), depending

Exhibit 1

Chicago Neighborhood Opportunity and Affordability



Note: Opportunity and affordability/rent quintiles based on all census tracts in the Chicago-Joliet-Naperville, IL-IN-WI Metropolitan Statistical Area. Dot placement is random within tracts (does not identify exact locations of foreign-born Hispanic adults). Census tracts with diagonal hash marks have no available median gross rent data.

Sources: diversitydatakids.org-Kirwan Institute neighborhood Child Opportunity Index; American Community Survey, 2008–2012

⁷ Extensive demographic data on Chicago’s Community Areas can be found at <http://www.robparal.com/ChicagoCommunityAreaData.html>. Data on language spoken at home are from <https://data.cityofchicago.org/Health-Human-Services/Census-Data-Languages-spoken-in-Chicago-2008-2012/a2fk-ec6q>.

on the preference of the interviewee. Interviews lasted on average 2 1/2 hours. About half of the interviews were conducted in the respondents' homes and the other half at a community center or a coffee shop. We use pseudonyms to preserve respondents' anonymity.

As exhibit 2 indicates, sample participants were all female, had a mean age of 34 years, had an average of two children, and had an average household income of \$26,202.⁸ Several factors suggest that the sample was particularly subject to financial constraints: Most of the sample participants were single or divorced mothers living with their children, a population particularly vulnerable to unstable housing situations (Desmond et al., 2013). A significant proportion experienced housing vulnerabilities, including doubling up (30 percent) and difficulty paying the rent (65 percent).

Most (78 percent) of the respondents were born outside the United States (compared with 58 percent of Hispanic adults in Chicago overall), with the majority born in Mexico (57 percent) and others born in Colombia, Guatemala, and Peru. Given that we did not recruit in the predominately Puerto Rican neighborhood in the city, this national origin distribution is in line with Hispanic population trends in Chicago. We did not explicitly ask about immigration status, but respondents alluded to it as an issue that made securing stable employment, getting a driver's license, and accessing government benefits difficult. At the time of the interviews, a sizable minority (22 percent)

Exhibit 2

Sample Household Characteristics

Mean respondent age (years)	34.43
Mean number of children living in household (n)	2.17
Country of origin	
Percent Mexico	57
Percent United States/Puerto Rico	22
Percent other	22
Mean years (and range) in United States for foreign born	18 (6–32)
Mean income (dollars, including income from most recent job)	26,202
Percent of respondents unemployed	22
Education	
Percent post-high school education	61
Percent high school or GED	26
Percent less than high school education	13
Marital status	
Percent married/cohabitating	30
Percent single/divorced	70
Housing	
Percent renters	87
Percent homeowners	13
Average rent/mortgage (dollars)	766
Percent who find paying rent is “barely manageable” or “difficult”	65
Percent doubled up	30

GED = general educational development.

⁸ Income figures may be higher than actual current income because respondents were asked to estimate their most recent income despite current unemployment.

of respondents were unemployed. Current and past employment was concentrated in low-skill, low-paying, and unstable positions such as babysitters, store clerks, housekeepers, and restaurant workers. A few of the unemployed women were enrolled in school.

The interviews were digitally audio recorded and transcribed in the language of the original interview. Spanish-language interviews were translated into English, although we often referred to both the English and Spanish transcripts to ensure fidelity of translation and meaning. We used the qualitative data analysis software Atlas.ti to code the (English-version) interviews, with the first and second authors coding independently and then collaborating to identify areas of concordance or discordance and salient themes. Coding was both deductive—that is, coding for themes queried in the interview guide—and inductive, allowing constructs to emerge from open coding of the data. The topic of social networks emerged as a salient factor in how people searched for housing, and we embed that finding within similarly strong evidence about unplanned moves, financial and transportation constraints, immigrant status, and short-distance moves.

Chicago Context

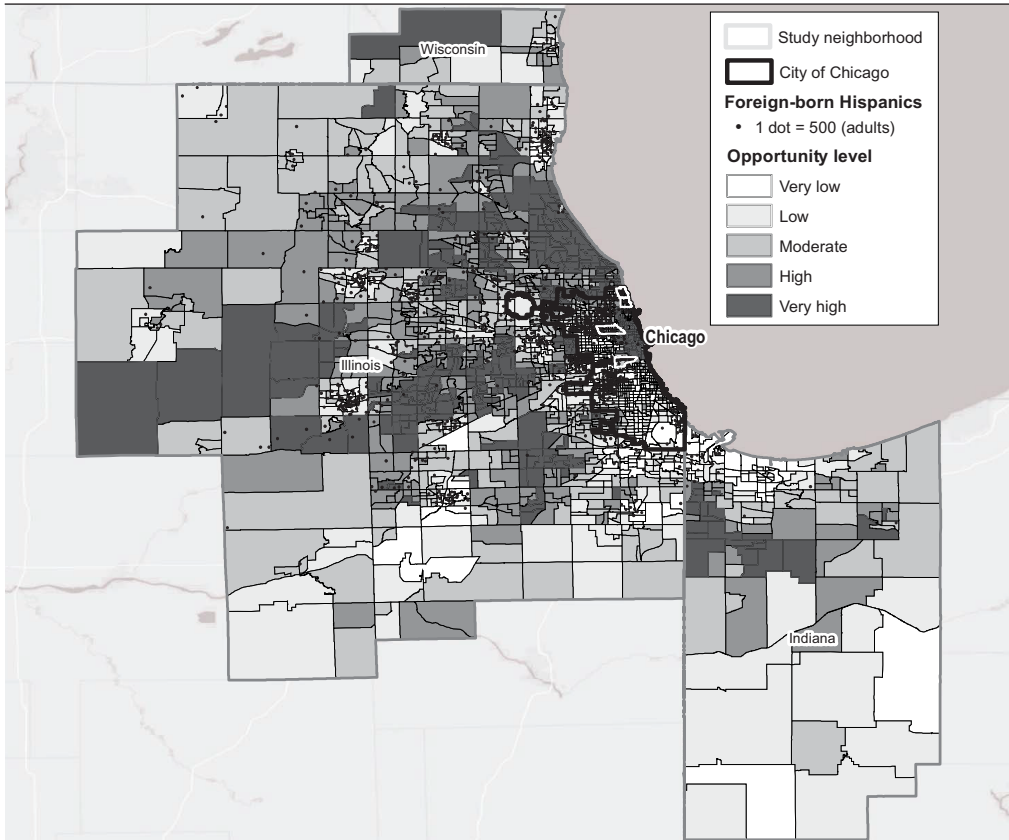
Understanding how the four neighborhoods where respondents lived are situated in the larger geography of neighborhood opportunity and affordability in the Chicago metropolitan area is useful. Exhibit 3 shows the distribution of neighborhood opportunities for children throughout the Chicago metropolitan area, as measured by the diversitydatakids.org-Kirwan Institute Child Opportunity Index (Acevedo-Garcia et al., 2014). This index combines 19 individual measures of three neighborhood opportunity domains—educational, health and environmental, and social and economic—that are important for children and families to thrive. Using the index scores, all census tracts (neighborhoods) within the metropolitan area are rank ordered and then divided into quintiles to form five opportunity categories ranging from “very low” to “very high” opportunity.

In the entire metropolitan area, 30 percent of foreign-born Hispanic adults live in very low-opportunity neighborhoods, 33 percent live in low-opportunity neighborhoods, 20 percent live in moderate-opportunity neighborhoods, and the remaining 17 percent live in high- and very high-opportunity neighborhoods. Although Hispanic immigrants are disproportionately concentrated in very low-opportunity and low-opportunity neighborhoods, a sizeable share (37 percent) live in moderate- and higher-opportunity neighborhoods.

Understanding the more locally specific geography of opportunity within and around the four community areas is also informative. The four sample community areas contain 66 individual census tracts. Exhibit 1a shows that each of the four community areas offers a mix of mostly low and moderate opportunity. It is interesting, however, that we find in the surrounding areas clusters of both higher opportunity and lower opportunity. Near Rogers Park and adjacent Edgewater are higher-opportunity tracts to the immediate northwest and south but a mix of similarly low- and moderate-opportunity tracts to the west. The map also shows that areas near Logan Square and Pilsen offer higher-opportunity tracts to the immediate north and east but lower-opportunity tracts to the west and south. The map also shows a striking pattern indicating the increased presence of Hispanic immigrants moving farther outside the study areas and into the nearby areas of lower opportunity. This finding suggests that, although higher-opportunity areas are proximal, the pull of

Exhibit 3

Chicago Metro Area Neighborhood Opportunity



Note: Opportunity based on all census tracts in the Chicago-Joliet-Naperville, IL-IN-WI Metropolitan Statistical Area. Dot placement is random within tracts (does not identify exact locations of foreign-born Hispanic adults). Sources: diversitydatakids.org-Kirwan Institute neighborhood Child Opportunity Index; American Community Survey, 2008-2012

social networks is in the direction of lower opportunity. The spatial proximity to higher-opportunity areas also reflects the gentrification of much of Chicago’s central core. Logan Square and Pilsen, in particular, are adjacent to areas that have seen considerable in-migration of high-income White households, and both communities are beginning to experience gentrification pressures (Nathalie P. Voorhees Center, 2014).

Although assessing the feasibility of accessing these higher-opportunity areas from an affordability standpoint is beyond the scope of this article, exhibit 1b suggests that these nearby higher-opportunity areas may pose affordability barriers for low-income households, with housing costs, in general, being in one of the two highest quintiles of the entire Chicago metropolitan area’s median neighborhood housing cost (median gross rent) distribution.

Findings

The first step in understanding Hispanic households' relocation behaviors is to ascertain what factors motivated their move. We asked respondents, "Why were you moving in the first place?" about their most recent move. The answers to this question showed that social ties are not uniformly positive and agreeable, and they are sometimes the reason for moving. The responses also uncovered housing hardships and constraints resulting from low incomes, immigrant status, and the frequency of quick, unplanned moves.

Gabriela was a divorced single mother and the only sample participant who received help from a community organization to search for a unit and to obtain state assistance to pay for it. Her housing history during the previous 5 years was characterized by unstable shared housing arrangements and frequent moves—nine times—precipitated by conflicts with roommates about guests and household management issues. She described her living situation as follows:

It is very difficult living with a lot of people in one place.... They use the same kitchen and the same bathroom. They make different food. The problem is that...I am very busy, I leave for work at 6 in the morning, and I have to quickly make myself a coffee and I have to leave the things. I don't like when they tell me, "Do not leave the pot there. Do not put it there. Why didn't you do everything on time?" [And I'm thinking,] "I am going to do it [clean up] later." Or, "I have not had time" and things like that. I mean, I do not like when they treat me like a little girl.

Interpersonal conflicts often escalated to the point that Gabriela would have to move. Given her past experiences with complaints by roommates and friends, Gabriela liked having control of things in her new apartment and would not have been able to afford independent rental housing without state assistance. She continued to experience instability and uncertainty, however. She feared that state budget cuts combined with her current unemployment would make her unable to maintain her current independent housing. As was the case with other respondents, Gabriela's housing history illustrates how her economic vulnerability constrained her to doubled-up or shared housing arrangements characterized by conflict and instability, which led to quick, unplanned moves. Despite her positive move to an independently occupied apartment, economic conditions continued to make her housing arrangements unstable.

Women's descriptions of their previously shared housing arrangements illustrate the tension, conflict, and strain that may arise from sharing an apartment, even when the other occupants are family members. Angela, a married mother of two, emphasized the need for personal space and privacy as her main motive for moving her nuclear family unit out of her husband's brother's house. Crowded conditions often resulted in conflicts with her sister-in-law about space and childrearing:

[She] would complain if we were there, "Fernando did this. He did that." There was nothing that she did not complain about, and I would usually stay quiet. Or I would see what her children did and I did not say anything. Until one day that I told her, "[It's] always my son, my son, my son. Do you not see yours? Yours also go into my room and do

things and take my things out and everything, and I never complain.” ... The 6 months in my sister-in-law’s house was like being imprisoned because we could not go out of the room, and we would go outside to avoid problems.

Angela described the conflict that arose from living in a shared space and her desires to distance herself from these stressful accusations and encounters. This social tie was beneficial because it provided housing for Angela’s family when they could not afford housing on their own, but the arrangement came with significant costs to privacy and control of her own household.

Scholars have found that households often use the housing choice voucher or other such assistance as a strategy to cut existent draining ties (Briggs, Comey, and Weismann, 2010; Curley, 2009; Rosenblatt and DeLuca, 2012). Menjivar (2000) also shows how poverty among Salvadoran immigrants in San Francisco strained social networks and increased distrust and conflict. It was not surprising, then, that Angela went on to describe the satisfaction and tranquility that came from moving independently to an apartment with her husband and children. In situations of financial constraint, many families cycle in and out of shared housing arrangements. Research shows that doubling up and overcrowding are particularly prevalent among immigrant households (Krivo, 1995; Myers, Baer, and Choi, 1996), and thus our data illuminate the qualitative experience of such arrangements and how they lead to housing instability and moving.

Lily, a married mother of two, described her and her husband’s decision to move out of her parents’ house shortly after having their first child as being primarily driven by a need for privacy and personal space rather than conflict. “We were living with them [her parents], so we only had one room,” she said. “Really we didn’t feel like the owners of the home. I remember that when we moved, my husband said ‘I can even walk naked here’ [laughs].” In the absence of overt conflict, the primary motive for Lily and her husband to move out was to have control over the dwelling space and the independence to move around freely.

These findings reinforce the description from Skobba, Bruin, and Yust (2013: 241) of shared housing as lower in the hierarchy of housing accommodations because it provides only modest “control, long-term security or independence.” For these respondents, living independently in a unit provided some relief from the strain or restrictions encountered when living with family, friends, or roommates—a negative aspect of social networks—and an accompanying sense of liberty, self-sufficiency, and autonomy after securing independent housing. For a considerable portion of respondents, doubling up represented a housing arrangement of last resort—“an available and affordable option, rather than a housing preference” (Skobba, Bruin, and Yust, 2013: 244).

Life-course events, such as having a baby, returning to school, or separating or divorcing from one’s partner prompted unplanned moves. For the lower-income women in this sample, however, separation or divorce from a partner often resulted in reverting to a shared housing arrangement. Such was the case for Maria, a 50-year-old divorced mother of one. Maria and her 7-year-old daughter left the apartment where they lived with the husband/father after the couple had a heated argument. Maria stayed at the home of a friend for 2 days to let the tension subside. On attempting to reenter her unit, Maria realized that her husband had changed the locks on the door and moved his girlfriend into the apartment. Having recently lost her babysitting job, Maria found that her housing choices were severely limited. She described her thought process as she urgently tried to

figure out where to move: "I have to have money to be able to pay the rent and deposit, which is the first thing that they are going to ask you for in any place." Only after a recently divorced, long-time friend offered to rent Maria the basement in her townhome was she able to secure a more stable housing arrangement.

Like many of the low-income women in housing studies, then, Maria was able to use doubling up with a friend as a housing strategy to avoid homelessness and to remain close to her daughter's social networks. The doubled-up arrangement proved to be a mutually beneficial one in which the friends exchanged social support. Maria reported, "We help each other. For example, if I cannot pick [my daughter] up, she will pick her up. Or we alternate taking them to school, or [the friend's] children's father also helps there. He comes to pick them up and takes them [to their after-school program]." Access to this social support service (childcare) from her friend enabled Maria to seek and secure a new babysitting job, converting social support into social leverage (Dominguez and Watkins, 2003). In addition, Maria's friend gave her flexibility in rental payments, enabling her to pay what she could each month. A socially supportive network thus enabled Maria to buffer the difficulty of separating from her husband and to make a positive housing transition.

Although the preceding stories emphasize the mother's decision to move, none featured an extended deliberative process. Instead, often a kind of last-straw moment or an escalation of household tension made moving urgent. Landlord neglect also led to urgent moves. For example, Carmela reported moving "maybe like seven or eight times" within the previous 5 years, which was on the high end for respondents in our sample, but her reasons were not unusual. She said, "Most of the time, every time I moved it was too small or there were so many problems and the landlord just didn't care. They didn't care to fix it. They didn't care at all. So most of the time, those were the two big main reasons why I moved." In none of those instances was she forced to move, but landlord negligence was out of her control and prompted unplanned moves.

A substantial minority of respondents (30 percent) were driven to move when they could no longer pay the rent and were facing eviction. Juanita, a single mother of five, described the predicament that resulted in the search for her current apartment. The family was evicted from their previous apartment after her then-partner failed to pay the rent on time. Juanita left the partner and desperately searched for an apartment that she could afford on her wages as a housekeeper. She said that she chose a one-bedroom, one-bathroom apartment for her family of five (her eldest daughter lived with a relative) primarily because of the rent special the landlord was offering. She explained: "Since this was the cheapest, special, there was a [rent] special. It was 'pay only \$400 for the first 4 months. Then after the 4 months, pay the \$700.' They gave that plan. That is when we came here." (Several other respondents had overcrowded living arrangements, a situation that is particularly acute for immigrants [Krivo, 1995]. For example, Mayra, her husband, and her four small children occupied the same one-bedroom, one-bathroom apartment for 6 years; the parents slept in the living room and the four small children slept in the bedroom.) Juanita also mentioned the urgency with which she had to find a place, stating, "And we found this quickly. We didn't have to pay a deposit, just the rent." But, although the rent was low and she was able to move in immediately, the apartment was severely undersized and roach infested. Juanita responded to the very first open-ended question of the interview ("What's on your mind about your living situation?") with

the following: “Rent is high and there are vermin, lots of cockroaches, little critters. Sometimes you don’t even know what they are. It’s fine, but sometimes rent is expensive and the apartments are small. I pay \$700 and look, it’s not fancy. It’s ugly and it’s \$700.”

The poverty and undocumented immigrant status of many women likely increased their vulnerability to inadequate housing and landlord abuse, forcing them to endure very poor housing and neighborhood conditions (Clampet-Lundquist, 2003). For example, Raquel had numerous issues with her apartment, including a failing heating system, peeling walls, clogged plumbing, leaking ceilings, and a structurally unsound porch, but she admitted that she had not pressured the landlord to make the repairs for fear that they would evict her. Future research might explore whether undocumented tenants’ inability to take legal action contributes to landlords’ unresponsiveness—and to the lower-quality housing of immigrants in general (Schill, Friedman, and Rosenbaum, 1998).

Many respondents were rent burdened, despite the relatively low rents (see exhibit 2). Many of the households we interviewed were income eligible for the HCV program, but none were receiving assistance despite the fact that most of the women (19 of 23) had heard of housing vouchers. Some associated the program with the stigma of a handout. For example, Vanessa commented, “There are people who arrive here thinking and looking for help, help for everything. I came here to work and to work and to work and work, and I’ve never been looking for help that I might be given.” Six women explicitly mentioned not having “papers” and thus not qualifying for housing assistance. HUD regulations restrict assistance to citizens and people with “eligible immigration status.” Prorated voucher assistance is possible for “mixed families,” yet applying for this benefit adds an additional level of scrutiny to an already complex process (see HUD, 2001: chapter 5). Nilda was able to get food stamps for her citizen daughter but, regarding housing assistance, she said, “I’d like to [apply], but I know that maybe with my status I wouldn’t be approved.” Raquel—who had been in the United States for 10 years (from Mexico)—had never heard of the HCV program and thought that language barriers probably had something to do with it. She was also wary of taking advantage of government benefits because of her undocumented status and her lack of clarity about whether receiving a subsidy would negatively affect her chances of gaining legal residency. She pondered aloud:

[The HCV program] must lack publicity or people may not understand it or maybe the information isn’t in Spanish for us to learn about it. Sometimes I’ll see information, but you say to yourself, “It’s in English, and you can bring it to me, but out of 100 percent I’ll understand 10 percent and that’s not enough for me to want to know [more].”...

Something that would disinterest me would be if it could affect my chances at citizenship or at getting papers further down the road, which I want to take care of. I want to be an American citizen and obtain permanent residence. So if this were to affect my negotiations with immigration, I wouldn’t do it.

Overall, the findings described here show that identifying people’s motives for moving can be useful in understanding their subsequent housing search and ultimate accommodations. Our respondents experienced several housing hardships, including crowding, unaffordability, low housing quality, unresponsive landlords, and inability to access government benefits. Those experiences led to unanticipated moves. Answers to the questions, “How many times did you move in the last

5 years? And why did you move each time?” revealed that most respondents had experienced at least one involuntary move in the recent past. The findings also suggest that researchers should pay closer attention to the dynamics and nuances of social network relationships and instances of doubling up. For some families, shared housing may be a desperate strategy to avoid homelessness and may be characterized by tension and conflict, whereas for others it may be a positive experience and improve life circumstances and housing accommodations. Next, we turn to the housing search process prompted by these moves.

Scholars have argued that a segregated metropolitan geography has a self-reinforcing character (Galster, 2012; Galster and Killen, 1995; Krysan, Crowder, and Bader, 2014). Segregation affects the parameters—the geography, the social networks, and the constellation of known neighborhoods—of the housing search, and that delimited knowledge often reproduces segregated outcomes. When exploring this system, it is crucial to understand how low-income and immigrant Hispanic households conduct their housing searches and the factors that help them decide where to live. We asked respondents, “I would like to know how you came to live here. Can you tell me the whole story of how you came to live in this neighborhood and in this specific house/apartment?” Followup probes included, “Who, if anyone, did you talk to in the process, and what advice did they give?” and “Did you use any agencies or services?” Respondents were also asked to provide the factors that weighed most heavily in their housing search and in their final housing selection. Overall, residents knew they could not rent something that they could not afford, and they had to be able to physically get to an apartment to rent it. They ultimately found affordable and accessible units by using their social networks.

Respondents cited the affordability of the apartment as a principal factor in the selection of their current dwelling, which was unsurprising given their limited incomes. For example, when asked for the three most important factors that she considered in choosing her apartment, Ines, an unemployed mother of three whose husband had been deported, stated, “I only looked at the price.” Ines’s reliance on church members’ generous donations as her sole source of income meant that her housing choice was largely dictated by what was most affordable: a one-bedroom, one-bathroom apartment in which she slept on the floor. She said, “It was really cheap, on special. It’s not because I like the place or anything, but it’s just to have a roof over my head.”

Raquel similarly explained the large extent to which finances drove and delimited her current housing arrangement. Raquel and her partner found themselves unable to afford their three-bedroom apartment after he suffered a foot injury and was unable to work. Threatened with the possibility of homelessness, Raquel’s family decided to temporarily settle for a \$400 per month, one-bedroom, one-bathroom apartment. “I looked for an apartment that fit our budget,” she said, “and that is how we came here—only temporarily—but we stayed here [for 4 years] because the economy has not improved and [my] jobs have not been good so far.” Financial considerations thus initially compelled the couple to move from their larger apartment and now constrained their movement from the current apartment. This example demonstrates how immobility can be a manifestation of affordability constraints that affect low-income people’s housing decisions.

We could give as many examples of quotations like the ones cited as we have respondents. Sometimes respondents even expressed a bit of exasperation at the foolishness of our inquiries. For them,

price was the bottom line. In reality, though, it was not the only thing guiding their search because, at any given time, there are hundreds of apartments across the city of Chicago (and beyond) at a particular price point. Respondents' available forms of transportation kept their geographic target area relatively narrow. Most respondents (52 percent) relied on walking and public transit when conducting searches (Briggs, Popkin, and Goering, 2010; Rosenblatt and DeLuca, 2012). When we asked about having a driver's license, 12 respondents shared that they were undocumented, which made driving a risky proposition.⁹ Many respondents looked for "For rent" signs while walking through the neighborhood where they already lived. Only three respondents in the sample—two of whom were purchasing a home—relied on more formal methods such as real estate agents and community organizations for help. Hence, within this context of time, financial, and transportation constraints, most of the respondents relied on their social networks for information on affordable units.

Although most of the women we interviewed had high levels of familiarity with the neighborhoods where they lived, a few were newcomers to their current neighborhoods. Without local knowledge, they relied on the information from friends and family to navigate the housing market and secure a decent apartment. For example, Vanessa had been in the United States for 6 years when we interviewed her. She moved from Colombia directly to the affluent suburb of Evanston, where she worked as a full-time childcare worker for a local family. She struggled to pay the rent in Evanston with her low wages, and, after 5 years, she decided to look for a cheaper apartment, but she wanted to keep her children in the Evanston schools. Vanessa explained that she had a conversation with a close friend about her dilemma, and the friend recommended Rogers Park.

I didn't find a more affordable apartment in Evanston. I would have liked to stay over there, but.... So then, a friend that lives like a block from here told me "[Vanessa], [the Rogers Park neighborhood] where I live is real nice, it is very good and tranquil. I know that there is an apartment that they are renting that you will like." So I came. It was actually the only apartment that I saw around here. I didn't look for another. I came [to see it] and liked it, so I submitted an application.

Unfamiliar with the area, Vanessa relied completely on a close friend for information about a good neighborhood and available apartment during her housing search in Chicago. Vanessa was generally satisfied with her new place. It was bigger than her Evanston apartment and cost less, and she figured out a way to keep her children in the Evanston public schools. Using measures of neighborhood income, poverty, and crime, however, this was a downward residential move for Vanessa.

Mayra, another newcomer, also used social networks to find a place in Rogers Park. Her high-risk pregnancy added a sense of urgency to the housing search. Having recently arrived from New York in search of a better paying job, Mayra lived with her husband's family in a far northern suburb while her husband searched for work and a place to live on the North Side of Chicago. In the face of an exhausting commute to the hospital for treatments, Mayra pressured her husband to get an apartment quickly. Mayra's husband turned to his cousin, a long-time resident of Rogers Park, to help him locate an apartment. Mayra said, "His cousin helped him because [my husband] was working, so his cousin went to look for the various options and gave them to him.... My husband

⁹ Illinois began granting a "temporary visitor driver's license" to undocumented immigrants in January 2013, after we completed the interviews. See <http://www.cyberdriveillinois.com/departments/drivers/TVDL/home.html>.

says that he looked for the apartment from one day to the next.” In Mayra and her husband’s case, the cousin’s knowledge of the neighborhood and willingness to help enabled them to secure an affordable apartment quickly.

A number of other respondents described how informal conversations with family members and friends resulted in their obtaining a unit to rent. Among these was Rosario, a single mother with one child. Recently separated from her partner, Rosario made the decision to double up with her mother (who also was recently divorced) and younger sister in their two-bedroom apartment. They soon realized that their combined income meant they could upgrade to a three-bedroom unit in Rogers Park. Rosario’s mother happened to mention their housing search to a long-time friend (and building owner), which ultimately ended with their renting an apartment from the friend. “Then you didn’t see any other place?” the interviewer asked after Rosario told her story. Rosario answered, “No.” Thus, Rosario’s mother’s casual conversation resulted in the quick attainment of a nearby apartment, just two buildings down from their previous one. Overall, then, respondents used social networks as a way to gain information about neighborhoods and available units, and some respondents leveraged those ties to obtain a unit directly.

Many respondents attested that their desire to live close to or with people in their social networks—and thus close to or in their original neighborhoods—played a key role in their dwelling selection. Respondents often depended on these social networks for help with childcare, emotional support, and sudden housing needs, as illustrated in the following complex series of events.

Lupe, a single mother of two, and her boyfriend (not the children’s father) were unable to afford their apartment because she lost her job. The couple decided to live separately, and each doubled up with family members. This decision initially meant that Lupe returned to her parents’ home in Rogers Park. Her parents soon divorced, however, forcing Lupe and her daughter (Lupe’s son went to live with his father), her mother (who was getting the divorce), and her adult sister to search for an apartment as a new family unit. Lupe explained that her mother was searching for housing when “the opportunity that my brother needed to rent [his place]” came along. So for exigency and assistance, the three of them decided to rent Lupe’s brother’s nearby one-bedroom, one-bathroom condominium, in a mutually beneficial arrangement. Following his own divorce, Lupe’s brother moved into the family home in Rogers Park, which Lupe and her mother were leaving. Lupe and her mother were thus able to secure an affordable apartment quickly in a neighborhood near their previous home and simultaneously financially assist their son/brother by paying rent to him, which amounted to a little more than one-half of his mortgage.

Lupe’s story represents considerable moving and shuffling but no change in important neighborhood characteristics, such as school quality and poverty rates. Each family member faced a need to move and to move quickly. No one had the time or money to undertake an exhaustive search of all possible affordable housing units in the Chicago metropolitan area, nor did they have the inclination. Lupe wanted to stay close to her other social networks, especially the fathers of her children and her son who went to live with his father. Lupe’s mother needed an apartment and wanted to help her son by renting his condo. Families depend on such ties to make ends meet within a context of high unemployment, high rents, and unstable incomes.

Related to respondents’ desire to live near their social networks was their desire to remain living in or near the areas that were familiar. Having lived in the same North Side neighborhood since she

immigrated to the United States from Mexico at age 14, Josefina, now 35, was adamant about purchasing a home within the same neighborhood. She was one of the few respondents who contacted a real estate agent, and her experience was not positive. The agent repeatedly tried to convince her to move to neighborhoods on the South or West Sides of the city, which had larger Black and Hispanic populations, lower median incomes, and higher poverty rates. Instead, Josefina repeated her desire to stay within the Rogers Park and Edgewater areas. She told her story as follows:

This neighborhood is very expensive. It is a good neighborhood. We are on the North Side of the city. On the North Side of the city, the houses are real expensive, which is why I have a townhouse.... And when I would speak to the real estate people when we were buying this house, they would tell me, "But, Miss, why do you want to live here?" Because I gave them the coordinates. I would tell them, "It's because I want [the house] in this area." Because I have always lived here, since I arrived with my parents, I lived [nearby].... I know the reputation of the South Side that rents are cheaper and houses are much cheaper. I went to many real estate agents for houses, and they would tell me, "It's just that, but Miss, what are you thinking? You're going to buy a really small house when with that same money you could buy a house with four, five bedrooms and with a big yard." They would always tell me that.

Ignoring real estate agents' attempts to steer her toward more affordable housing on the South Side, Josefina searched until she found a real estate agent who worked to locate a townhome within her desired geographic boundaries. Josefina wanted to raise her children in the same place where she had grown up, close to the places and people she knew and loved. Although our emphasis in this article is on how social ties impede knowledge of and searches in neighborhoods with more job opportunities, better schools, or lower crime, in this case, the strength of Josefina's social ties actually worked decisively against real estate agents' practices that would have steered her to even more disadvantaged and heavily Black or Latino neighborhoods in Chicago.

Agents or brokers could potentially be helpful to low-income renters by expanding the scope of clients' original search area to investigate a larger number of affordable options in "communities they never considered" (Krysan and Bader, 2009: 696). Josefina's story, however, shows that racial steering by agents and brokers can go in the opposite direction and push people towards less resource-rich neighborhoods. Indeed, reliance on social networks could be a rational reaction to knowledge of such discriminatory practices. In the end, it is not clear which is more consequential: low-income renters' narrow search geography or the unconscious biases of real estate agents. Moreover, one respondent's adult son explained his family's reason for not using the services of a real estate agency as follows: "About places like that, you usually have to have [legal status] papers. You have to be a citizen and have to have all kinds of social security.... I was about to check out one of the agencies and they asked for so much.... They're like 'Well, if you're not legal then, [and] everyone that's over 18 can't provide papers, we can't help you.'" We cannot document the prevalence of such encounters, but, in general, respondents' immigrant status, limited English proficiency, and lack of credit are all possible reasons for nonuse of real estate agencies (Clampet-Lundquist, 2003; Krysan, 2008).

None of our respondents—and, indeed, probably few people in general—approached the housing search as a wide-open process that included all possible units in the entire Chicago metropolitan area. Their first cut was price, but even that left many possible apartments. Among apartments they

could actually get to—especially if they were on foot or on public transportation—respondents relied on their social networks to hear of available units or to directly provide them, and they searched in areas that were familiar and that would be near their sources of social, instrumental, and emotional support.

Discussion and Conclusion

Scholars increasingly point to the ways that segregation affects housing search strategies, information sources, and information gaps and how practices circumscribed by a segregated urban landscape can, in turn, contribute to differential housing outcomes for minority and White renters. These interviews reveal housing search factors that could contribute to persistent housing segregation in Chicago. We find that affordability pressures and quick, unanticipated moves, along with transportation challenges and immigrant status, lead households to rely on social networks for their housing searches. This finding supports previous ones on the importance of social networks for the housing searches of assisted and unassisted Black renters. Homogeneous and geographically bound social networks—a product of racial residential segregation—contribute to short-distance moves among a set of similar, contiguous neighborhoods. As DeLuca, Wood, and Rosenblatt (2012: 24) argued, “[T]he information an individual derives from homogeneous social networks is often similar to information they are likely to already have. Respondents were most likely to receive information about housing from their relatives, who are geographically close and also likely to be living in poor neighborhoods.” Dependence on social networks as the primary source for housing information yields circumscribed information regarding available options and, in turn, affects—if not determines—their housing selection.

The use of social networks is not unique to low-income, Hispanic, or immigrant households. In her study of Black and White suburban parents making housing and school choices, Lareau (2014) found a dominant mantra of “trust what you know and who you know.” She found that upper-income White parents did not do sophisticated fact gathering when choosing where to move. Instead, they relied on their similarly high-status social networks to tell them about the “best” neighborhoods with the “best” schools. In other words, Lareau’s upper-income respondents had friends and family members with access to and knowledge of resource-rich neighborhoods. As a result, “the stratified nature of parents’ social worlds facilitated a rapid and seamless reproduction of inequality” (Lareau, 2014: 172) in neighborhood and school outcomes. Our interviews with low-income, mostly immigrant Hispanic women tell the other side of this story. Constrained by finances and transportation, reliance on social networks for housing information led to short-distance moves, and previous research has shown that “distance-guided migration will tend to lead back to racially similar areas” (Quillian, 2014: 10). We add to this finding that distance alone does not account for moves within racially and economically similar areas; rather, distance combines with the pull of social networks and barriers of unaffordable rents (as shown in exhibit 1b) to make even adjacent neighborhoods unlikely destinations, as our respondents’ experiences showed.

The sample size and qualitative nature of this research prevent our making claims about generalizability. Moreover, we recognize that by focusing on lower- to moderate-income neighborhoods with large Hispanic populations within the city, we do not capture the perspectives of Hispanic

households that have moved to areas where they are the minority, to higher-income neighborhoods, or to the suburbs. Nonetheless, our findings support several other findings reported in the emerging literature on unsubsidized renters.¹⁰ We document that low-income Hispanic households face many of the same burdens as do unassisted Black households, but we also show the importance of respondents' immigration status to their ability to get a driver's license (and thus pursue housing in more distant neighborhoods), their hesitance to use real estate agents, and their low takeup of government housing assistance, despite potential income eligibility.

Also, the advantage of qualitative interviews is in raising new topics and suggestions for future research directions. Our findings identify the need for further investigation of social networks in facilitating and constraining the housing transitions of low-income immigrant Hispanic households. The study of social networks is considerably more sophisticated in the domain of job search than in that of housing search, from the use of mathematical modeling and social network analysis (for example, Montgomery, 1992) to extensive qualitative interviewing about trust and job referrals (for example, Smith, 2007). The American Housing Survey (AHS), however, asks only one question about the relevance of social networks—namely, whether the respondents chose their current neighborhood because it was convenient to family or friends. A more robust study of social networks and housing search and decisionmaking would include basic questions about social networks—size, density, characteristics of network members, and so forth—plus questions that explore how people find out about available units; the residential location of their social network ties; their reliance (or not) on such ties for help with childcare, transportation, or getting a job; and how they prioritize living near family and friends, among other criteria. The Detroit Area Study that Krysan (2008) used contains many of these measures, but the sample did not include Hispanic households and did not focus on immigrant status, and thus is not helpful for understanding the search strategies of the country's largest minority group and for comparing them with the experiences of White and Black households.

In terms of policy, the women we interviewed did not voluntarily comment on Chicago's racially segregated geography. Instead, what they confronted daily were overcrowded housing conditions, unattainable rents, a reliance on public transportation, unstable living arrangements, small housing units, barriers based on their immigration status, and unresponsive landlords. They activated their social networks to navigate these precarious housing realities. Moves often were quick and to nearby apartments. If policymakers want to intervene in moves that, for the most part, stayed within "racially and ethnically concentrated areas of poverty" (HUD, 2015a), then the remedies must address the immediate housing needs of this population either by offering accessible (without a car), affordable, and stable alternatives *that warrant the risk of moving away from established, familiar, and proven social ties* into neighborhoods that may, in the long run, offer safer streets, better schools, and more job opportunities or by improving the areas where households such as those we studied currently live while maintaining affordability. The Child Opportunity Index and affordability maps for Chicago underscore that this population could potentially benefit from a program that informed them of the relatively affordable, higher-opportunity neighborhoods within relatively short distances from where they currently live. Before mobility programs are considered, however,

¹⁰ Replication of qualitative results is extremely important in the process of knowledge generation because it points to generalizability across populations, time, and place, which no one qualitative study can claim.

a first order need would be to determine whether these households could qualify for a voucher and, if so, what barriers or misconceptions about the program are preventing them from applying for housing assistance.

Hence, three kinds of policy interventions are relevant to our findings. First, temporary or emergency rental assistance programs could mitigate the need to move quickly by providing households with short-term rental subsidies while they locate a more affordable apartment, possibly in a higher-opportunity neighborhood. Such programs are gaining traction in the fight against homelessness (Culhane, Metraux, and Byrne, 2011). The Urban Institute and What Works Collaborative (Cunningham, Leopold, and Lee, 2014) have proposed a demonstration for “shallow, flat” rental subsidies that could also increase housing stability among households like those we interviewed. More boldly, Desmond (2016) has proposed a universal entitlement to housing vouchers, although the immigration status of our respondents would make many ineligible. Despite unit inspections, rental assistance programs have not, however, exhaustively addressed housing quality issues that prompt quick moves, such as insect infestations or broken essential systems. Addressing these kinds of problems requires stiffer housing code enforcement, penalties for landlords, and rent relief for renters living in unsafe or unsanitary housing. Because households without legal residency might be wary of reporting poor housing conditions, a strict separation between housing code and immigration enforcement is essential.

The other two strategies echo calls for both mobility-based and place-based investment strategies. We concur with the Chicago Metropolitan Agency for Planning (2013: 8), which concluded the following:

The pattern of racial and ethnic segregation has for decades correlated closely with the pattern of opportunity in the region. Not only do people of color face barriers to equal housing choices, communities of color face barriers to opportunity.... Thus, the region’s ability to improve the structure of opportunity relies heavily on efforts to improve racial and ethnic integration both by expanding housing choices for people of color and by incentivizing targeted economic development in communities of color.

Elaborating on these points, the report details a series of actions to increase the information that Hispanic (and other) households receive about areas of greater opportunity, such as using affirmative marketing strategies, training for housing professionals, and improving monitoring and enforcement of fair housing laws. Regarding investing in disinvested communities, the report recommends priority public investments for such areas, improving transportation infrastructure and service, and creating land banks to protect affordability as neighborhoods improve, among other things. Although all these strategies are local and regional, the federal government obviously plays a role in incentivizing and supporting such efforts using the Affirmatively Furthering Fair Housing Final Rule.

To conclude, people continue to move within a constrained geography of relatively disadvantaged neighborhoods not because of a lack of imagination but rather a lack of information, a lack of a safety net of resources to do so, and because of the important reliance on social networks. Policy plays a role in decreasing the prevalence of desperation moves, showcasing alternative neighborhoods that offer more opportunity, and increasing the resources in places where people

already live. The primary hurdle is not that such policies do not currently exist but rather that funding levels do not allow for them to reach most eligible households, that restrictions based on residency status make them inaccessible for families without documents, and that some immigrant families who are eligible may not have accurate information about their eligibility for housing assistance.

Appendix A. Qualitative Research Recruitment Flyer

Exhibit A-1

Recruitment Flyer, English Version

Housing Study

Northwestern University housing policy researchers are interested in speaking with you about your experiences living in Chicago.

We are seeking **mothers (or female guardians) of children aged between 3 and 8 years old** who currently live in the city of Chicago.


You will receive \$50 in exchange for a conversational interview where we will sit and talk about your experiences, concerns and hopes for the future with respect to housing decisions in the city. This interview typically lasts two hours and we will travel to wherever is most convenient for you.

To participate or for more information about this research study:

Contact Professor Pattillo at (847) 886-9730

Please leave a message with your **name, phone number** and the best time to call you back. Or you can send an email to hogar@northwestern.edu with the same information.

Research Study: "Housing Decisions among Latino Families with Children," IRB # STU00052266, Northwestern University, Department of Sociology.


NORTHWESTERN
UNIVERSITY

Note: Spanish version available from authors on request.

Appendix B. Qualitative Research Interview Guide

The Spanish version of the interview guide on the following pages is available from the authors on request.

**Northwestern University
Department of Sociology**

**Principal Investigator: Mary Pattillo
Research Assistants: Diego de los Rios; Ricardo Sánchez Cárdenas**

Sponsored by: The Kellogg Foundation

A: Consent

1. Find out if they would like the consent and interview conducted in Spanish or English.
2. Read consent form, answer any questions, and get signature.

B: General

I'd like to start off with some pretty general questions about you and your household...

1. So, tell me a little about yourself. Introduce yourself to me, whatever you think is important.
2. What's most on *your* mind about your living situation? We'll get more into my specific questions soon, but tell me three things about your living situation here in this apartment and in this neighborhood, *anything* that's on your mind, good or bad. [*Probe*: neighbors, or roommates, or the apartment, or your rent or mortgage]. [*Note*: If you are not interviewing in the person's home, have them tell you where they live, i.e., address and kind of unit.]
3. And just so I can be sure to ask you all the right questions, were you born here in the U.S. or someplace else?
 - a. (If not U.S. born): Where were you born and when did you come to the U.S.? Where did you first move when you came to the U.S.? When did you come to Chicago?
 - b. (If U.S. born): Where in the U.S. were you born? When did you come to Chicago?
4. Now about your house/apartment, could you tell me who all lives here?
5. Let's take each person one at a time, from the youngest to the oldest. Where does X spend most of his/her day? Now for the next youngest... [*Note*: Repeat for each household member. Try to get detailed information about *where* household members spend their day, including neighborhood names, cross streets or addresses.]

6. And you? Where do you spend most of your day? [*Note:* This question is also to get at if they are working and the specific location of their job(s)]. [*Probe:* Do you have any other jobs and where are they located?]
7. Where else do you go? Think about your normal routines like grocery shopping or church or entertainment or activities you or your kids are engaged in. Talk to me about the places you go for these things. [*Probe:* Why do you go there for these activities? Are these things available or missing in your own neighborhood? Are they better or worse in other neighborhoods? Do you like these places because other Latinos are there?]
8. How do people in this house get to where they need to go? [*Probe:* Public transportation, car ownership, access to a car, use of taxis, rides with other people.]
9. Do you have a driver's license? Remember, we don't work for the government and all of this information is confidential. [*Probe:* Is it from Illinois or somewhere else?]
 - a. (If not): Why don't you have a license?
 - b. How do you think it would change where you live and the things you do if you had a license?

C: Children

1. Ok, let's talk a bit about your children. How many children do you have and tell me about them. Do you care for any other children?
2. Do you have or care for any children that are not here with you in the house? Tell me about them. Where are they? Why?
 - a. Do you regularly send money or other things to your children or other family members? Tell me more about that. [*Probe:* How does that affect your family budget? Where do you go to send things?]
3. Are there any children here in the house that you are *not* responsible for? Tell me about that.
4. Tell me about the languages that are spoken in the house. How has that developed or changed as your child gets older?
5. I'd like to get a sense of where your children spend their time, so let's start with school [*Note:* If child is not school age, replace "school" with "child care". Focus on children 3-8, but if there is more than one in that age range, then try to get info on each.]:

Where do your kids go to school/child care and how did you decide on that school? [*Note:* Get specific neighborhood or cross streets and probe about the location, travel, benefits, social networks, etc.]

6. (If in-home child care): Why did you decide to keep your kids at home with you? [Probe: expense, convenience, tradition, best for child].
7. (If in-home child care): What other child care options outside of your home have you considered and what are your opinions about them?
8. (If care/school outside of home): What do you think about your child's school (child care)? How is that working for you?
9. What things do you think make for a good school (child care)?
10. Which schools (child care) around here are good and why?
11. What things do you think make a bad school (child care)?
12. Which schools (child care) around here are bad and why?
13. Tell me about some things that schools (child care) might offer that are important to you? [Probe: location, certified caregivers, honors, magnet, English Language Learner program, bilingual teachers/staff, special ed, sports, arts/music, technology, meals?]
14. What about when they reach high school? What will you be thinking about then? What will be your high school options, things you'll look for and avoid?
15. Okay, outside of school, where else do your children go? Think about their normal activities like parks, their friends, family members, church, or just playing or entertainment. Talk to me about the places your kids go for these things, either with you or without you.
16. Do your children spend anytime outside of the city of Chicago? Tell me more about that. [Probe: In the suburbs? In other cities? In other countries?]
17. And now some things that kids do inside the house: Where do your children sleep normally? Has it always been like that? Tell me more about that.
18. Where do your children spend their time in the house and what do they do in those places?
19. If you could change some things for your kids about where and how they live, what would you change? [Probe: What's in the way of making those changes?]

D: Neighborhood

1. Now we're going to talk a bit about this neighborhood. What neighborhood do you live in? Does this neighborhood have a name? [Probe: If someone from a different part of the city asked you what neighborhood you lived in and didn't know your street name, what would you call this place? How would you tell them generally where you live?]
2. What would you say are the boundaries of this neighborhood?

3. Tell me about this place. I'd love to hear some details, some specific stories about what it's like to live here. [*Note: While we want to know how they conceive of "their neighborhood," at some point we want them to start talking about some area bigger than just their block and smaller than a whole area like The Southwest Side.*]
4. Has this neighborhood changed since you've lived here and what do you think about the changes?
5. Let's say you had a cousin who was planning to move to Chicago and wanted to live near you. How would you talk to her about moving here?
6. What if she had a child? What would you tell her about this place for her and her child? If she had a *teenager* would you say anything differently?
7. (If first generation in U.S.): Are there people from your country in this neighborhood? Are there people from your hometown in this neighborhood? Did you know anyone here from your country or hometown before you came to Chicago or to this neighborhood?
8. (If first generation in the U.S.): How does this neighborhood compare to the neighborhood you first moved to in the U.S.
9. (If born in the U.S.): How does this neighborhood compare to the neighborhood where you grew up?
10. Where do you get information about what goes on in your neighborhood? [*Probe: neighbors, library, community center, community newspapers, city newspaper, television.*]
11. What are the things you like best and the things you like least about this neighborhood?
12. And your kids? What do they like the most and the least about this neighborhood?
13. How do you think the neighborhood you live in matters in a child's life?
14. Tell me about how safe you feel in your neighborhood? In the daytime? At night? [*Note: Be attentive to how race relates to feelings of safety.*]
15. What about your kids? How safe do they feel in the neighborhood? Can you tell me about any conversations you've had with them about how safe they feel?
16. Tell me about the rules that you have for your kids in the neighborhood and what happens when they don't follow them.
17. What kinds of things do you do to stay safe?
18. Tell me all you can about your neighbors. Let's think first about the two neighbors who live closest to you. Describe them for me as best as you can. [*Probe: demographics, whether or not they work, are they kin, friends, do children socialize with them?*]
19. What about other neighbors on the block? Describe them as best as you can.

20. Can you share any stories about your neighbors helping you out or about your neighbors making life hard for you?
21. How often do you watch what's going on outside?
 - a. Has anything interesting happened lately? Did you do anything? Tell me more about that.
 - b. Do other people around here keep an eye on things? How do you feel about that?
22. How comfortable are you calling the police if you see suspicious activity happening on your street? What makes you feel that way?
23. What about the police around here? Talk to me about the police and the job they do around here: [*Probe*: Do they do a good job? Do they monitor what the kids are doing in the neighborhood?]
24. Can you tell me anything about the police harassing adults and/or kids around here? For what? How do people react? Do people change their routines to avoid harassment? [*Note*: Be attentive to immigration related harassment.]

E: Unit

We've been talking about your neighborhood, now let's talk about your specific housing situation.

1. How long have you been living here in this apartment/house?
2. Can you describe for me the house or apartment you live in right now? What's it like? How many bedrooms? Bathrooms? Heat? Air conditioning?
3. (If it is in a multi-unit building): What do you think about living in a building with other apartments and other families? What are some good things and bad things about that?
4. How much do you pay to live here? Is that the total rent? Tell me about if it's hard, easy, or manageable to pay the costs to live here? Do other people help out? Do you get any subsidies?
5. What are the best features of this apartment/house? What are the worst features?
6. What about for your kids? How is this apartment or house as a place for kids to live?
7. And what do your kids think? What do they like about the house or apartment? What's good and not so good, from their point of view?
8. Are there are other people who stay here sometimes but don't live here? Tell me more about that. Again, no one will be able to connect you to your answers so you do not need to

worry about anyone finding out who stays here. [*Probe*: How many and how often, relationship to respondent, partners/boyfriends].

9. (If renting): Describe your current landlord. What do you like best about your landlord? What do you like least?
10. (If renting): When was the last time you called you landlord? What was that for? How did he/she respond?
11. Thinking over the house/apartment you live in now and the three places you lived in before this one, rank them from best to worst.
 - a. What did you think about when you ranked them the way you did?
12. How safe would you say your specific apartment is and why? What kinds of things make a unit safe for kids? What kinds of things make a unit not safe for kids? [Note: Here we want safety from crime and safety from hazards or harm.]

F: Move to the Unit/Neighborhood

You've described to me what this neighborhood and this apartment/house are like, now I'd like to know how you came to live here...

1. Can you tell me the whole story of how you came to live in this neighborhood and in this specific house/apartment? [*Probes*...
 - a. Why were you moving in the first place?
 - b. What things were you weighing when you were looking for a place? What was on your mind?
 - c. Who did you talk to in the process and what advice did they give? Did you use any agencies or services?
 - d. Did they recommend any neighborhoods? Or tell you to avoid any places? Tell me more about that.
 - e. Tell me about other neighborhoods you looked at.
 - f. What kind of transportation did you use to look for a place?
2. What was the furthest away you were willing to move from your last apartment or house? Did you look very far out?

3. While you were looking, what things in a neighborhood made you think, "This is a bad area?" What things made you think, "This is a good area?"
4. While you were looking, what things in an apartment made you think, "This is a bad apartment?" What things made you think, "This is a good apartment?"
5. While you were looking, did you find out anything about the schools around here? Tell me more about that.
6. Did you talk to anyone about the schools when you were thinking of moving here? Tell me about that conversation.
7. Tell me about how you chose this place over others. Give me some specifics about what you were weighing in the decision?
8. Considering everything you were thinking about as you looked, what would you say were the three most important factors in moving here?
9. How many times have you moved in the last five years? Why did you move each time you moved?
10. And now a really general question: What makes for a good neighborhood to raise kids these days? What are the most important things to consider? The least important? [*Probes...*]
 - a. Does it depend on how old the child is?
 - b. Or if it's a boy or a girl?

G: Housing Vouchers

In this study, we are particularly interested in a program called the Housing Choice Voucher program, which is also called Section 8. So I would like to ask you a few questions about this program...

1. What do you know about the voucher program, or Section 8? Who is it for? How does it work?
2. Do you have a Housing Choice (Section 8) Voucher?
 - a. (If no): Have you ever applied for a voucher? Why or why not and what happened? [*Probe: Does immigration status discourage them from applying? Is there stigma associated with the program?*]
 - b. (If no): Are you on the waiting list for a voucher?

- c. (If yes): Tell me about your experience with the voucher program? [*Probe*: When did you apply? When did you get your voucher? How has it helped or been a challenge? How would your living situation – your rent, the size of your apartment, where you live, who you live with – be different if you did not have the voucher?]
3. Do you know anyone (else) who has a voucher? What do they tell you about it?
4. (If no voucher): Is the voucher something you would like to get? Why or why not?
5. In addition to the Section 8 voucher, there is also public housing in Chicago. Have you ever applied to get into public housing? Why or why not? [*Note*: Be attentive to issues of “pride”, racialization of public housing, qualifying for public housing because of immigration status or income.]

H: Residential Mobility

We’ve talked about where you have lived in the past, where you live now, and in this part of the interview I’d like to know about where you might live in the future...

1. Are you thinking of moving from where you live now?
 - a. (If no plans to move): What are the most important reasons for staying? [*Probe*: great apartment, family members, immigrant networks, Spanish-language services, ethnic goods, etc.]
 - i. Are there any things specific to your children that make you want to stay? [*Probe*: family or immigrant network childcare, intervention services, health services, closeness to school or park, etc.]
 - b. (If plans to move): What makes you want to move? Can you tell me about something that has happened recently that makes you want to move? [*Probe*: Crime/safety? Living with other family members? Rent too expensive? Change in family circumstances? To move closer/farther from something? Better opportunity?]
2. So let’s say you are planning to move right now (even if you really don’t have plans to move). Walk me through what you would do to find a new place.
 - a. First of all, who would move with you? Would anyone stay behind? Would you add any new people to your household?
 - b. How would you start looking? [*Probe*: Resources used, such as newspapers, family, friends, internet, other.]
 - c. What kind of apartment or house would you look for?

- d. What neighborhood(s) do you have in mind? Anything outside of the city of Chicago? Outside of Illinois? Outside of the U.S.? Why those places?
 - e. What places would you avoid and why?
 - f. What role would schools play?
 - g. What role would your family and friends play?
 - h. How important is public transportation or access to a car?
 - i. (If with a voucher): How would the voucher affect where and how you looked?
3. What would you miss most about this neighborhood if you left?
 4. People have different views on what type of racial mix they want in their neighborhood. Chicago, including the suburbs, has neighborhoods that are mostly black, mostly white, mostly Latino and some mixed neighborhoods.
 - a. Can you tell me about different neighborhoods in the Chicago area in terms of what races live there? Be specific if you can. How have you learned this kind of information?
 - b. How would the racial mix affect what neighborhoods you would be interested in moving to? What kind of neighbors do you prefer?
 - c. What kinds of things about a neighborhood do you think go along with its racial mix? What are the stereotypes?
 - d. Can you tell me any specific good things that you think come from living around other Latinos? Are there any specific bad things?
 5. Similarly, people have different views on what type of mix they want in their neighborhood regarding social class. Chicago, including the suburbs, has neighborhoods that are mostly wealthy people, mostly middle class people, mostly lower-income and poor people, and mixed neighborhoods.
 - a. Can you tell me about different neighborhoods in the Chicago area in terms of their social class mix? Be specific if you can. How do you know this kind of information?
 - b. How would the income of a neighborhood affect what neighborhoods you would be interested in moving to? What kind of neighbors do you prefer?
 - c. What kinds of things about a neighborhood do you think go along with its class mix? What are the stereotypes?

I: Conclusion

Okay, we are at the end of the interview. I'd like to wrap up with some questions about your ideal apartment or neighborhood, and then get some specific information about you.

1. Now let's talk about your ideal or perfect house or apartment for you and your family. What features would you ideally like for your house or apartment?
 - a. What things are for you and what things are for your children?
 - b. How do the units you've lived in so far compare to your ideal?
 - c. What gets in the way of having that ideal apartment or house?
2. What about your ideal neighborhood? Tell me about a picture you have in your mind of what would be in your perfect neighborhood for you and your family.
 - a. What things are for you and what things are for your children?
 - b. How do the neighborhoods you've lived in compare with your ideal?
 - c. What kinds of things get in the way of living in your perfect neighborhood?

J: Demographics

1. Interviewee i.d. _____
2. Age: _____
3. Gender: _____
4. Race (what do they call themselves): _____
5. Education Level: _____
6. Marital Status: _____
7. Age and gender of kids (e.g., G-2 for 2-year old girl): _____
8. Wages (pay per hour, hours per week last month): _____
 - a. 0-\$10k, b. \$10-15k, c. 15k-20k, d. \$20-30, e. \$30-50, f. above \$50k
9. Total household income: _____
10. Neighborhood: _____
11. Country of origin: _____
12. Number of years in US: _____
13. Primary Language: _____
14. English proficiency (self-report on a scale of 1-5 with 5 being most proficient):

15. English proficiency (interviewer observations): _____

K: Interview Field Notes

Date:

Time and duration of interview:

Interviewer(s):

Interview Context:

Where did you conduct the interview?

Describe the home [size, condition, location, cleanliness, style].

Describe the people in the neighborhood as you approached the interview (what were they doing? On stoops, on corners, bus stops, etc.).

Describe the physical condition of the neighborhood as you approached the interview (condition of housing/abandoned buildings/bars on windows/condition of sidewalk/presence of litter etc.).

Describe the type of dwellings on the street (Single-family, detached units; Single-family, attached (Rows); Duplexes; Multifamily; Apartment building; Housing with commercial store fronts; Housing projects)

Who was present during the interview (other than yourself and respondent)?

Were there any unusual distractions and/or noises?

Was there any information obtained when the tape recorder wasn't on?

Describe the respondent's disposition during the interview [interaction, appearance, attitude].

Describe any other issues that make this case notable.

Explain any unanswered questions you have about this respondent, anything that seemed contradictory about their answers, anything they were not forthcoming about, or things you would like clarified.

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The Role of Nonprofit Organizations in Homeless Policy Networks: A Research Note

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Abstract

This research note investigates the extent of nonprofit organizations' involvement in federal homeless policy networks in the United States and examines the degree to which nonprofits take a leading role. Nonprofit organizations are in a good position to take on the leading role in human service networks because they tend to be focused on helping their specific locality and are likely to have established legitimacy and trust with other community organizations. We conduct a descriptive analysis of a nationwide sample of 382 local homeless networks and an in-depth analysis of 35 local networks from one service region in the United States. The results indicate that nonprofit organizations are significant players in implementing federal homeless policy and that they take on a leadership role by coordinating the efforts of the local homeless network.

Introduction

Collaboration between the nonprofit and public sectors has arrived as an alternative service delivery arrangement to the single organization attempting to serve a community. Although the reasons that organizations collaborate with one another are well studied, the role that nonprofit organizations play in collaboration and the degree to which nonprofits lead collaboration efforts remain largely unexplored. This research note pursues the following two questions: (1) What is the extent of nonprofits' involvement in local networks that are promoted by public policy? (2) To what extent do nonprofit organizations play a leading role in collaborative networks?

To address these research questions, this study examines a federal homeless policy that encourages local communities to create collaborative networks to address the incidence of homelessness—the Homeless Emergency Assistance and Rapid Transition to Housing (HEARTH) Act of 2009. We conduct a descriptive analysis of these local homeless networks in the United States using data from the U.S. Department of Housing and Urban Development (HUD) and the U.S. Census Bureau. First, we conduct an indepth analysis of a sample of 35 local homeless networks within a region¹ of the United States to explore the network membership composition, the sectors these organizations represent, and the extent of nonprofits' involvement in these homeless service networks. We then analyze a nationwide sample of 382 local homeless networks² to understand the extent to which nonprofits take a leading role. The results indicate that nonprofit organizations are not only significantly involved in the implementation of the federal homeless policy, but they also take on the leading role within the collaborative network.

This research note is organized into four additional sections. First, we briefly review the literature that addresses why nonprofits collaborate and why nonprofits may be positioned to lead collaborative networks. The research context, data, and methods are presented in the second section. The third section reports the findings of this study with discussion. The fourth and last section comprises the conclusion, a discussion of the study's limitations, and directions for future research.

Literature Review: Why Nonprofits Collaborate and May Lead Collaborative Networks

Nonprofit organizations engage in collaborative networks for a variety of reasons, including rules, regulations, and other mandates that require or encourage them to collaborate with other organizations (DiMaggio and Powell, 1983; Gray and Wood, 1991). Nonprofit organizations also collaborate because of a need to access resources (Gazley, 2010; Jang and Feiock, 2007; Pfeffer and Salancik, 1978; Singer and Yankey, 1991). The current scholarship has adequately addressed the multidimensional motivations of nonprofit organizations to participate in collaborative networks. Few attempts, however, have been made to understand nonprofits' leading role in collaborative service networks. We propose that nonprofit organizations are in a good position to take on the leading role in human service networks for several reasons.

First and foremost, because nonprofit organizations tend to be focused on helping their specific locality, they are likely to have established legitimacy and trust with other community organizations (Ott and Dicke, 2012; Wolf, 1999). As such, nonprofits may be positioned to lead the process of activating key members of a network and initiating the collaboration process (O'Regan and Oster, 2000; Wolch, 1990). Second, a service network led by a nonprofit can establish itself as a

¹ Continuum of Care (CoC) networks are established to serve all 50 states and the U.S. territories, such as Puerto Rico. A single CoC may cover a city, county, metropolitan area, or entire state. See, for example, HUD's 2014 *Annual Homeless Assessment Report to Congress*, which chronicles the homelessness rate by CoCs.

² Using CoC data from HUD's Exchange website (<https://www.hudexchange.info>), we identified 421 networks serving the 50 states. Of those networks, 39 were organized to serve an entire state and 382 served a city, county, or metropolitan area. Our analysis focuses on the 382 networks because they are community-based, self-organized networks engaged in collaboration.

public charity to help mobilize support and secure a variety of private financial resources (Dropkin and Hayden, 2001; McGuire, 2002). Third, nonprofit organizations may be positioned to lead a collaborative network because of their natural capacity to frame a vision and mission and build consensus among network stakeholders (Agranoff and McGuire, 2001; McGuire, 2002). Leading a network requires selling a mission and vision to collaborative partners and other stakeholders, which is important for providing a sense of direction and purpose for the collaborative process (Milward and Provan, 2006; Silvia, 2011). Nonprofits are also positioned to take on the leading role in collaborative networks because of their ability to mobilize volunteers for collaborative activities. Fourth and last, unlike government agencies, nonprofits can pursue partnerships with faith-based organizations and religious congregations without political concerns or the stigma of meshing church and state relations (Bielefeld and Cleveland, 2013).

Research Design

In this section, we briefly discuss the context to exploring the role of nonprofit organizations within collaborative networks. In addition, this section describes data sources retrieved from HUD and methodology.

Research Context

To understand the extent of nonprofit organizations' involvement in networks promoted by public policy, we study collaborative networks within the context of the HEARTH Act of 2009. The HEARTH Act encourages local communities to create Continuum of Care (CoC) networks operating under collaborative governance to address the incidence of homelessness.³ This context is optimal for studying nonprofits' participation and their potential leading role for at least two reasons. First, the policy specifically calls for the active participation of a variety of nonstate actors in homeless networks,⁴ thus enabling us to assess the extent of nonprofits' membership. Second, CoC networks are self-organized, and they identify their own unique strategies to address problems of homelessness within their communities (HUD, 2012). CoC networks, for example, have the freedom to identify a collaborative applicant, which functions as the leading agency.⁵ This context then enables us to investigate the degree to which nonprofits take a leading role in the process.

³ In 1994, HUD began encouraging the creation of collaborative networks at the local level and providing the resources needed to implement what is known as the Continuum of Care network or homeless networks (HUD 2012). (In this research note, we use the terms *CoC network* and *homeless network* interchangeably.) This approach was codified into law in 2009 with the adoption of the HEARTH Act.

⁴ "Homeless Emergency Assistance and Rapid Transition to Housing: Continuum of Care Program; Interim Final Rule," edited by HUD, 45421-45467.

⁵ According to the CoC federal interim rule, the CoC designates one applicant or agency to function as the collaborative applicant, which is the only entity allowed to apply for a grant from HUD on behalf of the CoC (HEARTH Act). The collaborative applicant functions as the organization identified by the CoC to be the lead agency responsible for soliciting funding applications from CoC network members, submitting a single application, and overseeing the administration of the funded projects.

Data

We collected data from HUD, requests for information from CoC networks, and the websites of CoC networks. In 2014, we identified 421 CoC networks operating in the United States (excluding those in Puerto Rico and the other U.S. territories) from the HUD Exchange website (<https://www.hudexchange.info>).

To analyze the degree to which nonprofit organizations are involved in local CoC networks, we collected network membership data from a convenience sampling of CoC networks within the Mountain Plains region.⁶ In 2014, 39 local homeless networks were in operation within this region, and membership data were gathered from one of two sources: (1) the local CoC network website or (2) requests for information from the collaborative applicant of each network. Data were successfully collected for 35 of the 39 local CoC networks.⁷

Next, we analyzed the websites of all collaborative applicants and coded their sector as nonprofit, city, county, or other (private entities, regional governments, and so on). We also categorize the various types of nonprofit organizations, such as human service nonprofits, faith-based organizations, and churches, to capture their diversity. For instances in which two organizations were listed as the collaborative applicant, we coded this entity as one of three partnership types: nonprofit-nonprofit, nonprofit-public, or public-private. The analysis of network membership sheds light on what sector organization(s) take the leading role within the network.

Methodology

The method of analysis for this study is based on descriptive statistics, which is an appropriate choice considering the exploratory nature of this study (Singleton and Straits, 2010). In addition, descriptive statistics lay the foundation for later, more sophisticated inquiries about our subject matter (Meier, Brudney, and Bohte, 2012). Our intention is to develop a foundational understanding of local homeless networks across the United States, including their composition and leadership, and to conduct more indepth analysis.

Findings

First, we examine the extent to which nonprofit organizations participate in collaborative networks. In exhibit 1, we tabulate the total number of network member organizations by sector within the Mountain Plains region. As presented, nonprofit organizations constitute about 68 percent of the member agencies within the 35 CoC networks. Note that faith-based organizations (13.0 percent) and churches (2.2 percent) participate in homeless service networks. This observation indicates that the HEARTH Act may create an environment that attracts diverse nonprofit organizations to collaborate with other stakeholders to coordinate public service networks for homelessness.

⁶ Using International City/County Management Association regions, we collected data from the Mountain Plains region, which includes Arizona, Arkansas, Colorado, Idaho, Kansas, Montana, Nebraska, New Mexico, North Dakota, Oklahoma, South Dakota, Texas, Utah, and Wyoming.

⁷ Membership data were directly received from 20 local CoC networks through a request for information, and data for 15 CoC networks were collected from their individual websites. The remaining 4 local CoC networks were eliminated from our sample.

Exhibit 1

Local Homeless Network Member Composition for a U.S. Region^a

Sector	Type of Organization	Total Number (N)	Proportion by Category (%)	Proportion by Sector (%)
Public	City	169	11.0	20.9
	County	84	5.5	
	State	62	4.0	
	Court system	2	0.1	
	Federal	5	0.3	
Nonprofit ^b	Human service nonprofit	816	52.9	68.2
	Faith-based nonprofit	201	13.0	
	Church	34	2.2	
Education	School district	62	4.0	5.6
	University	24	1.6	
Private	Individual citizen	24	1.6	4.9
	Business organization	51	3.3	
Other	Unknown	8	0.5	0.5
	Total	1,542	100.0	100.1^c

N = 35 networks.

^a The Mountain Plains region includes Arizona, Arkansas, Colorado, Idaho, Kansas, Montana, Nebraska, New Mexico, North Dakota, Oklahoma, South Dakota, Texas, Utah, and Wyoming.

^b The categorization of nonprofit organizations was conducted to capture the distinctive service nature and mission focus of diverse 501(c)(3) nonprofit organizations.

^c The total equals 100.1 percent due to rounding.

Sources: HUD (2012); requests for information from homeless networks

Next, we explore the degree to which nonprofit organizations play a leading role in local homeless networks. Exhibit 2 tabulates the collaborative applicants of the 382 homeless networks by their sector. Of 441 collaborative applicants, nonprofits (53 percent) are the most frequent type of organization to take on the leading role as the collaborative applicant. This finding suggests that nonprofits may not only be motivated to collaborate for reasons such as resource dependency and institutional pressure, but also may be in the best position to lead the network for reasons centered on their distinctive nature.

We also take a closer look at collaborative applicants that are nonprofit organizations (234 nonprofits) by identifying their types (that is, whether secular, faith-based, or church organizations). Results indicate that, of all nonprofit collaborative applicants, a vast majority of nonprofits leading local CoC networks are human service nonprofit organizations (75.9 percent). Only about 2.5 percent of all nonprofit collaborative applicants are faith-based nonprofit organizations. In addition, we find that, although church entities are found to be members of networks, no instances occur in which they are the collaborative applicant or lead agency of the network. In general, our interpretation is that faith-based nonprofits and church organizations are less likely to put themselves in a leading position in which they will have to deal directly with the federal government, which the collaborative applicant would have to do.

Exhibit 2

Local Homeless Network Leadership Across the United States^a

Sector	Homeless Network Leaders ^b	Number of Homeless Network Leaders (N)	Proportion of Homeless Network Leaders (%)	Proportion by Sector (%)
Public	City	53	12.0	35.8
	County	96	21.8	
	State	5	1.1	
	Court system	0	0.0	
	Federal	0	0.0	
	Public-public partnership	4	0.9	
Nonprofit	Human service nonprofit	154	34.9	46.0
	Faith-based nonprofit	5	1.1	
	Church	0	0.0	
	Nonprofit-nonprofit partnership	44	10.0	
Education	School district	0	0.0	0.2
	University	1	0.2	
Hybrid	Public-private partnership	8	1.8	15.9
	Nonprofit-public partnership	62	14.1	
Other	—	9	2.0	2.0
Total		441	99.9^c	99.9^c

N = 382 networks.

^a Puerto Rico and the other U.S. territories were excluded.

^b HUD reports instances with more than one collaborative applicant, which we categorize as a form of partnership between lead organizations.

^c The total equals 99.9 percent due to rounding.

Source: HUD (2012)

Conclusion

This study provides an exploratory analysis of homeless networks and examines the extent to which nonprofit organizations are involved in the implementation of the federal homeless policy and the extent to which they lead collaborative efforts. Our findings highlight the significant role that nonprofit organizations play as both leading agencies and service providers within CoC networks. We do not necessarily know the exact reasons why nonprofits take the leading role, but we theorize that the reasons center on nonprofits’ distinctive nature and the unique resources they bring to the collaborative process. Future research should explore, for example, the conditions under which nonprofits assume such an important role in collaborative networks and whether nonprofit-led networks are more effective than government-led networks.

At least two policy implications emerged from the findings of this research. First, the current federal homeless policy is resulting in policy implementation structures that involve a variety of nonstate actors, such as nonprofits, local governments, school districts, and business organizations, within at least one region of the United States (Hall and O’Toole, 2000; Hjern and Porter, 1981). This implication is favorable because the needs of homeless people are multidimensional (Cunningham, 2009). Second, considering the extensive involvement of nonprofits and particularly their leading role, more efforts are needed to assess the degree to which nonprofit-led networks

and networks in general are achieving collaboration outcomes, such as reducing the incidence of homelessness within their communities, as a result of the resources and expertise that nonprofit organizations bring to the collaborative efforts.

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Departments

In this issue—

- *Data Shop*
- *Graphic Detail*
- *Industrial Revolution*
- *Foreign Exchange*
- *Evaluation Tradecraft*

Data Shop

Data Shop, a department of Cityscape, presents short articles or notes on the uses of data in housing and urban research. Through this department, the Office of Policy Development and Research introduces readers to new and overlooked data sources and to improved techniques in using well-known data. The emphasis is on sources and methods that analysts can use in their own work. Researchers often run into knotty data problems involving data interpretation or manipulation that must be solved before a project can proceed, but they seldom get to focus in detail on the solutions to such problems. If you have an idea for an applied, data-centric note of no more than 3,000 words, please send a one-paragraph abstract to david.a.vandenbroucke@hud.gov for consideration.

Trend-Spotting in the Housing Market

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Abstract

I create a time series of weekly ratios of Google searches in the United States on buying and selling in the real estate category of Google Trends, whereby I call this ratio the Google U.S. Housing Market BUSE index, or simply the BUSE index.¹ It expresses the number of “buy” searches for each “sell” search, which I consider to be a good proxy of the number of prospective homebuyers for each prospective homeseller in the pool of prospective housing market participants by means of certain regularity assumptions on the distribution of Internet users. The BUSE index—which can be perceived as a behavioral macroeconomic indicator—has several unique, desirable properties, which make it useful for understanding and nowcasting the U.S. housing market. It has a significant correlation with the Standard & Poor’s/Case-Shiller® U.S. National Home Price Index. Because the latter is monthly and is published as a 3-month moving average with a 2-month lag and the Google Trends data are weekly, the result is a short-term nowcast of housing prices in the United States. I show how these Google data can be used to create a consistent narrative of the post-bubble-burst dynamics in the U.S. housing market and propose the BUSE index as an instrument for monitoring housing market conditions in real time.

¹ BUSE index = buyers sellers index.

Introduction

The U.S. housing market is the subject of much research for many good reasons. A house is simultaneously an asset and a home. As an asset, it is related to a homeowner's long-term expectations and, as a home, it defines a homeowner's lifestyle and forms his or her life attitudes. As a commodity, a home is related to a large supply chain of construction materials and home equipment, and it generates a significant number of jobs in construction, maintenance, and sales, to name a few. For these reasons, a home is also often an instrument of government intervention to the economy as a whole, a fact that contributes to the inherent endogeneity in the formation of home prices. For these reasons, conventional economic wisdom is not entirely unfounded in maintaining that *as the housing market goes, so goes the rest of the economy*.

The U.S. housing market certainly has no shortage of house price indices, an additional fact that underlines the importance of this market—which then begs the question, “Why would we need another one?” To answer this question and to explain my choices in this article, I first briefly discuss the available indices.² This housing market has five main housing price indices, two of which are so-called *median house price indices*, with the other three being *repeat sales indices*. The former type comprises the indices of the National Association of Realtors® and the U.S. Census Bureau, and the latter type comprises an index by the Federal Housing Finance Agency (FHFA) and two proprietary indices—one is from CoreLogic, Inc. (CoreLogic), and the other is the well-known Standard & Poor's (S&P)/Case-Shiller® U.S. National Home Price Index (Case-Shiller index). These indices have various pros and cons and exhibit differences, which may be explained by their methodologies. In short, median house price indices are blind to intrinsic, hedonic value, but the repeat sales indices use a prior sale as a proxy for the hedonic value. The FHFA index is a repeat sales index, albeit based only on sales of houses securitized by Fannie Mae and Freddie Mac, but the Case-Shiller and CoreLogic indices are based on “arm's length transactions,” with the CoreLogic index being slightly broader. I chose the Case-Shiller index because the data are readily available on the S&P website.

With all these indices, then, why do we need yet another index? If the buying thoughts of prospective homebuyers or the selling thoughts of prospective homesellers can in some way be captured in real time, we should be able to monitor housing market conditions regardless of the fundamentals that may be driving the housing market. The result would be a behavioral housing market index. A simple ratio of the number of buying thoughts to the number of selling thoughts should indicate something about the formation of upcoming home prices. Underwriting standards, interest rates, mortgage rates, lending trends and practices, the inflow of foreign capital, the prevalence of securitization of mortgages, government programs for affordable housing, tax incentives for homebuyers, labor market conditions: whatever the fundamentals are at each point in time, they should shape and, in fact, be captured by that buy-to-sell ratio. The answer to the question, “Why yet another index?” consequently is that I seek to construct an index that is “buzz based” (that is, based on search intensities for “buy” and “sell”) and contains the fundamentals of what later becomes price. It is also for this reason that I think arm's length transactions are better suited as a target variable.

² The information here largely comes from the Federal Reserve Bank of St. Louis website (<https://www.stlouisfed.org/on-the-economy/2015/january/the-differences-between-house-price-indices>).

To construct such an index, however, raises another question: Where can we find data to build a time series of the number of buying thoughts to the number of selling thoughts in the population? The answer to this question may be different in each era, although in ours the place to search for this type of data is the Internet. Newspapers played a decisive role in the early history of “speculative bubbles” (Shiller, 2015: 101), and the telephone played a role in the “volatile stock market of the 1920s” (Shiller, 2015: 181). The stock market boom of the 1990s was similarly accompanied by another technological revolution: the advent of the Internet. Social media, as we know it today, has brought on the era of a more intensive “interpersonal contagion of ideas” (Shiller, 2015: 182). Therefore, it is not farfetched to search for market clues in Internet data, especially at a time when virtually every market has an online component (Askitas and Zimmermann, 2015). Askitas and Zimmermann (2011) showed how mortgage delinquency rates in the U.S. housing market might be usefully nowcast around the most recent economic crisis by looking at Google Search intensities for the term *hardship letter*. In this article, I follow and adapt an idea in Askitas (2015) and look at ratios of searches containing the word *buy* to searches containing the word *sell* in the Google category Real Estate. These searches are the buying and selling thoughts of prospective market participants. I thus obtain an index, which I call the Google U.S. Housing Market BUSE Index, or simply the BUSE index. It captures the relative proliferation of prospective homebuyers to prospective homesellers in the pool of prospective buyers and sellers (that is, the pool of all prospective housing market participants).³

Because, eventually, the efficient market hypothesis weighs in on asset prices, predicting the (far) future is a futile exercise. Hence, I do not claim to predict future prices but rather simply nowcast their formation in the present in a way that has behavioral underpinnings and enables a better understanding of market behavior. In the literature using Google Trends to forecast economic variables, the standard approach is to enhance a standard seasonal autoregressive model with Google Trends’ categorical data and record improvements of the mean square error as in Varian and Choi (2012). The novelty of this article is that I use the Google Trends category Real Estate but take the ratio of buy-to-sell searches therein (the BUSE index). This technique has previously been used only in Askitas (2015), with very good results. In appendix A, I discuss the data and provide support for my identification strategy.

In the post-2006 bubble-burst U.S. housing market, the BUSE index strongly and negatively correlates with housing prices as expressed by the Case-Shiller index, reflecting the main result of this article (see exhibit 1 in the next section). As prices increase in the boom phase (which can unfortunately be observed only since January 2004), prospective homebuyers are increasingly diluted in a pool in which homesellers proliferate, thus setting the stage for a downturn. When the conditional probability that a house for sale will be sold reaches a trigger threshold (which I estimate around 15 percent), the bust phase is initiated with falling prices and an increase in the concentration of prospective buyers among decreasing prospective sellers. The movement of the BUSE index counter to prices is consistent with a phase difference between buyers and sellers: in a boom, sellers accelerate their entry in the pool only after buyers start slowing down due to the

³ Adding “build” searches appears to sharpen the results, which I believe is because builders may be former buyers, and data on building permits show that the building of new homes is currently on the rise.

high prices, whereas in a bust, sellers leave at accelerating rates after buyers start slowing down their exit. A more technical way of stating this is that the percentage change of buyers and sellers is related, whereby, when one reaches its local extremum, the other changes concavity.

Considering the seasonal properties of this ratio, I observe that, although the relative intensities of both buy and sell searches diminish at the end of the year, the ratio of homebuyers to homesellers (as expressed by the ratio of corresponding searches) exhibits a peak, a phenomenon that I believe to be consistent with prospect theory, which postulates that—all other things kept equal—a loss hurts more than a comparable gain gratifies. The trough in both buy and sell searches means that housing market participation is viewed or felt as incompatible with the family-centered, hedonic bliss of the holiday season. The fact now that the buy-to-sell ratio spikes indicates that selling is more incompatible than buying. The intensity of the peak at the lowest point of the bust is much higher than at the peak of the housing bubble, thus strengthening my point that this observation is indeed an aggregate form of prospect theory in action (Kahneman and Tversky, 1979).

I also examine the dynamics of sales and inventories of existing homes, the housing prices, and the BUSE index, finding a narrative that sheds light on the post-bubble-burst dynamics. To better allow for the dynamics to emerge, I apply a certain smoothing technique explained in appendix B. A certain pork-cycle-like pattern emerges (Hanau, 1928) among sales of existing homes (which I think of as a proxy for demand), the inventory of homes for sale (supply), the Case-Shiller index, and the BUSE index: rising sales (indicating increasing demand) pull prices up and draw sellers into the market (supply) while draining the market of prospective homebuyers faster compared with prospective homesellers. In the first phase, the sales peak first, before the prices subsequently peak in tandem with the bottoming out of the BUSE index, while the inventory peaks last and the market busts. In the second phase, sales bottom out first, followed by the prices hitting the lowest point in tandem with the peak of the BUSE index, and finally a bottoming out of the inventory. The market is booming again. At the end of this phase, it would appear as though the market is getting ready for a bust.

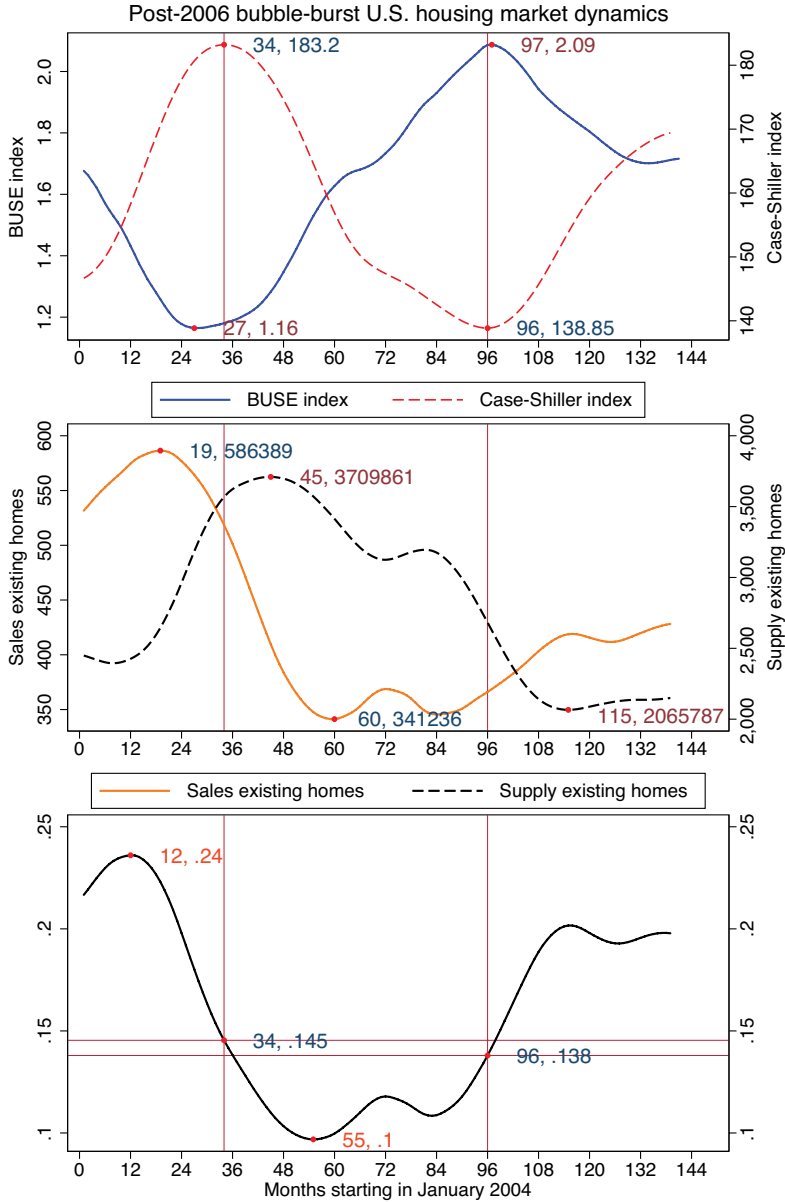
The rest of this article is structured as follows. In the next section, I describe the dynamics of the post-bubble-burst U.S. housing market, showing how the BUSE index may be used to create a tight narrative of the housing market. In that section, I pose the question of whether the market is about to rinse and start over, entering another bust. In the Nowcasting section, I undertake some forecasting exercises informed by the dynamics section, before I close with conclusions in the final section.

Describing Housing Market Dynamics With Google Search

One admittedly would have had to wait a very long time to see variable dynamics in the U.S. housing market, as the Case-Shiller index rose more than sevenfold from 25.18 points in February 1975 to a peak of 184.62 points in August 2006. We are in the post-bubble-burst era, however, and the dynamics are now there, depicting remarkable regularity, as organized in exhibit 1, which I describe in the next paragraph.

Exhibit 1

The Dynamics of Prices and Market Participation



BUSE index = buyers sellers index. Case-Shiller index = Standard & Poor's/Case-Shiller® U.S. National Home Price Index. Notes: The series have been smoothed to better recognize the cyclical pattern by a method described in appendix B. Series used: Case-Shiller index and Google BUSE index (top), the inventory of existing homes for sale and the sales of existing homes (middle), and the probability of a house for sale being sold (bottom). The latter probability is simply the ratio of sales to inventory. Data sources: Google Trends (<http://www.google.com/trends>); FRED (<http://www.research.stlouisfed.org>); S&P Dow Jones Indices (<http://www.us.spindices.com>); author's calculations

Notice how the Google BUSE index moves counter to price (that is, prospective homebuyers are being diluted in the pool of prospective market participants during price hikes and their concentration increases on falling prices) and also how the two indices reach their (opposite) local extrema simultaneously and, of course, turn around in tandem. Notice that when the sale probability is below .138 to .145, prices are decreasing and the BUSE index is increasing, but when the probability is above .138 to .145, the opposite occurs: a remarkably consistent and regular picture.

I distinguish three phases. In the first phase, prices are increasing, with the Case-Shiller index peaking at 183.2 points in October 2006. In the second phase, decreasing prices are observed, with the Case-Shiller index bottoming out at 138.85 points in December 2012. In the third phase, house prices return to an increasing trend, which continues to date, although it seems to be slowing down.

The turnaround of the Case-Shiller index is preceded by the turnaround of sales and succeeded by the turnaround of supply, but the threshold for a house price turnaround appears to be around a probability of sale of .138 to .145 (bottom of exhibit 1). Finally, increasing prices are accompanied by a decreasing share of prospective homebuyers in the pool of prospective market participants (top of exhibit 1), and decreasing prices happen at the same time as it becomes increasingly likely to find a prospective buyer in the pool of prospective market participants. Notice that house prices and the BUSE index reach their opposite local extrema almost simultaneously, with the BUSE index bottoming out 5 months in advance of the prices' peak. Notice also that the BUSE index is measured before the Case-Shiller index is made known (2-month lag) and thus the BUSE index shapes the prices, rather than the other way around. In fact, the BUSE index is the aggregate expression of real-time market dynamics whose expression in the Case-Shiller index is made known with a delay of 2 months (Shiller and Case, 2012). Of course, market participants (at least those who have just bought a home) are known to actually know current price trends (Shiller and Case, 2012), as they only exaggerate their 10-year expectations.

In the first phase, a high probability of sales indicates increasing demand, which drives prices up and leads to an increasing supply of houses for sale. At the same time, prospective homebuyers become increasingly rare in the pool of prospective market participants, which sets the stage for a price bust. The bust subsequently comes when the market has 1.23 prospective homebuyers for every homeseller. When prospective buyers become sufficiently rare (that is, the BUSE index reaches a minimum) the market can no longer sustain its price level. When the prices are dropping, the supply of houses for sale decreases, as do the sales. Prospective buyers proliferate, setting the stage for a price stabilization and turnaround. First, the sales turn around and, when the market has two prospective buyers per seller or builder, the prices climb again. Furthermore, this is also the point at which the probability of a sale breaks through its critical threshold. This point means that real market conditions are such that one senses an improvement in the chances of selling a house for sale and also senses that the number of prospective buyers is increasing; hence, sellers start to become more demanding. In the third phase, prices are climbing again; sales and also (and in particular) supply of houses for sale are recovering extremely slowly. This slowness may be due to the fact that many of the owners who would like to sell remain under water; that is, they have mortgage loans with balances that are higher than the fair market value of the property.

Nowcasting

Several approaches can be taken to deal with mixed-frequency data—in this case, weekly Google Trends data and monthly home sales, home supply, and the Case-Shiller index. I choose the simplest one by reducing the higher-frequency data to the lowest one, by taking the weekly Google Trends series and averaging out by month. This method is also viable for a forecasting practitioner, who can have a month's preliminary measurement as soon as he or she has at least one weekly measurement within it. Exhibit 1 suggests that one should estimate at least two models.

If P_i is the monthly Case-Shiller index (and p_i is its smoothing), B_i is the monthly BUSE index⁴ (and b_i is its smoothing), and Q_i is the monthly probability that a house will be sold conditional on its being for sale (and q_i is its smoothing), then one should write down and estimate two equations,

$$P_i = \alpha B_i + \beta, \quad (1)$$

and

$$\Delta P_i = \gamma q_i + \delta. \quad (2)$$

Equation (1) is based on the observation that the Case-Shiller index is strongly and inversely correlated with the BUSE index, and equation (2) expresses what one observes in exhibit 1, namely, that, analytically expressed—

$$(dP/dt) (Q-m) > 0 \quad (3)$$

for some m close to 0.14 or so. I estimate the equations once for the 3-month moving averages and once for the smoothed series, whereby the results of these regressions are listed in exhibit 2.

Exhibit 2

Nowcasting the Standard & Poor's/Case-Shiller® U.S. National Home Price Index Using Google Trends

	P Coefficient/ p -Value	p Coefficient/ p -Value	ΔP Coefficient/ p -Value	Δp Coefficient/ p -Value
B	-37.269*** (.000)			
b		-44.064*** (.000)		
Q			21.321*** (.000)	
q				18.769*** (.000)
Constant	219.719*** (.000)	230.921*** (.000)	-3.149*** (.000)	-2.821*** (.000)
Adjusted R^2	.658***	.798***	.592***	.872***
Number of cases	139	139	138	138

*** $p < 0.001$.

b = BUSE smoothing. B = BUSE index. p = Case-Shiller smoothing. P = Case-Shiller index. q = smoothing of Q . Q = probability of a house to be sold conditional on its being for sale.

⁴ More precisely, I first reduce the buy and sell Google series to monthly ones and then take 3-month moving averages because the Case-Shiller index is also a 3-month moving average.

Notice that in the third model, I estimate an equation $\Delta P = 21.374 Q - 3.155$, which can be rewritten as $\Delta P = 21.374(Q - 0.14760924)$, allowing me to recover the turnaround threshold seen in exhibit 1. It is interesting that about 60 percent of the variance of ΔP is explained by $Q - 0.148$. In the smooth version (fourth column), about 87 percent of the variance of Δp is explained by $q - 0.15$. As far as I know, this observation is new. The first two models are those convincing me that the BUSE index will be interesting to monitor at least in the years ahead.

Conclusions

I used the ratio of buy-to-sell Google searches in the Google category Real Estate and showed that one can thus nowcast the Case-Shiller index by means of the BUSE index. The index can also be used to better understand the dynamics of supply and demand in the U.S. housing market. Prices are formed based on beliefs, expectations, and a host of intangibles, which, in a highly connected world, often spread in an epidemiological manner and are shaped by the aggregate buzz of an always-on ambient backdrop of pessimism or optimism. Fundamental factors like mortgage interest rates, underwriting standards, short-term interest rates, and so on, also influence the market, of course, although, ultimately, for any values of these, one can observe how prices create ambient sentiment and also how the latter feeds into the market and its price-formation processes. This article can also be seen as using Internet data to study the effect of policy on market behavior and its endogeneity. Of course, I simply aim to portray a macro picture because I have access to only aggregate data, although one can only imagine the deep and profound insights into market behavior that could be gained with access to search micro data, in which such techniques as mentioned in Varian (2014) could come to use.

The Google BUSE index explains about 70 percent of the housing price variation, and I am aware that, if it becomes part of the toolkit of market participants, it will simply become another factor for shaping strategic behavior in that market. Although using the BUSE index for shaping strategic market behavior may well change its effectiveness, it will certainly provide a more informed understanding of market dynamics and applicable strategies and may help homebuyers and homesellers better understand the often seemingly puzzling market dynamics.

Appendix A. Google Trends Data

Google Trends⁵ data⁶ are relative data. Within an aggregation time unit I (which can be an hour, a day, or a week), I take the number x_i of searches that include the keyword of interest x and divide it by the total number of searches T_i in the same aggregation time unit i , whereby I form x_i/T_i . Moreover, if observing a certain time period (which can be 7 days for hourly data, 3 months for daily

⁵ Google Trends data are available at <https://www.google.com/trends/>.

⁶ The general description of the data in this section draws heavily from the data section of Askitas (2015).

data, and everything since 2004 for weekly data), then $i=1 \dots n$ for some n ($n=7 \times 24$ in case of hourly data, about 3×30 in case of daily data, or the number of weeks since 2004 in case of weekly data). If $M_n = \max\{x_i/T_i; i=1 \dots n\}$, then the time series obtained from Google is—

$$G_i(x) = (100 \times x_i) / (T_i \times M_n) \quad (\text{A-1})$$

Or, setting $c_n = 100M_n$,

$$G_i(x) = (x_i c_n) / T_i \quad (\text{A-2})$$

Google uses undisclosed, proprietary algorithms to classify and group searches into categories such as Travel, Real Estate, Business, and Health. The final piece of Google Trends' nomenclature that I need to explain to proceed with the description of the data is the exclusion mechanism. One can ask for all searches containing a certain keyword without searches that contain certain other words, whereby up to 30 keywords can be excluded. For example, drawing the time series for x - $y_1, \dots, -y_{30}$ will produce the relative volumes of all searches that contain the word x without those that also contain any of y_1, \dots, y_{30} .

For obvious reasons, I restrict my attention to the Google category Real Estate. In analogy to Askitas (2015), in which I looked for searches “yes -no” and “no -yes” to successfully and precisely nowcast the Greek Referendum of July 5, 2015, I exploit the dichotomy between buy and sell in the Real Estate category. In other words, I look for two time series—

“buy -sell” and “sell -buy.”

I thus obtain two time series that may be thought of as the buy and sell in the Google category Real Estate. These time series look as depicted at the top of exhibit A-1.

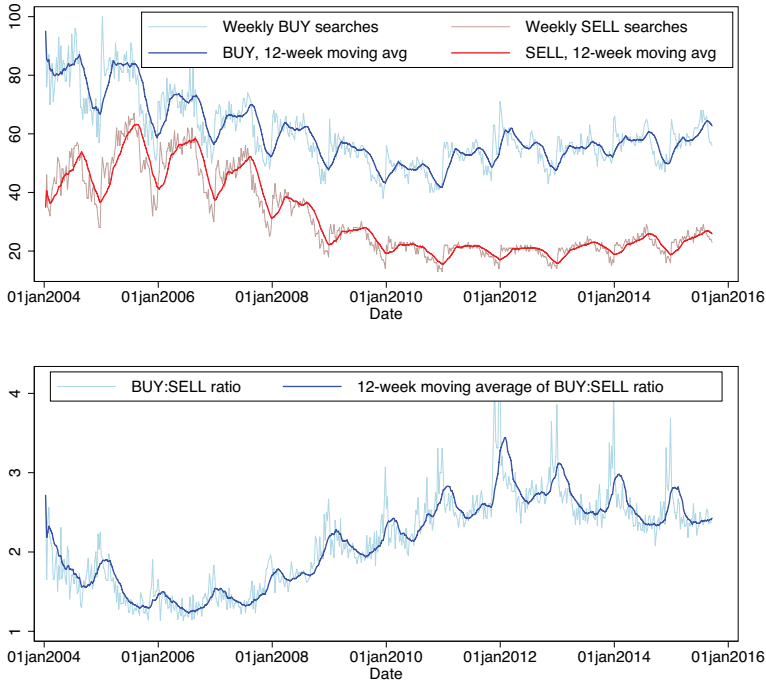
Search intensities are vulnerable to ambient search noise and shocks from irrelevant keywords: in other words, from random variation of the denominator in the equation that defines G_i ; hence, I will be looking at the buy-to-sell ratio just like I did with the no-to-yes ratio in Askitas (2015). Put differently, the series that I will form is the point-wise ratio of the BUY and the SELL series. This series has the advantage that it equals the ratio of the absolute number of buy searches to the absolute number of sell searches as thus it is no longer vulnerable to the denominator T_i . The series and its 12-week moving average are depicted at the bottom of exhibit A-1.

Notice that although seasonal year-end lows occur in both the sell and buy searches, in exhibit A-1, the ratio peaks: in other words, during low relative volumes for buy and sell, we have more prospective homebuyers than homesellers.

Another version of what I have discussed thus far can be drawn with buy, sell, and build and by forming the ratio of buy searches to the sum of sell and build searches. The ratio drawn in this way has a better correlation with the Standard & Poor's/Case-Shiller® U.S. National Home Price Index, and I leave this alternative specification as an exercise for the interested reader.

Exhibit A-1

Buy and Sell Buzz in the Google Category Real Estate



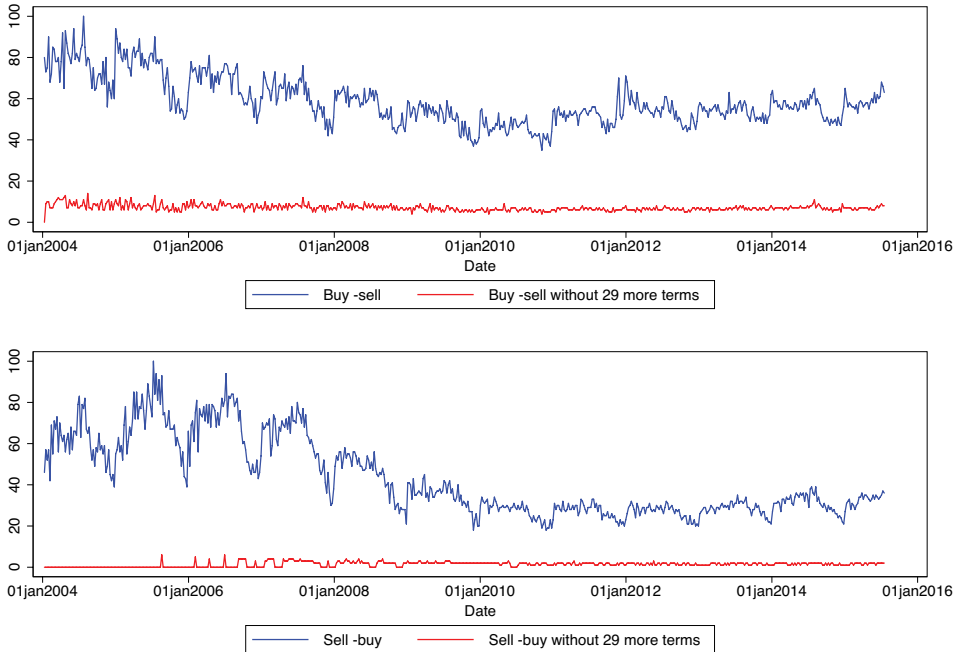
Notes: Buy and sell search intensities (top) and their ratios (bottom). Buy searches are “buy -sell” and sell searches are “sell -buy.” To better depict the trends, 12-week moving averages are also displayed. The time series is aggregated and published weekly.

Data sources: Google Trends (<http://www.google.com/trends>); author's calculations

I now use the 30 keywords exclusion option in Google Trends to provide support for the plausibility of my identification strategy, although comparing the buy-to-sell ratio with housing prices will be the ultimate test. By successively excluding terms, a good picture emerges of the type of searches that contain the terms *buy* or *sell* in the Real Estate category. The results are presented in exhibit A-2. Through the additional keywords, it can be seen that it is reasonable to hope that buy searches broadly identify (home) buyers and that sell searches broadly identify (home) sellers. The order in which keywords are subtracted is significant, given that earlier terms have a larger share in the respective searches.

Finally, notice that by using the buy-to-sell ratio q , the shares of homebuyers and homesellers are observable, as in Askitas (2015), in the space of the buy and sell searches as follows. The percentage of buyers is $100 \frac{q}{1+q}$ and the percentage of sellers is $100 \frac{1}{1+q}$. This observation is simple yet important, and it is applicable whenever the topic of interest is a share (as in buyers versus sellers). In such cases, point-wise dividing Google Trends data avoids the disadvantage of these data; that is, the fact that they yield not absolute volumes but rather relative ones.

In conclusion, this article's identification strategy for the choice of keywords is to first choose the Google Trends category Real Estate to establish relevance to the housing market before

Exhibit A-2**The Breakdown of the Buy (top) and the Sell (bottom) Searches by Additional Keyword**

Notes: BUY terms excluded: -sell, -house, -houses, -home, -homes, -property, -estate, -apartments, -owner, -condo, -land, -rent, -things, -when, -timeshare, -best, -apartment, -condos, -short, -foreclosures, -looking, -flats, -townhouse, -timeshares, -foreclosure, -orlando, -cabins, -before, -case. SELL terms excluded: -buy, -to, -house, -how, -home, -homes, -estate, -help, -timeshare, -houses, -assist, -my, -land, -sale, -property, -short, -condo, -condos, -share, -time-shares, -apartments, -you, -rent, -online, -u, -shares.

Data sources: Google Trends (<http://www.google.com/trends>); author's calculations

subsequently looking at buy and sell searches therein and by excluding terms establishing that most—if not all—of the searches are made by homebuyers and homesellers, respectively. The ratio is now a ratio of prospective buyers to sellers.⁷

Appendix B. Smoothing Technique

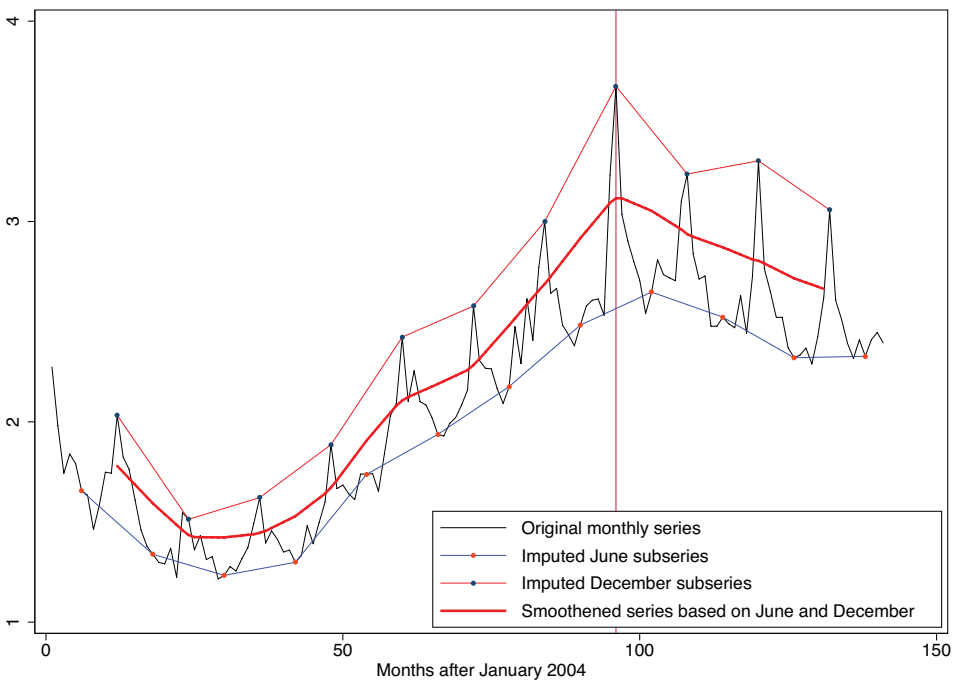
To eliminate seasonal variation and random noise, I apply a certain smoothing to all series, which captures the intuition that a trained eye applies to such series by ignoring seasonal variations to observe the trend. This method—which breaks each series into 12 month-based annual series, imputing missing values linearly in between, and taking point-wise averages of all 12 series—returns better results than undertaking month fixed-effects smoothing. I demonstrate the method in the

⁷ According to <http://www.internetsociety.org>, as of 2013, the Internet penetration in the United States (that is, the share of U.S. residents with Internet connectivity) equaled 84 percent. The high penetration ensures that the sample of Internet users has very little space for being biased compared with the entire population. This assertion is reinforced if I am allowed to hypothesize that those who either own or can afford a home can also afford Internet connectivity.

remainder of this paragraph. For each series, $S=(S_i: \{i=1, \dots, n\})$, I create 12 subseries $S^j=(S_i^j: \{i=1, \dots, n\})$, one for each month $j=1, \dots, 12$. Each S^j is formed from S as follows. First, I restrict S to the j th month with missing values everywhere else. I subsequently fill in the missing values by linear imputation between border values. Finally, I take point-wise averages to form the smoothed series. In exhibit B-1, I demonstrate this smoothing technique for the ratio of buy-to-sell searches and the months $j=6, 12$; that is, I smoothen using only 2 rather than 12 months to avoid cluttering the graph.

Exhibit B-1

Smoothing the Monthly BUSE Index Using June and December Values



Data sources: Google Trends (<http://www.google.com/trends>); author's calculations.

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Graphic Detail

Geographic Information Systems (GIS) organize and clarify the patterns of human activities on the Earth's surface and their interaction with each other. GIS data, in the form of maps, can quickly and powerfully convey relationships to policymakers and the public. This department of Cityscape includes maps that convey important housing or community development policy issues or solutions. If you have made such a map and are willing to share it in a future issue of Cityscape, please contact john.c.huggins@hud.gov.

Leveling the Playing Field: School District Spending in Diverse Communities

Alexander Din

Dewberry

The United States is the only industrialized nation that funds its public schools from local- and state-level taxes (Payne and Biddle, 1999). School resource disparities across districts reflect economic differences between the wealthy and poor. A school district's spending per student in each district is based on the economic needs of the students or the school as a whole, which typically is based on median household income. School districts typically determine how much funding each school receives by calculating a cost per student that is the ratio of total school cost to the number of students. The cost-per-student ratio is then divided by the median household income in that district to derive a spending-to-income (SIC) ratio—

$$\text{SIC ratio} = [\text{cost per student}/\text{median household income}]. \quad (1)$$

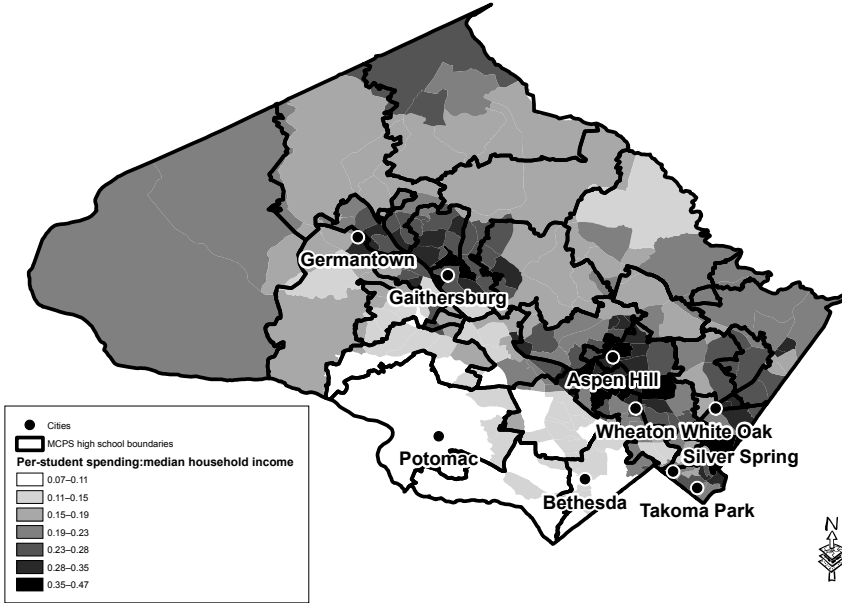
Using Montgomery County, Maryland, as an example, these costs can be visualized in a spatial analysis to determine if spending is distributed according to income differences.

Exhibit 1 shows the geographic distribution of per-student SIC ratios overlaid with high school boundaries. The map shows that spending per student is higher in and around three population centers—Gaithersburg, Wheaton-Aspen Hill, and Silver Spring—areas with many lower- to middle-income households. The map indicates that areas of lower median household income are receiving more per-student spending than areas where the median household income is high.

These areas are also where schools serve higher levels of racially or ethnically diverse student populations that often are disadvantaged in getting an equal education. A cluster analysis of SIC and ethnic diversity may help determine if areas of higher spending correlate with higher ethnic diversity and, subsequently, lower to middle median incomes.

Exhibit 1

Ratio of Per-Student Spending to Median Household Income



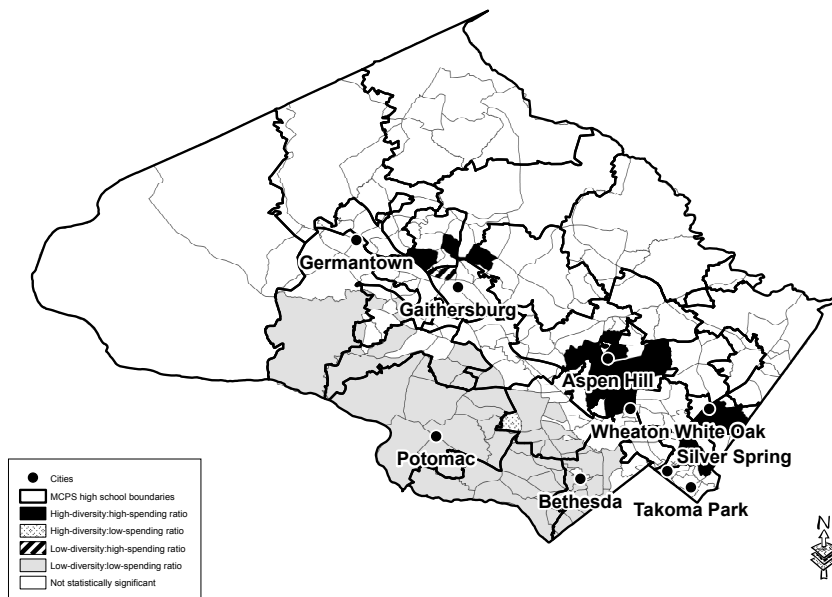
MCPS = Montgomery County Public Schools.

The map in exhibit 2 shows that several census tracts with *high diversity* and *high spending per student* (black) are concentrated in three clusters in the county—around Gaithersburg, Wheaton-Aspen Hill, and Silver Spring. These three areas would be and are the target areas for higher spending per student. One tract around Gaithersburg shows the anomaly of having *low diversity* but *high spending* (diagonal stripes). In the southern part of the county, around Bethesda and Potomac, *ethnic diversity* and *spending per student* both are *low* (light gray). One outlier tract shows an area with *high diversity* but *low spending* (dots).

Communities with lower median household incomes in Montgomery County appear to benefit from the revenue drawn from wealthier communities. The two maps in this article suggest that Montgomery County is providing students in areas of lower median incomes and higher ethnic diversity with more funding to help those students receive a more equal education.

Exhibit 2

Cluster Analysis of Diversity Index and Spending-to-Income Ratio



MCPS = Montgomery County Public Schools.

Author

Alexander Din is a GIS Analyst for Dewberry, primarily supporting comprehensive remapping and map modernization of the Coastal Barrier Resource System on behalf of the U.S. Fish and Wildlife Service.

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Industrial Revolution

Every home makes compromises among different and often competing goals: comfort, convenience, durability, energy consumption, maintenance, construction costs, appearance, strength, community acceptance, and resale value. Often consumers and developers making the tradeoffs among these goals do so with incomplete information, increasing the risks and slowing the adoption of innovative products and processes. This slow diffusion negatively affects productivity, quality, performance, and value. This department of Cityscape presents, in graphic form, a few promising technological improvements to the U.S. housing stock. If you have an idea for a future department feature, please send your diagram or photograph, along with a few well-chosen words, to elizabeth.a.cocke@hud.gov.

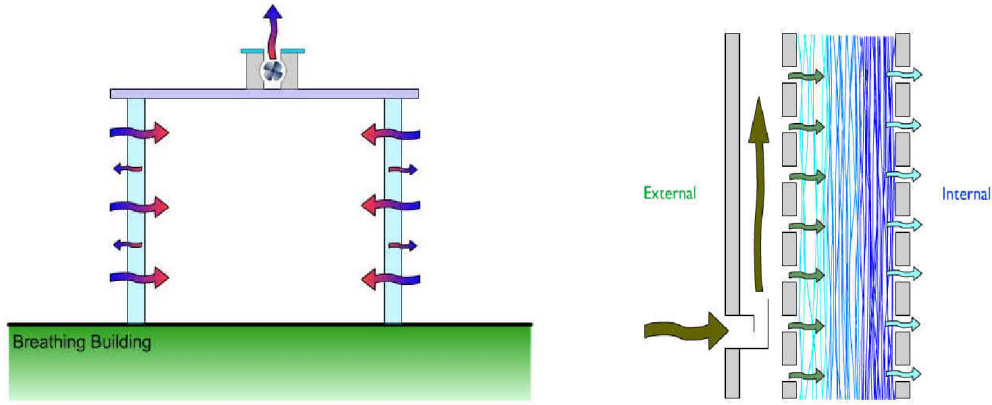
Breathing Wall: Concept and Thermal Performance

Zhiqiang (John) Zhai
University of Colorado Boulder

Introduction

As advances in building technology continue to transform building energy performance and promote new and innovative construction techniques, traditional challenges are met, and new issues continually arise. One example is the paradigm of improving energy efficiency but compromising the indoor air quality (IAQ) of buildings. Leaky buildings traditionally perform very poorly in terms of energy consumption, but, in general, their IAQ—as a result of the incoming outside air—is fairly good. For the sake of energy efficiency, the trend has been tighter, more effectively sealed buildings, which in turn has led to more IAQ issues, mold, and sick building syndrome (SBS) problems. As the push for improved energy performance points designers and builders toward tighter construction, the very principle that reduces the building's energy consumption—reduced infiltration—is a net loser for IAQ.

A promising new technology introduces a method for avoiding the efficiency/air quality compromise, yielding better energy efficiency *and* improved IAQ. The technology, referred to as a “breathing wall,” draws a steady stream of filtered air through the walls and into the building at all times, providing exceptionally clean ventilation air to the occupants. A schematic breathing wall diagram is presented in exhibit 1. Whereas higher ventilation rates traditionally produce higher energy loads in buildings, the “dynamic insulation” used in breathing walls actually works to reduce that load, effectively creating efficient, superinsulated walls.

Exhibit 1**Breathing Wall Configurations**

Source: Reprinted from Imbabi and Peacock (2003)

The projected energy savings and air quality implications associated with breathing wall technology are astounding. Previous studies of the energy and air filtration efficiencies of breathing walls estimated that such technologies can reduce year-round heating and cooling loads between 10 and 40 percent, while providing a steady stream of fresh ventilation air, filtered to HEPA (high-efficiency particulate arresting) standards, 365 days per year (Imbabi and Peacock, 2003). Breathing walls may also be able to clean up polluted cities, because the filtered air exhausted by breathing-wall buildings will effectively contain lower concentrations of pollutants and particulate matter than the outdoor air. The study also suggests that the filter mechanism of the walls will last throughout the lifetime of the building, providing the energy savings and air filtration for 60 or more years, without requiring replacement. Although a few preliminary reports have projected promising energy and IAQ benefits of breathing walls, much research remains to be done. One major issue at hand pertains to understanding the heat transfer mechanism between the breathing-wall media and the incoming air, particularly under varied ambient conditions.

Performance Test

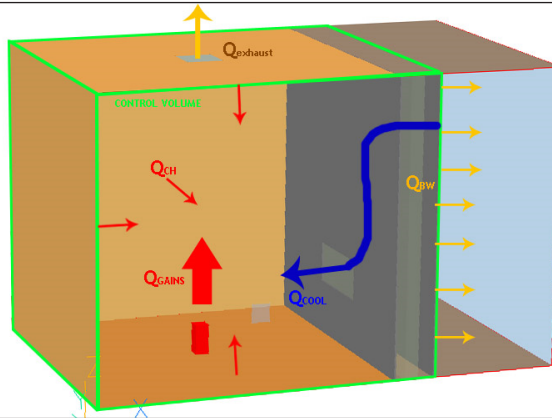
Both experimental and computational approaches were employed to test the thermal performance of the breathing wall, as illustrated in exhibit 2, under a wide variety of exterior and interior environmental conditions. The tested breathing wall was constructed with outside dimensions of 1.1176 by 1.1176 meters and features interior and exterior cladding made of plywood 6.35 millimeters thick. The exterior façade features an inlet grille located in the center of the wall, 0.767 meters up from the bottom. The interior façade features a similar exhaust grille located 0.2 meters from the bottom. An air gap is created between the cladding element and the porous breathing-wall material, so that air is allowed to freely flow away from the inlet vent and penetrate the porous material in a relatively even fashion. The prototype breathing wall was constructed using commercially available unfaced fiberglass batt insulation, which was spread out across a fiberglass window screen and secured within the wood plane of the wall. The efficiency of the wall, referred to as η_3 , is defined as in equation (1) (Zhai and Slowinski, 2013).

$$\eta_3 = 1 - \frac{U_{dynamic}}{U_{static}}, \quad (1)$$

where U_{static} and $U_{dynamic}$ are the wall U values, respectively, without and with airflow. Exhibit 3 shows the η_3 contour for varying indoor and outdoor air temperature differences and different airflow rates. The results show a clear, positive correlation between airflow rate and efficiency and also a clear, negative correlation between temperature differential and efficiency. Efficiencies range from -10 to +30 percent. The testing results were verified by both analytical and computational results.

Exhibit 2

Test Chambers and Breathing Wall in Between

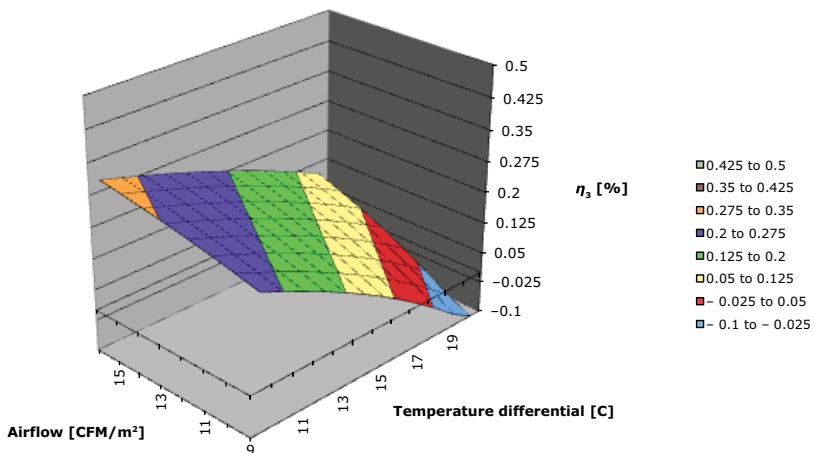


Q = heat flow rate in watts.

Exhibit 3

Experimental Efficiency (η_3) for Varying Temperature Gradients and Airflow Rates

Experimental U -value efficiency (η_3)



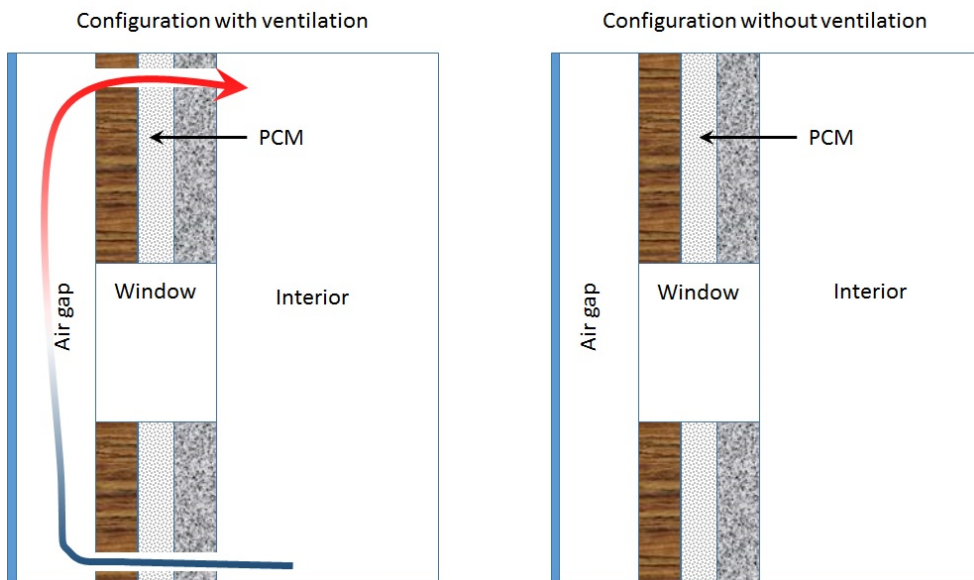
C = Celsius. CFM = cubic feet per minute. η_3 = efficiency of the wall.

The performance of the developed breathing wall was further numerically explored when integrated into a whole building simulation program (El Mankibi et al., 2006), which considers heat transfer through the walls, air infiltration and ventilation, internal heat gains, solar radiations, and auxiliary heating or cooling. The tested building was an 80-square-meter single-family house in a rectangular shape (10 meters long, 8 meters wide, and 3 meters high), with windows in each façade, except the north façade. All the walls had the standard properties, except the south wall, which was replaced with the proposed breathing wall as illustrated in exhibit 4. The tested breathing wall was composed of three layers: (1) external glazing, (2) an air gap, and (3) an internal wall that was made of an outside sensible storage layer, an intermediate latent heat storage layer—phase change materials (PCM), and an inside sensible storage layer. A nondominated sorting genetic algorithm has been used to investigate and optimize the thickness, density, and conductivity of the wall layers and the properties (that is, melting temperature range and latent heat) of the PCM layer (El Mankibi et al., 2015).

The results show that the performance of the multilayer living wall system improves the performance of the base case by 28 percent (building with less inertia configuration—light construction) and up to 38 percent (building with high inertia configuration—heavy construction) in energy consumption. It is found that the PCM layer thickness varies between 1 and 4 centimeters, depending on the whole building inertia. The outside and inside wall layers have to be conductive with high thermal inertia. The thickness depends on the ventilation configuration and the whole building inertia. The cavity wall without ventilation is thermally more efficient but induces high risk of thermal discomfort. Control strategies of shading and outdoor air circulation should be provided to avoid this risk.

Exhibit 4

The South Multilayer Breathing Wall Coupled to a Full-Scale Building



PCM = phase change materials.

The results reveal that the ventilated cavity design enhances the wall thermal performance. The cavity improves the performance of interior PCM from 3 percent with no cavity to 30 percent for south-facing and 20 percent for east- and west-facing walls. The cavity on the north-facing wall does not improve the performance of PCM. The full-scale building model results show that an optimized wall system can allow 27 to 38 percent of reduced heating energy consumption while avoiding thermal discomfort.

Conclusions

Breathing-wall technology has the potential to save energy under varying environmental conditions if properly designed and applied. Both experimental and simulation studies prove that breathing walls can save energy above a certain airflow rate, and their efficiency tends to increase with airflow rates. In addition, in most of the studied cases, efficiencies tend to show a slight negative correlation with temperature differential, indicating that convection might play a greater role in breathing walls with cavities when the temperature differential is greater. The η_3 can be used to provide a quick estimate of potential savings to expect from a breathing-wall installation. It is also most easily integrated into an existing piece of building energy simulation software. The η_3 has been shown to range between -10 and +30 percent, depending on the airflow rate and temperature differential.

Multilayer wall systems will improve the building energy and thermal performance when designed properly. Optimal design requires many factors, such as environmental conditions and control strategies. The optimization results show that it is important to pay attention to the whole building thermal inertia (light versus heavy structure) and the glazing ratio when a multilayer wall system is designed and integrated into a building. It is explicit that the optimal configurations are more energetically efficient compared with the reference cases, but, if the designer does not pay good attention to the selection process, he or she may not be able to produce such optimization and the resulting multilayer wall could be less efficient than the conventional wall.

Acknowledgments

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Foreign Exchange

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Promoting Access to Affordable Housing Finance: Morocco's Fogarim Guarantee Fund and U.S. Housing Finance

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The views expressed in this article are those of the authors and do not represent the official positions or policies of the Office of Policy Development and Research, the U.S. Department of Housing and Urban Development, or the U.S. government.

Abstract

Affordable housing is a pervasive challenge throughout the world. In response, governments have formulated housing policies and executed strategies and programs to promote inclusive access to affordable housing for all, including the poor and most vulnerable. The Kingdom of Morocco began adapting its housing finance market in 2004 with the creation of the Fogarim Guarantee Fund program. The Fogarim program facilitates access to housing credit for Moroccans with modest and irregular incomes. Although the circumstances related to accessing affordable housing are different in Morocco, the Fogarim guarantee is not all too dissimilar from guarantees in the United States. Through innovative guarantee mechanisms, Fogarim has accomplished measured success in expanding lending to borrowers with low and intermittent incomes. More than a decade later, the Moroccan experience presents an important opportunity to exchange

Abstract (continued)

practices on sovereign guarantee mechanisms and to evaluate their role in promoting access to affordable housing, especially as the United States continues to assess reforms to its own housing finance system.

Introduction

Housing is a capital-intensive necessity. Compared with food and clothing, the higher cost of shelter is a central constraint to socioeconomic development, threatening the sustainability of communities worldwide. The Kingdom of Morocco and the United States of America are no exception. In both countries, access to affordable housing is segmented, often out of reach to households with low and irregular incomes. Although Morocco, a lower-middle-income country, has experienced increased income and falling unemployment over the past 15 years, the persistence of informal settlements and a housing deficit have greatly hindered the livelihoods of low-income Moroccan households (al-Aissami, 2012). By comparison, U.S. households on the whole have had income gains and reduced mortgage costs since the 2008-to-2009 financial crisis (JCHS, 2015). Such progress has been blunted, however, because many low-income households derive their incomes irregularly and pay more than 30 percent of their total budget to housing costs (Federal Reserve, 2014; U.S. Census Bureau, 2015).

For the governments of Morocco and the United States, housing finance has been central to promoting access to affordable housing for all. For single-family and multifamily housing, sovereign guarantee mechanisms have been central to both countries' housing policies. The following discussion examines three sovereign guarantee programs—Morocco's Fogarim Guarantee Fund, and the Mortgage Insurance for One to Four Family Homes program and the Single Family Housing Guaranteed Loan Program in the United States. Each program shares the common objective of expanding financial access to affordable housing for lower-income households, but they have key differences.

Specifically, the Fogarim model has distinguishing features such as lending to borrowers with intermittent sources of income, methodologies in appraising borrower credit, and the use of life insurance in support of collateral. From implementation to evaluation, the Moroccan experience with Fogarim underscores innovations and a common purpose in promoting access to affordable housing finance.

Challenges to Financing Affordable Housing in Morocco

Since Morocco gained independence in 1956, its housing sector has changed considerably. The country—uniquely situated at the intersection of European, Arab, and African states—rapidly urbanized at a greater rate than its regional counterparts. Whereas 3 million Moroccan citizens lived

in cities in 1956, an estimated 20.4 million Moroccans were urban dwellers in 2015 (UN DESA, 2014). In becoming a majority-urbanized country, from 50.6 percent in 1993 to 60.2 percent in 2015, Morocco has experienced increased pressures providing affordable housing. Population growth has intensified, and more people have migrated to cities in search of greater economic opportunities.

Such rapid growth and urbanization has led to increased demand for affordable housing. Land has become scarcer and building materials costlier. Meanwhile, across Moroccan cities, the dominant housing tenure shifted from rental, at 53.1 percent of all urban housing units in 1971, to homeownership, at 65.5 percent in 2011 (HCP, 2011).¹ Such factors ultimately contributed to the formal housing supply's being unable to meet the burgeoning urban demand. The supply deficit and the resulting affordability gap forced low-income households to meet their housing needs informally (MGI, 2014).

Despite urban household incomes' being on average higher than their rural equivalents, the most modest of formal, urban housing units were out of reach for low-income Moroccans. Consequently, most of these households pursued self-built housing as the only viable option. Not only was such housing often deemed illegal by government authorities, but the lack of affordable housing also led to the proliferation of substandard dwellings typical of slums. In 2001, more than 4 million Moroccans resided in informal settlements, with substandard housing concentrated in more than two-thirds of Morocco's cities (Mohammed VI, 2001). By 2004, slum dwellers represented nearly 1 in 10 of the urban households in Morocco (Lahlou, 2014). Problems only deepened, as nearly 1 in 4 housing construction projects was informal (Oxford, 2014). Even as housing delivery improved, 40 percent of completed housing stock added to the growth of slums each year. With access to affordable housing constrained and low-income households relegated to informal housing, the government became the nation's intervener of last resort.

Access to affordable housing finance is fundamentally feasible for Moroccans with low and irregular incomes. In 2015, for example, the cheapest new house built in Morocco by a formal developer was surveyed at \$14,478 U.S. dollars (CAHF, 2015). With the gross national income per capita at \$3,020 U.S., the debt-to-income (DTI) ratio can be calculated at 4.79 to 1. Such figures demonstrate the potential for Morocco to achieve financing for the cheapest new house built by a formal developer relative to the average urban household's income (CAHF, 2015).² A housing loan with a 15- to 30-year term at the 2015 market interest rate of 5.5 to 6.5 percent could enfranchise lower-income households with financial access to affordable housing (DTFE, 2015a). The extension of such credit was not available, however, for slum dwellers and others with modest and intermittent incomes. To provide such access to affordable housing finance, the government needed to pursue reforms that prioritized housing and adapted its housing finance system.

¹ For reference, between 2007 and 2011, the homeownership rate in Morocco as a whole was 74.5 percent, with the rental rate at 15.5 percent and other at 10.0 percent (HCP, 2011).

² DTI is a common metric mortgage lenders use to assess borrowers' means of repaying a housing loan's principal and interest.

Adapting Morocco's Housing Finance System

Morocco's housing sector required reforms to address the growing challenges. The accession of King Mohammed VI in 1999 compelled housing finance reforms. Such reforms precipitated what would become an augmented constitutional mandate for the government in “facilitating access to decent housing for all Moroccans” (Kingdom of Morocco, 2011: Article 31).³

As he began the second year of his rule, King Mohammed VI spoke of the “complex and multidimensional nature” of housing (Mohammed VI, 2001: 1). In his annual speech to commemorate the anniversary of the restoration of the Moroccan monarchy, the King conceded the “failures of responsible authorities” in the “fight” for adequate housing for all Moroccans (Mohammed VI, 2001: 2). Such failures, he posited, had hindered the sustainable development of the country in socioeconomic and environmental terms. To rectify these issues, the King outlined several promising projects to expand social housing delivery, eradicate slums, and promote increased access to housing finance. Together, these projects would help reverse the “hideous aspects of slums” (Mohammed VI, 2001: 1).

Housing finance reforms required, in the words of King Mohammed VI, “resourcefulness to find new funding sources that are stable and reliable” (Mohammed VI, 2001: 3). The housing finance system had been anything but financially sustainable for the government. From 1968 to 2004, Morocco's financial sector was the principal actor and arbiter for housing finance activities. With few exceptions, the government had two main features in housing finance: (1) the provision of subsidies on housing loans in the form of interest rate rebates and (2) advances to public servants with salaries below a certain threshold. Despite the popularity of the former, concerns persisted about the effectiveness of interest rate rebates that served 120,000 households at the cost of \$1 to 1.5 billion U.S. for the 36-year period (Talby, 2014). Critics argued government housing programs insufficiently targeted the most disadvantaged households. They also charged that the complicated administration of the process limited both accountability of the progress made and government leverage in expanding access to housing finance for low-income households.

Discussions on prospective reforms to achieve effective government-provided housing finance focused on minimizing bottlenecks that restricted access to housing credit. Mechanisms were needed to provide innovative banking alternatives with flexible guarantees and collateral requirements for those living in poverty and those working in the informal sector (Martin and Mathema, 2008). The financial sector had excluded lending to households with low and irregular incomes because of perceived repayment risk. As a result, prospective borrowers had limited access to banking services. Such low bank penetration further marginalized borrowers and reinforced a culture of unfamiliarity and uneasiness with housing finance products. Because of this perceived risk and unease in lending to low-income slum dwellers, higher interest rates and loan servicing costs further excluded such borrowers with their smaller loan sizes. The government's solution was to develop a sovereign guarantee fund with credit risk sharing to benefit these individuals with modest and irregular incomes.

³ After the promulgation of five previous iterations, the 2011 Constitution enumerated—for the first time—the duty of the government “to work for the mobilization of all means available to facilitate the equal access of citizens [to] the right to decent housing” (Kingdom of Morocco, 2011: Article 31).

Fogarim Guarantee Fund: Objectives, Design, and Performance

In October 2004, the government created the Fogarim Guarantee Fund program.⁴ Fogarim, an acronym for the French, “Fonds de Garantie en faveur des populations à Revenus Irréguliers et/ou Modestes,” is explicit in stating its purpose to facilitate access to housing credit for low-income and nonscheduled Moroccans (Talby, 2014). Fogarim guarantees loans granted by banks to finance housing, whether through purchase, acquisition of land, or construction. To achieve its goals, Fogarim’s guarantee encourages banks to extend financing for home loans at favorable terms to targeted populations. Such a commitment of government resources for the Fogarim guarantee required “resourcefulness in identifying new funding sources” (Mohammed VI, 2001: 3).

Since the mid-1990s, the Moroccan government had invested heavily in improving housing through national programs. These programs, however, operated largely through the provision of subsidies to mass housing developers and through housing credits. The Fogarim guarantee mechanism is unique. It guarantees lenders insurance on 70 to 80 percent of the principal and interest of housing loans in the event of borrower default (al-Aissami, 2012). Such a commitment of government resources requires not only political capital but also a pragmatic financing strategy.

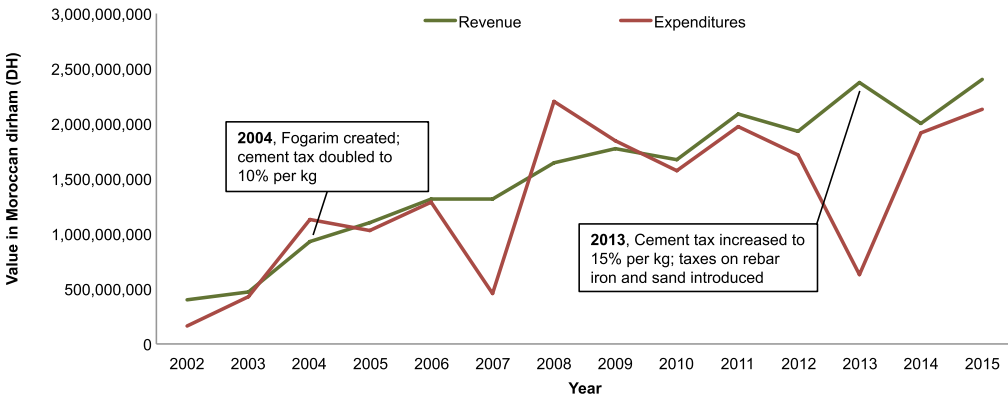
Fogarim was endowed with a budget of \$60 million U.S. from the Housing Solidarity Fund (FSH), renamed the Solidarity Fund for Housing and Urban Integration (FSHIU) in 2014. FSH was created in 2002 with the mandate of increasing financial resources allocated to housing. Its principal funding mechanism, through a cement tax, reduced financial strain on government financing to 40 percent from the general budget (Ali et al., 2012). Concurrent with the creation of Fogarim in 2004, the government doubled the cement tax to 10 percent per kilogram and then increased it to 15 percent in 2013 (Chihab, 2016; DHSFAF, 2010). To further alleviate pressures on direct government financing, in 2009, risk premiums were instituted (CAHF, 2015). Moreover—as exhibit 1 illustrates—in 2013, the government introduced additional taxes on building materials, with a 10-percent tax on concrete iron and a 30-percent tax on sand to ensure “diversified” resources in “strengthen[ing] the sustainable mobilization of resources to finance housing” (Chihab, 2016: 16).

To participate in the Fogarim guarantee program, approved lenders must evaluate borrowers for Moroccan citizenship, engagement in income-generating activities (under the maximum amounts proscribed by the government), possession of no additional properties, and verification that the last loan payment is made no later than the borrower’s 60th birthday. Borrowers must also submit documentation of proper land title—sometimes a challenge, given the opaqueness of tenure security in informal settlements—and submit to a life insurance policy in which the lender is beneficiary. Finally, borrowers must also have the downpayment to qualify for what is typically 70 to 80 percent loan-to-value (LTV) financing provided by Fogarim guaranteed lenders. Acquiring the

⁴ The government created two guarantee programs in the adaptation of Morocco’s housing finance system. The second program, Fogaloge, builds on the previous housing finance system’s provision of advances for civil servants seeking access to housing loans. Together, Fogarim and Fogaloge are the two guarantee funds constituting the umbrella fund Damane Assakane. In 2014, Fogarim represented 85.4 percent of Damane Assakane in terms of loans and 75 percent in terms of dollar amount. (DTFE, 2014).

Exhibit 1

FSH/FSHIU Account Balance With Milestones from 2002 to 2015



FSH = Housing Solidarity Fund. FSHIU = Solidarity Fund for Housing and Urban Integration. kg = kilogram.

money for a downpayment often entails accumulating savings, borrowing from family and friends, or seeking community-based financing from local organizations, such as microfinance institutions (MFIs).

MFIs are important actors in the Fogarim process. They can act as a key financing source for the prospective Fogarim borrower’s downpayment, although their products are often subject to shorter terms and higher interest rates, such as a 3-year loan at an interest rate of 19 percent (Martin and Mathema, 2008). Also, they can be subcontracted by lenders to assist in the provision of credit through social collateral and income appraisals through borrower reputation assessments, which is especially helpful given the closeness of MFIs in their work at the community level.

Once the loan application is complete, the lender assesses the merits of the application and either approves or denies the loan. If approved, the loan is validated by the Central Guarantee Fund (CCG). The borrower then uses the financing to acquire housing, whether a social housing unit, condominium, or plot of land. Nearly all Fogarim guaranteed loans—99 to 100 percent of the total—are used for home purchase, rather than land acquisition or construction.⁵ Should the borrower miss nine monthly repayments, foreclosure processes can be legally initiated, and lenders can then file a claim for the defaulted loan. As a result, the lender can petition for court action to foreclose. Default and foreclosure do not occur often. The Fogarim default rate was 4.8 to 5.6 percent from 2012 to October 2014 (Bounakhla, 2014). In instances of default, collateral is liquidated. CCG uses funds from the FSHIU to compensate the lender for the 70-to-80 percent guarantee of the principal and interest of the loan.

⁵ Given the prevalence of incremental self-building for housing in Morocco, lenders are reluctant to approve these housing loans. In 2014, Fogarim assessed construction-housing loans to be 2.4 times riskier than the home-purchase and land-acquisition typologies (Bounakhla, 2014).

Fogarim has achieved measured success, especially compared with the former interest rate rebate system. From its inception in 2004 to 2014, Fogarim guaranteed 117,000 loans at an average loan size of \$15,749 U.S. (DTFE, 2014). As a result, Fogarim has assisted an estimated 510,000 Moroccans with an overall market share of 20 percent within the housing loan market while keeping its nonperforming loans at a relatively low rate, given the risk of the targeted borrower segment (The World Bank, 2015). Its loan size exceeds the minimum cost of \$14,478 U.S. for a formal housing unit in the country (CAHF, 2015). Of further note, the government has exerted significant regulatory leverage in requiring Fogarim loans have a fixed rate, with longer maturities capped at 25 years. Fogarim has not only furthered the inclusion of those with modest and irregular income, it has enabled more women to access affordable housing finance. At the end of 2013, the majority of Fogarim guaranteed borrowers were women (Bounakhla, 2014).

Fogarim has accomplished much in facilitating access to affordable housing finance for Moroccans, especially evident when comparing Fogarim with the former provision of interest-rate rebates. As one CCG official remarked, “Unlike subsidies, [the] Guarantee Fund provides significant leverage as it allows us to engage, in the case of Fogarim, up to 8 times the availability of funds, which multiplies the effect in terms of beneficiaries and credit volume” (Haimoud, 2008: 1).

As demonstrated in exhibit 2, Fogarim has nearly exceeded the number of beneficiaries served by interest-rate rebates and is allocating capital in a more effective and targeted manner.

Despite significant progress, Fogarim still has much to accomplish, particularly related to risk management and the prudent use of financial resources in expanding participation in the program. The government has established an actuarial premium system to promote financial sustainability and broaden access for more borrower and lender participation. Lending is concentrated. From 2013 to 2014, 95 percent of Fogarim loan guarantees derived from three banks (DTFE, 2014). In terms of geography, Fogarim benefited households in 150 towns and localities from different regions throughout the Kingdom in 2014. The largest cities do not have the most housing loans; Casablanca, Temara, Meknes, Fez, Tangier, and Fes comprised only 65 percent of total loans in 2014 (DTFE, 2014). Finally, the government is developing mechanisms to enable refinancing and to mobilize funding from capital markets for additional financial resources in support of promoting access to affordable housing finance in Morocco.⁶

Exhibit 2

Comparing Interest-Rate Rebates With the Fogarim Guarantee Fund Program

	Beneficiaries	Capital (U.S. dollars)
Interest-rate rebates (1968–2004)	120,000 households	\$1–1.5 billion
Fogarim Guarantee Fund (2004–2014)	117,000 households	\$1.8 billion

⁶ Such efforts to facilitate investment from capital markets into Fogarim guaranteed loans is similar to Ginnie Mae’s work in channeling global capital into securitized mortgages insured by the U.S. government.

Comparison With United States Insurance and Guarantee Housing Programs

The objective of the Fogarim Guarantee Fund to extend access to affordable housing finance to borrowers with low and irregular incomes is similar to two guarantee and mortgage insurance programs in the United States. Both the Mortgage Insurance for One to Four Family Homes program of the Federal Housing Administration (FHA) and the Single Family Housing Guaranteed Loan Program of the Rural Housing Service (RHS) seek to expand access to lower-income households that lack mortgage credit. Like Fogarim, these programs guarantee compensation to lenders in the event that target households default on their loans. Despite similarities among these three programs, differences exist among their operational and funding mechanisms.

With origins stemming from the Great Depression, the FHA program, authorized under Section 203(b) of the National Housing Act,⁷ insures approved lenders against losses on mortgage loans. In contrast to Fogarim, FHA insures fixed-rate as well as adjustable-rate mortgages (ARMs). FHA is bound to a ceiling, however, in which a maximum 30 percent of ARMs can be insured. In addition, borrowers must have a credit score greater than 500 and a maximum LTV of 96.5 percent (HUD, 2015b). This allows cash-poor borrowers to access housing finance with a downpayment of as little as 3.5 percent of the total loan.

In the event of default, FHA compensates lenders for the unpaid principal, missed and accrued interest payments, and taxes and fees incurred on the loan. This differs from Fogarim's provision of 70 to 80 percent of unpaid principal and interest on the loan. In the event of default, recorded at 2.3 percent for FHA single-family loans in 2012 (the lowest since before 2000), lender compensation comes from FHA's Mutual Mortgage Insurance Fund (MMIF; Goodman, Seidman, and Zhu, 2014).

Funding for the MMIF is another key difference between Fogarim and the FHA 203(b) program. Since its inception in 1934, FHA has been largely self-sustaining in financial terms. As indicated in exhibit 3, it operates with upfront and annual mortgage insurance premiums (MIPs), as of this writing, at 1.75 and 0.85 percent, respectively. Borrowers pay MIPs in addition to their monthly principal and interest (Jones, 2013). Such funding reduces as the borrower repays the loan and the outstanding LTV is minimized. These MIPs are essential to the financial sustainability of this FHA program and have mostly allowed for the program to pay for itself for more than 80 years.

Enumerated by Section 502 of the American Housing Act of 1949,⁸ the Single Family Housing Guaranteed Loan Program facilitates access to low-income households seeking to purchase and refinance housing in rural areas of the United States. Unlike Fogarim, this RHS program is open to moderate-income borrowers having at or below 115 percent of the Area Median Income. In addition, lenders must assess and determine that approved borrowers have "decent credit history" (Foote, 2010).

⁷ Pub. L. 84-345, 48 Stat. 847 (June 28, 1934).

⁸ Pub. L. 81-171 (July 15, 1949).

Exhibit 3

Comparison of Fogarim, FHA, and RHS Single-Family Guarantee Programs

	Fogarim	FHA	RHS
Program inception	2004	1934	1949
Targeted borrowers	Low and intermittent incomes	Cash-poor and lower credit	Rural with low and moderate incomes at or below 115% of Area Median Income
Loan type and term	25-year maximum fixed rate	30-year maximum fixed or adjustable rate	30-year fixed rate
Maximum LTV	100%	96.5%	100%
Guarantee	70–80% of unpaid principal and interest ^a	100% of unpaid principal, delinquent interest due, taxes, advances, and fees	Up to 90% of original principal, interest up to default, accrued interest 90 days after liquidation, advances, and fees
Funding	Annual risk premiums, 0.25–0.65% ^b	Upfront and annual mortgage insurance premiums, 1.75 and 0.85%, respectively ^c	Upfront guarantee fee of 2.0 and 0.5% if refinanced

FHA = Federal Housing Administration. LTV = loan-to-value ratio. RHS = Rural Housing Service.

^a Lenders are guaranteed an additional 10 percent if the borrower lives in an informal settlement through the “City without Slums” program.

^b These premiums fluctuate, depending on the LTV.

^c After such loans reach 78 percent LTV and premiums have been paid for at least 60 consecutive months, depending on loan type and term, future annual premiums are cancelled.

Similar to Fogarim guaranteed loans, RHS guarantees only 30-year fixed-rate mortgages in this program. The RHS 502 loans are funded in a different manner than Fogarim and FHA’s 203(b). RHS charges lenders an upfront guarantee fee of 2.0 percent of the loan amount and another 0.5 percent should the borrowers refinance their mortgage (Foote, 2010). At their discretion, banks can and often do transfer these guarantee fees to the borrower. In the event of default, RHS compensates lenders up to 90 percent of the original principal amount of the loan. Such compensation is tiered, depending on the amount paid down by the borrower.

Fogarim allows lenders to penalize prepayments by borrowers, whereas FHA and RHS programs prohibit such actions. Unlike Fogarim’s high lender concentration among banks, FHA-insured lenders are more diffused between banks and nonbank institutions (Goodman et al, 2014). This trend has become more accentuated since the 2008-to-2009 financial crisis. In terms of defaults, Fogarim is an outlier. To enfranchise those with irregular income, Fogarim requires nine missed loan repayments for courts to order foreclosure, whereas the lenders in the FHA and RHS programs can initiate foreclosure proceedings within 30 days of missed borrower payments. RHS does not have a limit for the loans it guarantees; Fogarim and FHA do. Fogarim permits collateralization with housing land title and life insurance—covering the loan period—whereas FHA and RHS require housing deeds.

Lessons Learned From the Fogarim Guarantee Fund

The case of Fogarim in Morocco underscores the significance of inclusive housing finance in bridging income inequality and promoting sustainable urban development. Access to affordable housing finance has strengthened Morocco's overall housing sector and promoted long-term socioeconomic development (Talby, 2014). Persons with modest and intermittent incomes can go to banks across the country and not be turned away in meeting their housing needs. Because of Fogarim and related housing sector reforms 10 years ago, Morocco now has one of the most developed housing markets in the region (DTFE, 2015b).

Fogarim is unique with its focus on financing housing for Moroccans with irregular incomes. Households with fluctuating incomes exist in the United States. In a 2013 survey on U.S. economic well-being, the Federal Reserve found 10.1 percent of U.S. households reported that their incomes fluctuated "quite a bit" from month-to-month (Federal Reserve, 2014). Of those respondents, 41.6 percent said this was because of irregular work schedules, 12 percent said because of seasonal employment, and 14.7 percent said because of periods of unemployment (Federal Reserve, 2014). Furthermore, households with irregular incomes often overlap with the lowest-income earners in the U.S. workforce (Golden, 2015). In this respect, Fogarim's promotion of access to these borrowers underscores a subset of households often overlooked in U.S. housing finance.

Although the contexts of accessing affordable housing are different in Morocco and the United States, it is evident that valuable lessons and reforms remain to be learned by both countries. Although the United States has no comparable housing deficit, constrained access to affordable housing persists (UN-Habitat, 2011). The Fogarim program demonstrates the need for continued monitoring and evaluation to better inform housing finance reform in the United States. The persistence of affordable housing issues in the United States requires innovative approaches to achieving a sustainable and inclusive housing finance system.

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Tracking and Interviewing Family Options Study Participants

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Abstract

Sample retention is a challenge for any longitudinal study. Panel attrition is inevitable. Panel retention is especially difficult with highly mobile, low-income study participants. This article examines the participant-tracking strategy used for the Family Options Study, conducted by the U.S. Department of Housing and Urban Development. Through the Family Options Study, 2,282 homeless families in 12 locations nationwide received three housing services and interventions. The study measures the effect of these housing services and interventions on study participants over a three-year follow-up period. Followup surveys conducted 18 and 36 months after enrollment were the main source of data to measure the effects of the study interventions. The study used a rigorous participant-tracking approach that yielded high response rates. More than 80 percent of study participants responded to the 18-month survey, and 78 percent responded to the survey conducted 3 years after enrollment. Approximately 10 percent of the total evaluation costs were devoted to participant tracking. The tracking strategy used a variety of methods—telephone, mail, and in-person contacts—with varying degrees of frequency and intensity. The article examines the importance of local interviewers, participant

Abstract (continued)

incentives, the continued engagement of participants, and administrative data in the tracking strategy. Lessons from the Family Options Study point to the importance of a combination of methods for successful participant tracking.

Introduction

This article examines the participant-tracking methods used to conduct the Family Options Study, launched by the U.S. Department of Housing and Urban Development (HUD) in 2008 to learn more about the effects of housing and services intervention for homeless families. The Family Options Study analyzes the effects of three housing and services interventions for a sample of 2,282 homeless families staying in emergency shelter in 12 locations across the country. The effects of the three interventions—(1) a short-term rental subsidy, (2) a long-term rental study, and (3) service-intensive transitional housing—were measured and compared with the effects of usual care. The study defined *usual care* as any housing or services that a family accesses in the absence of any other intervention. Because the study was a randomized, controlled trial that compared the study interventions with usual care (and with each other), it was very important to achieve high response rates to the followup surveys that were the main source used to measure the effects of the study interventions. The study achieved remarkably high response rates to the followup surveys—more than 80 percent for the survey conducted about 18 months after families enrolled in the study and 78 percent for the survey conducted 3 years after enrollment.

Because of these high response rates, the study has been able to measure statistically significant effects not only on housing stability but in other areas as well, including family composition, adult well-being, child well-being, and self-sufficiency.

Tracking study participants in a longitudinal study is difficult, because attrition is inevitable. Attrition rates of 20 to 30 percent, and even as high as 70 percent, are not uncommon (Gustavson et al., 2012; Launes et al., 2014). Some participants decide they no longer want to be part of a longitudinal study. The study more frequently cannot locate the study participants for followup surveys because they move or change their telephone numbers. The housing instability that is in the very nature of homelessness made tracking and surveying families over time particularly challenging for the Family Options Study.

Low-income households, taken as a whole, tend to be more mobile than middle-income households. They move more frequently, change telephone numbers more often, or may have telephone numbers temporarily disconnected. Homeless families are even more mobile. During the followup period for the study, families in the Family Options Study were likely to relocate from the emergency shelters from which they were recruited into the study. They also were likely to move back and forth among their own housing units, temporary stays with family and friends, or returns

to shelters that could be different from the shelters in which they were staying originally. Further, many homeless families have experienced violence or trauma that may make them vulnerable and wary of engaging in research or efforts to contact them over time.

Gustavson et al. noted that study participants who have low educational levels, are unemployed, or are not married are likely to have high attrition rates (Gustavson et al., 2012). These characteristics are all common among Family Options Study participants. At the time of enrollment, 83 percent of the study participants were unemployed; 30 percent were unmarried; and 73 percent had a high school diploma, GED (that is, general educational development), or less (Gubits et al., 2013). The Family Options Study implemented a rigorous participant-tracking strategy aimed at overcoming these challenges.

Local interviewers conducted the study enrollment in person, which helped the interviewers build rapport with the families early on. After random assignment, the study team contacted the programs to which families were referred to collect information about whether and when the family enrolled in the assigned intervention. The local interviewers also maintained periodic contact directly with participating families to ensure that the contact information was as accurate as possible leading up to the followup interviews. For each cohort of enrolled families, contacts began 3 months after enrollment and continued for a minimum of 3 years.

The cost of participant tracking totaled approximately \$1,500,000, about 10 percent of the total evaluation costs of the Family Options Study.¹ The participant-tracking effort contributed to high response rates for the 18- and 36-month followup surveys and thus maximized the statistical power of the impact analysis. The sample sizes of this rich survey data—coupled with the study's rigorous design—provide a strong basis for drawing conclusions about intervention effects on housing stability, family preservation, adult well-being, child well-being, and self-sufficiency 3 years after study enrollment.

The Family Options Study tracking approach provides lessons that may be useful to other researchers. The most important lesson is that a combination of tracking efforts (face-to-face enrollment, frequent tracking efforts of varied intensity, and incentives), rather than one particular component, influenced the success of followup data-collection efforts. The remainder of this article presents details on the methods used to track the sample and provides qualitative information on the relative merits of these combined methods.

Tracking Strategy Overview

When developing a tracking and data-collection strategy for the Family Options Study, HUD and the research team took the unique characteristics of the study population and previous tracking experiences of the research team into consideration. The Family Options Study research team implemented a tracking strategy that relied on—

- Local site interviewers.
- Frequent contacts with varying levels of intensity.

¹ Evaluation costs include research design, site recruitment, participant enrollment, data collection, analysis, and reporting.

- Incentives.
- Administrative database searches.

Local Site Interviewers

Integral to the Family Options Study tracking plan was the hiring of local site interviewers to conduct the enrollment session and all subsequent tracking and data-collection efforts. The familiarity local interviewers had with the areas in which the study participants lived helped to minimize the challenges associated with recruiting sample members from vulnerable populations. Local interviewers conducted the enrollment sessions in the shelters, which enabled them to build a professional relationship with not only the families but the staff at the shelters as well.² The use of local site interviewers also allowed for the study's tracking plan to rely heavily on active tracking efforts—those that involve direct contact with the study participant, such as mailings, telephone calls, and interviews. Such active tracking efforts tend to be very effective ways of strengthening the rapport between the interviewers and families and, ultimately, of strengthening the connection of families to the study. Interviewers received indepth training about the study background, research questions, purpose of each of the individual data-collection components, and guidelines for gaining cooperation from respondents. The interview team expanded as the followup surveys began, but most of the original site interviewers remained part of the study team for the full 36-month followup period.

Frequent Contact With Varying Levels of Intensity

On longitudinal studies with low-income populations, the tracking protocol usually involves contact with participants every 4 to 8 months (or 6 months on average). With more challenging samples, such as in the Family Options Study, tracking might occur more frequently.

On more stable samples, the tracking could stretch to every 8 to 12 months. For example, the Panel Study of Income Dynamics (PSID), one of the longest-running panel studies in the United States, includes a mix of household incomes and sends a tracking mailing to PSID study participants every year in between followup waves of data collection (McGonagle, Couper, and Schoeni, 2011). In a study of Social Security Disability Insurance beneficiaries for the Social Security Administration, study participants are also less mobile than Family Options Study participants. The research team contacted these households 8, 20, and 30 months after enrollment during the 36-month followup period.

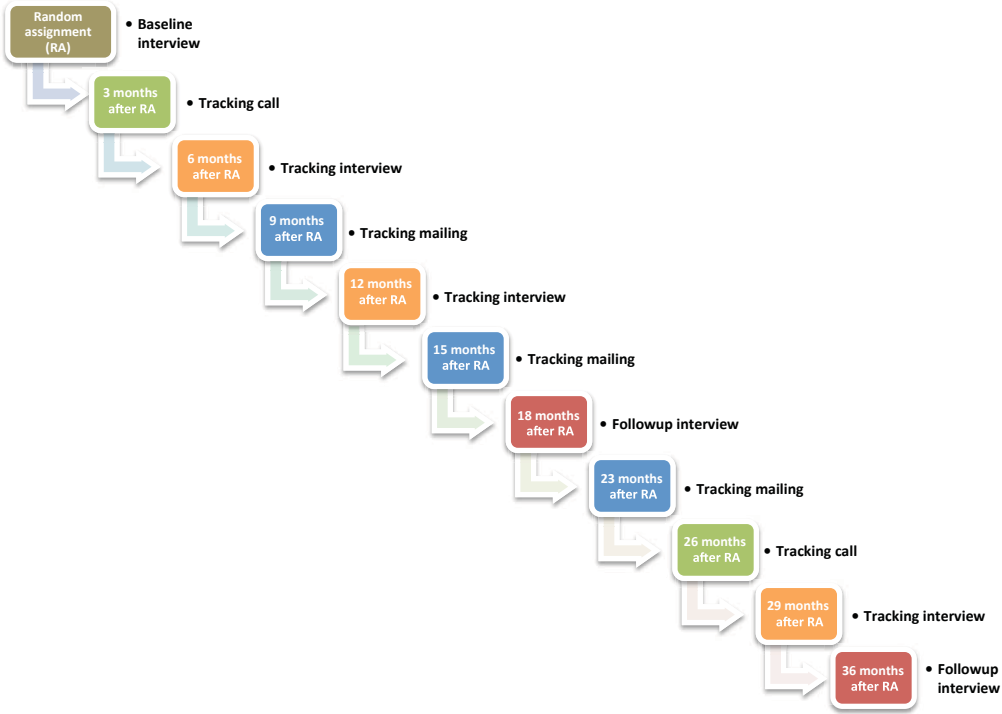
² One alternative to using local interviewers employed by the research team would have been to have the research team train staff within the shelters to conduct the enrollment sessions. Although this approach has proven effective on other studies in the research team's experience, several drawbacks to this approach made it less appropriate for this study. One possible drawback is that prospective families may not have been as candid in responding to some of the enrollment questions with shelter staff as they were with the study interviewers, for fear of being removed from shelter or of limiting their options. In addition, and most relevant to maintaining high response rates, the study team's interviewers would have had to wait to introduce themselves to the respondents until the first tracking contact began. This delay could have affected followup data collection because interviewers would have had to spend more time and resources locating and earning the cooperation of the respondents.

The team determined that the Family Options Study required a rigorous tracking protocol, with frequent but varied types of contact to minimize attrition and maximize response rates to the 18- and 36-month followup survey efforts. Exhibit 1 illustrates the type of tracking and survey data-collection activities conducted for the Family Options Study sample. The exhibit also shows the timing of each activity, from the baseline survey through the 36-month followup survey. The following list describes each activity briefly.

- **Baseline survey.** The study team collected detailed contact information at the time of enrollment as part of the baseline survey. For the adult respondent, the team collected previous address, multiple telephone numbers, and e-mail addresses. The team also collected information on three people (referred to as secondary contacts) not residing with the participant but with whom the study participant had regular contact. These contacts were normally close family members such as a parent, sibling, or friend.
- **Tracking calls.** Interviewers conducted tracking calls 3 months after random assignment. The tracking calls were repeated 26 months after random assignment. The tracking calls were intended to confirm or update contact information for the study participant and the secondary contacts.
- **Tracking interviews.** The team developed a short tracking interview that was administered 6, 12, and 29 months after random assignment. This interview collected updated contact information for the adult respondent and secondary contacts. The tracking interviews also collected information on the current living situation, receipt of housing assistance, and family composition for each family. Data from these tracking surveys provided crucial information on the housing and homeless assistance programs families used during the followup period and on changes in family composition and living situation.
- **Tracking mailings.** The team sent letters to study families 9, 15, and 23 months after random assignment. These letters reminded the study families that they were part of the Family Options Study and explained the importance of updated contact information. Each letter contained a form with the family's current contact data and information for up to three secondary contacts. Each family was asked to confirm or update the information on that form and return it in the enclosed postage-paid envelope.
- **The 18- and 36-month followup surveys.** These followup surveys are the primary source of data for measuring outcomes. Local interviewers played a major role in locating and interviewing respondents for the surveys. All the previous tracking efforts provided updated contact data for interviewers to draw on in an effort to maximize response rates.

Exhibit 1

Family Options Study Participant-Tracking and Data-Collection Protocol



Incentives

The use of incentives enhanced the ability of local interviewers to engage study participants in all aspects of participant tracking and data collection. Families were offered a financial incentive as a token of appreciation for their time spent participating in each of the tracking and survey data-collection efforts. Exhibit 2 provides a summary of the potential incentives each respondent could receive, ranging from \$15 to \$50, depending on the activity. The baseline, 18-month, and 36-month incentives were higher than the others because of the increased length and complexity of the survey. The 18- and 36-month followup data collection also included child data-collection components. Adults received incentives on behalf of the focal children who completed the child data-collection activities.

Exhibit 2**Family Options Study Incentive Amounts by Data-Collection Type**

	Adult Respondent			Child Respondent ^a		
	Frequency	Amount (\$)	Total (\$)	Frequency	Amount (\$)	Total (\$)
Baseline	1	35	35	—	—	—
Participant tracking	8	15	120	—	—	—
18-month followup	1	50	50	1	15	15
36-month followup	1	50	50	1	25	25
Total (maximum value)	—	—	255	—	—	40

^a The incentives for the child data collection were provided to the adult respondent on behalf of the child.

Administrative Database Searches

The team also used some passive tracking approaches, particularly updates from local homeless assistance providers, administrative databases such as Accurint®, and HUD administrative data from the Public and Indian Housing Information Center (PIC) and the Tenant Rental Assistance Certification System (TRACS). These sources are not as productive in maintaining the families' connections to the study, but they can be useful for providing updated contact data if timed appropriately. (For more on timing, see the section titled "Lessons Learned.") They also do not require the same level of labor resources as the tracking calls or interviews. The team used information from these sources to supplement the data collected by the active tracking efforts.

Early Mobility Findings

The decision to implement such an intensive tracking plan was validated by baseline survey data on the housing situation of study participants. Family Options Study participants were, as expected, highly mobile. At the time of enrollment into the Family Options Study, all families were residing in an emergency shelter at 1 of 12 sites. According to baseline survey data, most families in the study reported having entered shelter from housing—either their own housing unit or that of a friend or family member.

- About 26 percent said they had rented or owned their own housing.
- About 46 percent said they had been living with family or friends.
- About 28 percent reported they had been living in some other situation such as group homes, shelters, transitional housing, motels, or on the streets.

The baseline survey also captured data on study participants' most recent address before entering the shelter. These data show that 8 percent of the enrolled families reported living in another state before enrollment in the study. It is unclear how or why those families ended up in shelters in new states. They may have crossed state boundaries to access more robust services or attempted unsuccessfully to double up with family or friends. The interstate mobility shows that participants likely do not have strong ties to their communities, which supported the notion that they would be hard to track.

Tracking and Data-Collection Results

Longitudinal tracking is typically done to maintain contact with study participants between the point of entry into a study and followup data collection. Tracking efforts provide updates of addresses and other contact information that can be used to locate the study participants throughout the life of the study. The effort required to track study participants is less intense than the effort that takes place at the time of followup data collection. The response rates of tracking efforts can provide a sense of how difficult the participants are to locate but are expected to be lower than the response rates that can be achieved the followup surveys.

For the Family Options Study, tracking calls and interviews were done during a 12-week field period, whereas the 18- and 36-month followup survey efforts had, on average, a 6-month field period.³

In addition, the tracking efforts did not follow as rigorous a protocol as implemented for the full-scale followup survey data collection at 18 and 36 months. Because high response rates to the followup surveys are critical for measuring outcomes, survey interviewers attempt to complete each case until it becomes clear that locating the family is unlikely or impossible.

Using the same exhaustive approach during multiple rounds of participant tracking would have been overly burdensome on respondents and could have had a negative effect on the ability to achieve high response rates for the followup surveys.

Exhibit 3 shows the results of the tracking activities conducted for the Family Options Study. For each tracking activity conducted between baseline and the 36-month survey, the exhibit shows the number of months elapsed since random assignment and the response rate. The research team anticipated that tracking calls and interviews would achieve a 50-percent response rate and that mailings would achieve a 25-percent response rate. Each tracking effort achieved greater than anticipated response rates. We suspect that these high response rates for tracking activities reflect participants' strong connection to the study that was developed during the face-to-face enrollment sessions and the study's generous participation incentives.

The research team's tracking approach was integrated, with tracking efforts in one mode or at one time likely to affect the success of other efforts. Thus, it is not possible to measure the success of individual tracking components relative to each other. Such measurement would require an experiment to be built into a tracking effort, with the study team applying different tracking protocols to different sample members.

For example, the tracking calls at the 3-month mark achieved a higher-than-expected response rate (78 percent). The tracking interviews at the 6-month mark also achieved a higher-than-expected response rate (73 percent). Without an embedded experiment, the team cannot say with certainty what would have happened to response rates on the 6-month tracking interviews in the absence of 3-month calls. It is the integration of these combined efforts, not any one effort in particular, which contributed to the success of the followup data collection.

³ A new tracking effort started every 3 months. The tracking calls and interviews occurred during a 12-week period. The first 8 to 10 weeks were spent on data collection, and the remaining weeks were spent processing the data and updating the sample file in preparation for the next quarterly activity.

Exhibit 3**Family Options Study Tracking and Survey Response Rates**

Tracking Activity	Months After Enrollment	Response Rate (%)
Before 18-month followup tracking activities		
Baseline interview	0	100
Tracking call	3	78
Tracking interview	6	73
Tracking mailing	9	34
Tracking interview	12	72
Tracking mailing	15	37
18-month followup survey	18	81
After 18-month followup tracking activities		
Tracking mailing	23	28
Tracking call	26	66
Tracking interview	29	62
36-month followup survey	36	78

Source: Survey Project Tracking System

Tracking Results Summary

The 3-month tracking calls concluded with a 78-percent overall response rate, and the post-18-month tracking calls (26 months) achieved a 66-percent overall response rate. Starting the tracking with a telephone call gave the interviewers a chance to confirm the quality of the contact data obtained at baseline and to strengthen the rapport they built with families during enrollment.

The tracking interviews at 6, 12, and 29 months enabled the research team to again renew the family's connection to the study and obtain contact-information updates. The interviews also enabled the team to capture interim information on key outcomes such as housing tenure, housing assistance, and family composition. The 6- and 12-month interviews had response rates of more than 70 percent, and the post-18-month tracking interviews reached a 62-percent response rate.

The tracking mailings at 9, 15, and 23 months after random assignment achieved very good response rates. The typical response to a mail survey ranges from 20 to 30 percent after the first contact (PRA Inc., 2010). The study team has recent experiences with similar, hard-to-locate respondents that achieved only 15-percent response rates to tracking-letter mailings. By contrast, the tracking mailings for the Family Options Study, which occurred at 9 and 15 months after enrollment, had response rates greater than 30 percent despite no additional followup effort on the part of the research team. The post-18-month tracking mailing, done at 23 months after random assignment, achieved a 28-percent response rate, with no reminder postcards or calls to boost response rates.

These mailings were an important component of the tracking strategy for several reasons. First, mailings are less costly than tracking calls or interviews, so they were a low-cost way to maintain contact with participants between the more intensive calls and interviews. Second, mailings

imposed a lesser burden on respondents because they did not require direct communication with the interviewers. Participants could complete and return the forms on their own schedule. Third, mailings were an inexpensive way to determine if a respondent's mailing address was no longer accurate. Undeliverable letters were returned to the research team, sometimes with forwarding addresses. Finally, even if respondents received but did not return the tracking mailing, the letters would remind participants about ongoing data-collection efforts and strengthen their connection to the study.

The 18-Month and 36-Month Followup Survey Data-Collection Efforts

During the effort to locate families and administer followup surveys at approximately 18 and 36 months after random assignment, local interviewers used the address, telephone, and e-mail addresses collected during the previous rounds of tracking. As needed, the interviewers also used contact information for family members or friends of the respondents obtained at baseline and during the followup period. In addition, the researchers searched for updated address or telephone number information using the National Change of Address database, proprietary databases such as Accurint®, local homeless assistance providers who participated in the study, and HUD's PIC and TRACS administrative data systems. As those leads were exhausted, team members also spoke with the homeless assistance providers at each site to determine if families were still in shelter or if they had moved into housing. If they were still in shelter, interviewers went to the shelter to conduct interviews. If the provider was able to provide a new address, the interviewers attempted to locate the family there. Even having all these potential sources of contact information, interviewers often found it difficult to locate and complete interviews with the respondents. It took an average of 6 months for the interviewers to complete the survey effort with each monthly random assignment cohort.

Lessons Learned

The team's experience with the Family Options Study provides several insights for tracking such populations in the future. The most important lesson learned using the tracking activities during the 36-month followup period was that no one tracking approach proved the most useful. This lesson is important for a successful tracking strategy on any longitudinal study and is echoed in Tourangeau et al., 2014.

For the Family Options Study, it was important to blend several approaches to locating and surveying participants to achieve high response rates. Offering participants a variety of ways to update their contact information, with varied levels of intensity, frequently enabled families to respond in a manner that was comfortable for them. Exhibit 4 summarizes some key factors the team took into account when defining the protocol for the Family Options Study.

The team also found that taking time to work each tracking lead to completion was critical on this study, as has been the team's experience on previous studies of hard-to-locate populations. Allowing for at least 6 months for interviewers to work the cases on the 18- and 36-month followup surveys provided time for each tracking lead to be pursued completely.

Exhibit 4**Key Factors To Consider in Choosing Tracking Methods**

Tracking Activity	Participant Contact	Benefit	Constraint
Mailing	Direct	Reinforces connection to study; provides contact information updates; provides undeliverable address updates.	Low response.
Call	Direct	Reinforces connection to study; builds rapport building between interviewer and participant; also captures updated secondary contact data.	Can be costly if telephone data are poor; best done shortly after enrollment to maximize the benefit.
Interview	Direct	Reinforces connection to study; builds rapport between interviewer and participant; offers chance to capture intermediate outcomes; updates contact information.	Can be costly if field period is long, if telephone data are not available, or if extensive in-person efforts are required.
Provider update	Indirect	Reminds providers that the research is ongoing; renews their support for the study; captures data on participant status in the program and current address.	Not all providers have data on participants after they exit programs; some may be unwilling to provide updates based on privacy concerns.
PIC/TRACS	NA	Data are collected for analyzing outcomes, so level of effort to obtain data for tracking is low; data are maintained centrally so the format is consistent across sites.	Timing is critical; covers only participants receiving housing assistance.
Proprietary databases	Indirect	Easy to search; match rates enhanced by quality of participant identifying data; updated frequently; flexible search options.	Individual searches can be labor intensive, especially in hard-to-locate samples.
TANF	NA	Coverage could be good for studies with low-income, mobile populations.	Requires negotiating data use agreements at site level; data format likely varies by site; may need to purchase data.

NA = not applicable. PIC = Public and Indian Housing Information Center. TANF = Temporary Assistance for Needy Families. TRACS = Tenant Rental Assistance Certification System.

Notes: TANF data were not pursued for this study, because those data were not part of the planned administrative data collection. The labor requirements and administrative processes were too great to pursue this source for tracking purposes only.

It is natural for researchers to want to know the answers to questions such as, “What tracking activity worked the best?” “Which one will yield the highest response rates?” “Which one should be avoided?” To fully answer such questions would require an experiment. As noted previously, such an experiment was not part of this study’s tracking design. The remainder of this section provides a summary of the researchers’ views on elements of the Family Options Study’s tracking effort that made it successful.

Strong Enrollment Procedures and Local Interviewers Yield Engaged Study Participants

The local interviewers carefully reviewed the informed consent document with families to ensure that they understood both how random assignment would work and the requirements for further participation in the research. This review helped to ensure that families understood what would be expected of them in the future. The evaluation contractor, not one of the participating homeless program providers, employed the local interviewers. This procedure helped put the respondents at ease and encouraged them to answer survey questions more candidly. Having interviewers conduct the enrollment sessions in the local shelters also enabled the interviewers to build a professional relationship with the staff at the shelters.

The frequent active tracking efforts gave the interviewers a chance to strengthen their rapport with the family, update contact information, and remind the family of what the next tracking effort would entail. Interviewers and survey management staff often received calls from respondents asking if it was time for their next interview.

Continuity of Staff Helped To Gain Respondent Cooperation

Other research has shown that continuity of interviewer staff is very important to the success of longitudinal studies, particularly those with in-person interview components (Watson and Wooden, 2009). The Family Options Study hired one local interviewer at each site to recruit and enroll families into the study and had a very high interviewer retention rate. Of the 12 original interviewers, 8 (67 percent) remained part of the study team for the full 36-month followup period. At 2 of the 4 sites where the original interviewers did not remain with the study, the replacement interviewer remained with the study for the remainder of the 36-month followup period. The rolling data collection, in which participants were tracked and interviewed in cohorts based on the date of their random assignment, together with the frequency of participant contacts, helped the team retain so many of the original site interviewers. With almost no break between the enrollment of participants and the 36-month followup survey, local interviewers were steadily employed by the study for more than 3 years. In addition to the helping keep families connected to the study, this continuity minimized the costs associated with hiring and training new interviewers.

Interviewer turnover may have had an effect on response rates at 3 of the 12 sites. Of the 4 sites at which the original interviewers did not remain with the study, 3 were also the sites with the lowest response rates overall on the 36-month followup. Exhibit 5 shows the completion rates for the 18- and 36-month followup surveys for each of the study sites. In Louisville, Kentucky, the response rate did not meet the 75-percent target in either the 18- or the 36-month survey.

Although meeting the 75-percent target response rate, Connecticut and Kansas City, Missouri (at 76 and 75 percent, respectively), were on the lower end of the response rates across all sites. The fourth site with replacement interviewers, Denver, Colorado, did achieve response rates that were close to the study average.

The continuity of local homeless assistance provider staff also seems to have been important. Turnover among provider staff was high at a number of sites. Research team members had to reach out to the new staff and explain the study, the history of the provider's involvement to date, and the

Exhibit 5**Family Options Study Completion Rates by Site**

Site	18-Month Completion Rates			36-Month Completion Rates		
	Number Enrolled	Number Completed	Completion Rate (%)	Number Enrolled	Number Completed	Completion Rate (%)
Alameda County	258	207	80	258	207	80
Atlanta	189	151	80	187	147	79
Baltimore	58	46	79	58	48	83
Boston	181	165	91	181	154	85
Connecticut	214	165	77	214	162	76
Denver	172	136	79	170	136	80
Honolulu	218	191	88	216	182	84
Kansas City	175	139	79	174	130	75
Louisville	109	81	74	109	80	73
Minneapolis	181	164	91	181	142	78
Phoenix	279	218	78	278	214	77
Salt Lake City	248	194	78	245	182	74
Total	2,282	1,857	81	2,271^a	1,784	78

^a Before the 36-month followup survey release, 11 participants were confirmed deceased. These 11 participants were not counted in the Number Enrolled column for the 36-month followup survey. The completion rate, however, is based on the full 2,282 enrolled participants.

Source: Survey Project Tracking System

importance of their cooperation to the success of followup surveys. This process often delayed the ability to obtain quick and, more important, timely updates on the location of study participants. Low staff turnover in Honolulu, Hawaii, is reflected in high response rates at both 18 and 36 months (88- and 84-percent response rates, respectively). Relatively low response rates in Connecticut (77 and 76 percent, respectively) may reflect high turnover in provider staff there.

Flexibility Is Critical

During the 36-month followup period, the team adapted the approach to both the tracking and the followup data collection. These adaptations contributed to the projects' success. The most notable changes were a shift in the order of contact for the 3-month tracking and the post-18-month tracking efforts and the mode of contact, allowing for field staff to complete both tracking and followup surveys by telephone rather than in person.

Order of Contact

The team originally planned to send a letter to each family 3 months after random assignment as the first tracking activity. When the study team found that many families did not have a stable address at the 3-month mark, however, the team determined that the first contact should be by telephone. The brief tracking call conducted at 3 months after study enrollment offered two additional benefits— (1) it enabled the interviewer to strengthen the family's connection to the study and (2) it enabled the team to assess at an early stage the quality of the baseline survey contact information.

The team also shifted the order of activities after the 18-month followup survey. Given the intensity of the contact with families during the 18-month data-collection activities, the team used a less-burdensome approach after the interview. The team sent a letter 5 months after the 18-month sample was released (23 months after random assignment). Then, 3 months later, the team conducted a tracking call to update contact information. Finally, 3 months after that, the team attempted to complete a tracking interview. Shifting the order of tracking activities enabled the team to increase the level of intensity of tracking gradually between the 18- and 36-month followup survey efforts.

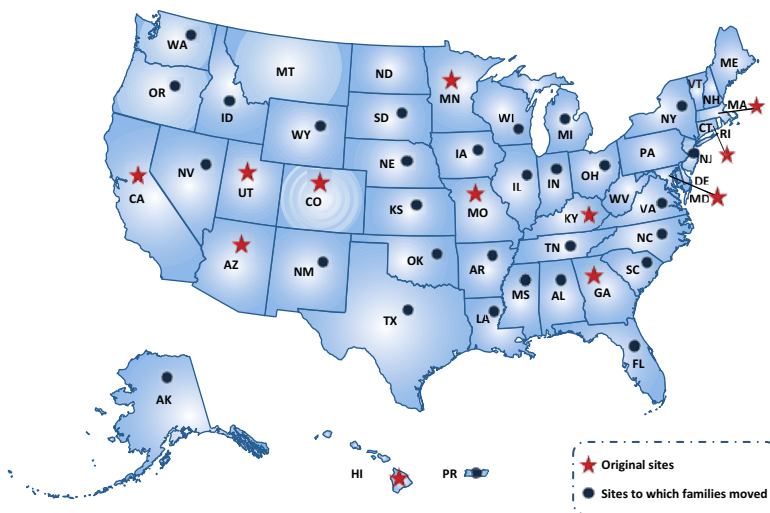
Mode of Contact

Local site interviewers had planned to administer the tracking interviews in person, using Computer-Assisted Personal Interviewing, or CAPI, technology. At most sites, the interviewer was the same person who had administered the baseline survey. The study team modified the plan to allow for interviewers to complete the tracking interviews by telephone, when it was found that many participants were willing to complete the tracking interviews at that moment, expressed a preference for a telephone interview, or both. This approach reduced interviewer travel time and permitted interviewers to complete more interviews within the 12-week window allotted for tracking calls and interviews. The result was higher response rates.

The study team also adapted its approach to allow for mode changes for the 18- and 36-month followup surveys. All 18-month followup surveys originally were to be administered in person by the local site interviewers. As the interviewers started to locate families, however, the team learned that many had moved out of state. At the time of the 18-month followup survey, study families were living in 42 different states, plus Puerto Rico. The map in Exhibit 6 shows the states where at least one participant lived.

Exhibit 6

States Where Participating Families Resided at Family Options Study 18-Month Followup Survey



Note: Of all participating families, 1,857 completed the 18-month followup survey; of those, 4 families did not provide a current address.

The team adapted the 18-month protocols to allow for the local interviewers to conduct the 18-month adult survey and the survey with older children by telephone. Telephone contact enabled the interviewers to conduct adult and child interviews with families who had moved out of state. Interviewers also found that the telephone option appealed to study participants who did not want to meet in person or were willing to do the interview at the time of the initial attempt to schedule an interview. Nearly 41 percent of the adult sample opted to complete the 18-month followup survey by telephone. The telephone option was also used for the 36-month followup survey.

Incentive Payments Encourage Participation

Incentive payments are a powerful tool for maximizing response rates in longitudinal studies. Incentives show appreciation for respondents' time spent completing the research. Previous research has found that sample members with certain socioeconomic characteristics are more likely to become survey respondents when incentive payments are offered. In particular, sample members with low incomes or low educational attainment have proven responsive to incentives, as have minority group members (Duffer et al., 1994; Educational Testing Service, 1991). These characteristics are heavily represented in the Family Options Study sample.

Research has shown that the values of monetary incentives used in longitudinal panels is expected to increase over time—to reflect inflation changes and to show the respondent that their time is valued (Laurie and Lynn, 2008). Several experiments on other longitudinal studies found that the amount of the incentive affected the amount of effort required by survey staff. Increased incentives resulted in fewer outreach attempts by field interviewers (Laurie and Lynn, 2008).

The incentive amounts provided for this study varied based on the type of data collection—as noted previously, higher incentives were provided for the surveys than for the tracking efforts. Interviewers and field managers reported that paying the incentives at the completion of the in-person interview (rather than mailing them to respondents afterward) was very helpful in gaining cooperation from study participants. The research team's sense is that, for the Family Options Study, the offer of the incentive mattered more to study participants than the amount of the incentive for adult respondents. The response rates for the 18- and 36-month surveys were very close (81 and 78 percent, respectively), without an increase in the incentive from \$50 to \$60, which had been proposed but not approved by the Office of Management and Budget.

The Importance of Continuing To Engage Participants—Even Those Who Did Not Respond Previously

It is important to continue efforts to reach respondents even if they haven't responded to earlier tracking attempts. The evidence from the Family Options Study (see exhibit 7) is that 163 of the 1,857 respondents to the 18-month followup survey (8.8 percent) did not complete either the 6-month or the 12-month tracking interview. Furthermore, 121 of the respondents to the 36-month followup survey (6.8 percent) did not complete any of the previous tracking interviews (at 6, 12, or 29 months), nor did they complete the 18-month followup survey. The group of participants that did *not* respond to any of the shorter tracking interviews but *did complete both* of the longer 18- and 36-month followup surveys (2.4 percent of the 36-month respondents)

Exhibit 7

Percentage of Family Options Study 18- or 36-Month Survey Respondents Who Did Not Complete at Least One Previous Wave

Tracking Activity	18-Month Followup Survey	36-Month Followup Survey
Number of participant responses	1,857 (81%)	1,784 (78%)
Number of respondents who did not complete the—		
6- and 12-month tracking	163 (8.8%)	—
6- and 12-month tracking and 18-month followup survey	—	—
6- and 12-month tracking, 18-month followup survey, and 29-month tracking	—	121 (6.8%)
6-, 12-, and 29-month tracking (did complete 18-month followup survey)	—	42 (2.4%)

Source: Survey Project Tracking System

may have been motivated by the higher incentives offered for the 18- and 36-month interviews. It is also possible that the interviewer happened to connect with the respondent at the right time. The lesson here is that, for a longitudinal sample, it is imperative to track and retain all study participants throughout the entire followup period to maximize the sample size for surveys that are the basis of outcome measurement.

Administrative Data May Help Locate Respondents

Administrative data such as HUD’s PIC or TRACS data, Temporary Assistance for Needy Families (TANF) data, or Medicaid data may provide contact information (addresses or telephone numbers) for tracking sample members. Researchers must negotiate data use agreements to gain access to administrative records, and negotiating these agreements can involve substantial effort and time.

In this study, researchers obtained records from HUD’s PIC and TRACS systems to measure outcomes for the study. In addition to information for measuring outcomes, PIC and TRACS also included addresses for the subset of study participants who received housing assistance from HUD programs. Because HUD commissioned the Family Options Study, obtaining the PIC and TRACS data and permission to use them was relatively easy.

The timing of the PIC and TRACS extracts turned out to be important, however. For example, before the 36-month followup data collection, the study team had PIC and TRACS data covering only the period through the 18-month followup period. Therefore, the PIC and TRACS data provided only a very small number of updated addresses. In the future, the team would recommend pulling a current extract of PIC and TRACS records before the start of each data-collection effort.

Researchers may want to consider gaining access to TANF or Medicaid data in future studies of this type of population. TANF data were not used in this study for all sites but were used in a study of predictors of homelessness in New York City (Shinn et al., 1998). For that study, TANF records were an important source of data for locating efforts. Pursuing administrative data from local administrators can be expensive, however. The pursuit of TANF data requires extensive staff

time for both the research team and the program administrators to determine the availability of the data, negotiate data use agreements, and conduct the matching between the study sample and administrative data sources.

Costs Associated With Tracking Activities

The team developed the Family Options Study tracking protocol taking into account the nature of the study population and the estimated level of resources needed to track the sample and conduct data collection at 18 and 36 months. The study was designed, implemented, and monitored with a layered tracking approach. To determine the estimated level of effort for each activity, the team started by estimating the labor and nonlabor resource requirements and assigning a value—low, moderate, or high—to each. Labor requirements include professional and interviewer labor, and nonlabor requirements include other direct costs (travel, postage, telephone, supplies, administrative data costs, and so on) and indirect rates.

Exhibit 8 shows the level of resource requirements and whether the activity requires direct, indirect, or no participant contact.

The Family Options Study evaluation is still under way. The total evaluation costs—including design, site recruitment, participant enrollment, participant tracking and data collection, and analysis and reporting—are estimated to be \$15,162,717.⁴ The total participant-tracking cost is \$1,452,484, representing 9.6 percent of the overall evaluation costs.

The Family Options Study tracking protocol relied heavily on active tracking efforts, which require substantial interviewer time to locate the families, management time (professional labor), and data processing time. Professional labor included the time needed to capture data from participating providers, proprietary databases, PIC, and TRACS. Given the heavy emphasis on intensive active tracking efforts (calls and interviews) rather than passive participant-tracking activities (mailings and database searches), labor—including professional staff and interviewers—accounted for more than 77 percent of the overall tracking costs.

Exhibit 8

Family Options Study Tracking Requirements

Tracking Activity	Labor Requirements	Nonlabor Requirements	Participant Contact
Mailing	Moderate	Moderate	Direct
Call	Moderate to high	Moderate	Direct
Interview	High	High	Direct
Provider update	Low to moderate	Low	Indirect
PIC/TRACS	Low to moderate	Low	NA
Proprietary databases	Low to moderate	Low to moderate	Indirect

NA = not applicable. PIC = Public and Indian Housing Information Center. TRACS = Tenant Rental Assistance Certification System.

⁴ The team received a grant from the Eunice Kennedy Shriver National Institute of Child Health and Human Development to support the child data collection during the 18-month followup study. This grant is included in the total estimated costs of the evaluation.

Nonlabor costs, 23 percent of tracking costs, included incentives provided to families for responding to each tracking and survey effort. These incentives accounted for 9 percent of the overall tracking budget. Incentives were very helpful to the study and the overall tracking effort. Participants understood that the interviewers would be in touch every few months to collect data from them and knew that they would receive an incentive payment in appreciation for their time. The remaining nonlabor costs associated with tracking include travel for professional staff, postage, telephone charges, and proprietary database lookups. The team completed eight waves of participant tracking and obtained 8,667 tracking responses (completed calls, interviews, or forms received). The average financial costs were—

- Cost per wave of tracking: \$181,561.
- Cost per tracking response received: \$167.59.

Conclusions

The tracking efforts provided the ability to obtain frequent updates to the participant-tracking data, strengthen the professional rapport between the interviewers and the respondents, and keep the participating families actively engaged in the research requirements of the study. The tracking efforts leading up to the 18- and 36-month followup surveys were instrumental to the research team's success with each effort. The overall cost of participant tracking, relative to the total evaluation budget, was modest given the benefits gained—high response rates to the 18- and 36-month followup efforts (81 and 78 percent, respectively).

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Contents

Symposium

Borrower Beware..... 1
Guest Editors: Padmasini Raman and Pamela Lee

Guest Editors' Introduction
Borrower Beware: Challenges in Providing and Using Consumer Credit..... 3

Credit Invisibles and the Unscored
by Kenneth P. Brevoort, Philipp Grimm, and Michelle Kambara..... 9

What's the Point(s)? Information Content and Messaging Strategies in Mortgage Loan Advertisements
by Vanessa G. Perry, Carol M. Motley, and Robert L. Adams, Jr..... 35

A Roll of the Dice: Debt Settlement Still a Risky Strategy for Debt-Burdened Households
by Leslie Parrish..... 55

Prepurchase Counseling Effects on Mortgage Performance: Empirical Analysis of NeighborWorks® America's Experience
by Neil S. Mayer and Kenneth Temkin..... 73

Commentary: How Housing Counseling, Financial Education, and Consumer Guardrails Can Support Responsible Borrowers
by Sarah Gerecke..... 99

Refereed Papers

..... 107

Housing Decisions Among Low-Income Hispanic Households in Chicago
by Laura Carrillo, Mary Pattillo, Erin Hardy, and Dolores Acevedo-García..... 109

The Role of Nonprofit Organizations in Homeless Policy Networks: A Research Note
by Jesus N. Valero and Hee Soun Jang..... 151

Departments

..... 163

Data Shop

Trend-Spotting in the Housing Market
by Nikos Askitas..... 165

Graphic Detail

Leveling the Playing Field: School District Spending in Diverse Communities
by Alexander Din..... 179

Industrial Revolution

Breathing Wall: Concept and Thermal Performance
by Zhiqiang (John) Zhai..... 183

Foreign Exchange

Promoting Access to Affordable Housing Finance: Morocco's Fogarim Guarantee Fund and U.S. Housing Finance
by Alven Lam and Christopher Feather..... 189

Evaluation Tradecraft

Tracking and Interviewing Family Options Study Participants
by Debi McInnis and Brenda Rodriguez..... 201

Referees 2015-16..... 221

