Segregation and the Cost of Money

Segregation and the Cost of Money: Race, Poverty, and the Prevalence of Alternative Financial Institutions

Jacob William Faber, *New York University*

Payday lenders, check cashers, and other "alternative" financial services (AFS) have garnered attention from policymakers and advocates for the poor because they are more expensive than traditional banking—constituting what some call a "Ghetto Tax." This is the first study to explore neighborhood-level AFS geography on the national scale. Leveraging a dataset comprising the universe of AFS in 2015, I show that not only are there substantial differences in AFS presence between white and non-white neighborhoods, but that these disparities are largest in the most segregated metropolitan areas. This finding supports theories that racial segregation creates easily identifiable markets for institutions to avoid, target, and exploit. I further show that while AFS presence declines with neighborhood income, the gap between black and white neighborhoods is widest among high-income neighborhoods, reflecting the unique vulnerability of even affluent blacks to institutional marginalization. This work documents how the overlapping geographies of racial isolation and AFS prevalence shape the very cost of money for different racial groups, illustrating the importance of institutions transmitting the effects of racial isolation.

Introduction

Although there is a long history of racialized exclusion from mainstream financial products (Baradaran 2017; Hyman 2011; Lipsitz 2011), the evolution of the "storefront" financial services sector (Karger 2005) is a new manifestation of this old inequality (Baradaran 2015; Caskey 1994). In 2015, there were more than 11,600 payday lenders and 8,400 check cashing outlets (CCOs) in the United States (Author's calculation). Nearly one in four households used these

and other "fringe" or "alternative" financial services (henceforth referred to as "AFS") (FDIC 2016), which have proliferated in low- and moderate-income communities to the point of being more common than McDonalds in some cities (Baradaran 2015). Because AFS are typically more expensive than "traditional" or "mainstream" banking[1] (e.g., at a bank or credit union), they have been accused of draining limited financial resources from already-marginalized communities (Dreier et al. 2001; Faber 2018a; Hyman 2011; Kubrin and Hipp 2016).

This institutional marginalization—organized around race and place—is of growing importance as income inequality (Piketty 2014) and instability (Dynan et al. 2012; Morduch and Schneider 2017) worsen, thereby intensifying vulnerability to exploitation (Desmond 2016). Despite the expansion of this "lower tier" of financial services and the potential implications for racial inequality and our understanding of the social meaning of money, they have received little attention in sociological literature (Carruthers and Ariovich 2010; Carruthers and Kim 2011; Negro et al. 2014).

Because data on AFS locations are notoriously difficult to obtain (Caskey 2002; Faber 2018a; Fowler et al. 2014), no previous research has explored the geography of AFS on the neighborhood-level within a multivariate framework for the entire country.[2] Without analysis on the national scale, we are unable to systematically assess consistencies and differences across different parts of the country in the sociospatial nature of AFS locations. For example, we are left without an understanding of whether and how variation in metropolitan-level racial segregation shapes the relationship between neighborhood-level racial composition and financial services environment. A national assessment of AFS geography also provides a more complete representation of the dramatic racial differences in financial services mix.

In this paper, I leverage a unique dataset of every AFS in the United States in 2015 to explore the overlapping geographies of racial isolation, neighborhood income, and financial services inequality. Consistent with prior work on the geography of financial institutions (Caskey 1994; Cover et al. 2011; Faber 2018a; Friedline and Kepple 2017; Gallmeyer and Roberts 2009; Kubrin and Hipp 2016; Negro et al. 2014; Prager 2014; Smith et al. 2008), I find AFS to be significantly more common in neighborhoods with larger black and Latino populations, poorer residents, and more immigrants. Black neighborhoods—though not Latino neighborhoods—are also significantly more likely than white neighborhoods to have no financial services at all (i.e., no banks or AFS). My empirical contribution lies in the concomitant finding that measures of racial geography on both the neighborhood and metropolitan levels interact to exacerbate financial service inequalities between white and non-white spaces—a pattern similar to research on the relationship between metropolitan-level segregation and mortgage lending inequalities (Faber 2018b; Hwang et al. 2015). Results also indicate that—on average—AFS are more common in poorer neighborhoods than affluent neighborhoods, though the black-white disparity (but not the Latino-white disparity) in exposure to AFS is largest among relatively affluent neighborhoods, which reflects prior work documenting the unique

vulnerability of black economic success (Faber 2013; Pattillo 2005; Rugh et al. 2015; Sharkey 2014).

These findings support theories that segregated places present easily identifiable markets for mainstream financial institutions to avoid and, conversely, alternative financial institutions to exploit (Been et al. 2008; Faber 2018b; Hwang et al. 2015; Hyra et al. 2013). The segregation of financial services means that the very cost of using one's own money varies (i.e., through exposure to fees) across neighborhoods defined by race and income. In turn, the extent to which local financial services affect individuals' pecuniary choices (Friedline and Kepple 2017) further illustrates the crucial—and growing—role this "Ghetto Tax" may play in the reproduction of wealth inequality (Brooks et al. 2007; Eckholm 2006). Such economic exploitation facilitated via segregation and a legacy of exclusion constitutes a "quiet" form of racial violence (Baradaran 2017, p. 278).

Background

Racialized exclusion from and exploitation through financial products has a long history (Baradaran 2015; Hyman 2011; Lipsitz 2011). Dramatically unequal access to various forms of finance—starting during Reconstruction (Baradaran 2017), expanding throughout the twentieth century (Jackson 1985; Katznelson 2005), and manifest in the early twenty-first century's housing boom and bust (Faber 2013; Rugh and Massey 2010)—is a primary contributor to today's racial wealth gap (Aaronson et al. 2017; Conley 1999; Faber and Ellen 2016; Shapiro 2004) and persistent segregation (Hall et al. 2015; Massey and Denton 1993; Taylor et al. 2011).

Financial services are increasingly essential to participation in daily life and—consequentially—are a growing site of stratification between places and people (Aalbers 2012; Carruthers and Kim 2011; Dreier et al. 2001; Faber 2018a; Piketty 2014). Basic financial service provision (i.e., consumer banking and credit) is necessary for wealth accumulation and transacting in a marketplace progressively reliant on electronic transfers (Dreier et al. 2001). This paper focuses on "alternative" financial services (AFS)—also referred to as "fringe" financial services—because their recent growth (Desmond 2016; Fowler et al. 2014; Rivlin 2010) has reshaped the cost of money among low- and moderate-income communities through often-predatory fees. AFS geography, therefore, presents a potential mechanism through which residential segregation perpetuates (or even widens) the racial wealth gap.

"Alternative" or "Fringe" Financial Services

The term "AFS" covers a suite of businesses providing low-quality products without the opportunity to accumulate wealth (Negro et al. 2014). The most common are tax preparation services, which assist individuals with income tax filing in exchange for a fee (typically a percentage of the anticipated tax refund), and payday lenders, which offer small loans at high (some argue predatory;

Squires 2004) rates. Check cashing outlets (CCOs) will—typically for a fee equivalent to a percentage of the check—immediately cash a paycheck or government check. Pawn shops grant small loans in exchange for collateral, while money transfer services allow customers to send money to other individuals for a fee. Rent-to-own stores are similar to the institutions studied by David Caplovitz (1968) in providing retail goods through high interest loans.[3] Many of these institutions offer other services as well, such as the ability to pay utility bills and purchase public transit tickets—all for a fee (Bradley et al. 2009).

AFS constitute a multi-billion-dollar industry (Bradley et al. 2009). Approximately one-quarter (24.0 percent) of American households reported using AFS in 2015 (FDIC 2016). Payday lenders, for example, are now more common in the United States than McDonalds and Starbucks, combined (Baradaran 2015). AFS growth is part of a larger trend of financialization of the American economy and extraction of money from the poor through a tiered system of financial service provision (Aalbers 2012; Desmond 2016; Fowler et al. 2014; Rivlin 2010), which also includes lending to the poor at high interest rates via credit cards (Carruthers and Ariovich 2010).

AFS are of concern to policymakers and advocates for the poor because their fees typically cost more than a traditional checking account. Using a CCO in lieu of mainstream banking, for example, could cost a full-time worker $40,000 over the cost of a career (Fellowes and Mabanta 2008). AFS dilute the effectiveness of government assistance through CCO fees for government checks and tax refund anticipation loan fees on EITC (Fowler et al. 2014). These institutions are made even more concerning by the fact that they are typically patronized by people for whom the money lost to fees would be transformative. Individuals with low incomes, lower levels of education, and racial minorities are more likely to use AFS (Caskey 2002; FDIC 2016; Gross et al. 2012; Lachance 2014)—even minorities with bank accounts (Rhine, Greene, and Toussaint-Comeau 2006). Only 17.3 percent of white households reported using AFS in 2015, compared to 22.5 percent of Asian households, 38.5 percent of Latino households, and 42.2 percent of black households (FDIC 2016). For many immigrants (especially undocumented immigrants), mainstream banking options are additionally limited by identification requirements. While 21.9 percent of native born households reported using AFS, 27.7 percent of foreign born citizens and 44.2 percent of foreign born noncitizens reported using AFS in 2015 (FDIC 2016). Survey data have identified a lack of comfort with and trust in mainstream banking as a driver of AFS use, as well as expediency with which AFS can provide cash (Bertrand et al. 2004; Caskey 2002; Faber 2018a; Gross et al. 2012; Rhine et al. 2006).

Qualitative research has documented that many AFS patrons deliberately choose to avoid mainstream banks because of the perception (or reality) of higher fees banks charge the poor—especially when there is an immediacy of need for cash (FDIC 2016; Karger 2005; Morduch and Schneider 2017; MSU 2017; Pattillo 1999; Servon 2017). Over half (55 percent) of American households without a bank account report not believing that banks want to serve people like them (FDIC 2016). Proponents of the AFS industry echo this sentiment, arguing that they provide products their customers need (Rivlin 2010) and that

their fees are justified by the risks of serving the poor—risks mainstream institutions generally avoid (Karger 2005). Although the rationality of AFS use is beyond the scope of this manuscript, the "hard choices" (Baradaran 2015; Buckland 2012; Caplovitz 1968) poor individuals have to make about how to use their money is a consequence of the concurrent trends of increasing income inequality (Piketty 2014) and instability (Dynan et al. 2012; Morduch and Schneider 2017), AFS expansion (Baradaran 2015; Caskey 1994), and the retreat of mainstream banks from serving the poor (Lipsitz 2011; Rivlin 2010; Servon 2017).

Segregation and the "Ghetto Tax"

While their reach has extended to the suburbs, AFS remain markers of urban disadvantage (Buckland 2012; Rivlin 2010; Wacquant 2008). AFS are more common in low-income communities of color and immigrant neighborhoods (Caskey 1994)—contributing to what some refer to as a "poverty" or "ghetto" tax (Faber 2018a; Gallmeyer and Roberts 2009; Wacquant 2008). On the neighborhood-level, the aggregate of these fees can cost millions of dollars and prohibit economic growth (Dreier et al. 2001; Kubrin and Hipp 2016; Rhine et al. 2006; Smith et al. 2008).

Just as AFS are more common in poor communities of color, bank branches are more common in wealthier, white neighborhoods (Lipsitz 2011). These two sociospatial realities may be interrelated, as the lack of mainstream options in poor, minority neighborhoods—due in part to consolidation in the banking industry (Karger 2005; Servon 2017)—may create a "spatial void" in which fringe service providers thrive (Baradaran 2015, 2017; Barnes 2012; Rivlin 2010; Smith et al. 2013; Squires 2004). Although those with bank accounts are less likely to use AFS (21.4 percent) compared to those who are "unbanked" (57.3 percent), empirical investigation has shown mixed evidence in support of the spatial void theory—in large part because fringe and mainstream services occasionally co-locate in commercial areas (Faber 2018a; Fellowes and Mabanta 2008; Fowler et al. 2014; Gross et al. 2012; Prager 2014). However, some research has shown that disparate exposure to financial services is correlated with disparities in the types of services used (Friedline and Kepple 2017), suggesting influence of the local financial services ecosystem on individual choices.

Although numerous city-level and state-level studies have explored the relationships between neighborhood-level characteristics and financial services, few have investigated the potential role of sociospatial characteristics operating at larger units of analysis in shaping financial service environments. Two national studies (Fowler et al. 2014; Prager 2014) and one Wisconsin-specific study (Negro et al. 2014) have explored AFS variation on the county-level, though no studies (to my knowledge) have conducted a metropolitan-level analysis of AFS. Relatedly, the housing boom and bust lead to increased scholarly attention on the ways in which metropolitan-level racial segregation shaped the prevalence of subprime mortgage use. Several studies showed that subprime lending was more

common in metropolitan areas with higher levels of racial segregation (Been et al. 2008; Hwang et al. 2015; Hyra et al. 2013), as were subsequent foreclosures (Dwyer and Lassus 2015; Rugh and Massey 2010). Well after the collapse (and recovery) of the housing market, segregation has been connected to mortgage lending inequalities (Faber 2018b). The consensus among these papers is that the primary mechanism connecting residential segregation to housing finance outcomes is that segregation creates easily identifiable local markets for subprime lenders to target (and for prime lenders to avoid). The idea that segregation facilitates commercial exploitation—especially in finance (Aalbers 2012)—could be explored in the market for storefront financial services. The same dynamics tying metropolitan-level segregation to subprime lending could, for example, be tying segregation to payday lending and check cashing. Based on previous research showing that segregation facilitates institutional marginalization—especially in access to financial services, I hypothesize the following:

> H1: AFS will be more prevalent in segregated metropolitan areas.

> H2: Neighborhood-level variation in financial service mix (i.e., the balance of mainstream and alternative institutions) will be correlated with metropolitan-level segregation. Specifically, neighborhoods in more segregated metropolitan areas will be disproportionately dominated by AFS, though they will not be completely lacking banks—a nuanced version of the spatial void hypothesis.

In addition to geographically concentrating and making more visible populations prone to exclusion from mainstream banking and targeting by AFS, segregation may create financial vulnerability (Carr and Kutty 2008), thereby increasing the number of people for whom mainstream banking is too expensive. Metropolitan segregation has been shown to create places with higher black poverty and inequality (Ananat 2011), lower educational attainment and labor market success for both blacks and Latinos (Steil et al. 2015), limited economic mobility (Chetty et al. 2014), and more racial discrimination (Doleac and Stein 2013). In the context of the housing boom, metropolitan segregation was shown to make socioeconomically vulnerable people (Been et al. 2008) and neighborhoods (Hwang et al. 2015) additionally susceptible to predation by subprime lenders. Therefore, I further hypothesize the following:

> H3: Inequalities between minority neighborhoods and white neighborhoods will be widest in the most segregated metropolitan areas.

While no studies have yet explored the potentially intersecting roles of race and class in shaping neighborhood financial service environments,[4] work documenting the unique challenges faced by the black (Pattillo 1999; 2005; Sharkey 2014) and Latino (Vallejo 2012) middle class suggests a potential vulnerability to financial exclusion and predation—Pattillo (1999, p. 38) specifically mentions the notable presence of a check casher as a manifestation of black middle class financial insecurity. Research on a related (and arguably "fringe"; Rivlin 2010) financial instrument—subprime mortgage lending during the housing boom—

found that racial disparities were widest among high-income borrowers (Faber 2013; Rugh et al. 2015). Following research documenting the inability of non-poor blacks and Latinos to secure the same set of goods as non-poor whites, I hypothesize the following:

> **H4**: Racial disparities in AFS presence will be widest among higher income neighborhoods.

Data and Methods

Financial Services

My analytical strategy is to explore how the neighborhood-level prevalence of alternative financial institutions varies across the distributions of several measures of metropolitan-level segregation and community-level characteristics (e.g., measures of socioeconomic status and commercial activity). This paper leverages a dataset—provided by Infogroup[5]—of the location (i.e., census tract) of every alternative financial service provider in the United States in 2015. Specifically, the data cover payday lenders, check cashing outlets, tax return preparation providers, money transfer services, and pawn shops.[6] I do not distinguish between specific types of AFS because they are sufficiently rare to make statistical assessments of neighborhood-level variation in any particular type of service difficult. Additionally, many AFS offer multiple products and services, which presents a practical challenge of analyzing AFS separately. I combine AFS locations with a dataset describing the census tract of every mainstream bank branch and credit union gathered from the Federal Deposit Insurance Corporation and National Credit Union Administration. Together, these data provide a comprehensive assessment of the financial services environment in every tract in the country.

Census Tract-Level Covariates

Similar to previous research on the geography of AFS, I merge financial services data with tract-level data describing demographic and socioeconomic characteristics (Cover et al. 2011; Faber 2018a; Fowler et al. 2014; Friedline and Kepple 2017; Gallmeyer and Roberts 2009; Kubrin and Hipp 2016; Negro et al. 2014; Smith et al. 2008). I gathered 2011–2015 5-year American Community Survey (ACS) data from the National Historic Geographic Information System (NHGIS) (MPC 2011) on population size, racial/ethnic makeup (i.e., percent non-Hispanic white, non-Hispanic black, non-Hispanic Asian, and Hispanic/Latino), percent foreign born, median age, educational attainment (i.e., percent of adult population with less than high school education and percent with at least a college degree), the percent of the population receiving public assistance, and the ratio of tract-to-CBSA (i.e., Core-Based Statistical Area) median household income. This broad range of measures will help isolate the specific relationship between neighborhood racial makeup and financial services environment

from the potentially confounding role of socioeconomic status in driving the spatial distribution of financial services (e.g., racial disparities in income may contribute to parallel disparities in financial services environment if AFS are more common in lower income neighborhoods).

Racial disparities in AFS presence may be further influenced by variation across racial groups in intra-metropolitan location. For example, if blacks or Latinos are more likely to live in urban core neighborhoods with more commercial activity, they may be exposed to more financial services of all types (or AFS in particular). To capture geographic variation in commercial environment, I estimate the number of business establishments within each tract in 2013 (i.e., the midpoint of the ACS data) from the Census's ZIP Code Business Patterns dataset. I use the business weights from the HUD USPS ZIP Code Crosswalk File to generate tract-level estimates from the ZIP code-level data. Finally, I calculate the geographic size (i.e., square kilometers) of each census tract to capture an additional manifestation of intra-metropolitan variation in social geography. If, for example, AFS are equally likely to locate in any spot within a metropolitan area and whites are more likely to live in geographically larger, suburban tracts, their risk of tract-level exposure to AFS will be systematically larger simply due to the unit of analysis.

Segregation and CBSA-Level Covariates

Although no other studies of AFS have used metropolitan areas[7] as units of analysis, doing so carries the substantial benefit of being consistent with conceptually related work on the roles of racial geography in shaping housing finance outcomes through the sorting and spatial targeting practices of mortgage lenders (Been et al. 2008; Dwyer and Lassus 2015; Faber 2018b; Hwang et al. 2015; Hyra et al. 2013; Rugh and Massey 2010). Metropolitan areas are designed to be coherent social and economic units characterized by interaction between the comprised neighborhoods (U.S. Census 2012), thereby offering a better unit with which to analyze the consequences of segregation than smaller geographies.

Although studies of metropolitan-level segregation typically evaluate black-white and Latino-white measures separately, I follow Hwang et al. (2015) in combining the two groups and estimating their concurrent segregation from whites.[8] The geographically uneven growth of the Latino population, economic convergence between blacks and Latinos, and inter-metropolitan variation in the likelihood that blacks and Latinos share the same neighborhoods create challenges in comparing black-white and Latino-white measures across metropolitan areas. While some information is lost by combining these groups, doing so provides a more consistent measure of the segregation of racially disadvantaged populations across metropolitan areas which may differ in the extent to which blacks and Latinos are isolated from each other—a dynamic less likely to impact the prevalence of AFS than the extent to which both groups are simultaneously isolated from whites (Hwang et al. 2015). This decision is further justified by the fact that measures of black-white and Latino-white segregation (i.e., dissimilarity and isolation indices) are not statistically significant predictors of

neighborhood-level AFS presence[9] while the results below show that white segregation from the combined population of blacks and Latinos is a predictor of financial services geography. Black/Latino segregation, therefore, appears to be an important social phenomenon.

I use the tract-level data from NHGIS to calculate CBSA-level measures of residential segregation. Specifically, I calculate the white-black/Latino dissimilarity index and the black/Latino isolation index. The dissimilarity index estimates the share of a population that would have to change census tracts for there to be an even distribution of that population across a CBSA relative to the CBSA's racial makeup, while isolation index measures the typical tract-level makeup of a member of a specific racial group within a CBSA (Massey and Denton 1993). These measures have well-known limitations (e.g., they are aspatial and make binary comparisons; Reardon and O'Sullivan 2004), yet they remain the primary tools for analyzing residential segregation in large part because they are easy to calculate and interpret. Additionally, they have been shown to be powerful predictors of a wide range of phenomena—including inequality in housing finance sector (Been et al. 2008; Dwyer and Lassus 2015; Faber 2018b; Hwang et al. 2015; Hyra et al. 2013; Rugh and Massey 2010).

I incorporate CBSA-level percent non-Hispanic white, non-Hispanic black, non-Hispanic Asian, and Hispanic/Latino from NHGIS to measure the relationship between AFS prevalence and CBSA racial makeup. Similarly, I include several additional measures of economic opportunity because the connection between segregation and AFS prevalence may operate through segregation's negative effect on economic opportunity. Specifically, I gathered CBSA poverty rate, median household income, and Gini coefficient from NHGIS. I also calculated each CBSA's unemployment rate in 2013 (i.e., the midpoint of the ACS data) using county-level data from the Bureau of Labor Statistics.

While there are state-level policies governing financial services, their diversity along dimensions of structure, severity, and implementation make empirical operationalization and interpretation difficult. Payday lenders, for example, are known to work around state prohibitions of high interest, short-term lending via title loans (Baradaran 2015; Karger 2005), which is reflected in my data. Payday lending is ostensibly illegal in Arizona, but my dataset indicates 176 such service providers in the state. The ambiguity of policy efficacy leads me to exclude indicators of policy regime.

Analytical Sample

My analytical sample is restricted to census tracts with full covariate information in CBSAs with at least 5,000 black and Latino residents. Of the 51,601 tracts in CBSAs with substantial black and Latino populations, 97 are missing unemployment data from BLS, 685 are missing tract-level covariates from NHGIS, and an additional 10 are missing business establishment data from the Census. The remaining 50,809 tracts are home to a majority of the United States' population (i.e., 221,252,566 individuals). Descriptive statistics for the analytical sample are presented in table 1. On average, census tracts have 1.37 total AFS, while

slightly more than half (56 percent) of all tracts have at least one mainstream financial service.

Analyzing AFS Presence

To evaluate my first hypothesis (H1), the initial series of analyses relies on logistic regression with CBSA random effects to explore the likelihood that a tract has at least one AFS. I use a dummy variable approach rather than a count of total AFS because the occurrence of more than one AFS within a tract is quite rare. Appendix table A1 displays results from Poisson regression estimates of AFS presence, which are generally stronger than the logistic regressions. However, I focus on the more conservative logistic regressions because they have better model fit. I estimate the likelihood of at least one AFS within a tract as a function of CBSA-level segregation (using separate models for each measure of segregation), CBSA characteristics (i.e., logged population, racial makeup, poverty rate, median household income, unemployment rate, and Gini index), and tract-level characteristics (i.e., logged population, racial makeup, percent foreign born, median age, educational attainment, percent receiving public assistance, the ratio of tract-to-CBSA median household income, logged number of business establishments, and whether there was at least one mainstream bank or credit union within the tract). All models include indicator variables for each census region (excluding the Northeast) and whether the tract is within a central city.

The second series of analyses—designed to test H2—estimates variation in a different measure of financial services environments across CBSAs and census tracts within CBSAs. Specifically, I create a categorical variable coded 0 if there are no financial services within a tract, (1) if there are more AFS than mainstream bank branches and credit unions, (2) if there are an equal number of alternative and mainstream services, and (3) if there are more banks than AFS.[10] This variable allows me to investigate in more detail how mainstream and alternative service providers often collocate and gives a fuller picture of financial services options within communities. I rely on multinomial regression to estimate the relationships between covariates of interest and the likelihood that a tract falls into one of the four categories. Each type of AFS is too uncommon to estimate separate models for each service, so I only use the total number of AFS.

After establishing baseline relationships between AFS geography and ecological characteristics for all census tracts, I evaluate the remaining hypotheses (H3 and H4) through the estimation of racial heterogeneity in the relationships between AFS presence and two measures of sociospatial inequality: CBSA-level segregation and tract-level relative income (i.e., the ratio of tract-to-CBSA median household income). I estimate a series of models interacting neighborhood racial majority (i.e., majority non-Hispanic white, non-Hispanic black, Hispanic/Latino, or other[11]) and both measures. Some scholars recommend mean-centering variables in random effects estimates with cross-level interactions because interpreting coefficients from such models can be challenging—especially if the variables do not have meaningful zero points (Gelman and Hill 2007; Luke

Table 1. Descriptive Statistics for the Analytical Sample

|	Avg.	S.D.	Min.	Max.
Financial services				
Total AFS	1.37	2.17	0.00	37.00
At least 1 bank or credit union	0.56	0.50	0.00	1.00
CBSA-level segregation				
White-Black/Latino Dissimilarity	0.52	0.10	0.16	0.68
Black/Latino Isolation	0.56	0.15	0.09	0.88
CBSA-level covariates				
Pop. total	4,354.59	2,120.49	20.00	52,609.00
Poverty rate	0.15	0.03	0.08	0.32
Median household income	58,288.94	11,061.42	30,608.00	95,405.00
Unemployment rate	0.08	0.02	0.03	0.18
Gini index	0.47	0.02	0.38	0.54
% Black	0.15	0.09	0.01	0.49
% Latino	0.17	0.14	0.02	0.82
% Asian	0.06	0.05	0.00	0.34
West	0.18	0.38	0.00	1.00
Midwest	0.22	0.42	0.00	1.00
South	0.38	0.49	0.00	1.00
Northeast	0.22	0.42	0.00	1.00
Tract-level covariates				
% White	0.61	0.30	0.00	1.00
% Black	0.17	0.24	0.00	1.00
% Latino	0.17	0.21	0.00	1.00
% Asian	0.05	0.09	0.00	0.92
Pop. total	4,354.59	2,120.49	20.00	52,609.00
% Foreign born	0.14	0.14	0.00	0.85
Median age	38.37	7.61	12.40	83.60
% Less than HS	0.13	0.11	0.00	0.81
% College	0.39	0.19	0.00	0.98
% Public assistance	0.15	0.13	0.00	0.90
Median income tract-to-CBSA ratio	1.05	0.47	0.07	5.13
Central city (defined by Census)	0.45	0.50	0.00	1.00
Businesses	106.34	151.10	0.00	7,277.64
Area sq. kilometers	27.29	116.29	0.01	7,275.86
Observations	50,809			

2004; Singer and Willett 2003). I, therefore, also estimate models in which all tract-level non-dummy variables are group-mean centered and all CBSA-level non-dummy variables are grand-mean centered (Hwang et al. 2015).

Results

Consistent with prior research (Caskey 1994; Cover et al. 2011; Faber 2018a; Friedline and Kepple 2017; Gallmeyer and Roberts 2009; Kubrin and Hipp 2016; Negro et al. 2014; Smith et al. 2008), figure 1 shows dramatic disparities in AFS prevalence across census tract racial majority. Predominantly white neighborhoods average just over 1 total AFS compared to approximately 1.8 in black neighborhoods and 2.2 in Latino neighborhoods. Differences in mean total AFS and each type of AFS between white, black, and Latino neighborhoods were all significant at the $p < 0.01$ level. Not only are AFS more common in non-white areas, but mainstream bank branches and credit unions are less common. On average, white census tracts have 1.8 banks or credit unions, while black and Latino tracts have 0.7 and 0.9, respectively—these means were also significantly different at the $p < 0.01$ level.

Taken together, this leads to dramatically different financial services environments across racial makeup and provides some evidence in support of the spatial void theory (i.e., that AFS replace banks in communities of color). Figure 2 shows almost one third (32.7 percent) of predominantly black neighborhoods have no financial services at all, compared to approximately one-quarter of other neighborhoods. Latino tracts are the most likely to have more AFS than banks (53.2 percent), followed by black (46.8 percent), other (37.8 percent), and white (21.2 percent) tracts. Almost half (43.6 percent) of majority white areas had more banks than AFS, compared to approximately 14 percent of majority black or Latino areas. While these four categories were constructed for parsimony, they obfuscate additional racial heterogeneity in financial service

Figure 1. Alternative financial services by census tract racial/ethnic majority
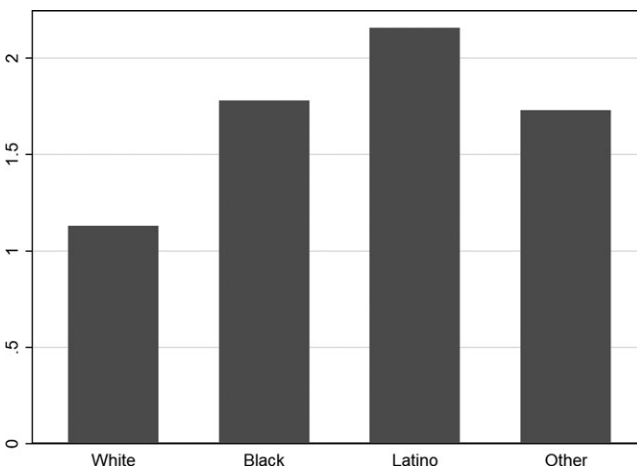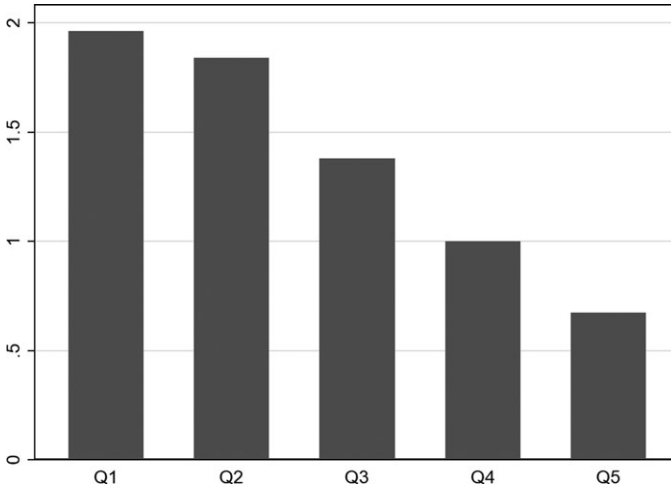
Figure 2. Financial service environment by census tract racial/ethnic majority
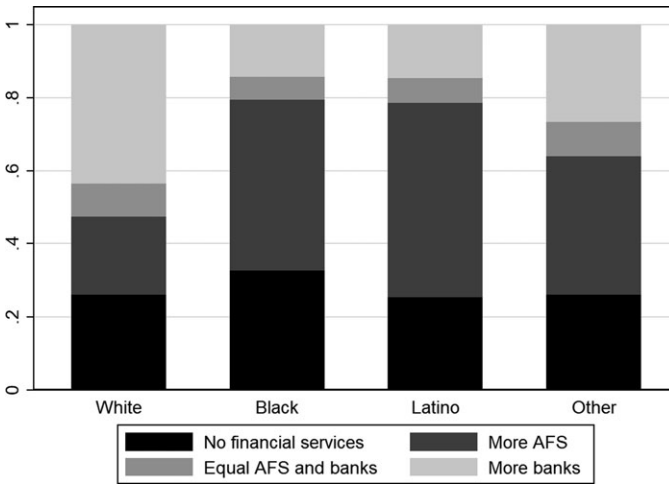
environments. For example, 25.4 percent of white neighborhoods have banks and no AFS, while the corresponding values for black and Latino neighborhoods are 9.2 percent and 8.1 percent, respectively. Conversely, 33.0 percent of Latino tracts have AFS and no banks, compared to 30.1 percent of black tracts and only 11.5 percent of white tracts.

While I use tract racial majority in figures 1 and 2 (and in regression estimates below) for simplicity, it is possible that I am losing important nuance in the role of neighborhood racial makeup in shaping financial services environments (e.g., in racially mixed neighborhoods or places that are even more homogeneous). I explore variation in AFS presence across several alternative racial typologies in appendix figures A1, A2, and A3 (Crowder et al. 2012; Fasenfest et al. 2004). While there are differences across these other definitions of neighborhood racial categories, the general patterns are starkly consistent in showing substantial white advantage and black/Latino disadvantage. I, therefore, proceed with the straightforward operationalization of tract racial majority.

Figures 3 and 4 display variation in financial services environments across quintiles of the ratio of tract-to-CBSA median income. Figure 3 shows that the average number of AFS per tract declines substantially from the poorest quintile (i.e., Q1) to the most affluent (Q5)—a relationship similar to that established by previous work (Caskey 1994; Cover et al. 2011; Faber 2018a; Friedline and Kepple 2017; Gallmeyer and Roberts 2009; Kubrin and Hipp 2016; Negro et al. 2014; Smith et al. 2008). Interestingly, figure 4 indicates that there is little variation across the tract income distribution in the complete lack of financial services, but that banks are substituted for AFS among higher income neighborhoods. I further explore nuance in the relationships among tract racial makeup, income, and financial services environments below.

Figure 3. Alternative financial services by quintile of the ratio of tract-to-CBSA median income

Figure 4. Financial service environment by quintile of the ratio of tract-to-CBSA median income
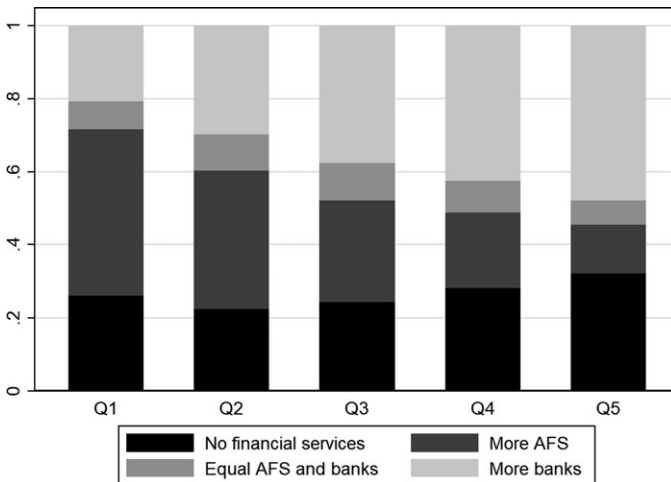
Segregation and AFS

Table 2 displays results from logistic regressions with CBSA random effects estimating the relationship between ecological characteristics and AFS prevalence. Results are presented as odds ratios (i.e., exponentiated coefficients), which can take any value greater than zero. Values below one indicate a negative correlation between the variable and the likelihood that a tract has at least one AFS, while values above one indicate a positive correlation. The positive coefficient on White-Black/Latino Dissimilarity is marginally significantly—providing weak

Table 2. Logistic Regression Estimates of Whether a Census Tract has At Least One AFS

	Model 1		Model 2	
Metropolitan segregation				
White-Black/Latino dissimilarity	1.589+	(0.433)		
Black/Latino isolation			1.364	(0.404)
Metropolitan characteristics				
ln(Pop. total)	0.983	(0.023)	0.990	(0.023)
Poverty rate	5.664	(7.307)	5.526	(7.138)
Median household income	1.000+	(0.000)	1.000+	(0.000)
Unemployment rate	0.448	(0.385)	0.439	(0.379)
Gini index	0.248	(0.282)	0.325	(0.365)
% Black	1.879*	(0.532)	1.459	(0.633)
% Latino	0.707+	(0.149)	0.540+	(0.178)
% Asian	7.117**	(5.237)	5.917*	(4.357)
West	1.414***	(0.115)	1.375***	(0.109)
Midwest	1.177**	(0.070)	1.172**	(0.070)
South	1.379***	(0.095)	1.343***	(0.089)
Tract characteristics				
% Black	1.806***	(0.117)	1.805***	(0.117)
% Latino	2.289***	(0.273)	2.279***	(0.271)
% Asian	0.417***	(0.079)	0.416***	(0.079)
ln(Pop. total)	1.820***	(0.044)	1.819***	(0.044)
% Foreign born	2.460***	(0.420)	2.466***	(0.422)
Median age	1.005**	(0.002)	1.005**	(0.002)
% Less than HS	0.335***	(0.071)	0.337***	(0.071)
% College	0.236***	(0.027)	0.236***	(0.027)
% Public assistance	1.093	(0.166)	1.096	(0.167)
Median income tract-to-CBSA ratio	0.516***	(0.021)	0.517***	(0.021)
Central city (defined by Census)	1.133***	(0.028)	1.133***	(0.028)
Businesses	1.007***	(0.000)	1.007***	(0.000)
Area sq. kilometers	0.998***	(0.000)	0.998***	(0.000)
At least 1 bank or credit union	2.061***	(0.047)	2.062***	(0.047)
Observations	50,809		50,809	

Exponentiated coefficients; standard errors in parentheses; $+p < 0.1$, $*p < 0.05$, $**p < 0.01$, $***p < 0.001$.

evidence for H1. Few other metropolitan-level covariates are conditionally significant predictors of neighborhood-level AFS presence. Percent Black is positively correlated with AFS presence in Model 1, while percent Latino is

negatively so both models.[12] Tracts outside the Northeast (the reference category) are significantly more likely to have AFS.

Tract-level characteristics generally hold stronger statistical relationships with AFS, which we should expect considering the outcome is measured on the tract-level. Consistent with figure 1, neighborhoods with larger black and Latino populations were significantly more likely to have AFS. A 10 percent increase in tract percent black is associated with approximately an 80 percent increase in the likelihood of AFS presence, while a similar increase in percent Latino is associated with almost doubling the likelihood that a tract has an AFS. Conversely, a comparable change in percent Asian is associated with an approximate halving of AFS presence.

Other sociodemographic variables are also strong predictors. AFS are significantly more common in neighborhoods with large immigrant populations (perhaps due to ID requirements and language access issues of mainstream institutions as well as the need to send overseas remittances). The ratio of tract-to-CBSA income was strongly, negatively correlated with the likelihood that a tract had at least one AFS, which is illustrative of the connection between economic instability and financial services exclusion. While we may have expected the negative correlation between AFS presence and college attainment, AFS's similarly negative relationship with percent less than high school is somewhat surprising. In a simplified model with only the variable for less than high school, that variable positively, significantly predicts AFS presence. AFS tend to be more common in commercial areas, evidenced by the correlations with the number of private businesses and the presence of mainstream banks and credit unions.[13] Central city tracts and geographically smaller tracts also tend to have more AFS.

The next series of analyses explore the spatial relationships between mainstream institutions and AFS in more depth. Specifically, I model the likelihood that a census tract has no financial services at all, more AFS than mainstream options, an equal number of alternative and mainstream options, or more mainstream options than AFS. I use multinomial regression[14] and assign the latter category as the reference group. Table 3 displays selected results from these models as exponentiated coefficients. These models do not include the indicator variable for whether there is at least one bank or credit union in the tract, but otherwise include the full set of covariates. In sum, the results indicate strong relationships between metropolitan-level segregation, neighborhood-level racial makeup, and financial services environment. Consistent with H2, tracts in CBSAs with higher levels of racial segregation are less likely to have no financial services than more mainstream services.

Consistent with figure 2, black and Latino tracts are significantly more likely to fall into the categories of either having more AFS than banks and credit unions or having an equal number of the two types of institutions. Now, however, these racial disparities are estimated net of socioeconomic and geographic differences across neighborhoods of different racial makeup. Black tracts are also more likely to have no financial services than they are to have more banks than AFS. Tract-level percent Asian is positively correlated with the reference category (i.e., predominantly Asian neighborhoods are more likely to have more

Table 3. Multinomial Regression Estimates of Categorical Measure of Financial Service Environment

	Model 1		Model 2	
Outcome: no financial services				
White-Black/Latino dissimilarity	0.27***	(0.07)		
Black/Latino isolation			0.29***	(0.07)
% Black	1.73***	(0.15)	1.74***	(0.15)
% Latino	1.04	(0.16)	1.08	(0.17)
% Asian	0.49**	(0.11)	0.51**	(0.12)
Outcome: more AFS than banks				
White-Black/Latino dissimilarity	0.85	(0.21)		
Black/Latino isolation			0.91	(0.23)
% Black	4.00***	(0.33)	4.00***	(0.33)
% Latino	2.92***	(0.42)	2.94***	(0.42)
% Asian	0.32***	(0.07)	0.32***	(0.07)
Outcome: equal AFS and banks				
White-Black/Latino dissimilarity	0.67	(0.22)		
Black/Latino isolation			0.73	(0.25)
% Black	1.57***	(0.19)	1.58***	(0.19)
% Latino	2.16***	(0.45)	2.19***	(0.45)
% Asian	0.41**	(0.13)	0.42**	(0.14)
Observations	50,809		50,809	

All models include full set of covariates; exponentiated coefficients; robust standard errors in parentheses; $+p < 0.1$, $*p < 0.05$, $**p < 0.01$, $***p < 0.001$.

banks than AFS). The persistence of dramatic racial inequalities in financial service environments net of sociodemographic characteristics is strongly suggestive of neighborhood-level racial targeting by AFS and/or avoidance by mainstream banking institutions. Racial differences in, for example, income and educational attainment, do not completely explain away the disproportionate presence of AFS and concurrent dearth of bank branches. The results in table 4 and figure 2, therefore, suggest that while both black and Latino neighborhoods suffer from exploitation via targeting by AFS, black neighborhoods are more likely to experience an additional marginalizing process of complete exclusion from any services.

Compounding Micro- and Macro-racial Isolation

Following previous scholarship showing race and segregation operating at multiple levels to shape cumulative disadvantage (Been et al. 2008; Faber 2018b; Hwang et al. 2015; Rugh et al. 2015), I next explore heterogeneity in the

Table 4. Estimating AFS Presence with Models Interacting Tract Race and CBSA Segregation

	Uncentered covariates				Centered covariates			
	Model 1		Model 2		Model 3		Model 4	
Metropolitan segregation								
White-Black/Latino dissimilarity	1.20	(0.33)			0.79	(0.24)		
Black/Latino isolation			1.28	(0.38)			0.74	(0.25)
Tract racial majority								
Black	0.68+	(0.16)	0.23***	(0.05)	1.23***	(0.06)	1.07	(0.05)
Latino	0.79	(0.18)	1.69*	(0.45)	1.29***	(0.07)	1.38***	(0.10)
Other	1.02	(0.19)	0.96	(0.16)	1.07	(0.04)	1.07+	(0.04)
Interaction terms								
Black * White-Black/Latino dissimilarity	3.11**	(1.24)			3.14**	(1.26)		
Latino * White-Black/Latino dissimilarity	2.61*	(1.09)			2.75*	(1.16)		
Other * White-Black/Latino dissimilarity	1.11	(0.38)			1.19	(0.41)		
Black * Black/Latino isolation			16.04***	(5.15)			16.18***	(5.22)
Latino * Black/Latino isolation			0.72	(0.28)			0.74	(0.29)
Other * Black/Latino isolation			1.23	(0.33)			1.26	(0.34)
Observations	50,809		50,809		50,809		50,809	

All models include full set of covariates; exponentiated coefficients; robust standard errors in parentheses; In Models 3 and 4, CBSA-level variables are grand-mean centered and tract-level variables are group-mean centered; $+p < 0.1$, $*p < 0.05$, $**p < 0.01$, $***p < 0.001$.

relationship between metropolitan-level segregation and the prevalence of financial services across neighborhood-level racial makeup. Specifically, I interact the CBSA-level measures of residential segregation with indicator variables of census tract racial majority.

Table 4 shows selected results from interacted models predicting the likelihood that a tract has at least one AFS—all models include a full set of covariates. The main effects of the segregation measures (i.e., the relationships between measures of metropolitan-level segregation and neighborhood-level AFS presence among majority white tracts) are not statistically significant. The exponentiated coefficients on the black and Latino interaction terms, however, are above one and significant, indicating that the gaps between white neighborhoods and those with black or Latino majorities are widest in the most segregated metropolitan areas. This multi-level vulnerability to financial predation in metropolitan areas with high levels of racial segregation is consistent with the findings of Hwang et al. (2015) and H3. The interactions are substantively insensitive to whether or not non-dummy variables were centered. Multinomial models of financial services mix (i.e., the outcome variable in table 3) were also reflective of this pattern (appendix table A3).

Race and Poverty

To explore racial heterogeneity in the role of economic class in shaping AFS presence, I estimate a model interacting indicator variables for racial majority with a measure of a neighborhood's income relative to others within the same metropolitan areas (i.e., tract median household income divided by CBSA median household income). Table 5 displays selected results from logistic regressions estimating the likelihood that a tract has at least one AFS—all models include the full set of CBSA and tract covariates. Although there are slight differences in the interaction terms and the main effect for tract relative income across models—including models with centered covariates—the coefficients are generally consistent. Focusing first on the main effect, we see that AFS presence declines as income rises among white census tracts (i.e., the reference category). The exponentiated coefficient for the interaction between Latino and tract income is below one, suggesting that the gap in AFS presence between affluent white and Latino neighborhoods is narrower than the gap between poor white and Latino neighborhoods.

Conversely, the exponentiated coefficient for the interaction between black majority and tract relative income is above one, suggesting that the difference in AFS likelihood between black and white tracts widens as income increases. Multinomial regression models interacting neighborhood racial makeup with relative income reflect a similar pattern (appendix table A4): the interaction between black tract majority and black relative income is positively correlated with either having more AFS than banks or an equal number of fringe and mainstream institutions, while the gap between Latino and white neighborhoods becomes smaller as income rises. The widening of black-white inequalities along the income distribution is indicative of the precarious nature of black economic

success—especially regarding neighborhood attainment (Pattillo 2005)—and confirms H4. Even relatively well-off black communities are vulnerable to a form of institutional marginalization absent from non-black communities with similar incomes—a dynamic also present in explorations of subprime mortgage lending (Faber 2013; Rugh et al. 2015). This finding highlights an important story missing from race-neutral claims of AFS expansion into "middle class" communities (Baradaran 2015; Servon 2017). While AFS are generally present in poor white and Latino neighborhoods, black neighborhoods across the income distribution are populated by AFS.

Summary of Results

My results provide weak evidence for H1 (i.e., that AFS are more prevalent in segregated metropolitan areas) and stronger evidence for H2 (i.e., that the balance of mainstream and alternative institutions is correlated with metropolitan-level segregation) I further demonstrate that neighborhood-level racial makeup and metropolitan-level segregation interact to compound institutional marginalization for communities of color in the most segregated metropolitan areas (H3). Finally, I provide evidence that disparities in AFS presence between black and white neighborhoods widen with income (H4).

Discussion

The spatial organization of financial service provision creates geographic heterogeneity in the very cost of money, as neighborhood-dependent and metropolitan area-dependent transaction costs make already-low wages even less valuable in communities of color. Concurrent with the increasing expense of mainstream banking (Faber and Friedline 2018), widening income inequality, and growing income instability, the nascent ubiquity of AFS (Fowler et al. 2014; Rivlin 2010) is a troubling manifestation of an old reality: it can be expensive to be poor, especially if living in a racially isolated area (Baldwin 1961; Baradaran 2015, 2017; Barnes 2012; Caplovitz 1968; Desmond 2016; Hyman 2011). This form of spatially organized institutional marginalization highlights a potential mechanism through which residential segregation reinforces racial wealth inequality.

Although AFS expansion has drawn the attention of policymakers (FDIC 2016; NYCDCA 2010) and advocates for the poor (Hu 2012), no previous scholarship has thoroughly explored neighborhood-level variation in AFS prevalence on the national scale—nor has prior work investigated the role of metropolitan-level characteristics in shaping financial service environments. In the first paper to study the overlapping geographies of race and AFS provision on the national-level, I find that AFS are significantly more common in black and Latino neighborhoods as well as poor neighborhoods, which is consistent with prior work exploring AFS geography within individual cities or states (Faber 2018a; Gallmeyer and Roberts 2009; Kubrin and Hipp 2016; Negro et al. 2014; Smith et al. 2008). Results also show that while black neighborhoods are more likely than white neighborhoods to have no financial services whatsoever, Latino neighborhoods

Table 5. Estimating AFS Presence with Models Interacting Tract Race and Income

	Uncentered covariates				Centered covariates			
	Model 1		Model 2		Model 3		Model 4	
Metropolitan segregation								
White-Black/Latino dissimilarity	1.39	(0.38)			0.90	(0.28)		
Black/Latino isolation			1.24	(0.36)			0.71	(0.24)
Tract racial majority								
Black	0.58***	(0.06)	0.58***	(0.06)	2.00***	(0.13)	2.00***	(0.13)
Latino	2.01***	(0.24)	2.01***	(0.24)	1.03	(0.07)	1.03	(0.07)
Other	1.16	(0.10)	1.16	(0.10)	1.04	(0.04)	1.04	(0.04)
Interaction terms								
Median income tract-to-CBSA ratio	0.51***	(0.02)	0.51***	(0.02)	0.51***	(0.02)	0.51***	(0.02)
Black * median income tract-to-CBSA ratio	3.42***	(0.43)	3.42***	(0.43)	3.09***	(0.40)	3.08***	(0.39)
Latino * median income tract-to-CBSA ratio	0.54***	(0.07)	0.54***	(0.07)	0.54***	(0.07)	0.54***	(0.07)
Other * median income tract-to-CBSA ratio	0.91	(0.08)	0.91	(0.08)	0.90	(0.08)	0.90	(0.08)
Observations	50,809		50,809		50,809		50,809	

All models include full set of covariates; exponentiated coefficients; robust standard errors in parentheses; in Models 3 and 4, CBSA-level variables are grand-mean centered and tract-level variables are group-mean centered; $+p < 0.1$, $***p < 0.001$.

are not. It is unclear whether the unique exclusion black neighborhoods face is better or worse than the higher likelihood of AFS presence that characterizes Latino neighborhoods. Both manifestations of institutional marginalization likely exert costs on these neighborhoods' residents. Two previous papers conducted national regression analyses using the county as the unit of study (Fowler et al. 2014; Prager 2014), while a third explored neighborhood-level disparities without regression (Fellowes and Mabanta 2008). This paper contributes to the existing literature not only through a more methodologically rigorous approach, but by exploring segregation using a more socially and economically relevant geographic unit (i.e., the metropolitan area). CBSAs are drawn with coherence in mind, and so are the typical unit with which to investigate residential segregation (Been et al. 2008; Dwyer and Lassus 2015; Faber 2018b; Hwang et al. 2015; Hyra et al. 2013; Rugh and Massey 2010).

Because this research is national in scope, I am also able to show that neighborhood-level AFS prevalence is correlated with a geographic phenomenon operating at a higher level of aggregation: metropolitan segregation. Similar to research connecting metropolitan-level segregation to subprime mortgage lending during the housing boom (Been et al. 2008; Hwang et al. 2015; Hyra et al. 2013), results from models interacting neighborhood-level racial composition and metropolitan-level racial segregation suggest that concurrent macro- and micro-racial geographies generate cumulative disadvantage (Rugh et al. 2015) for blacks and Latinos, thereby concentrating AFS fees in socioeconomically disadvantaged communities populated by individuals for whom this amount of money could be transformative.

These findings also illustrate the important connection between the intra-metropolitan organization of economic vulnerability and financial services. On average, AFS are significantly less common in neighborhoods with higher incomes relative to other neighborhoods within the same metropolitan area. Urbanicity further influences neighborhood-level exposure to AFS, as these institutions are more common in central cities than suburbs, geographically smaller tracts, and tracts with other commercial activity (including mainstream financial services). Importantly, the independent and interacting roles of neighborhood-level racial composition and metropolitan-level racial segregation in shaping AFS presence retain statistical significance even though controlling for these and other sociodemographic characteristics.

In light of lingering and powerful roles of racial geography, the term "ghetto tax" (Brooks et al. 2007; Eckholm 2006) may be particularly appropriate. The racialized geography of financial institution exclusion and exploitation, which has a long history (Baldwin 1961; Caplovitz 1968; Caskey 1994; Hyman 2011; Jackson 1985; Logan and Molotch 1987), facilitates a dynamic in which "[o]ne of the great ironies in modern America is that the less money you have, the more you pay to use it" (Baradaran 2015, p. 1). The very cost of money is higher in segregated places. The applicability of the term "poverty tax" is less clear given the unique pattern among black neighborhoods. While, on average, AFS presence declines with neighborhood income, the gap between black and non-black neighborhoods grows with income. These divergent relationships parallel the

prevalence of subprime lending among middle-income and affluent blacks (Faber 2013; Rugh et al. 2015) and reflect work documenting the unique financial vulnerability of non-poor blacks—especially regarding neighborhood quality (Pattillo 1999; 2005; Sharkey 2014).

It is important to note that the mainstream banking industry is not necessarily a "good" actor here. Even drawing a sharp distinction between alternative and mainstream institutions may be difficult, as there is occasionally a symbiotic relationship between the two (Goldman and Wells 2002; Karger 2005). Rising fees (e.g., monthly service and overdraft fees) and increasingly arduous requirements (e.g., minimum balance and direct deposit requirements) have made traditional checking accounts more expensive in recent years (Faber and Friedline 2018; FDIC 2016; Karger 2005; Rivlin 2010; Servon 2017). Many AFS patrons report deliberately choosing check cashers and payday lenders because they are perceived to be less expensive for the poor or are at least more transparent about the costs of their services (Karger 2005; Morduch and Schneider 2017; Servon 2017). While drawing a strict causal link between rising bank fees and AFS growth is beyond the scope of this paper, the consequences of these two trends is of great concern. The concomitant expansion of AFS and increasing costs of mainstream banking—in a broader economic context of rising inequality (Piketty 2014) and instability (Dynan et al. 2012; Morduch and Schneider 2017)—requires low-income individuals to make hard choices about how to use their money (Buckland 2012). Conversely, relatively affluent individuals are generally protected from having to make these decisions via free services offered to those who can keep minimum balances and the ubiquity of banks in affluent neighborhoods.

The findings presented here suggest that these realities may be further exacerbated by residential segregation, which concentrates easily identifiable markets for both mainstream and fringe service providers to target. Although I find that bank branches and credit unions tend to collocate with AFS (and AFS tend to be in tracts with more commercial activity), I also show that majority black and Latino neighborhoods do have far fewer mainstream options than white neighborhoods and those mainstream options are more often outnumbered by fringe options. In total, these results provide mixed support for the "spatial void" hypothesis that bank avoidance of some communities fostered AFS growth.

This manuscript has important limitations. One piece of information that would be helpful in further investigating the spatial organization of alternative vis-à-vis mainstream financial institutions is how the costliness of AFS or mainstream banks varies within or across metropolitan areas. For example, I am unable to assess whether bank fees are higher in areas with many AFS (perhaps as a market differentiating mechanism). Conversely, I am similarly unequipped to explore whether AFS costs (e.g., fees to cash checks at CCOs) respond to the prevalence of local banking options. Future work could leverage data from bank and credit union balance sheets to assess the extent to which the geography of mainstream banking fees is related to AFS concentration. Alternatively, one could survey mainstream and alternative institutions to evaluate how the costs of both types of financial services vary across neighborhoods and metropolitan areas of differing racial and social geographies.

I am further limited by the cross-sectional nature of the analyses, which precludes me from understanding differential trajectories of AFS growth across neighborhoods defined by race and poverty and prevents me from making stronger causal claims about the role of segregation in shaping financial services environments. Relatedly, I am unable to assess how change over time in AFS presence may relate to the entry and exit of mainstream institutions (i.e., banks and credit unions). Evidence that AFS are more likely to open in neighborhoods after a bank closes would provide strong support for the spatial void hypothesis.

Another limitation is my inability to connect tract- and CBSA-level phenomena to individual behavior. Specifically, I can only speculate that the disproportionate presence of AFS in black and Latino neighborhoods causes or is caused by the disproportionate use of AFS by blacks and Latinos. Prior research leveraging survey data has shown that convenience is one of the main reasons that individuals use AFS (Caskey 1994; Faber 2018a) and that the prevalence of AFS within a neighborhood is related to the probability that a neighborhood's residents use AFS—especially among lower income individuals (Friedline and Kepple 2017). These results, therefore, provide insight into a potential mechanism explaining racialized patterns of AFS use: residential segregation.

Despite limitations, these findings still carry important implications for several phenomena of sociological interest. First, the interaction between metropolitan- and neighborhood-level measures of racial geography illustrates a connection between micro- and macro-sociospatial phenomena. The overall organization of neighborhoods within a metropolitan area may shape the environment within any particular neighborhood. This interrelated nature of the "ecosystem" of neighborhoods is important for the study of markets, stratification, and institutional sorting.

Finally, one consequence of the interacting and multi-layered nature of spatial manifestations of racial inequality is the fact that black and Latino neighborhoods have dramatically different financial services mix. If there is a causal effect of environment on individual use (Friedline and Kepple 2017), these findings may carry substantial consequences for other forms of racial inequality—such as the wealth gap and vulnerability to recessions (Faber and Ellen 2016; Hall et al. 2015)—and illustrates the important role of institutions in shaping and transmitting the effects of racial isolation (Sharkey and Faber 2014; Small and McDermott 2006). While my data preclude me from drawing a strict causal link between segregation and AFS prevalence, my findings support previous theories that racial isolation creates easily identifiable markets for service providers to avoid and target (Been et al. 2008; Faber 2018b; Hwang et al. 2015; Hyra et al. 2013). Exploitation, therefore, is both a cause and consequence of socioeconomic marginalization (Baradaran 2017; Desmond 2016).

Notes

1. Some scholars argue that rising fees and more stringent account requirements among mainstream banking options have deterred the poor from keeping traditional bank

accounts and thus created a market for AFS (Faber 2018a; Faber and Friedline 2018; Karger 2005; Morduch and Schneider 2017; Servon 2017).

2. Both Fowler et al. (2014) and Prager (2014) conducted county-level analyses. Fellows and Mabanta (2008) investigated neighborhood-level dynamics, though did not use regression to explore multiple sociospatial dynamics simultaneously.

3. For more detailed description of these services, see Caskey (1994) and Baradaran (2015).

4. Fowler et al. (2014) found that socioeconomic differences did not explain racial disparities in AFS prevalence.

5. Fowler et al. (2014), Prager (2014), Fellowes and Mabanta (2008), and Friedline and Despard (2017) have used this dataset to explore the national geography of AFS.

6. CCOs, pawn shops, and tax filing services are listed as distinct categories in the raw dataset. I include businesses identified as providing "Payday Loans," "Title Loans," and "Automobile Title Loans" in my definition of "payday lender." I similarly collapse "Money Transfer Services," "Money Order Services," and "Money Order Systems" into "transfer" businesses. Finally, the "rental" category used in this manuscript includes "Furniture-Renting & Leasing," "Television-Rental," "Video Recorders & Players-Renting," and "Washing Machines Dryers/Ironers-Renting." I exclude entries identified as "Headquarters", as this project is concerned with the geography of service provision.

7. I use Core-Based Statistical Areas (CBSAs) to measure metropolitan areas. CBSAs include metropolitan divisions, combined statistical areas (CSAs), New England city and town areas (NECTAs), NECTA divisions, and combined NECTAs.

8. I focus on black and Latino populations because they tend to be more segregated from whites than Asians.

9. Results available upon request.

10. I considered evaluating variation across another measure of financial service environment: the ratio of AFS to mainstream banking institutions. However, it was unclear how to treat tracts with zero mainstream options (i.e., because zero cannot be in the denominator).

11. Unfortunately, there were too few census tracts with an Asian majority (413) to estimate significant differences between these neighborhoods and other neighborhoods.

12. In a model that only considers CBSA-level racial makeup, percent black and Latino are positively correlated with tract-level AFS prevalence, while percent Asian was not negatively correlated with tract-level AFS presence.

13. In results available upon request, estimates of the relationships between AFS presence and both metropolitan-level segregation and neighborhood-level racial composition are unaffected by the decision to combine banks and credit unions into one measure. Therefore, I proceed with the more parsimonious estimates.

14. One could interpret the categories of financial service mix in an ordered way. For example, having more AFS than banks within a neighborhood may be considered a "less mainstream" financial services environment than having the same number of AFS and banks (and certainly less so than having more banks than AFS). Less clear is where to place the condition of having no financial services on this spectrum, because having no services can exact additional costs (e.g., travel), which are challenging to explore both empirically and theoretically. Therefore, I also estimate the categorical measure of financial services mix using ordered logit models, but I exclude tracts without any financial services. These results, which are presented in appendix table A2, are consistent with the main findings of the paper. Specifically, if we assume

these categories are ordered, tracts with large minority share are less likely to be in "more mainstream" categories (e.g., more banks than AFS).

Supplementary Material

Supplementary material is available at *Social Forces* online

About the Author

Jacob William Faber is an Assistant Professor at New York University's Robert F. Wagner School of Public Service and is an Associated Faculty member of NYU's Sociology Department. His research focuses on spatial inequality. He leverages observational and experimental methods to study the mechanisms responsible for sorting individuals across space and how the distribution of people by race and class interacts with political, social, and ecological systems to create and sustain economic disparities.

References

Aalbers, Manuel B. 2012. *Subprime Cities: The Political Economy of Mortgage Markets*. Hoboken, NJ: Wiley Online Library.

Aaronson, Daniel, Daniel Hartley, and Bhashkar Mazumder. 2017. "The Effects of the 1930s HOLC 'Redlining' Maps." *Federal Reserve Bank of Chicago Working Paper*.

Ananat, Elizabeth Oltmans. 2011. "The Wrong Side (S) of the Tracks: The Causal Effects of Racial Segregation on Urban Poverty and Inequality." *American Economic Journal: Applied Economics* 3(2): 34–66.

Baldwin, James. 1961. *Nobody Knows My Name: More Notes of a Native Son*. New York, NY: Dial Press.

Baradaran, Mehrsa. 2015. *How the Other Half Banks: Exclusion, Exploitation, and the Threat to Democracy*. Cambridge, MA: Harvard University Press.

———. 2017. *The Color of Money: Black Banks and the Racial Wealth Gap*. Cambridge, MA: Harvard University Press.

Barnes, Sandra L. 2012. *Cost of Being Poor, The: A Comparative Study of Life in Poor Urban Neighborhoods in Gary, Indiana*. Albany, NY: SUNY Press.

Been, Vicki, Ingrid Gould Ellen, and Josiah R. Madar. 2008. "The High Cost of Segregation: Exploring Racial Disparities in High-Cost Lending." *Fordham Urban Law Journal* 36(3):361–85.

Bertrand, Marianne, Sendhil Mullainathan, and Eldar Shafir. 2004. "A Behavioral-Economics View of Poverty." *American Economic Review* 94:419–23.

Bradley, Christine, Susan Burhouse, Heather Gratton, and Rae-Ann Miller. 2009. "Alternative Financial Services: A Primer." *FDIC Quarterly* 3(1):39–47.

Brooks, Terry I., Matt Fellowes, and Mia Mabanta. 2007. "In Kentucky, Being Poor Is Costly." Brookings. Retrieved September 26, 2018 (https://www.brookings.edu/opinions/in-kentucky-being-poor-is-costly/).

Buckland, Jerry. 2012. *Hard Choices: Financial Exclusion, Fringe Banks, and Poverty in Urban Canada*. Toronto, Canada: University of Toronto Press.

Caplovitz, David. 1968. *The Poor Pay More: Consumer Practices of Low-Income Families*. New York, NY: Free Press.

Carr, James H., and Nandinee K. Kutty. 2008. *Segregation: The Rising Costs for America*. New York, NY: Routledge.

Carruthers, Bruce G., and Laura Ariovich. 2010. *Money and Credit: A Sociological Approach*. Cambridge, UK: Polity.

Carruthers, Bruce G., and Jeong-Chul Kim. 2011. "The Sociology of Finance." *Annual Review of Sociology* 37(1):239–59.

Caskey, John P. 1994. *Fringe Banking: Check-Cashing Outlets, Pawnshops, and the Poor*. New York, NY: Russell Sage Foundation.

———. 2002. *Check-Cashing Outlets in a Changing Financial System*. Federal Reserve Bank of Philadelphia Philadelphia.

Chetty, Raj, Nathaniel Hendren, Patrick Kline, and Emmanuel Saez. 2014. "Where Is the Land of Opportunity? The Geography of Intergenerational Mobility in the United States." *The Quarterly Journal of Economics* 129(4):1553–1623.

Conley, Dalton. 1999. *Being Black, Living in the Red: Race, Wealth, and Social Policy in America*. Berkeley, CA: Univ of California Press.

Cover, Jane, Amy Fuhrman Spring, and Rachel Kleit. 2011. "Minorities on the Margins? The Spatial Organization of Fringe Banking Services." *Journal of Urban Affairs* 33(3):317–44.

Crowder, Kyle, Jeremy Pais, and Scott J. South. 2012. "Neighborhood Diversity, Metropolitan Constraints, and Household Migration." *American Sociological Review* 77(3):325–53.

Desmond, Matthew. 2016. *Evicted: Poverty and Profit in the American City*. New York, NY: Broadway Books.

Doleac, Jennifer L., and Luke C. D. Stein. 2013. "The Visible Hand: Race and Online Market Outcomes." *Economic Journal* 123(572):469–92.

Dreier, Peter, John Mollenkopf, and Todd Swanstrom. 2001. *Place Matters: Metropolitics For The Twenty-First Century*. Lawrence, KS: University Press of Kansas.

Dwyer, R. E., and L. A. Phillips Lassus. 2015. "The Great Risk Shift and Precarity in the U.S. Housing Market." *The Annals of the American Academy of Political and Social Science* 660(1):199–216.

Dynan, Karen, Douglas Elmendorf, and Daniel Sichel. 2012. "The Evolution of Household Income Volatility." *The B.E. Journal of Economic Analysis & Policy* 12(2):1–42.

Eckholm, Erik. 2006. "Study Documents 'Ghetto Tax' Being Paid by the Urban Poor." The New York Times, July 19, A14.

Faber, Jacob William. 2013. "Racial Dynamics of Subprime Mortgage Lending at the Peak." *Housing Policy Debate* 23(2):328–49.

———. 2018a. "Cashing in on Distress: The Expansion of Fringe Financial Institutions During the Great Recession." *Urban Affairs Review* 54(4):663–96.

———. 2018b. "Segregation and the Geography of Creditworthiness: Racial Inequality in a Recovered Mortgage Market." *Housing Policy Debate* 28(2):215–47.

Faber, Jacob William, and Ingrid Gould Ellen. 2016. "Race and the Housing Cycle: Differences in Home Equity Trends Among Long-Term Homeowners." *Housing Policy Debate* 1482(April):1–18.

Faber, Jacob William, and Terri Friedline. 2018. The Racialized Costs of Banking. Washington, DC.

Fasenfest, David, Jason Booza, and Kurt Metzger. 2004. "Living Together : A New Look at Racial and Ethnic Integration in Metropolitan Neighborhoods, 1990–2000." *The Brookings Institution* (April):1–20.

Federal Deposit Insurance Corporation. 2016. "*2015 National Survey of Unbanked and Underbanked Households: Executive Summary.*" Retrieved September 26, 2018 (https://www.fdic.gov/householdsurvey/2015/2015execsumm.pdf).

Fellowes, Matt, and Mia Mabanta. 2008. "Banking on Wealth: America's New Retail Banking Infrastructure and Its Wealth-Building Potential." (January):1–32.

Fowler, Christopher S., Jane K. Cover, and Rachel Garshick Kleit. 2014. "The Geography of Fringe Banking." *Journal of Regional Science* 54(4):688–710.

Friedline, Terri, and Mathieu Despard. 2017. "Mapping Financial Opportunity." Retrieved December 12, 2017 (https://www.newamerica.org/in-depth/mapping-financial-opportunity/).

Friedline, Terri, and Nancy Kepple. 2017. "Does Community Access to Alternative Financial Services Relate to Individuals' Use of These Services? Beyond Individual Explanations." *Journal of Consumer Policy* 40(1):51–79.

Gallmeyer, Alice, and Wade T. Roberts. 2009. "Payday Lenders and Economically Distressed Communities: A Spatial Analysis of Financial Predation." *Social Science Journal* 46(3):521–38.

Gelman, Andrew, and Jennifer Hill. 2007. *Data Analysis Using Regression and Multilevel/hierarchical Models*. New York, NY: Cambridge University Press.

Goldman, Gerald, and James R. Wells Jr. 2002. "Check Cashers Are Good Bank Customers." *Financial Services Centers of America, Inc., Hackensack, NJ*.

Gross, Matthew B., Jeanne M. Hogarth, Adithya Manohar, and Stephen Gallegos. 2012. "Who Uses Alternative Financial Services, and Why?" *Consumer Interests Annual* 58:2012–57.

Hall, Matthew, Kyle D. Crowder, and Amy Spring. 2015. "Neighborhood Foreclosures, Racial/Ethnic Transitions, and Residential Segregation." *American Sociological Review* 80(3):526–49.

Hu, Winnie. 2012. "Criticism Grows as Check-Cashing Stores Expand Services in Poorer Areas." *New York Times*, A18.

Hwang, Jackelyn, Michael Hankinson, K. S. Brown, and Steven Kreg Brown. 2015. "Racial and Spatial Targeting: Segregation and Subprime Lending within and across Metropolitan Areas." *Social Forces* 93(3):1081–1108.

Hyman, Louis. 2011. *Debtor Nation: The History of America in Red Ink*. Princeton, NJ: Princeton University Press.

Hyra, Derek S., Gregory D. Squires, Robert N. Renner, and David S. Kirk. 2013. "Metropolitan Segregation and the Subprime Lending Crisis." *Housing Policy Debate* 23(March):37–41.

Jackson, Kenneth T. 1985. *Crabgrass Frontier: The Suburbanization of the United States*. Oxford, United Kingdom: Oxford University Press.

Karger, Howard Jacob. 2005. *Shortchanged: Life and Debt in the Fringe Economy*. San Francisco, CA: Berrett-Koehler Publishers.

Katznelson, Ira. 2005. *When Affirmative Action Was White: An Untold History of Racial Inequality in Twentieth-Century America*. New York, NY: WW Norton & Company.

Kubrin, Charis E., and John R. Hipp. 2016. "Do Fringe Banks Create Fringe Neighborhoods? Examining the Spatial Relationship between Fringe Banking and Neighborhood Crime Rates." *Justice Quarterly* 33 (5):755–84.

Lachance, Marie-Eve. 2014. "Financial Literacy and Neighborhood Effects." *Journal of Consumer Affairs* 48(2):251–73.

Lipsitz, George. 2011. *How Racism Takes Place*. Philadelphia, PA: Temple University Press.

Logan, John R., and Harvey Luskin Molotch. 1987. *Urban Fortunes: The Political Economy of Place*. Berkeley, CA: Univ of California Press.

Luke, Douglas A. 2004. *Multilevel Modeling*. Thousand Oaks, CA: SAGE Publications.

Massey, Douglas S., and Nancy A. Denton. 1993. *American Apartheid: Segregation and the Making of the Underclass*. Cambridge, MA: Harvard University Press.

Minnesota Population Center (MPC). 2011. "National Historical Geographic Information System: Version 2.0." *University of Minnesota*. Retrieved (www.nhgis.org).

Morduch, Jonathan, and Rachel Schneider. 2017. *The Financial Diaries: How American Families Cope in a World of Uncertainty*. Princeton, NJ: Princeton University Press.

Morgan State University (MSU). 2017. "Understanding Life in Financial Deserts." Retrieved March 1, 2018 (https://www.masteryourcardusa.org/wp-content/uploads/2017/02/MSU-Understandling-Life-in-Financial-Deserts_digital.pdf).

Negro, Giacomo, Fabiana Visentin, and Anand Swaminathan. 2014. "Resource Partitioning and the Organizational Dynamics of 'Fringe Banking'." *American Sociological Review* 79(4):680–704.

New York City Department of Consumer Affairs. 2010. "Debt/Credit Help—Understand Loans: Tips About Payday Loans."

Pattillo, Mary. 1999. *Black Picket Fences: Privilege and Peril among the Black Middle Class*. Chicago, IL: University of Chicago Press.

———. 2005. "Black Middle-Class Neighborhoods." *Annual Review of Sociology* 31(1):305–29.

Piketty, Thomas. 2014. *Capital in the Twenty-First Century*. Cambridge, MA: Harvard University Press.

Prager, Robin A. 2014. "Determinants of the Locations of Alternative Financial Service Providers." *Review of Industrial Organization* 45(1):21–38.

Reardon, Sean F., and David O'Sullivan. 2004. "Measures of Spatial Segregation." *Sociological Methodology* 34(1):121–162.

Rhine, Sherrie L. W., William H. Greene, and Maude Toussaint-Comeau. 2006. "The Importance of Check-Cashing Businesses to the Unbanked: Racial/ethnic Differences." *The Review of Economics and Statistics* 88(1):146–57.

Rivlin, Gary. 2010. *Broke, USA: From Pawnshops to Poverty, Inc.—How the Working Poor Became Big Business*. New York, NY: Harper Collins.

Rugh, Jacob S., Len Albright, and Douglas S. Massey. 2015. "Race, Space, and Cumulative Disadvantage: A Case Study of the Subprime Lending Collapse." *Social Problems* 62(2):186–218.

Rugh, Jacob S., and Douglas S. Massey. 2010. "Racial Segregation and the American Foreclosure Crisis." *American Sociological Review* 75(5):629–51.

Servon, Lisa. 2017. *The Unbanking of America: How the New Middle Class Survives*. New York, NY: Houghton Mifflin Harcourt.

Shapiro, Thomas M. 2004. *The Hidden Cost of Being African American: How Wealth Perpetuates Inequality*. Oxford, United Kingdom: Oxford University Press.

Sharkey, Patrick. 2014. "Spatial Segmentation and the Black Middle Class." *American Journal of Sociology* 119(4):903–54.

Sharkey, Patrick, and Jacob William Faber. 2014. "Where, When, Why, and For Whom Do Residential Contexts Matter? Moving Away from the Dichotomous Understanding of Neighborhood Effects." *Annual Review of Sociology* 40(1):559–79.

Singer, Judith D., and John B. Willett. 2003. *Applied Longitudinal Data Analysis: Modeling Change and Event Occurrence*. London: Oxford University Press.

Small, Mario Luis, and Monica McDermott. 2006. "The Presence of Organizational Resources in Poor Urban Neighborhoods: An Analysis of Average and Contextual Effects." *Social Forces* 84(3):1697–1724.

Smith, Marvin M., John Wackes, and Tony E. Smith. 2013. "A Note on Alternative Financial Service Providers and the Spatial Void Hypothesis." *Annals of Regional Science* 51(2):575–91.

Smith, Tony, Marvin M. Smith, and John Wackes. 2008. "Alternative Financial Service Providers and the Spatial Void Hypothesis." *Regional Science and Urban Economics* 38(3):205–27.

Squires, Gregory D. 2004. "The New Redlining." In *Why the poor pay more: How to stop predatory lending*, edited by G. D. Squires, Pp.1–23. Westport, CT: Greenwood Publishing Group.

Steil, J., J. De la Roca, and I. G. Ellen. 2015. "Desvinculado Y Desigual: Is Segregation Harmful to Latinos?" *The Annals of the American Academy of Political and Social Science* 660(1):57–76.

Taylor, Paul, Rakesh Kochhar, Richard Fry, Gabriel Velasco, and Seth Motel. 2011. "Wealth Gaps Rise to Record Highs between Whites, Blacks and Hispanics." Pew Research Center, Social and Demographic Trends.

U.S. Census. 2012. "Geographic Terms and Concepts—Core Based Statistical Areas and Related Statistical Areas." Accessed: July 3, 2018. https://www.census.gov/geo/reference/gtc/gtc_cbsa.html

Vallejo, Jody. 2012. *Barrios to Burbs: The Making of the Mexican American Middle Class*. Stanford, CA: Stanford University Press.

Wacquant, Loïc. 2008. *Urban Outcasts: A Comparative Sociology of Advanced Marginality*. Cambridge, United Kingdom: Polity.