Navigating
Day-to-Day Finances

A Geographic Investigation of Brick-and-Mortar Financial Services and Individuals' Financial Health

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Acknowledgments

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Finally, the quality and accuracy of the research presented in this brief report are the sole responsibilities of the authors, and the aforementioned individuals and organizations do not necessarily **agree with the report's findings or conclusions.**

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Overview

A household with good financial health owns basic financial products and uses these products to navigate their day-to-day financial needs, such as managing and paying their bills. However, one potential pitfall that households may face as they try to navigate their finances is that certain types of financial services may not be readily available in the communities where they live. For example, the availability of banks, credit unions, or alternative financial service (AFS) providers **in a household's** community may be limited. Hence, a household may be drawn to certain types of financial services that may improve or impede their ability to sustain good financial health, depending on the services that are most geographically convenient.

This study used data on financial services, individual/household and community demographics (including smartphone use), and household financial health to test whether the geographic concentrations or densities of bank and credit union branches and AFS providers within communities **were associated with households' financial health.** We used two measures of financial services: the numbers of financial services per 1,000 population, or densities, and the composition of financial services densities relative to one another. We explored these associations by income as the availability of financial services within communities varies based on household income levels.

The findings from this study are not intended to be used for drawing clear prescriptions about building brick-and-mortar branches in communities. Instead, these findings offer preliminary understandings of whether the availability of financial services in communities **relates to households' financial health, for** which households, and under what conditions.

Key Findings

- The availability of financial services within communities is associated with **households'** day-to-day financial health, and may be especially important for lowest- and modest-income households.
  - Every additional bank or credit union branch per 1,000 population is associated with a 5% higher probability of affording monthly bills among lowest-income households, compared to a 2% lower probability for every additional AFS provider.
  - Among modest-income households, every additional bank or credit union branch per 1,000 population is associated with a 6% higher probability of being able to afford monthly bills in communities where the densities of bank and credit union branches are equal to those of AFS providers.
  - Financial services densities are consistently associated with financial health outcomes for lowest- and modest-income households, but not for the highest-income households.

- The composition of financial services within communities appears to be important for lowest- and modest-income households. In other words, households may experience better financial health when the densities of bank and credit union branches outweigh those of AFS providers.
  - For lowest-income households, living in communities where densities of bank and credit union branches outnumber those of AFS providers is associated with 25% higher financial satisfaction, compared to communities with higher densities of AFS providers.
  - Living in communities where densities of bank and credit union branches outnumber AFS providers is associated with a 25% increase in lowest-income **households'** overall financial health.

Introduction

Financial health has been defined as being able to navigate day-to-day finances, adjust to changing and unexpected financial circumstances, and plan for long term financial goals (Gutman, Garon, Hogarth, & Schneider, 2015). This definition recognizes that, on a daily basis, a household needs to be able to manage and afford their bills and own basic financial products in order to meet household needs and achieve their goals. These needs are especially important for households with lowest and modest incomes who must make the most out of their limited financial resources (Pew Charitable Trusts, 2015).

Unfortunately, many households in the United States struggle to navigate their day-to-day finances. At least once in the past 12 months, 42% ran **out of money before the month's end and** 32% lived paycheck to paycheck (Gutman et al., 2015). One out of every two households cannot afford some of their monthly expenses like housing payments, groceries, and utility services (Gould-Werth & Seefeldt, 2012; Heflin, 2014). In fact, 27% of households are behind on their utility payments and 7% have had their utilities shut off in any given month. Given these struggles, it is understandable why many households struggle to achieve their financial goals.

Financial services are available to assist a household with navigating their finances. For example, banks and credit unions offer checking and savings accounts that a person can use to pay bills and make other payments. These accounts can make it easier to conduct every day transactions, such as writing a check for rent, paying utility bills online, or using a linked debit card to buy groceries—without using cash that can be lost, stolen, or unintentionally spent.[1] When a household doesn**'t have** a checking or savings account, they may turn to AFS providers such as check cashers to conduct these types of transactions. Financial emergencies such as a major car repair or a period of unemployment may also prompt households without money in their bank accounts to turn to AFS providers such as payday lenders for short-term loans (Despard, Perantie, Luo, Oliphant, & Grinstein-Weiss, 2015). About 20% of households use a combination of financial services from banks, credit unions, and AFS providers to make ends meet (Federal Deposit Insurance Corporation [FDIC], 2016). Unfortunately, the convenience of using AFS to afford daily expenses comes at a cost. Those earning less than $25,000 per year spend roughly 10% of their annual income on interest and fees to AFS providers (KMPG, 2011).

> *The types of financial services that a household uses—and how the use of these services relates to their financial health—may depend in part on **the availability of these services within a household's community.***

The types of financial services that a household uses—and how the use of these services relates to their financial health—may depend in part on the availability of these services within a **household's** community. There is evidence to suggest that a household may be more likely to own a checking or savings account when they live in closer geographic proximity to bank branches (Celerier & Matray, 2016; Goodstein & Rhine, 2016). Moreover, a higher density of AFS providers within the community is associated with a **household's** increased use of these services, which may have a detrimental effect on their financial health, such ascarrying more debt, having lower credit scores, and struggling to pay bills (Bhutta, 2014; Bhutta, Skiba, & Tobacman, 2015; Friedline & Kepple, 2016; Melzer, 2011).

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[1] It should be noted that the fees charged by banks and credit unions can operate much like the high-cost interest rates charged by AFS providers. In 2011, banks generated nearly $17 billion from overdraft fees (Borné & Smith, 2013). Thirty percent of account holders are charged overdraft fees (Consumer Financial Protection Bureau [CFPB], 2014), and these fees are concentrated in accounts held by lower-income households.

Basic questions remain about whether and how the availability of financial services within a **household's** community relates to financial health. For example, is a higher concentration or density of AFS negatively associated with a **household's** ability to afford their monthly bills? On average, is a **household's** better financial health associated with living in a community with more bank and credit union branches than AFS providers? And, if so, on what indicators of day-to-day financial health are they better off? We answer these questions using data on financial services, community demographics, and individual and household financial health. Moreover, we explore these associations by income[2] since the availability of financial services in communities may vary based on household income levels.

A Geographic Investigation of Financial Services and **Households'** Day-to-Day Financial Health

This brief report investigates the association between the geographic availability of financial services—concentrations or densities of bank and credit union branches and AFS providers within communities—and **households'** financial health using data from the 2012 National Financial Capability Study (NFCS), 2014 Consumer Financial Health Study (CFHS), US Geological Survey, FDIC, National Credit Union **Administration (NCUA), Esri Business Analyst, and US Census Bureau's American Community Survey** (ACS). Zip codes served as a proxy for communities given that use of geographic space (i.e., activity space) is larger than other, smaller geographic units such as census blocks (Crawford, Jilcott Pitts, McGuirt, Keyserling, & Ammerman, 2014).

Financial services in communities were measured in two different ways. First, we examined the densities of bank and credit union branches and AFS providers[3] as the numbers of financial services per 1,000 population in a zip code. Density measures adjust for the population size and, when examined as **predictors, can indicate whether there is an increase or reduction in a household's fin**ancial health for each additional financial service within every 1,000 people.[4] Second, we examined the composition of **financial services relative to one another. That is, there may be differences in a household's financial** health if the density of bank and credit union branches in their community is greater than the density of **AFS providers. From this perspective, the relative mix of financial services may relate to households'** financial health. Additional information is available in the technical appendix.

Managing and Affording Bill Payments

Managing and affording bill payments indicate whether a household can juggle bills to make ends meet and has sufficient funds to afford their monthly bills, respectively. While we find little evidence that the densities of financial services are associated with **households'** bill management, it appears that the relative proportions of financial services within the community are associated with affording bills on a monthly basis for lowest- and modest-income households.

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[2] The samples were divided into lowest-income households with less than $35,000 in annual income, modest-income households with between $35,000 and $75,000 in annual income, and highest-income households with more than $75,000 in annual income.
[3] AFS providers included auto title loan, payday loan, check cashing, tax refund, pawn shop, and rent-to-own services.
[4] Please note that the analyses to produce the findings in this report used linear regression and the relationships that were tested were correlational. The findings should not be interpreted as causal.

Lowest-income households living in communities with higher densities of bank and credit union branches report an increased ability to afford their monthly bills, whereas higher densities of AFS providers are associated with a reduced ability to afford these bills. For example, for each additional bank or credit union branch per 1,000 population, the probability of being able to afford monthly bills rises by 5%. Conversely, this probability falls by 2% for each additional AFS provider per 1,000 population.

> *Lowest-income households living in communities with higher densities of bank and credit union branches report an increased ability to afford their monthly bills, whereas higher densities of AFS providers are associated with their reduced ability to afford these bills.*

The Change in Probability that a Lowest-Income Household can Afford Monthly Bills

100%

5% Every additional bank or credit union per 1,000

Every additional AFS provider per 1,000 **-2%**

100%
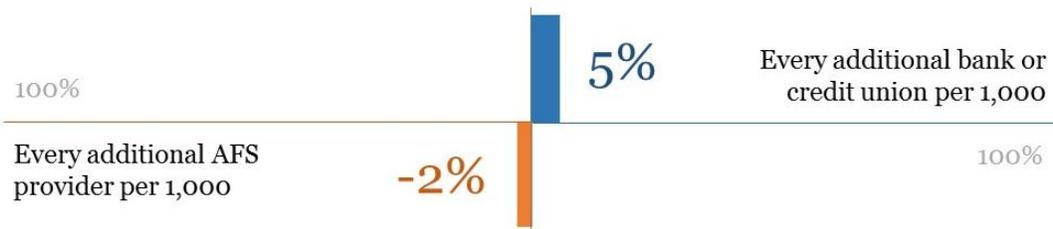
Note: This figure presents findings from the correlational relationships between financial services densities and lowest-**income households'** (*N* = 8,510) reported abilities to afford their monthly expenses from the 2012 National Financial Capability Study (NFCS). The complete analysis is available in the technical appendix.

Lowest- and modest-income households may have an easier time paying their bills when they have fewer AFS providers in their communities. In particular, these households may benefit when the density of bank and credit union branches is equal to or greater than the density of AFS providers. The probability of being able to afford monthly bills increases by 6% when modest-income households are located in communities with at least equal densities, when compared to households living in communities where AFS providers outnumber bank and credit union branches.

Owning a Bank Account

Owning a checking or savings account at a bank is another indicator of day-to-day financial health. This suggests that a household has at least some access to financial services at banks or credit unions that can be used for navigating their daily finances.

A statistically significant relationship between financial services density and bank account ownership emerges only for households with the lowest incomes. For each additional bank or credit union branch per 1,000 population, the probability of bank account ownership falls by 4.5% for these households. While higher densities of banks and credit unions are associated with greater probability of bank account ownership for modest- and highest-income households, these relationships are not statistically significant. Conversely, AFS provider densities are associated with lower probabilities of bank account

ownership for all income groups, though this finding is also not statistically significant. In other words, higher densities of any type of financial service do not necessarily translate into financial access.

However, the composition of financial services relative to one another may be important for lowest-income households. For lowest-income households, their bank account ownership is associated with living in communities where the densities of bank and credit union branches at least equal the densities of AFS providers. The probability of owning a bank account increases by 2% when lowest-income households live in communities with at least equal densities, when compared to households living in communities where AFS providers outnumbered bank and credit union branches.

> *For lowest-income households, their bank account ownership is associated with living in communities where the densities of bank and credit union branches at least equal those of AFS providers.*

Experiencing Financial Satisfaction

Financial satisfaction is an important indicator of financial health because it provides some indication on the extent to which an individual believes that they can carry out their preferred financial life. Financial satisfaction captures **a person's contentment with their ability to manage day**-to-day financial life, whether that includes having enough money to afford transportation costs, eat out at restaurants several times a week, or save for retirement.

> *The composition of financial services relative to one another may be important for the financial satisfaction of individuals from lowest-income households.*

Densities of bank and credit union branches and AFS providers are both negatively associated with the financial satisfaction of individuals living in lowest-income households. Higher densities of banks, credit unions, and AFS providers per 1,000 population are negatively associated with these **households'** perceived abilities to carry out their preferred financial lives. However, the composition of financial services relative to one another may be important for the financial satisfaction of individuals from lowest-income households. For these individuals, higher financial satisfaction is reported for households living in communities where the densities of bank and credit union branches equal or outnumber the densities of AFS providers. For example, the financial satisfaction among lower-income households living in communities where the densities of banks and credit unions outnumber AFS providers is 25% higher than the financial satisfaction of those who live in communities where the financial density characteristics are switched in favor of higher AFS density.

Developing Overall Financial Health

Financial health is a holistic construct that can best be understood through navigating day-to-day finances, adjusting to changing and unexpected financial circumstances, and planning for long term financial goals (Gutman et al., 2015). Thus, important questions include whether and how financial services densities relate to **households'** overall financial health—ranging from the day-to-day to the long-term. Again, the financial health of the lowest-income households appears to be most sensitive to

the densities of AFS. For lowest-income households, living in communities where densities of banks and credit unions outnumber AFS providers is associated with a 25% increase in their overall financial health.

> *For lowest-income households, living in communities where densities of banks and credit unions outnumber AFS providers is associated with a 25% increase in their overall financial health.*

The Increase in Overall Financial Health for a Lowest-Income Household
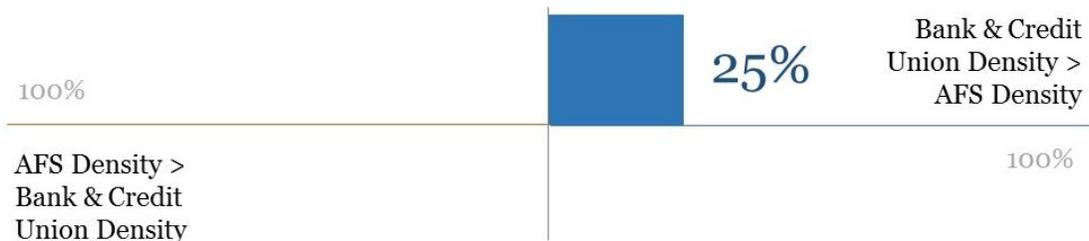
Note: This figure presents findings from the correlational relationship between financial services densities and lowest-**income households'** (*N* = 1,483) financial health from the 2014 Consumer Financial Health Study (CFHS).

Discussion

In this brief, we present findings concerning the relationship between the presence of financial services and multiple indicators of **households'** day-to-day financial management and overall financial satisfaction and health. Two general patterns emerge from these findings. First, links between the presence of financial services and financial health are found most often among the households with the lowest incomes. This pattern of findings suggests that the financial lives of lowest-income households may be more affected by financial services availability when compared to those with greater income. If resources are limited, opportunities available in one's community to conduct financial transactions may make an important difference. We found a stronger association between financial services and financial health among lowest-income households from NFCS data collected in 2012—closer to the end of the Great Recession, than from CFHS data collected in 2014. Thus, this relationship may be more pronounced in tougher economic times.

Second, links between financial services and financial health apply more to a community's relative mix of services than to their densities. We find a consistent pattern in which lowest-income households in communities where the density of banks and credit unions is equal to or exceeds the density of AFS experience better financial health than households with AFS densities that are higher than the densities of banks and credit unions.

This pattern suggests that lowest-income households may benefit from living in communities with different options for financial services, which is consistent with prior research indicating that lowest-income households use both banks and AFS (Despard et al., 2015; FDIC, 2016). Yet, where AFS outnumber banks and credit unions, it may be difficult for lowest-income households to find options for conducting financial transactions that meet their needs and do not negatively affect their financial

health. It may also be that in these communities, use of AFS—despite high transaction costs—becomes a social norm (Friedline & Kepple, 2016).

Fintech—the shorthand for financial technology like mobile and internet banking—is poised to close gaps in access to financial services. This means that the availability of financial services within communities may matter less as households adopt this expanding technology. Though, the availability of these services within communities may be important given that many households still rely on bank tellers and ATMs to make deposits into or withdrawals from their bank accounts (FDIC, 2016). For example, nine percent of households without a bank account attribute their unbanked status to inconvenient bank branch locations (FDIC, 2016). Insufficient funds (57%), costly fees (28%), and lack of trust (28%) are reported much more frequently as barriers to bank account ownership than geographic proximity (FDIC, 2016). However, for those that do have bank accounts, in-person interactions with bank tellers (28%) and ATMs/kiosks (21%) remain some of the most commonly-used means of account access. As such, geographic proximity may still be important for some households at the same time as fintech becomes more popular.

Limitations

Readers should be aware of certain limitations concerning data and findings in this brief. First, these findings should not be interpreted as causal. That is, an association between availability of financial services and household financial health does not mean, for example, that having a certain density of banks in **a household's** community means that the household will save more money. Other factors not available in the data are likely at play, such as whether these financial services are used and whether the products themselves are affordable. Factors that affect use of financial services and affordability of their products can include having checking accounts closed due to overdrafting (Campbell, Jerez, & Tufano, 2008) and insufficient funds to meet minimum monthly account balance requirements (FDIC, 2016).

Second, though the household financial data are drawn from nationally representative samples, zip code-level data on financial services densities differ somewhat from the data for the nation as a whole. For example, the average bank and credit union density for zip codes in the NFCS data is .19 per 1,000 population, which is somewhat lower than the average bank and credit union density for all zip codes, which is .33 per 1,000 population.

Finally, concerning AFS, data were available for 2015 and not matched to the years that household financial data were collected in 2012 and 2014. The available data also do not allow us to make a distinction between credit-related AFS like payday loans, and transaction-related AFS, like check cashing. The data do not allow us to consider this distinction, even though payday loans are potentially more damaging to household financial health than check cashing.

Conclusion

This geographic investigation provides **some evidence that financial services within households'** communities—particularly for households with the lowest incomes—may be important for their day-to-day financial health. A geographic investigation also does not refute the potential of mobile and internet banking for expanding financial access, which are not necessarily confined to a community or specific geographic space. Instead, this investigation helps us to further understand how households make use of the financial services that are available to them in their communities, whether any investments into

communities' financial services availability are warranted, and which households might experience the greatest benefits from these investments. This research is only a first step toward considering these possibilities.

Technical Appendix

Data Sources

This study used several sources of data to test associations between the financial services within **individuals' and/or households' residential communities and their financial health, including the 2012** National Financial Capability Study (NFCS), 2014 Consumer Financial Health Study (CFHS), Federal Deposit of Insurance Corporation (FDIC), National Credit Union Association (NCUA), Esri Business **Analyst, and US Census Bureau's American Community Survey (ACS). Zip codes served as a proxy for** communities given that zip codes are units defined by the US Postal Service and that use of geographic space (i.e., activity space) is larger than smaller geographic units such as census blocks (Crawford, Jilcott Pitts, McGuirt, Keyserling, & Ammerman, 2014).

Financial health data were drawn from the 2012 NFCS and 2014 CFHS. The 2012 NFCS was commissioned by the FINRA Investor Education Foundation and was completed online by a sample of 25,509 adults in the United States between July and October 2012. Additional information regarding the 2012 NFCS is available from the FINRA Investor Education Foundation. The 2014 CFHS was commissioned by the Center for Financial Services Innovation (CFSI) and was completed in partnership with GfK by a sample of 7,152 adults in the United States between June and August 2014. Additional information regarding the 2014 CFHS is available in a published report by CFSI (Gutman, Garon, Hogarth, & Schneider, 2015).

Measures

Financial services density. Financial services data were collected through several sources. The FDIC and NCUA provided data for bank and credit union branch locations, including their street **addresses and zip codes. Bank branch locations were collected through the FDIC's summary of deposits,** which provided quarterly information on all bank and bank branch locations. Credit union branch locations were collected through the NCUA call reports, which provided quarterly information on all credit union and credit union branch locations. Bank and credit union branch location data were retrieved from the first quarters in 2012 and 2014. Branch location data from 2012 were used with the 2012 NFCS and data from 2014 were used with the 2014 CFHS.

Data by zip code on alternative financial service locations and market potential were collected from 2015 Esri Business Analyst Geographic Information System (GIS). Unfortunately, Esri Business Analyst only maintains current year data, meaning that it was not possible to collect archived AFS data from 2012 or 2014 that corresponded with the timing of the NFCS or CFHS survey data collection. Information on changes in AFS locations between 2012, 2014, and 2015 was unavailable; however, there is reason to believe that any changes during these years would have been small and would not have substantially altered our results. Major state regulatory policies that could have impacted AFS locations were implemented during the preceding decade before our data were collected (Bhutta, 2014). Moreover, substantial changes have typically occurred over longer time periods such as 10 years or more and any dramatic changes were likely confined to the Great Recession through 2011 (Agarwal, Gross, & Mazumder, 2016; Caskey, 2005). Twelve codes from the North American Industry Classification Systems (NAICS) were used to identify alternative financial services and included auto title loan, payday loan, check cashing, tax refund, pawn shop, and rent-to-own services.

Density measures were calculated by aggregating the locations of bank and credit union branches and alternative financial services within zip codes and calculating their total numbers of locations per 1,000 population. Zip codes with no matching density measure were considered to not have any post offices, bank and credit union branches, or alternative financial services within their communities. Densities were capped at the 99th percentile. Density measures were merged with household financial health data using zip codes. In the NFCS data, there were 10,207 zip codes (32% of all residential zip codes in the US), and an average of 2.5 households per zip code (SD = 3.21; range: 1 to 54). In the CFHS data, there were 5,298 zip codes (17% of all residential zip codes in the US), and an average of 1.4 households per zip code (SD = 0.68; range: 1 to 6).

State regulation of payday lenders. Given that regulation may have played a role in the density of AFS within a zip code and **a household's** use of these services (Bhutta, 2014; Melzer, 2011), the states in which individual respondents lived were coded for their regulation of payday lenders in 2011 (no regulation = 0; light or heavy regulation = 1; prohibited regulation = 2). The measure **for a community's** density of AFS was more comprehensive than just payday lending services, also including auto title loans, check cashers, tax refunds, pawn shops, and rent-to-own stores that may not have been affected by payday lending regulation. However, in some cases individuals have been found to adjust their use of AFS depending on the regulatory environment (Friedline & Kepple, 2016), and perhaps rely more often on auto title loans or pawn shops where payday lenders are prohibited (Carter, 2015; McKernan, Ratcliffe, & Kuehn, 2013).

Individual and/or household demographics. Individual and/or household demographic variables previously found to have associations with financial health were taken from the 2012 NFCS and 2014 CFHS and controlled in the analyses. These variables included age, gender, race, gender, presence of children in the household, marital status, education level, employment status, annual household income (lowest < $35,000 N = 9,250; modest $35,000 to < $75,000 N = **8,616; highest** ≥ $75,000 N = 7,643), financial literacy, and bank account ownership.

Community demographics. Additional community demographic data were collected from the US **Census Bureau American Community Survey's (ACS) 2010 to 2014 five**-year estimates and Esri Business Analyst. These data provided aggregate population estimates by Census Bureau zip code tabulation areas (ZCTAs), which were cross-walked to zip codes. Population density equaling 1,000 residents per square mile was controlled in order to account for the variation in geographic size across zip codes. These variables also measured the percent of the population that was of different racial groups, was unemployed, and was living in poverty. For example, the US Census Bureau calculated the unemployment rate dividing the total number of the unemployed by the total number of the population ages 16 years and older who reported participating in the labor force. These data also included whether the zip code was located within urban clusters or towns.

The market potential or local consumption rate of savings accounts and smartphones were included, which we**re collected from 2015 Esri Business Analyst. Zip codes' market potential was defined as the** expected number of consumers who had savings accounts or used smartphones divided by the total number of adults. The use of smartphones served as a proxy for the potential of mobile banking within a **household's community.**

Analysis Plan

Linear regression was the primary analytic tool used to assess statistical significance for the relationship between densities of financial services and financial health. Logistic, multiple, and zero-inflated negative binomial regression in Stata version 12 were used to predict financial health outcomes. **Regression coefficients and predicted probabilities using Stata's .***margins, atmeans* command were used to report statistical significance.

Propensity score weighting was used for analyses of financial health based on whether households were in one of three types of communities, where (1) bank and credit union branch density < alternative financial services density; (2) bank and credit union branch density = alternative financial services density; and (3) bank and credit union branch density > alternative financial services density. Financial health may differ based on the relative availability of different types of financial services in one's community. To examine this possibility, we used propensity score weighting to adjust for differences in household characteristics among these three types of communities that otherwise might explain differences in financial health (Guo & Fraser, 2010; Imbens, 2000). First, we examined differences in household characteristics for the three types of communities. Next, we used multinomial logit regression to predict the probablities of living in each of the three communities based on differences in household characteristics that were statistically significant (Guo & Fraser, 2010). Lastly, we used these predicted probabilities to calculate average treatment-effect-for-the-treated (ATT) propensity score weights which were used in analyses to balance the three types of communities. Models incorporated robust standard errors to adjust for correlations among households in the same zip code.

Results

A summary of the results is provided here and complete results are available upon request.

Managing bill payments. **Data from the 2014 CFHS were used to study households' management of** bill payments (see Table 1). Participants responded to a five-point Likert scale question that asked how often they had to juggle which bills get paid when. Among lowest-income households (n = 1,476), bank and credit union density and AFS density per 1,000 population were not significantly associated with **managing bill payments (respectively, β = .712; SE = .533 and β = −.651; SE = .545). Though, the** compositions of densities were associated with managing bill payments. Compared to AFS provider densities that outnumbered those of banks and credit unions, having equal densities was negatively **related to managing bill payments (β = −.478; SE = .242; Pr = .081;** *p* < .05). There were no significant associations among modest-income (n = 1,342) or highest-income (n = 2,375) households.

Table 1: Manage Bill Payments

	Lowest-Income Households			Modest-Income Households		Highest-Income Households	
	β (SE)		Pr	β (SE)		β (SE)	
Bank and credit union density	.712	(.533)		.153	(.510)	−.467	(.357)
AFS density	−.651	(.545)		.504	(.572)	−.186	(.431)
Model	4.338	(.868)		2.388*	(.974)	2.419**	(.775)
Pseudo R²	.079			.079		.075	
Financial services density (Reference: Banks and credit unions < AFS)							
Banks and credit unions = AFS	−.478*	(.242)	.081	−.065	(.291)	−.191	(.267)
Banks and credit unions > AFS	.086	(.198)		−.024	(.206)	.282	(.228)

Model	.170	(1.135)	−.548	(1.514)	−.009 (1.551)
Pseudo R^2	.103		.102		.120

N	1,476	1,342	2,375

Source: Data from the 2014 Consumer Financial Health Study (CFHS).
Notes: Participants responded to a five-point Likert scale question that asked how often they had to juggle which bills get paid when. Logistic regression analyses modeled responses of seldom or never having to juggle bills and controlled for community and individual and/or household demographics and state regulation of payday lenders. Densities are calculated per 1,000 population. Models with categorizations of financial service density were weighted using average treatment-effect-for-the-treated (ATT) propensity score weights to adjust for observed selection. Analyses only undertaken with CFHS data; a corresponding variable regarding juggling bills is not available in NFCS data. β = regression coefficients. Robust SE = robust standard error. Pr = predicted probability. * $p < .05$; ** $p < .01$; *** $p < .001$; † $p < .10$

Affording monthly bills. Data from the 2012 NFCS were used to study households' abilities to afford their monthly bills (see Table 2). Participants responded to a three-point Likert scale question that asked them how difficult it was to cover their expenses and pay all their bills. Among lowest-income households ($n = 8,510$), bank and credit union density and AFS density per 1,000 population were significantly associated with affording monthly bills (respectively, β = .316; SE = .176; Pr = .051; $p < .10$ and β = −.444; SE = .238; Pr = −.017; $p < .10$). The compositions of densities were also associated with affording bill payments. Compared to AFS densities that outnumbered those of banks and credit unions, having equal and greater densities of banks and credit unions were positively related to lowest-income households' affording monthly bills (respectively, β = .261; SE = .112; Pr = .028; $p < .05$ and β = .157; SE = .076; Pr = .024; $p < .05$). Among modest-income households ($n = 8,098$), having equal and greater densities of banks and credit unions were positively related to affording monthly bills (respectively, β = .255; SE = .100; Pr = .060; $p < .05$ and β = .210; SE = .070; Pr = .049; $p < .01$). Compared to AFS densities that outnumbered those of banks and credit unions, There were no significant associations among highest-income ($n = 7,274$) households.

Table 2: Afford Monthly Bills

	Lowest-Income Households		Modest-Income Households		Highest-Income Households	
	β (SE)	Pr	β (SE)	Pr	β (SE)	
Bank and credit union density	.316† (.176)	.051	.245 (.153)		.074 (.183)	
AFS density	−.444† (.238)	−.017	−.373 (.227)		−.016 (.287)	
Model	1.781*** (.364)		2.016*** (.374)		1.251* (.514)	
Pseudo R^2	.055		064		.082	
Financial services density (Reference: Banks and credit unions < AFS)						
Banks and credit unions = AFS	.261* (.112)	.028	.255* (.100)	.060	−.120 (.105)	
Banks and credit unions > AFS	.157* (.076)	.024	.210** (.070)	.049	.006 (.081)	
Model	1.547** (.473)		1.606** (.586)		1.372† (.726)	
Pseudo R^2	.298		.105		.084	

N	8,510	8,098	7,274

Source: Data from the 2012 National Financial Capability Study (NFCS).
Notes: Participants responded to a three-point Likert scale question that asked them how difficult it was to cover their expenses and pay all their bills. Logistic regression analyses modeled somewhat or very difficult responses and controlled for community and individual and/or household demographics and state regulation of payday lenders. Densities are calculated per 1,000 population. Models with categorizations of financial service density were weighted

using average treatment-effect-for-the-treated (ATT) propensity score weights to adjust for observed selection. Analyses undertaken with CFHS data do not find significant relationships between financial services density and difficulty paying monthly bills. β = regression coefficients. **Robust SE = robust standar**d error. Pr = predicted probability. * *p* < .05; ** *p* < .01; *** *p* < .001; † *p* < .10

Owning a bank account. With regard to owning a bank account, data from the 2012 NFCS were used (see Table 3). Participants responded to two questions that respectively asked whether or not they owned checking and savings accounts. Among lowest-income households (*n* = 8,693), bank and credit union density and AFS density per 1,000 population were significantly associated with owning a bank **account (respectively, β = —.508; SE = .209; Pr = —.045;** *p* < .05 and β = —.451; SE = .265; Pr = —.040; *p* < .10). Compared to AFS densities that outnumbered those of banks and credit unions, having equal densities of banks and credit unions was positively related to lowest-**income households' bank account ownership (β = .238; SE = .115; Pr = .016;** *p* < .05). There were no significant associations among modest-income (*n* = 8,098) or highest-income (*n* = 7,343) households.

Table 3: Bank Account Ownership

	Lowest-Income Households			Modest-Income Households		Highest-Income Households	
	β (SE)		Pr	β (SE)		β (SE)	
Bank and credit union density	−.508*	(.209)	−.045	.186	(.581)	1.421	(1.468)
AFS density	**−.451†**	**(.265)**	−.040	−.440	(.634)	−1.533	(1.541)
Model	−.179	(.413)		−.763	(.928)	−1.156	(2.010)
Pseudo R²	.155			.105		.195	
Financial services density (Reference: Banks and credit unions < AFS)							
Banks and credit unions = AFS	.238*	(.115)	.016	−.157	(.299)	.922	(.579)
Banks and credit unions > AFS	.051	(.089)		−.260	(.211)	.379	(.428)
Model	−.425	(.484)		1.906	(1.592)	−.998	(1.819)
Pseudo R²	.356			.162		.253	
N	8,693			8,098		7,343	

Source: Data from the 2012 National Financial Capability Study (NFCS).
Notes: Participants responded to two questions that respectively asked whether or not they owned checking and savings accounts. Their responses were combined to model any bank account ownership. Regression analyses controlled for community and individual and/or household demographics and state regulation of payday lenders. Densities are calculated per 1,000 population. Models with categorizations of financial service density were weighted using average treatment-effect-for-the-treated (ATT) propensity score weights to adjust for observed selection. Analyses undertaken with CFHS data do not f**ind significant relationships between financial services density and bank account ownership. β =** regression coefficients. Robust SE = robust standard error. Pr = predicted probability. * *p* < .05; ** *p* < .01; *** *p* < .001; † *p* < .10

Experiencing financial satisfaction. Financial satisfaction was analyzed using data from the 2012 NFCS (see Table 4). Participants responded to a 10-point Likert scale question that asked how satisfied they were with their current financial condition. Among lowest-income households (*n* = 8,465), bank and credit union density and AFS density per 1,000 population were significantly associated with **financial satisfaction (respectively, β = —.447; SE = .189;** *p* < .05 and β = —.668; SE = .247; *p* < .01). Having equal and greater densities of banks and credit unions were positively related to lowest-income **households' financial satisfaction (respectively, β = .231; SE = .113;** *p* < .05 and β = .245; SE = .080; *p* < .01). There were no significant associations among modest-income (*n* = 8,118) or highest-income (*n* = 7,296) households.

Table 4: Financial Satisfaction

	Lowest-Income Households		Modest-Income Households		Highest-Income Households	
	β (SE)		β (SE)		β (SE)	
Bank and credit union density	−.447*	(.189)	−.054	(.187)	.274	(.184)
AFS density	−.668**	(.247)	.123	(.276)	.020	(.292)
Model	3.802	(.382)	3.147***	(.439)	3.359***	(.532)
Pseudo R^2	.054		.072		.115	
Financial services density (Reference: Banks and credit unions < AFS)						
Banks and credit unions = AFS	.231*	(.113)	.182	(.111)	−.071	(.107)
Banks and credit unions > AFS	.245**	(.080)	.073	(.085)	.013	(.084)
Model	2.806***	(.477)	3.383***	(.612)	3.635	(.740)
Pseudo R^2	.429		.096		.129	
N	8,465		8,118		7,296	

Source: Data from the 2012 National Financial Capability Study (NFCS).
Notes: Participants responded to a 10-point Likert scale question that asked how satisfied they were with their current personal financial condition. Multiple regression analyses modeled the continuous responses of financial satisfaction and controlled for community and individual and/or household demographics and state regulation of payday lenders. Densities are calculated per 1,000 population. Models with categorizations of financial service density were weighted using average treatment-effect-for-the-treated (ATT) propensity score weights to adjust for observed selection. Analyses undertaken with CFHS data do not find significant relationships between financial services density and financial satisfaction. β = regression coefficients. Robust SE = robust standard error. * $p < .05$; ** $p < .01$; *** $p < .001$; † $p < .10$

Developing overall financial health. Financial health was analyzed using data from the 2014 CFHS (see Table 5). Participants responded to a series of questions about their financial health, which asked about managing day-to-day finances, adjusting to changing financial circumstances, and investing in the future. Among lowest-income households ($n = 1,483$), having equal and greater densities of banks and credit unions were positively related to financial health (respectively, β = .277; SE = .161; $p < .10$ and β = .251; SE = .109; $p < .05$). There were no significant associations among modest-income ($n = 1,351$) or highest-income ($n = 2,382$) households.

Table 5: Overall Financial Health

	Lowest-Income Households		Modest-Income Households		Highest-Income Households	
	β (SE)		β (SE)		β (SE)	
Bank and credit union density	.070	(.382)	−.035	(.389)	.444	(.280)
AFS density	−.359	(.380)	.137	(.431)	.254	(.334)
Model	−.348	(.571)	.713	(.230)	.308	(.587)
Pseudo R^2	.104		.187		.164	
Financial services density (Reference: Banks and credit unions < AFS)						
Banks and credit unions = AFS	.277†	(.161)	.095	(.173)	−.090	(.117)
Banks and credit unions > AFS	.251*	(.109)	.018	(.122)	−.035	(.101)
Model	−1.554*	(.662)	.848	(.955)	−1.191	(.800)
Pseudo R^2	.187		.207		.252	

| *N* | 1,483 | 1,351 | 2,382 |

Source: Data from the 2014 Consumer Financial Health Study (CFHS).

Notes: Participants responded to a series of questions about their financial health, which asked about managing day-to-day finances, adjusting to changing financial circumstances, and investing in the future. CFSI conducted a segmentation analysis using this series, which then yielded the financial health segments that were used in the analyses. Multiple regression analyses modeled the continuous responses of financial health and controlled for community and individual and/or household demographics and state regulation of payday lenders. Densities are calculated per 1,000 population. Models with categorizations of financial service density were weighted using average treatment-effect-for-the-treated (ATT) propensity score weights to adjust for observed selection. Analyses only undertaken with CFHS data; a **corresponding financial health scale is not available in NFCS data.** β = regression coefficients. **Robust SE = robust** standard error. * $p < .05$; ** $p < .01$; *** **$p < .001$;** † $p < .10$

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