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Location, Location, Location: An Exploration of Geographic Disparities in Bank and Alternative Financial Service Access in Los Angeles County

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An Exploration of Geographic Disparities in Bank and
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County

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March 3, 2023

ABSTRACT

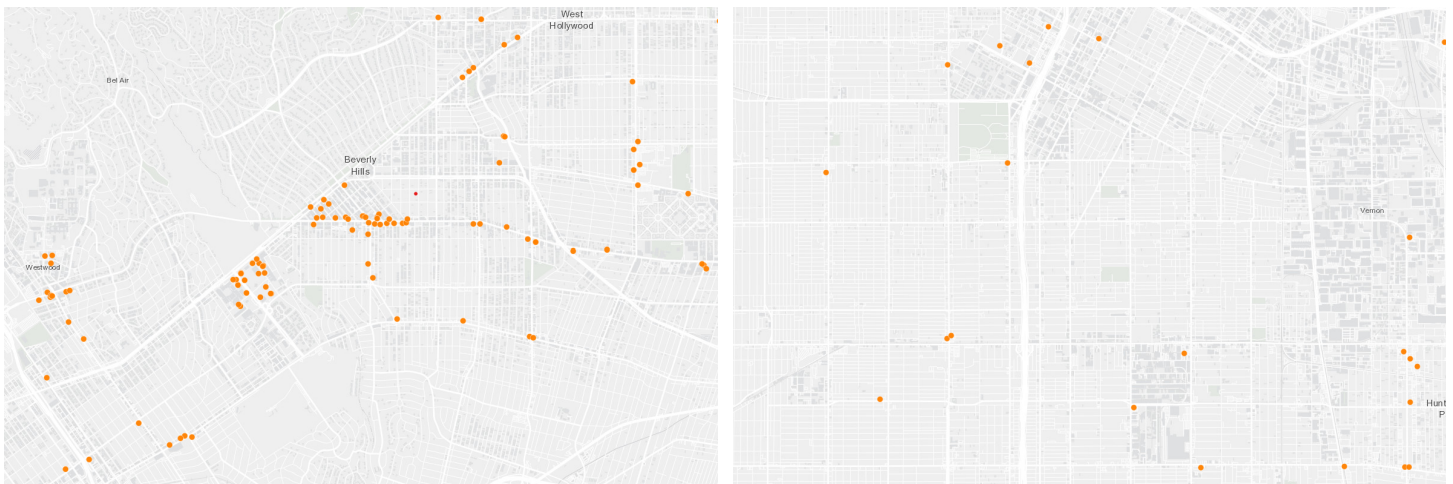
Banks play an important role in the financial well-being of American households. Benefits of banking include improved access to credit, greater wealth accumulation, and larger liquid savings. However, an ever-widening wealth gap persists in the United States, primarily driven by the disparities in banking usage across different communities. In Los Angeles County, previous studies show that many Low-to-Moderate Income households are financially excluded by banks (Khashadourian & Tom, 2007), and the majority must rely on costly non-banking alternatives known as alternative financial services (AFS). This study constructs narrative thick maps to analyze geospatial patterns in the distribution of banks and AFS across Los Angeles County. Using separate maps plotting bank locations and AFS locations with census tract income levels, census tract racial demographics, and location zoning use, the study identifies interactions between specific factors influencing the geographic distribution of financial institutions. The findings suggest significant disparities in access to banks and AFS across different communities, with notable demographic characteristics defining communities that are bank-dense or AFS-dense. Low-income and minority residents are

predisposed to worse banking conditions in their neighborhoods, which aggrandizes the inequities in banking and accelerates the wealth divide.



INTRODUCTION

At night, the intersections along Los Angeles's Historic South Central and South Park neighborhoods come alive into an informal street food market. Locals and visitors alike flock the bustling stalls to get their fixing of tacos, mulitas, and tortas. However, if a hungry customer needs to withdraw cash, or if a vendor wants to deposit their earnings, the nearest and only bank ATM is 25 minutes away by both walking and public transit. Meanwhile, the city of Beverly Hills is cradled by a concentration of banks – instead of a 25 minute trek, residents can choose from a plethora of banks in a 5 minute radius.



(Left): Bank locations near Beverly Hills. (Right): Bank locations in South Central Los Angeles.

This phenomenon is nothing new; access to financial institutions in communities of color traditionally has been more difficult when compared to predominantly white neighborhoods like Beverly Hills. Financial exclusion played a core part in shaping the development of Los Angeles, and it continues to hurt communities across the city. Spatially

visualizing the problem is the first step to addressing areas in need of economic development, but recent documentation is lacking. In order to better understand access to financial services in Los Angeles County, this project walks through the history of banks and alternative financial services (AFSs), the populations who are and aren't served by these institutions, and offers a comprehensive geographical analysis capturing the modern-day plight affecting underbanked and unbanked households.

BACKGROUND



Various bank branches across Los Angeles County.

The Role of Banks

Two types of banking systems exist in the United States: the first is the heavily regulated and subsidized mainstream banking industry, while the other is the unregulated, costly, and often predatory fringe industry (Baradaran 2019) – whose establishments are referred to as AFS. Within mainstream banking lies institutions such as credit unions and commercial banks. These institutions are the drivers of wealth creation (Baradaran 2019); banks and credit unions are insured, pay dividends on savings, and offer comparatively lower rates on various financial services – features that enable wealth and

savings to safely accumulate. Additional benefits of banking also include improved access to credit, greater liquid savings, reduced reliance on costly payday lending, and enhanced financial literacy (Sakong & Zentefis, 2022). In fact, sustainable economic opportunity for both individuals and households require a long-term banking relationship (American Bankers Association, 2021). The plethora of benefits offered by banks and credit unions evidently prove these institutions are essential to the financial well-being and success of Americans. However, inequality not only has historically limited certain populations from enjoying the benefits of banks, to this day it remains pervasive within the dynamics of mainstream banking.

Two Separate and Unequal Economies

The divide in America's banking system can be traced back to the Jim Crow era. Due to segregation, Black communities had to establish their own financial institutions, but these banks were fragile; they were hindered by the absence of Black enterprises, factories, and railroads who were providers of large stores of capital in that time (Baradaran, 2019). Likewise, because the Black bank served a very segregated population, they experienced different service usage when compared with white banks. This meant higher operating costs from smaller loans, more frequent withdrawals from depositors, and higher reserve requirements which led to fewer loan originations (Baradaran, 2019). All these characteristics lowered the overall profitability of these banks and foreshadowed the fate of Black banking in the years to come.

In postwar America, the credit system created by the New Deal segregated access to loans based on race. The Home Owner's Loan Corporation (HOLC) was established by President Roosevelt in 1933 to help struggling homeowner's pay off their mortgages (Baradaran, 2019), and a byproduct of its administration was applying a color-coded ranking system to each neighborhood as an assessment of lending desirability.

“A” (green) was the highest, and “D” (red) was the lowest; HOLC mapmakers used race as a proxy for desirability resulting in all “D” or red neighborhoods to be predominantly Black (Baradaran, 2019). As banks increasingly relied on protocols provided by government agencies, they grew hesitant to take risks on individuals who didn’t fit the golden standard for loans – white, middle class, male. Consequently, many Black individuals filled the void by turning to high-cost lenders and contract sellers, a decision that perpetuated an unfortunate cycle of debt and high interest. This accelerated the generational wealth inequality growing between Black and white households in the United States. An unfortunate outcome was an “urban crisis” (Taylor, 2019) that swept across America as poverty and housing segregation grew in Black communities.

Even after redlining ended, the conditions of poverty and distress became an excuse for banks to refuse lending in urban markets, resulting in Black reliance on unregulated mortgage banks (Taylor, 2019). While numerous legislative initiatives and updated protocols have been implemented since in an attempt to increase banking access, a difference in bank usage still persists to this day. In fact, not only is this difference present for just the Black community, but for numerous underrepresented groups in the United States.

What is Financial Exclusion?

Financial access is defined as the ability to access transaction, credit, and investment products and services from bank sources (Birkenmaier & Fu, 2017). Households who lack full financial access and use alternative financial services are considered financially excluded. Alternative financial services (AFS) fall under the second type of banking mentioned previously – within the unregulated, costly, and often predatory sphere. AFS will be further discussed later on, but they are a key component in defining the financially excluded

communities. Those who are financially excluded can be grouped under two primary categories: unbanked and underbanked. Unbanked individuals don't have an account with a FDIC-insured institution, while underbanked individuals have an account with a FDIC-insured institution, but use AFS regularly (Weinstein). So who exactly are unbanked and underbanked?

Financially-Excluded Populations

Underbanked and unbanked are distinct concepts with different underlying determinants (Barcellos & Zamarro, 2019). As a result, it is important to distinguish between these statuses to fully understand the scope of financial exclusion.

Unbanked

As mentioned previously, unbanked refers to those who lack an account with any FDIC-insured institution. 4.5% of US households were unbanked in 2021 (Kutzbach et al., 2021). There are some defining characteristics of this group; unbanked rates tend to be higher among low-income residents and minority households. For those making less than \$15,000 a year, 19.8% were unbanked (Kutzbach et al., 2021). As seen in Figure 1., 11.3% of Black households were unbanked, while 9.3% of Hispanic households were unbanked (Kutzbach et al., 2021). All three groups fall well above the national average rate of being unbanked. On a comparative basis, Blacks are 152% more likely to be unbanked than Whites, while Hispanics are 70% more likely to be unbanked than Whites (Barcellos & Zamarro, 2019).

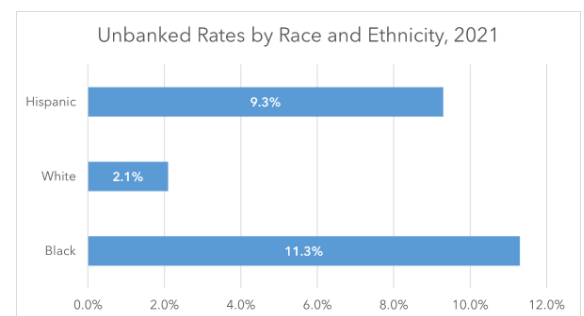


Figure 1. (Kutzbach et al., 2021)

Even looking within a single socioeconomic class, there are racial differences in unbanked rates. Once again, Black and

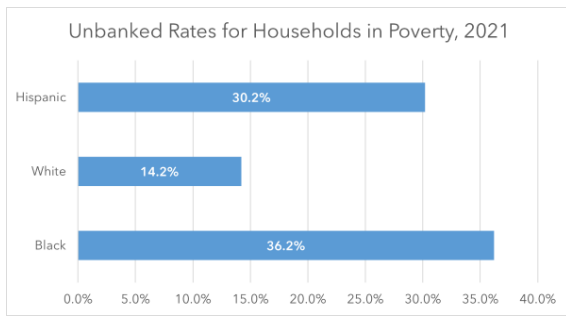


Figure 2. (Creamer & Warren, 2022)

Hispanic households are much more likely to be unbanked than White households.

Most common reasons for not holding a bank account include not having enough money to meet the minimum, having more privacy without a bank,

and not trusting banks in general (Kutzbach et al., 2021). For Hispanics, language barrier explains the gap in bank account ownership among older adults, while neighborhood-level socioeconomic characteristics are more salient for Blacks (Barcellos & Zamarro, 2019). A substantial number of lower and middle-income customers choose to be unbanked to avoid fees (Berre Et Al., 2021). In fact, the higher fees made it rational for these customers to close their accounts (Boel & Zimmerman, 2022). A variety of factors are responsible for the unbanked population in the United States, but the primary reasons all stem from issues that can easily be addressed by the banks themselves.

Underbanked

Underbanked refers those who use AFS regularly despite having an account with a FDIC-insured institution. 14% of US households are underbanked (Kutzbach et al., 2021). In Figure 3, Black, Hispanic, and Native Americans are much more underbanked than White Americans. Comparatively, Blacks are 49% more likely to be underbanked than Whites while Hispanics are 19% more likely to be underbanked than Whites (Barcellos & Zamarro, 2019). It appears race is also a significant factor in the underbanked population as well.

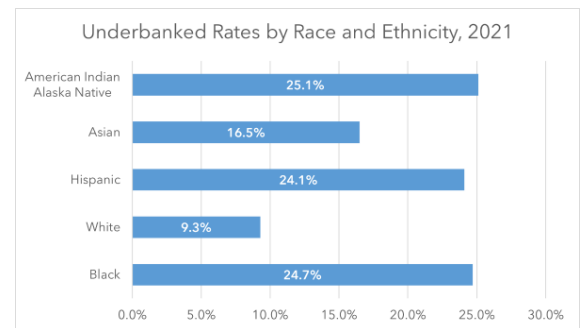


Figure 3. (Kutzbach et al., 2021)

Ethnographic research corroborates the intentionality of AFS usage by underbanked households in replacement of traditional banking due to the perception that banking is more expensive and less transparent (Faber & Friedline, 2020). This is quite similar to the reasoning of unbanked households who also choose to avoid banks due to their perceived higher fees and restrictions. It appears the cost of banking is a major force in shaping its inaccessible nature.

Why does this matter?

Based on the findings from both unbanked and underbanked populations, it is evident race and socioeconomic status has a significant role in experience of financial exclusion. In fact, commercial banks argue that operating in poor communities is more expensive than operating in wealthier areas (Faber & Friedline, 2020), which may explain the higher fees and restrictions imposed upon customers from these communities. Furthermore, banks charge more to open and maintain accounts for minority patrons. The following statistics reveal the disparities in fees and regulations imposed.

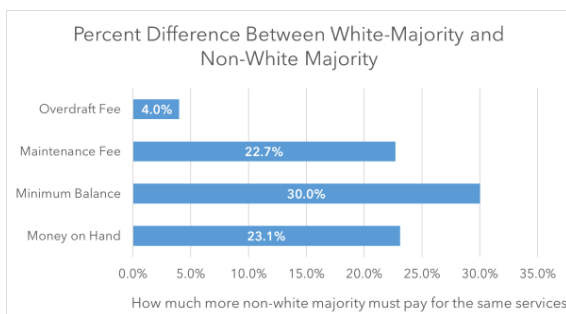


Figure 4.

The amount of money on hand is the most important factor shaping access to mainstream banking in communities; for the white-majority, the average needed is \$67.79, while for the non-white majority average, it is \$83.43 (Faber & Friedline, 2020). Likewise, maintaining a bank account is also

more expensive. The minimum balance to avoid fees or closure is \$622.81 in primarily White cities, and \$809.76 in other places (Faber & Friedline, 2020). Finally, a difference exists in the average maintenance and overdraft fees as well. In predominantly White places, monthly and overdraft fees are \$5.86 and \$29.51 on average respectively, while it is \$7.19 and \$30.69 respectively for cities without a White majority (Faber &

Friedline, 2020). Banking is significantly costlier for non-White Americans, and the consequences are dire.

Because banking is significantly more expensive for already marginalized communities, the current system acts as a mechanism driving the racial wealth gap. Not only do people of color typically earn less than White Americans, they must also spend more to maintain their bank accounts – which reduces their liquid savings and thereby limits their economic power. The fundamental inability for these Americans to fully participate in the benefits of the banking industry is a fatal flaw exacerbating the growing wealth gap. In the end, the economics of banking do not incentivize the delivery of banks to those in need of it most (Berre Et Al., 2021).





Various AFS Storefronts in Los Angeles County.

Alternative Financial Services

For these financially-excluded households, many turn towards Alternative Financial Services to fulfill their basic financial needs. AFS describes an array of financial services offered outside of federally insured banks (FDIC, 2009) and include payday loans, pawn shop loans, direct deposit advances, installment loans, auto title loans, and check cashing outlets (Saboe-Wounded Head, 2019). These establishments specifically target the financially insecure in low-income communities, because their business model of high fees feeds a cycle of continuous debt that generates endless income. In fact, 76% of AFS loans are churned, meaning the client has to take out another loan to cover a shortage in funds caused by the previous loan (Padua & Doran, 2016). Not only do AFS make money off of the interest from the original loan, but they can also profit from the interest on the new loan taken out to cover the original loan – profit is thus multiplied through this vicious cycle of debt.

The fees of AFS can be substantially higher than what is charged by banks. Many financially-excluded individuals are denied secured loans at banks due to their poor or bad credit,

which means they must acquire unsecured loans with an APR of 21% or higher (Haymes et al., 2014) compared to the single-digit starting APR of banks. For instance, vehicle title loans, which are massively oversecured, can have an APR of 300% (Haymes et al., 2014). These extremely predatory interest rates are unfortunately commonplace within AFS. Likewise, check cashing fees range upwards of 15%, more than 4x the cost charged by a regulated bank. Consequently, financially-excluded low-income households can spend \$2000 more annually in fees and interest on AFS when compared to banked low-income households (Birkenmaier & Fu, 2017). At this socioeconomic level, \$2000 is a significant amount and makes a drastic difference in the livelihood of these households. For the United States as a whole, Americans pay more than \$4.2bn in fees annually to the payday lending industry and \$1.5bn to check cashers annually (Cover et al., 2011). These massive expenses are an ugly reminder of the growing wealth gap furthered by Alternative Financial Services.

Despite the costliness of AFS, financially-excluded households still choose to patronize these establishments because of their convenience. For those with liquidity issues and hard barriers to bank entry such as credit or documentation issues, or temporary workers who don't have access to direct deposit, AFS resolves their problems with convenient solutions such as longer hours, upfront fees, check cashing, and the ability to get loans without credit (Khashadourian & Tom, 2007). As a result, AFS continues to proliferate in certain neighborhoods.

A Geographical Inquiry

It is apparent socioeconomic and racial disparities exist between the banked, unbanked, and underbanked. There is a large geographic component to this phenomenon – some studies indicate spatial patterns exist in the geographic distributions of both banks and Alternative Financial Services, with certain demographic characteristics of neighborhoods

that are correlated with either the presence or absence of these institutions. Likewise, for customers of these institutions, location plays a role in whether they patronize the establishment. 4.4% of survey respondents to the FDIC National Survey indicated the main reason they didn't use banks was because of inconvenient location, while it was cited as a general reason for 15.4% of respondents (Kutzbach et al., 2021).

A common term in this field is "banking desert", which generally refers to an area with a lack of depository institutions (Kashian et al.). As a note, there is no formal definition with a quantitative specification, meaning the classification of a locale as a banking desert may vary depending on the researcher. In a study focused specifically on Chicago, block groups classified as banking deserts are on average poorer and less white (Hegerty, 2022). In a statistical analysis on that same Chicago dataset, researchers compared means between bank-rich and bank desert areas to see which variables influenced bank count. Their findings indicated the % Black and % Hispanic population of a neighborhood are consistently negatively correlated, even when controlling for income (Hegerty, 2022) – thereby concluding the effects of race are present. Likewise, in a separate study, researchers found the representation of minorities to be above the overall average in urban bank deserts, with the average poverty rate to be higher and the average household per capita income to be lower than average as well (Kashian et al.). In a statistical simulation on this dataset, the researchers concluded that increasing the proportion of minority residents from 20% to 60% is estimated to increase the probability of an urban bank desert by 22% (Kashian et al.). This is corroborated by a separate study which found that a 10% higher Black population share is associated with a 2.1% lower number of bank branches (Wang & Zhang, 2021). All these studies seem to suggest that the income level and racial demographics of a geographic area affects the prevalence of banks.

Nevertheless, not all researchers agree on this association. In one study performed on medium and large U.S. cities, there was no statistical evidence showing that banking deserts were any less poor or white than nondeserts (Hegerty, 2019). Furthermore, a confounding variable is the lasting effect of historical practices. Since banks traditionally avoided communities of color, it may be difficult to perform an accurate neighborhood-level comparison due to the lack of services in Black and Hispanic neighborhoods (Faber & Friedline, 2020).

The conclusions from a geospatial analysis of Alternative Financial Services are much more consistent. Various studies agree that AFS are disproportionately located in minority, low-income neighborhoods (Fowler et al., 2014; Sawyer & Temkin., 2002). A hypothesis is that as banks closed in the less profitable minority and low-income neighborhoods, AFS filled in to cover the void in financial services.

Spatial Void Hypothesis

Spatial Void hypothesis is precisely the theory that fringe providers exploit the market niche which has been vacated by traditional banks (Cover et al., 2011). Conclusions around this hypothesis are conflicting as well, with empirical evidence both supporting and negating this theory. Numerous studies have shown that while AFS are more prevalent in minority and low-income neighborhoods, this doesn't necessarily signify an absence in traditional banking services (Fowler et al., 2014). Communities tend to contain both banks and AFS. However, this doesn't mean a lack of difference exists in the densities of banks versus AFS in a given neighborhood. Understanding the locational choice of these establishments can help better contextualize the existence of financial exclusion and where the most vulnerable communities are located.

Unbanked and Underbanked in Los Angeles County

For Los Angeles in particular, there is evidence of geospatial patterns in bank and AFS locations with socioeconomic level and racial demographics serving as significant variables. For instance, the majority of South LA banks have a negligible or negative statistical association with Black population (Miller, 2015), meaning that as the Black population increases, there tends to be fewer or no change in banks, but never an increase in bank count. Likewise, an older mapping of financial institutions in Los Angeles shows clustering of different services, with no overlap in the same spaces. AFS were clustered in East LA, West LA, and San Fernando Valley, banks were clustered in Central and Downtown LA, while Credit Unions were clustered in East LA and El Segundo (Miller, 2015). Furthermore, the clusters of AFS hot spots were based in distressed Hispanic areas. The trends observed in Los Angeles reflect the findings from nationwide studies on bank and AFS locations, suggesting race and income level play key roles in the relationship between these institutions and the communities they reside in. Nevertheless, while these findings are significant, the data is outdated.



ANALYSIS

Purpose

Los Angeles is the second-largest metropolitan area in the United States, and is one of the most diverse regions in the nation both racially and socioeconomically. The diversity of this region renders it the perfect subject for a study on the various factors influencing the geographic distribution of banks and AFS.

This study will provide a comprehensive regional analysis of Los Angeles County by creating narrative thick maps to investigate the relationship between census income levels,

racial demographic percentages, historical HOLC grades and location zoning use with the geographic distribution of financial institutions – specifically banks, credit unions, and AFS. Narrative thick maps are digital maps that both display collections of data and share a narrative, effectively collecting, aggregating, and visualizing historical and current matter in a rich storytelling format. This format is particularly useful for showcasing our research as our spatial analysis is accompanied with comprehensive data points used to enrich our findings.

The overall goal of this study is to provide a much-needed update to the visualization of financial exclusion in Los Angeles County and determine where the unbanked and underbanked communities are presently located. The maps will provide critical details on patterns defining the spatial distribution of banks and AFS. This information will serve as a useful tool for policymakers working towards the closing of the exponential wealth gap in this area.

Questions

The study will investigate the following questions:

1. Which racial groups experience the highest access to banks?
2. Which racial groups experience the highest access to AFS?
3. Does socioeconomic status affect proximity to a bank?
4. Does socioeconomic status affect proximity to AFS?
5. Is the spatial void hypothesis valid in Los Angeles County?
Do AFS physically replace the lack of traditional banking service branches?
6. How do the lasting effects of redlining affect the proximity of banks and AFS in a neighborhood?

Methodology

Location Datasets

To extract the listings of all banks located in Los Angeles County, we retrieved a database of all bank branches in the United States provided by the FDIC and filtered by Los Angeles County. The subset for Los Angeles County contained the address of each bank branch location – using this field, we then geocoded all of the banks using the GeoCode by Awesome Table extension on Google Sheets to derive their latitude and longitude. The geocoding process is necessary for compatibility with ArcGIS.

Next, the locations of all credit unions in Los Angeles County were extracted using the SimplyAnalytics business database. We filtered out the data points using the North American Industry Classification System (NAICS) code for “Credit Unions”.

Likewise, the locations of all AFS establishments in Los Angeles County were also extracted using the SimplyAnalytics business database. We filtered out the data points using the NAICS code for “Other Activities Related to Credit Intermediation”, which provides all the businesses categorized as check cashing services, money order issuance services, loan servicing, money transmission services, and payday lending services.

Maps

To create the point data for banks, credit unions, and AFS, the datasets we extracted were converted into CSV files and uploaded into ArcGIS. ArcGIS mapped each establishment using the latitude and longitude coordinates provided in each CSV file.

The feature layer for the HOLC neighborhood grades was sourced from the ArcGIS Living Atlas. The feature layers for Median Income and AMI by census tract as well as Commercial Zones in Los Angeles County were downloaded from the City of Los Angeles GeoHub database. Finally, the feature layer

containing racial demographic information by census tract was borrowed from a publicly available ArcGIS Online Web Map that sourced its data from the 2020 U.S. Census.

To create each individual map in the analysis, different feature layers were combined and manipulated.

Comparative Analysis

We created our own dataset to perform a comparative analysis of racial and socioeconomic groups and their proximity to banks, credit unions, and AFS.

Using ArcGIS Online's Analysis tool, we performed a feature analysis to summarize data, specifically using the Summarize Within function. This calculated the count of our specified establishment within an enclosed area. For the maps analyzing median income and racial demographics, we summarized by census tract. On our map analyzing HOLC grades, we summarized by the HOLC-defined neighborhood tract.

We ran a total of eight analyses:

- AFS Locations within HOLC Neighborhood Redlining Grades
- Bank Locations within HOLC Neighborhood Redlining Grades
- AFS Locations within Census Tract by Median Income
- Bank Locations within Census Tract by Median Income
- Credit Union Locations within Census Tract by Median Income
- AFS Locations within Census Tract by Race
- Bank Locations within Census Tract by Race
- Credit Union Locations within Census Tract by Race

The tables outputted by ArcGIS Online were then exported to Excel. For every analysis, we calculated the density of

establishments per square mile by dividing the count in each tract by the square mile area of each tract.

Likewise, for the datasets analyzing counts within each census tract for race and median income, we also filtered out all the rural census tracts as they skewed the data. Rural tracts were predominantly white, had fewer establishments in general, and covered a larger area, which greatly skewed the density calculation. As a result, we defined the threshold for a suburban tract by both household and population density and kept all tracts that exceeded the threshold in our analysis. We assume any tract exceeding this threshold is either suburban or urban.

Using our chosen typology of suburbia, we defined it as any census tract with a population density greater than 1000 people/square mile or a household density greater than 400 households/square mile (Airgood-Obrycki & Rieger, 2019). We applied the population density threshold to the data containing race and the household density threshold to the data containing median income because these datasets either only contained population count or household count respectively, but not both.

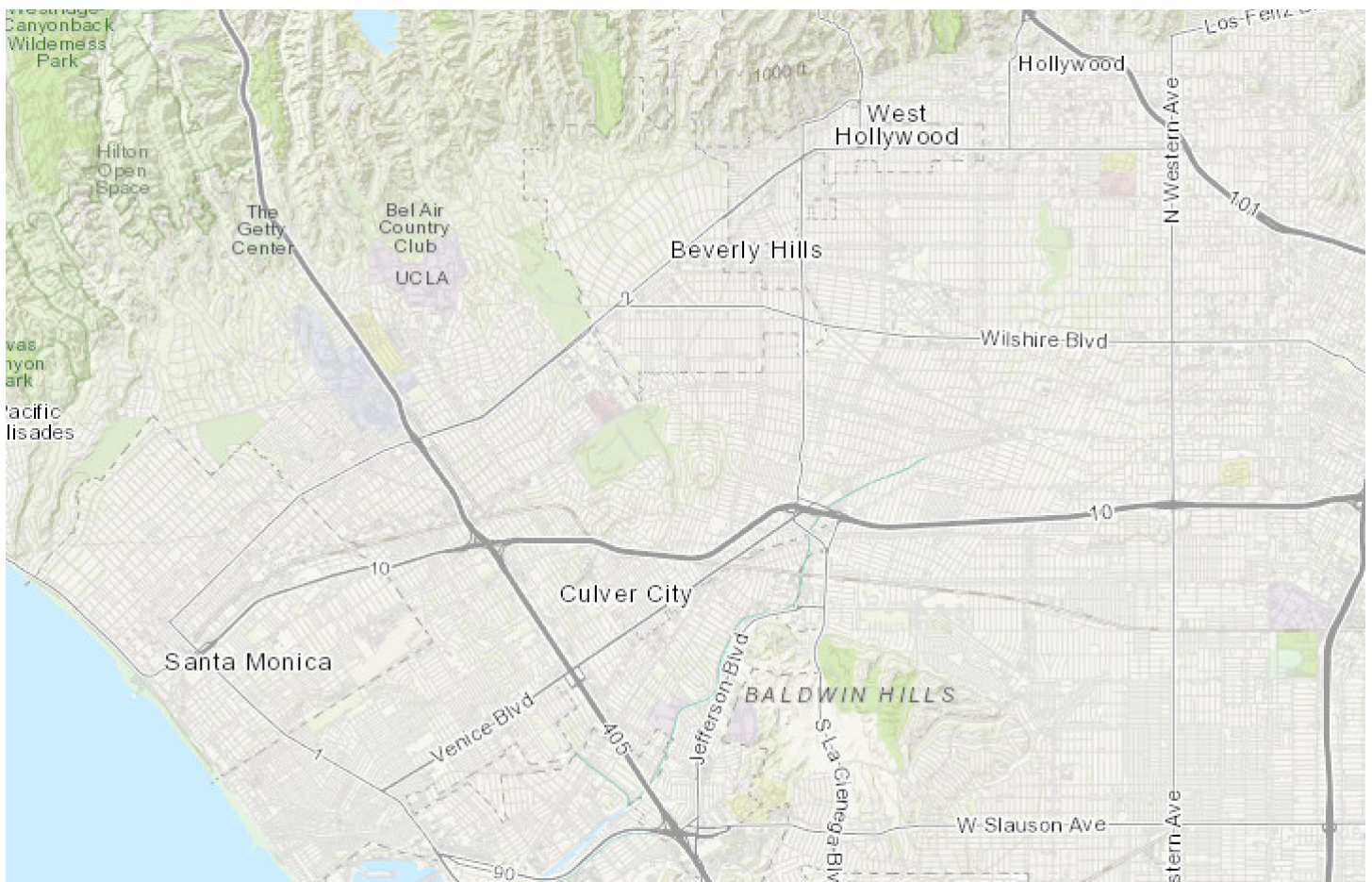
For the datasets investigating racial demographics, we separated the analysis based on the racial majority population of each census tract. Racial majority is defined as any race composing greater than 50% of the population in a given census tract. We looked at majority White, majority Black, majority Asian, and majority Hispanic census tracts.

To derive the tables and charts, we inserted pivot tables on the datasets and found the average density (count/square mile) of the specified establishment for each category. In the dataset analyzing race, the categories are majority White, majority Black, majority Asian, and majority Hispanic. In the dataset analyzing median income, the categories are Extremely Low

Income, Very Low Income, Low Income, Moderate Income, and Above Moderate Income. In the dataset analyzing HOLC grades, the categories were "A", "B", "C", and "D". Likewise, we also included the average count of establishments per neighborhood alongside the average density for the HOLC analysis.

Finally, we compiled the summaries on racial demographics and AMI per census tract to investigate the concentration of establishments by AMI and stratified by race. This way we remove any confounding effects of race or income on our earlier single-variable analyses.

Findings



Bank and Credit Union Distribution by HOLC Neighborhood Grade

We begin by analyzing how historical implications from HOLC redlining affect the present-day proximity of banks and credit unions in neighborhoods across Los Angeles.

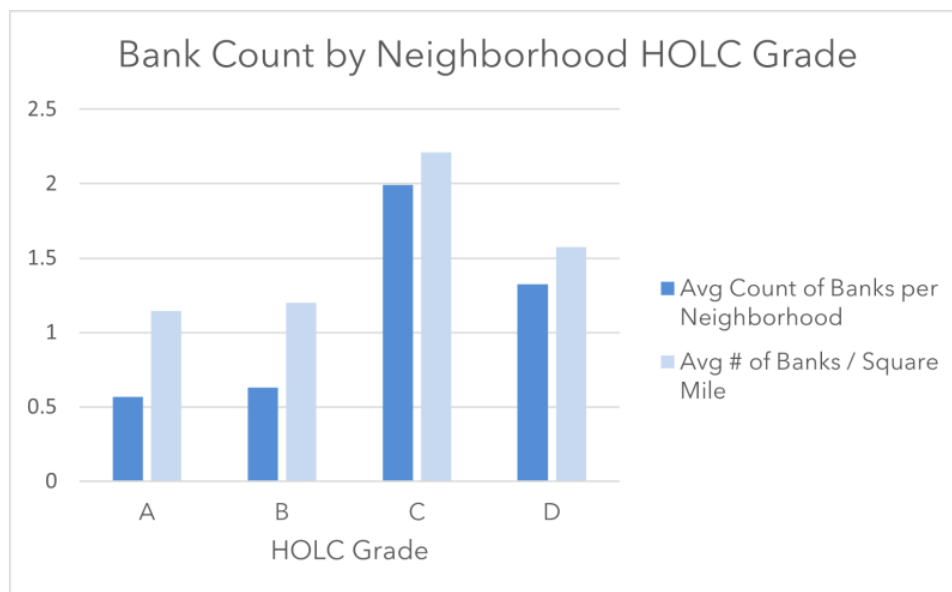


Figure 5.

Based off Figure 5, there doesn't seem to be a positive correlation between HOLC grade and the modern-day prevalence of banks in a neighborhood. In fact, C and D-grade neighborhoods on average have a higher count of banks and density of banks than the better-rated A and B-grade neighborhoods.

AFS Distribution by HOLC Neighborhood Grade

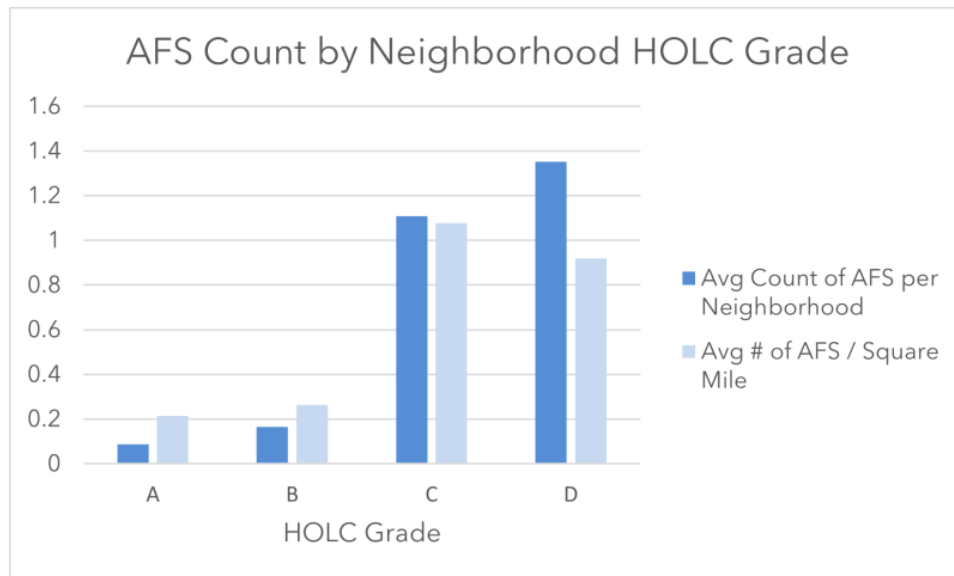


Figure 6.

A stronger relationship is present between HOLC grades and the prevalence of AFS in a neighborhood. Neighborhoods graded lower have a significantly higher average count and density of AFS establishments.

AFS and Bank Locations by HOLC Neighborhood Grades				
Grade	Avg. Count of AFS	Avg. AFS Count / Square Mile	Avg. Count of Banks	Avg. Bank Count / Square Mile
A	0.086	0.215	0.569	1.145
B	0.165	0.263	0.628	1.201
C	1.109	1.078	1.994	2.211
D	1.353	0.918	1.324	1.575

Table 1. Average AFS and Bank Density by HOLC Grade.

It appears the former HOLC redlining grades still has some association with the density of AFS in a given neighborhood,

but not necessarily with the bank count. The relationship with AFS density can be attributed to the lasting effects from redlining. The void created by redlining led to high-cost lenders and contract sellers to push their services in these neighborhoods (Baradaran, 2019). Even following the end of the HOLC era, redlined neighborhoods still experienced a proliferation of AFS. As mentioned earlier, the majority of residents in these neighborhoods are black, a population specifically targeted by subprime lenders in the 1980s (Baradaran, 2019). These factors all led to high density of AFS in formerly "C" and "D"-graded neighborhoods in Los Angeles.

Next, we want to understand how modern-day features of Los Angeles County play a role in the distribution of financial institutions. We start by looking at the locations of all commercially-zoned parcels. Since zoning data is missing for the entirety of Los Angeles County, these maps focus only on the data points for the City of Los Angeles itself. The map displays the aggregate count of establishments for easier visualization. The numbers on the circles refer to that aggregate count.



County of Los Angeles, Bureau of Land Management, Esri, HERE, Garmin,...

3 km Powered by Esri

Banks and Credit Unions vs. Commercial Zones

This map compares the distribution of banks and credit unions in the City of Los Angeles with parcels zoned as Commercial. This allows us to visualize all the potential locations a bank branch is permitted to operate in versus their current spread.



County of Los Angeles, Bureau of Land Management, Esri, HERE, Garmin,...

3 km Powered by Esri

AFS vs. Commercial Zones

This map compares the distribution of AFS in the City of Los Angeles with parcels zoned as Commercial. This allows us to visualize all the potential locations an AFS establishment is permitted to operate in versus their current spread.

From these two maps, it appears that banks, credit unions, and AFS establishments are not evenly dispersed across the City of Los Angeles. These establishments tend to cluster in certain

areas, with many strips of commercially-zoned parcels lacking one or all of these businesses.

Banks are clustered in Downtown Los Angeles, mid-town Los Angeles, and along Venture Blvd. in the San Fernando Valley. There is no significant clustering of Credit Unions, as they are relatively dispersed throughout the city. There is a significant absence of both banks and credit unions from the commercial parcels located in South Los Angeles; large swaths of street fronts lay bare of traditional financial institutions despite being zoned for such businesses. AFS are in scattered clusters in San Fernando Valley and also concentrated in the area just west of Downtown Los Angeles. Likewise, there is a significant absence of AFS in the commercial zones located near Granada Hills, Woodland Hills, Sherman Oaks, and Playa Vista.

To better understand these clustering patterns, we look at Average Median Income (AMI) to determine if income levels in a neighborhood may influence the concentration of financial institutions.

Bank and Credit Union Locations by Census Tract Median Income

This map explores the distribution of banks and credit unions against the AMI per census tract. The goal is to determine if socioeconomic factors influence the density of these establishments.

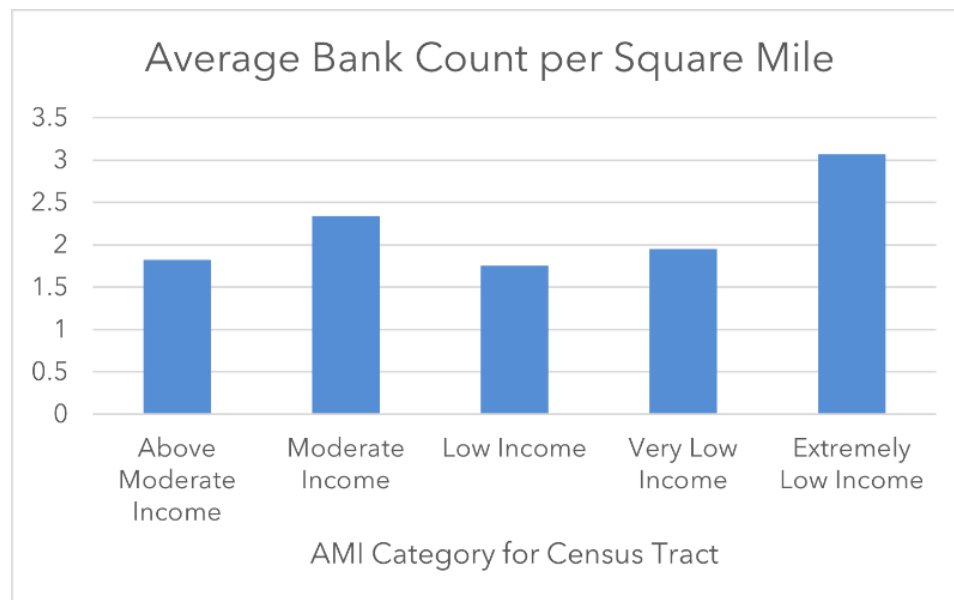


Figure 7.

It appears there is no distinct relationship between the median income level and bank density for a census tract. Looking at Figure 7, census tracts with AMI categorized as Extremely Low Income have the highest average density of banks, while Low Income and Above Moderate Income have roughly the same density. No linear relationship is present between income level and number of banks per square mile.

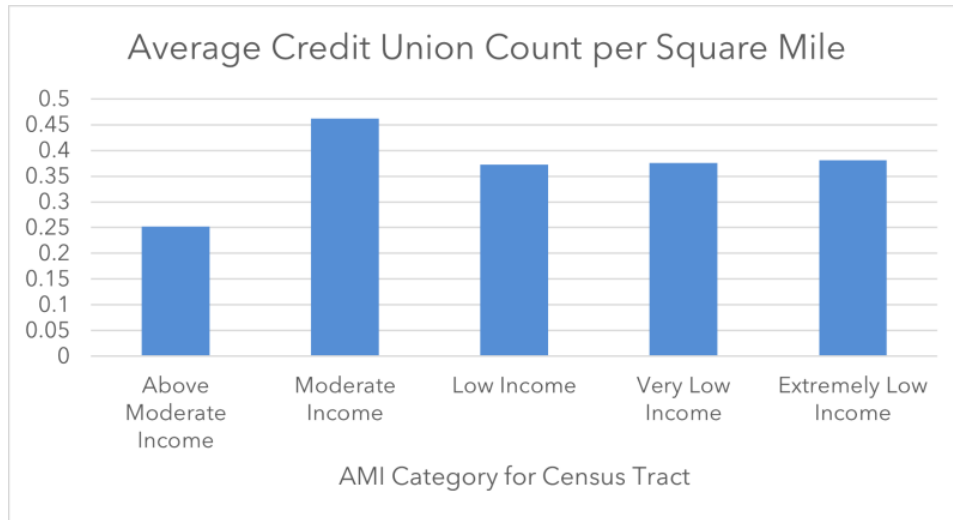


Figure 8.

The same conclusion can be drawn for median income level and credit union density. Once again, there doesn't appear to be a linear relationship between these variables; Above Moderate Income has the lowest density of credit unions per square mile, while Moderate Income has the highest density of credit unions per square mile.

AFS Locations by Census Tract Median Income

This map explores the distribution of AFS establishments against the AMI per census tract. The goal is to determine if socioeconomic factors influence the density of AFS.

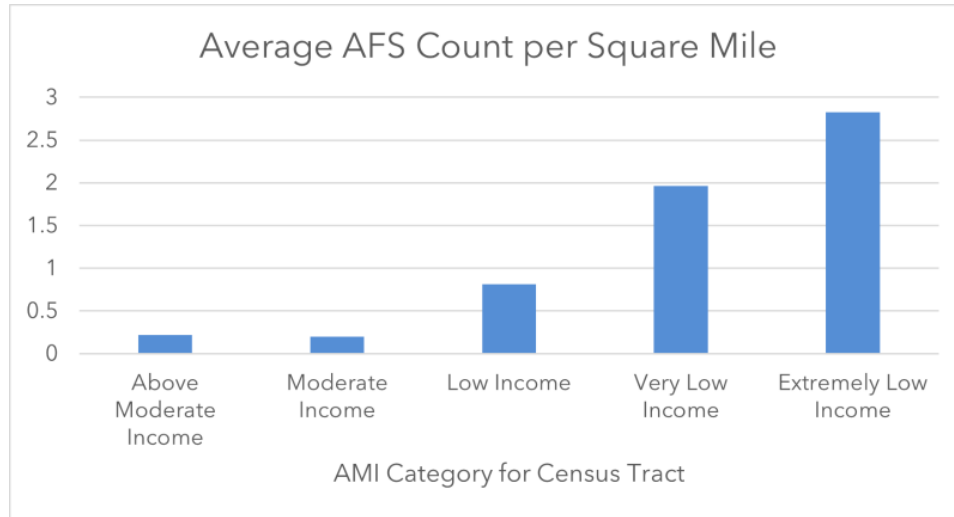


Figure 9.

It seems there is a significant relationship between median income level and the density of AFS in a census tract. A lower median income level is associated with a growth in AFS density.

Census Tract Median Income			
AMI Category	Avg. Bank Count / Square Mile	Avg. Credit Union Count / Square Mile	Avg. AFS Count / Square Mile
Above Moderate	1.822	0.252	0.217
Moderate	2.343	0.462	0.197
Low	1.756	0.372	0.811
Very Low	1.951	0.375	1.964
Extremely Low	3.071	0.381	2.825

Table 2. Average Establishment Density by Census Tract AMI.

Median income only seems to have a correlation with the density of AFS in Los Angeles County, but not with banks and credit unions. It is interesting to note that higher median income levels are associated with lower concentrations of AFS.

This relates to our findings from the HOLC analysis, as even historically wealthier areas have much lower concentrations of AFS. The results from Los Angeles County reflect the studies performed on other medium to large cities in the United States: AFS tend to proliferate low- and moderate- income communities due to the high utilization rate of customers – AFS patrons deliberately avoid mainstream banks because of the perception of higher fees they charge the poor (Faber, 2019). The numbers also confirm findings from 2002 by the Fannie Mae Foundation in which they stated most AFS providers per capita are found in census tracts that are disproportionately poor (Sawyer & Temkin, 2002).

However, the presence of AFS in poorer areas doesn't necessitate the complete absence of banks and credit unions in Los Angeles County. As seen in Table 3, despite having the highest density of AFS, census tracts categorized as Extremely Low Income also have the highest density of banks. Likewise, for Very Low Income and Low Income, even though they have a significantly higher concentration of AFS, their average concentrations of banks and credit unions aren't drastically lower than neighborhoods with higher income levels.



County of Los Angeles, California State Parks, Esri, HERE, Garmin, SafeGr...

3 km Powered by Esri

Bank and Credit Union Locations by Census Tract Racial Demographics

This map explores the point density of racial demographics and the distribution of banks and credit unions. By using a point density map to show race, this allows for a more nuanced investigation as we are not restricted to the arbitrary boundaries of a census tract.

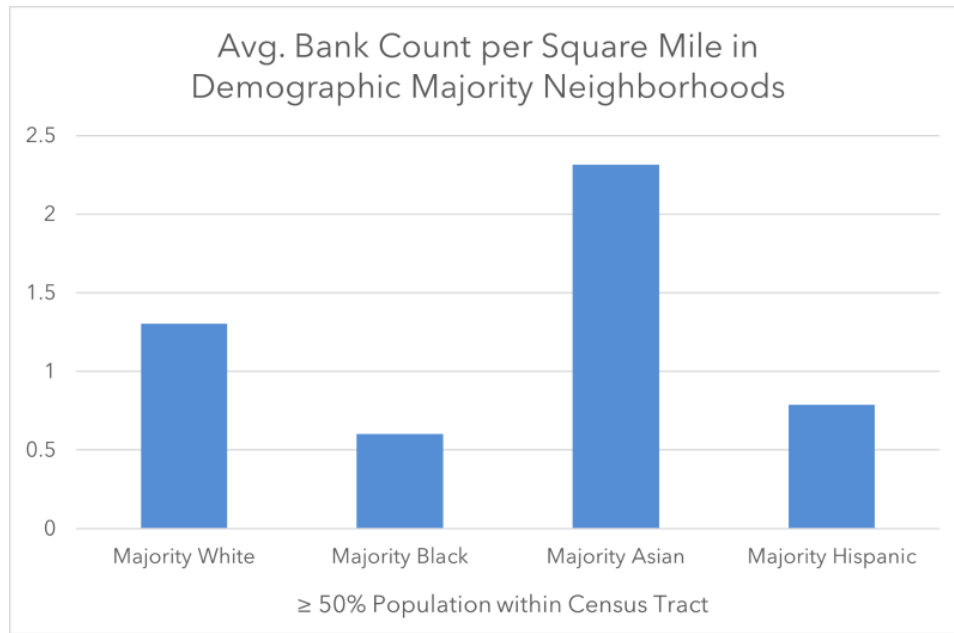


Figure 10.

The average bank density is lowest in census tracts that are either a majority Black or majority Hispanic. Bank density is significantly higher in census tracts that are majority Asian.

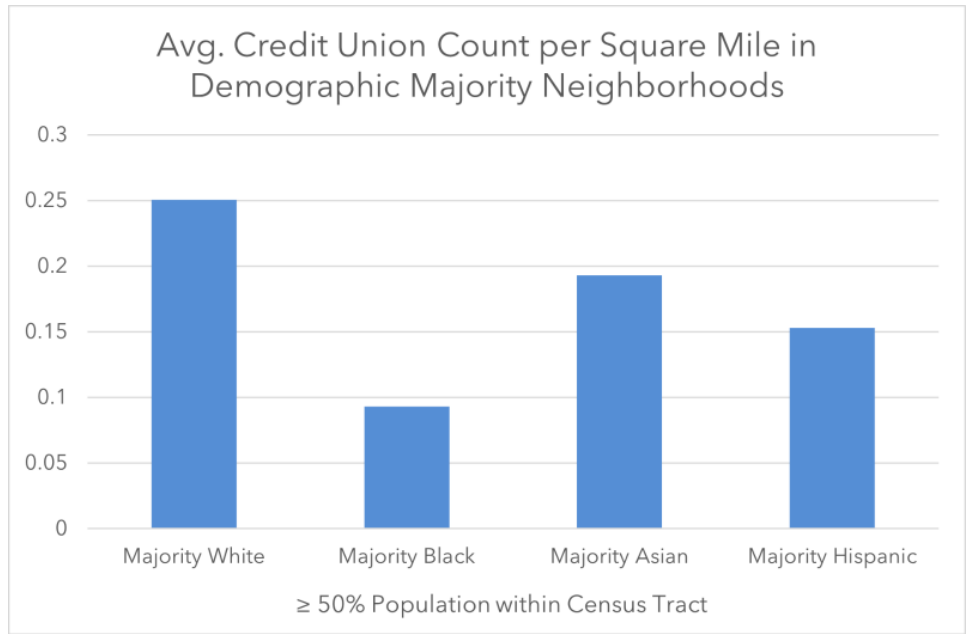
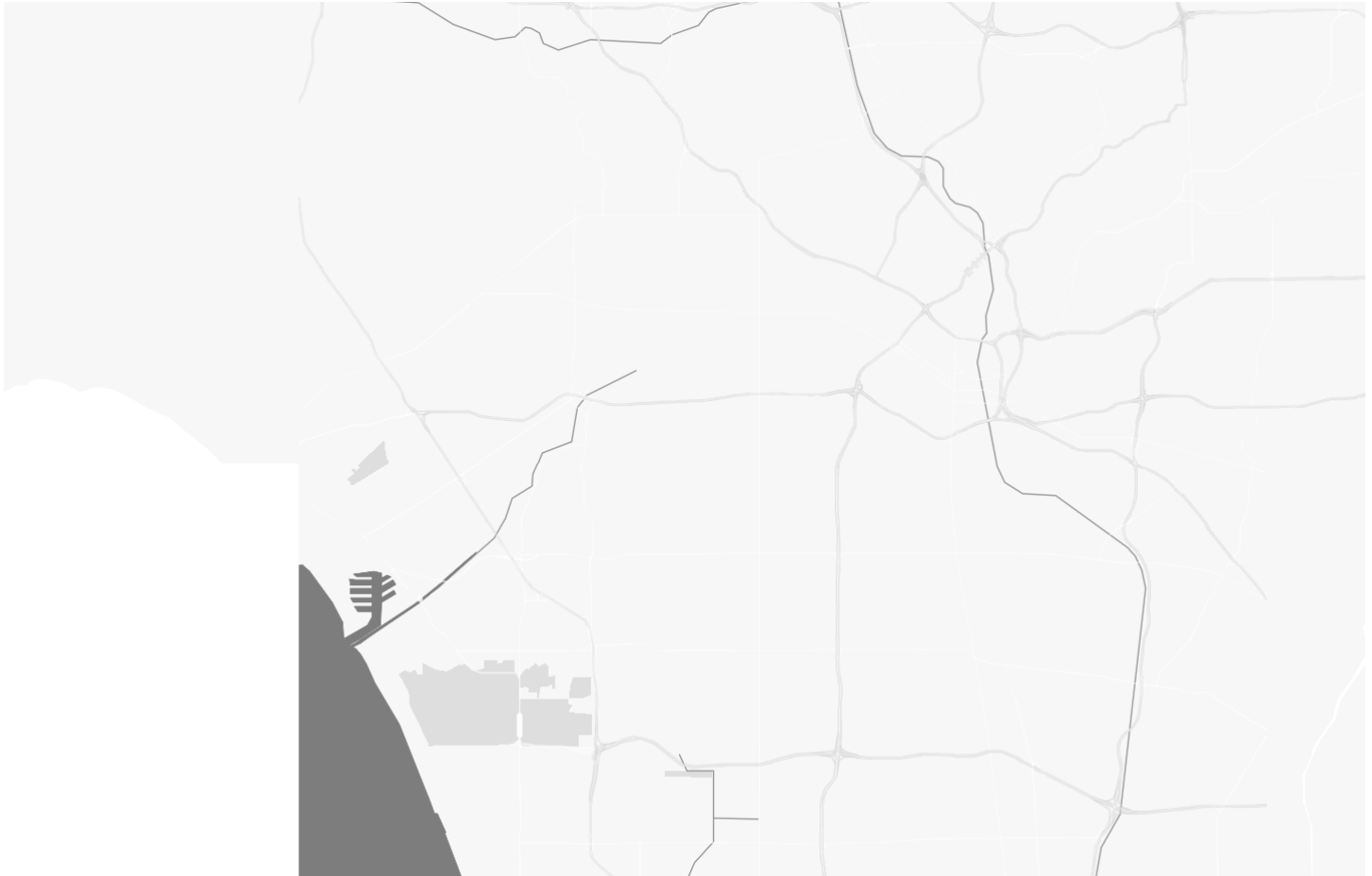


Figure 11.

The average credit union density is also lowest in census tracts that are majority Black or majority Hispanic. Credit Union density is highest in census tracts that are majority White.



County of Los Angeles, California State Parks, Esri, HERE, Garmin, SafeGr...

6 km Powered by Esri

AFS Locations by Census Tract Racial Demographics

This map explores the point density of racial demographics and the distribution of AFS establishments.

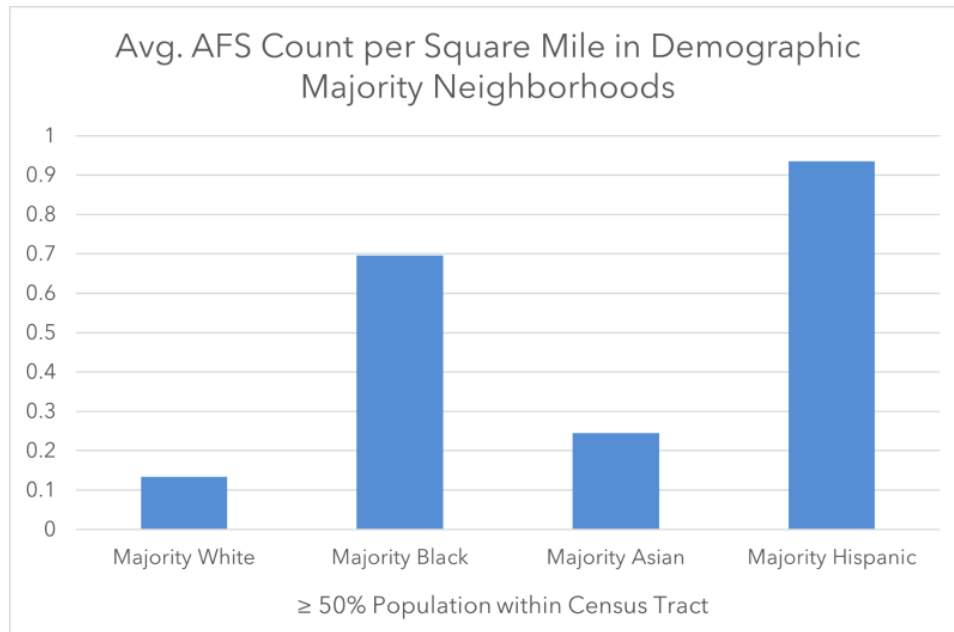


Figure 12.

The average AFS density is the greatest in census tracts that are majority Black and majority Hispanic, with a stark difference between these densities and the densities for census tracts that are majority White and majority Asian.

Census Tract Racial Demographics			
Racial Majority	Avg. Bank Count / Square Mile	Avg. Credit Union Count / Square Mile	Avg. AFS Count / Square Mile
White	1.302	0.250	0.134
Black	0.603	0.093	0.696
Asian	2.314	0.193	0.244
Hispanic	0.789	0.153	0.935

Table 3. Average Establishment Density by Census Tract Racial Demographics.

When examining race as the single factor, there is a strong relationship between racial demographics of a neighborhood and the concentration of banks, credit unions, and AFS establishments in Los Angeles County. On average, non-white

neighborhoods have a much lower concentration of credit unions, and a disproportionately high number of AFS when compared to white-majority neighborhoods. For neighborhoods that are majority Black or Hispanic in particular, they have more than 5x the concentration of AFS than primarily white neighborhoods and roughly 0.5x the concentration of banks.

Based off this analysis of Los Angeles County, it appears AFS disproportionately proliferate communities of color while banks seem to lacking in Black and Hispanic-majority neighborhoods. This specific finding partially confirms the existence of spatial void hypothesis for Black and Hispanic communities in Los Angeles County. The drastic disparity in the average concentrations of AFS versus banks in these communities suggests that the AFS filled into the voids left by banks in these areas. In fact, the average AFS count outnumbered average bank count per square mile in these neighborhoods.

Contextualizing Socioeconomic Disparity

Race	AMI Category	Census Tract Count	Avg. Bank Count/Square Mile	Avg. Credit Union Count/Square Mile	Avg. AFS Count/Square Mile
Hispanic					
	Above Moderate Income	39	0.396	0.052	0.175
	Moderate Income	2	0.000	0.000	0.000
	Low Income	437	0.659	0.223	0.823
	Very Low Income	545	1.040	0.205	2.102
	Extremely Low Income	88	1.593	0.224	3.350
Overall Hispanic Average			0.910	0.208	1.627
White					
	Above Moderate Income	289	2.058	0.291	0.216
	Moderate Income	10	3.405	0.781	0.105
	Low Income	148	3.784	0.504	0.364
	Very Low Income	37	3.664	1.119	1.035
	Extremely Low Income	5	0.000	0.000	1.041
Overall White Average			2.707	0.423	0.337
Black					
	Above Moderate Income	5	0.315	0.000	0.533
	Moderate Income	2	0.000	0.000	0.659
	Low Income	20	0.488	0.083	0.778
	Very Low Income	10	1.920	0.000	0.831
	Extremely Low Income	4	2.080	0.000	2.842
Overall Black Average			0.948	0.040	0.956
Asian					
	Above Moderate Income	39	1.340	0.224	0.097
	Moderate Income	1	0.000	0.000	0.000
	Low Income	56	3.727	0.473	0.554
	Very Low Income	26	5.655	0.536	1.195
	Extremely Low Income	2	23.709	4.114	0.000
Overall Asian Average			3.673	0.463	0.531

Table 5. Average Establishment Density by Census Tract Racial Majority and AMI.

In this table we compare both average concentrations of banks, credit unions, and AFS for race and median income per census tract to remove any confounding effects these variables had on one another in the single-variable analyses. From the chart, it appears regardless of average median income, majority-White neighborhoods have much higher densities of banks per square mile than majority-Black and majority-Hispanic neighborhoods. At almost every individual AMI level, majority-White neighborhoods have significantly higher concentrations of banks except at the Extremely Low Income level. This may be due to the small number of majority-White census tracts included in the analysis. When looking at bank density trends in AMI levels across races, there doesn't seem to be a positive linear relationship between median income level and bank concentration per square mile. For all races, there appears to be a negative linear relationship, with the lower income census tracts containing higher density of banks.

Similar findings are present for credit union density, with majority-White tracts at almost individual AMI level except

Extremely Low Income having a much higher concentration of credit unions per square mile than majority-Black and majority-Hispanic census tracts. Likewise, for all races, lower income census tracts tend to contain higher concentrations of credit unions per square mile.

Finally, majority-Hispanic and majority-Black neighborhoods have more than 3x the overall concentration of AFS per square mile when compared to majority-White census tracts. However, when looking at individual AMI levels, majority-White neighborhoods only have lower AFS concentrations than majority-Hispanic, majority-Asian, and majority-Black tracts together at the Low Income level, and lower AFS concentrations than majority-Hispanic and majority-Black at the Extremely Low Income level. Otherwise, at the Very Low Income level, majority-Black neighborhoods on average have a lower concentration of AFS than majority-White neighborhoods.

This analysis also pinpoints the specific census tracts where spatial void hypothesis is valid. For majority-Hispanic Very Low Income and Extremely Low Income and majority-Black Extremely Low Income, the densities of AFS is much higher than the densities of banks on a per square mile basis.





Various Bank Branches in Los Angeles County

CONCLUSION

This mapping study reveals the presence of racial and socioeconomic factors in the distribution of banks, credit unions, and AFS across Los Angeles County. Significant disparities are present in the access to the regulated banking industry versus the unregulated banking industry for various communities. AFS are disproportionately concentrated in low-income census tracts as well as census tracts that are majority non-white. The average concentration of banks is also significantly lower in majority-Hispanic and majority-Black census tracts.

When looking at the commercial zones in which banks cluster in, these areas are primarily White, while the commercial zones in which AFS cluster in are primarily non-White. Furthermore, we can observe partial validity of the spatial void hypothesis in Los Angeles County; the average AFS density in Extremely Low Income Black-majority and Hispanic-majority neighborhoods is higher than the average bank density, meaning AFS establishments outnumber bank branches on a per square mile basis.

These findings suggest low-income and minority communities are most susceptible to financial exclusion in Los Angeles County. Not only are low-income and minority communities disproportionately saturated with predatory financial establishments, they also have a much lower concentration of banks within a mile radius. Low-income and minority residents are predisposed to worse banking conditions in their neighborhoods – this phenomenon drives them into using a costly cycle of unregulated financing. The very foundation of building wealth is skewed. Inequitable access to banking in Los Angeles County is driving the ever-widening wealth gap in this region.

The results from our mapping study of Los Angeles County reveals critical new information about access to financial services in the second-largest metropolitan region in the United States. Not only do these discoveries align with previous studies on other cities across the United States, but it also adds additional context on the prevalence of racial and socioeconomic factors on the concentrations of banks and AFS.

Limitations

There are slight limitations to our analysis. First, for our comparative analysis when stratifying by race and median income, some demographic groups are represented by only a few census tracts, while others are represented by hundreds. This means that our method of using averages to compare densities may be strongly influenced by outliers in our demographic groups with a smaller quantity of census tracts. Likewise, our data relies on government census data and business licensing data that are periodically updated, meaning the outcomes of our analysis are subject to small fluctuations when compared to reality.

Next Steps

Much work still needs to be done to address the inequities in the banking system. As seen from our analysis, the availability of banking products is not consistent in all communities. Statistics from Chase Bank loan rejections as recent as 2020 show that only 11% of residents in majority-White neighborhoods in Los Angeles are rejected, while 23.27% would-be borrowers in majority-Black neighborhoods and 14% from predominantly Latino neighborhoods are denied (Urevich, 2022).

The City of Los Angeles and the County of Los Angeles both have launched initiatives to address these issues. The Los Angeles City Council adopted responsible banking laws in 1992, then strengthened them in 2012 and 2018 (Urevich, 2022). These laws were meant to crack down on banks with predatory lending practices, but have been poorly implemented and maintained. Likewise, the County of Los Angeles runs a BankOn coalition, which works with banks and credit unions to provide low-cost checking accounts. Benefits include free check cashing, free and unrestricted customer service, free online and mobile banking, less than \$25 minimum opening deposit, and no overdraft fees (DCBA). However, this program isn't very well advertised and accessible to the communities who most need it.

In order to open a BankOn account, individuals must call banks from a list of BankOn partner branches and schedule an appointment to open an account. This method places the burden upon the customer to do the heavy lifting. Likewise, only three documented BankOn outreach events could be found in Los Angeles County: a 2018 event series called Summer Saturdays hosted by the CFE held over 2 Saturdays, inviting BankOn financial institution partners to directly chat with consumers and start the process of opening a bank account (SCVNews.com, 2018), and a 2021 online workshop held by the Los Angeles Public Library. The lack of outreach

events highlights the neglect placed towards BankOn by Los Angeles County.

Furthermore, the 2021 Annual BankOn report revealed that BankOn California has largely gone dormant due to a lack of funding and collaboration with financial institutions (Castro Ramirez & Shultz, 2021). Clearly, BankOn is in dire need of support, and rigorous outreach is needed to notify all the community members who can benefit from BankOn.

The flyer is divided into three main vertical sections. The left section, titled 'GET BANKED IN L.A. COUNTY!', provides a three-step guide: 1. See the list of checking accounts available to you online and choose a bank or credit union that best fits your needs. 2. Call the bank or credit union you've selected and ask questions about their services. For sample questions, visit dcba.lacounty.gov. 3. Before signing for your new account, read all the terms and conditions. If there is something you don't understand, ask the representative questions. Never sign something you don't understand. Below the steps are icons for 'AN INITIAL DEPOSIT', 'A BILL WITH YOUR NAME AND ADDRESS', and 'A FORM OF IDENTIFICATION'. The middle section, titled 'NEED HELP UNDERSTANDING THE BENEFITS OF BANKING OR WANT TO DISCOVER MORE WAYS YOU CAN GIVE YOUR MONEY A PURPOSE?', directs users to visit dcba.lacounty.gov for Los Angeles County's Center for Financial Empowerment's Resource Guide. It also features an image of a 'GET BANKED 2021' guide and a Twitter follow prompt for @LACountyCFE. The right section features the 'BankOn Los Angeles County' logo and the slogan 'YOUR MONEY IS WORTH PROTECTING. BANK ON IT.' Below this is an image of a woman and a man interacting at a counter. At the bottom, the 'LOS ANGELES COUNTY CONSUMER & BUSINESS AFFAIRS CENTER FOR FINANCIAL EMPOWERMENT' logo is displayed, along with a list of Board of Supervisors members by district: Hilda L. Solis (First District), Mark Ridley-Thomas (Second District), Shelia Kuehl (Third District), Janice Hahn (Fourth District), and Kathryn Barger (Fifth District).

Bank On Flyer. (Los Angeles County Department of Consumer & Business Affairs, 2023).

See Appendix for maps created from our analysis revealing the specific census tracts with a lack of banks or an overabundance of AFS, separated by both their majority racial group and AMI categories. This study specifically highlights tracts with a bank density below the 25th percentile of the overall county density (0 banks per square mile), and AFS density above the 75th percentile of the overall county density (more than 0 AFS per square mile). Areas shaded with Magenta represent bank deserts and AFS-saturated census tracts.

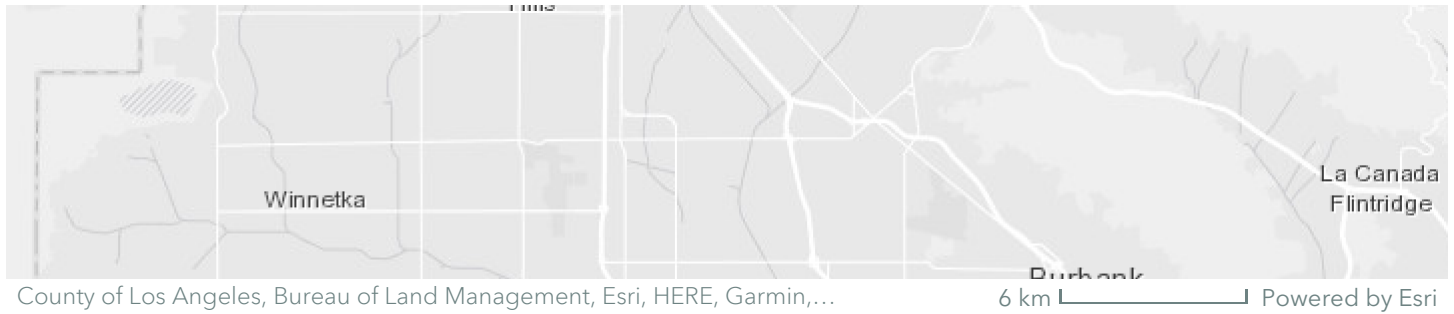
With this mapping analysis, nonprofit coalitions and BankOn program managers can identify communities that are oversaturated with predatory financial institutions and perform grassroots outreach to share the benefits of banking with BankOn. Likewise, participating banks with the BankOn program can utilize the spatial data to understand communities where their presence can be increased or improved. Increasing participant count in the BankOn program is just a small step in closing the wealth gap, but can initiate ripple-wave effects in the communities in which the change does occur.

The narrative thick maps offer a powerful tool for analyzing and visualizing these patterns of financial exclusion, providing a useful framework for policymakers and researchers to address financial inequality and improve access to financial services for underserved communities.



APPENDIX

A. Bank Deserts by Census Tract AMI Category



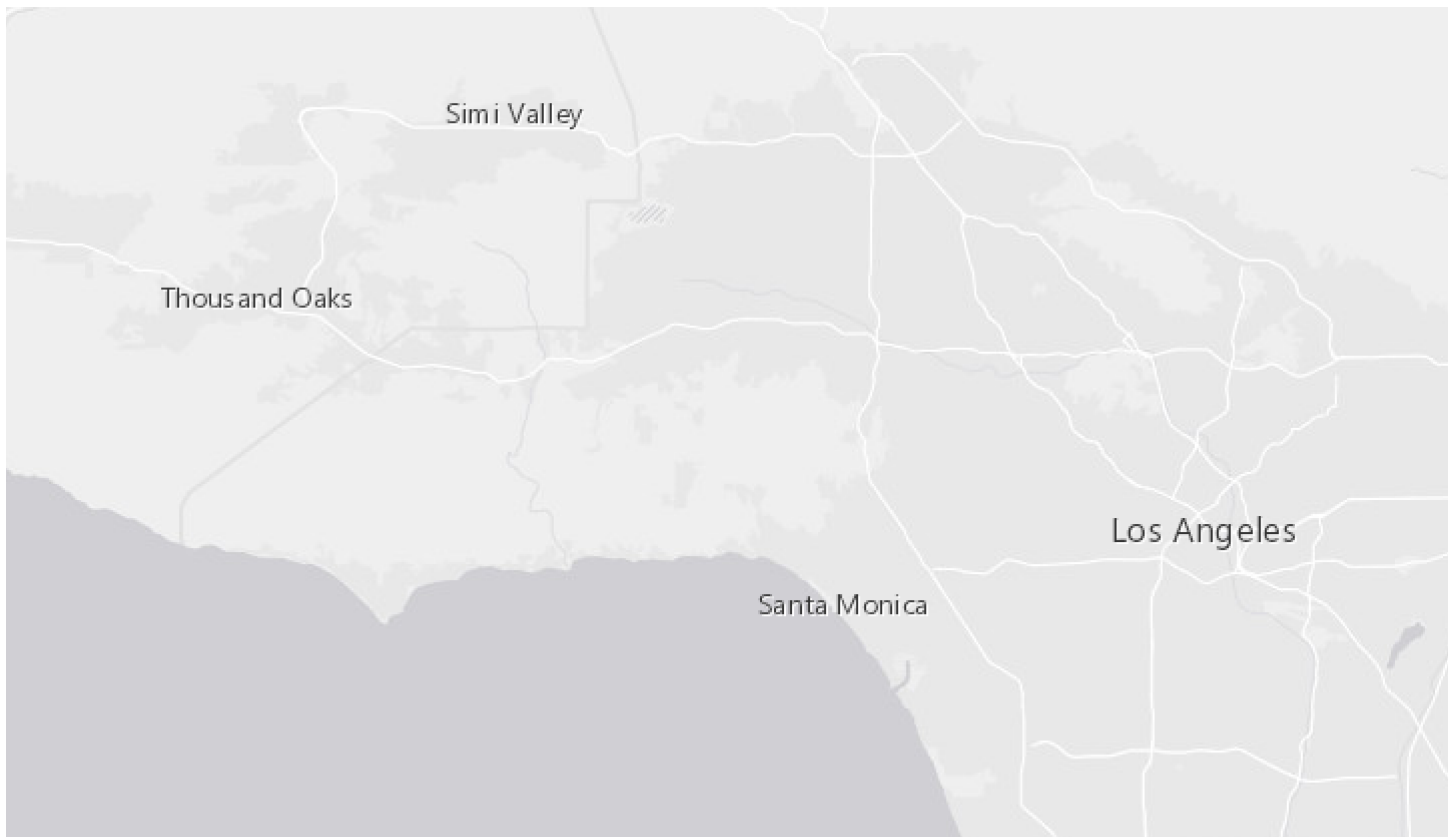
Bank Deserts in Extremely Low Income Census Tracts.

Light blue shading represents tracts in AMI category with sufficient bank density. Magenta shading represents tracts with 0 banks/square mile.

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Bank Deserts in Very Low Income Census Tracts.

Light blue shading represents tracts in AMI category with sufficient bank density. Magenta shading represents tracts with 0 banks/square mile.



Esri, HERE, Garmin, USGS, EPA, NPS | Esri, HERE, NPS

10 km  Powered by Esri

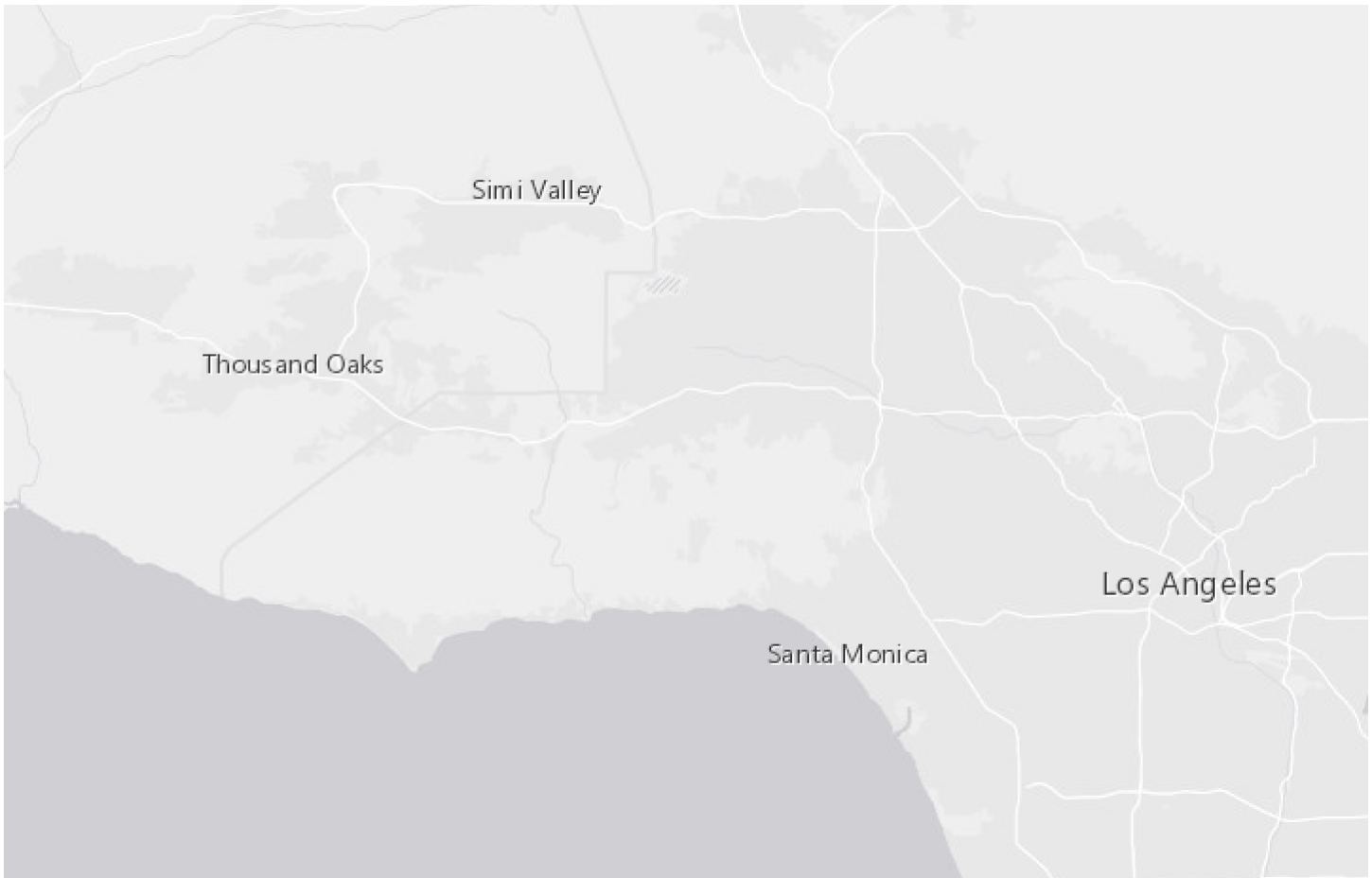
Bank Deserts in Low Income Census Tracts.

Light blue shading represents tracts in AMI category with sufficient bank density. Magenta shading represents tracts with 0 banks/square mile.

10 km  Powered by Esri

Bank Deserts in Moderate Income Census Tracts.

Light blue shading represents tracts in AMI category with sufficient bank density. Magenta shading represents tracts with 0 banks/square mile.



Esri, HERE, Garmin, USGS, EPA, NPS | Esri, HERE, NPS

10 km  Powered by Esri

Bank Deserts in Above Moderate Income Census Tracts.

Light blue shading represents tracts in AMI category with sufficient bank density. Magenta shading represents tracts with 0 banks/square mile.

B. Bank Deserts by Census Tract Majority Demographic

10 km  Powered by Esri

Bank Deserts in Majority Hispanic Census Tracts.

Light blue shading represents tracts in AMI category with sufficient bank density. Magenta shading represents tracts with 0 banks/square mile.

Powered by Esri

Bank Deserts in Majority White Census Tracts.

Light blue shading represents tracts in AMI category with sufficient bank density. Magenta shading represents tracts with 0 banks/square mile.

Powered by Esri

Bank Deserts in Majority Black Census Tracts.

Light blue shading represents tracts in AMI category with sufficient bank density. Magenta shading represents tracts with 0 banks/square mile.

Powered by Esri

Bank Deserts in Majority Asian Census Tracts.

Light blue shading represents tracts in AMI category with sufficient bank density. Magenta shading represents tracts with 0 banks/square mile.

C. AFS-Saturated Census Tracts by AMI Category

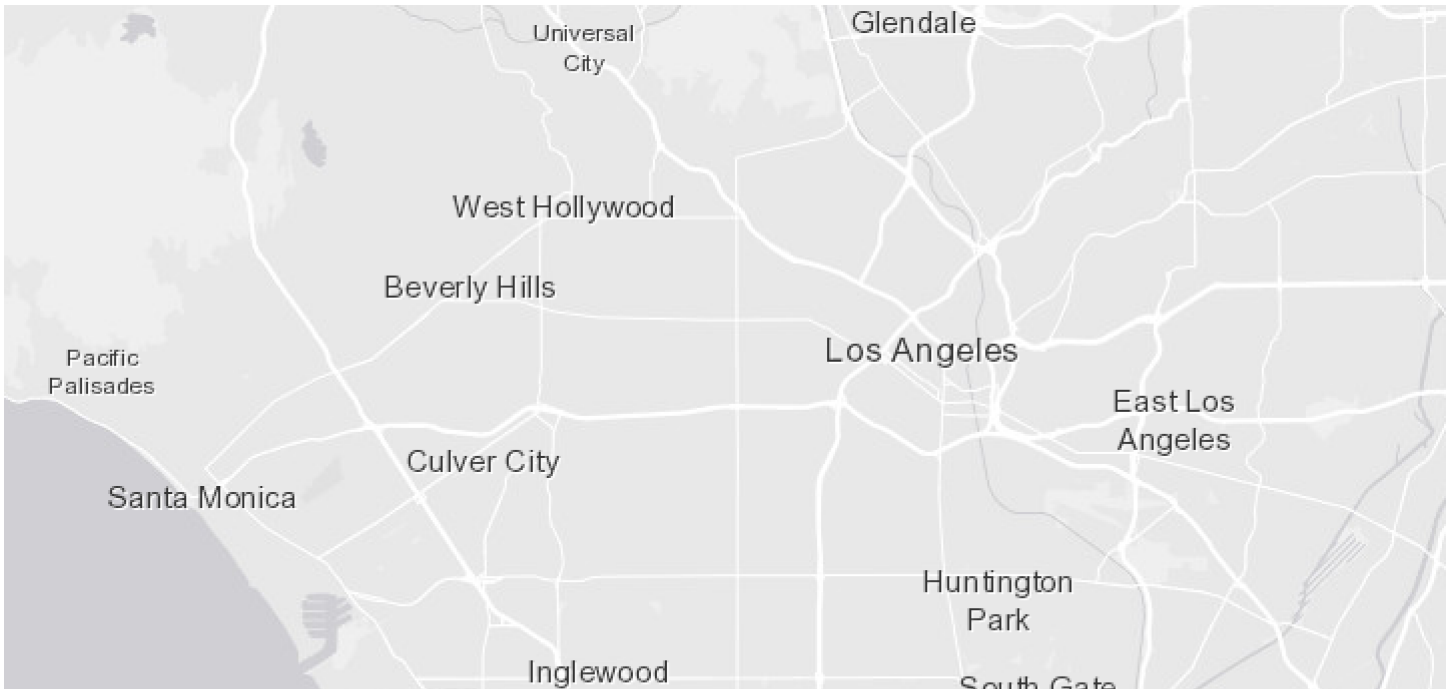
6 km  Powered by Esri**AFS Saturation in Extremely Low Income Census Tracts.**

Light blue shading represents tracts in AMI category with 0 AFS/square mile. Magenta shading represents tracts with more than 0 AFS/square mile.

Powered by Esri

AFS Saturation in Very Low Income Census Tracts.

Light blue shading represents tracts in AMI category with 0 AFS/square mile. Magenta shading represents tracts with more than 0 AFS/square mile.

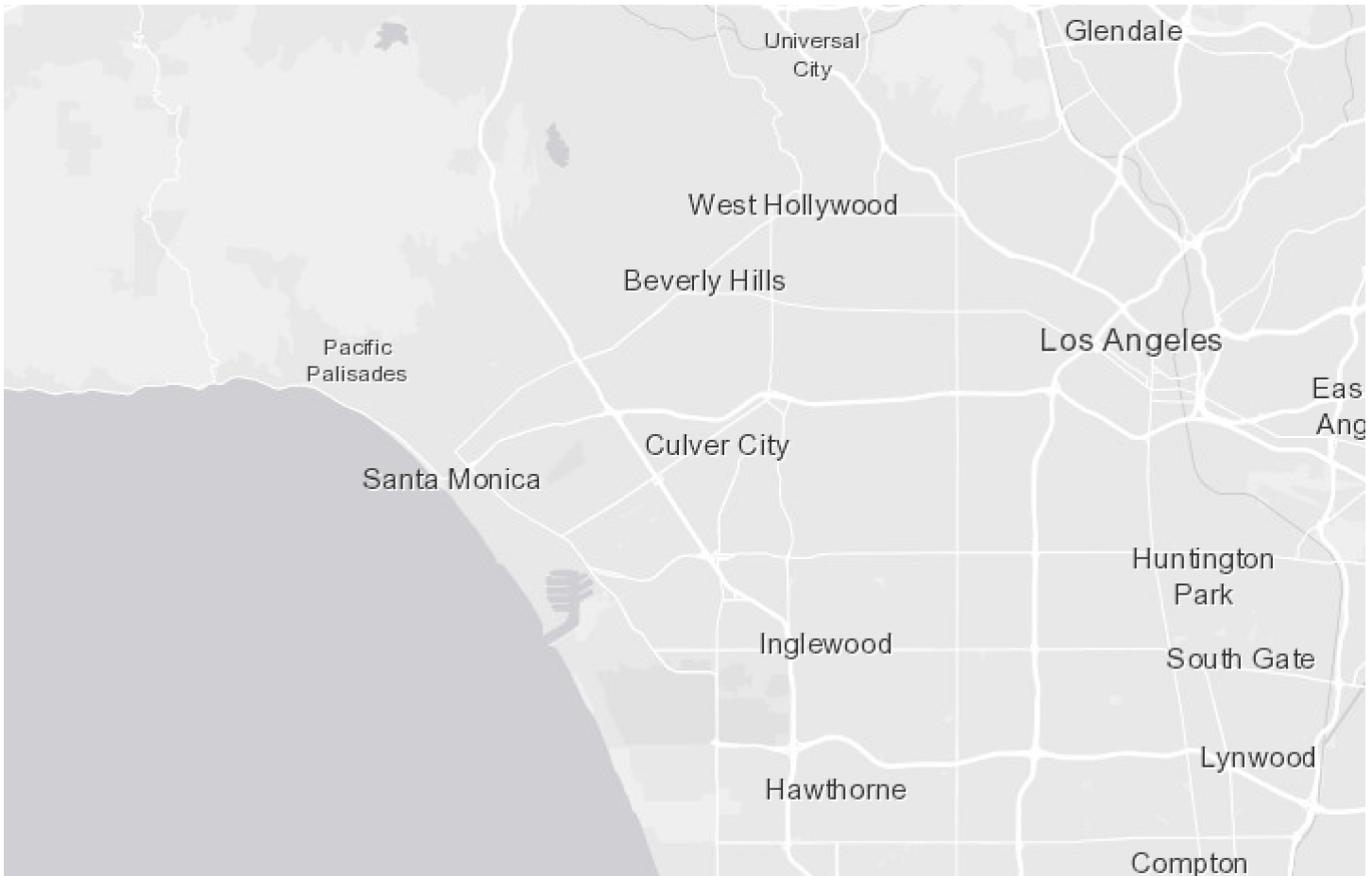


County of Los Angeles, Bureau of Land Management, Esri, HERE, Garmin,...

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AFS Saturation in Low Income Census Tracts.

Light blue shading represents tracts in AMI category with 0 AFS/square mile. Magenta shading represents tracts with more than 0 AFS/square mile.



County of Los Angeles, Bureau of Land Management, Esri, HERE, Garmin,...

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AFS Saturation in Moderate Income Census Tracts.

Light blue shading represents tracts in AMI category with 0 AFS/square mile. Magenta shading represents tracts with more than 0 AFS/square mile.

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AFS Saturation in Above Moderate Income Census Tracts.

Light blue shading represents tracts in AMI category with 0 AFS/square mile. Magenta shading represents tracts with more than 0 AFS/square mile.

D. AFS-Saturated Census Tracts by Majority Demographic

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AFS Saturation in Majority Hispanic Census Tracts.

Light blue shading represents tracts in AMI category with 0 AFS/square mile. Magenta shading represents tracts with more than 0 AFS/square mile.

6 km 

AFS Saturation in Majority White Census Tracts.

Light blue shading represents tracts in AMI category with 0 AFS/square mile. Magenta shading represents tracts with more than 0 AFS/square mile.

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AFS Saturation in Majority Black Census Tracts.

Light blue shading represents tracts in AMI category with 0 AFS/square mile. Magenta shading represents tracts with more than 0 AFS/square mile.

6 km  Powered by Esri

AFS Saturation in Majority Asian Census Tracts.

Light blue shading represents tracts in AMI category with 0 AFS/square mile. Magenta shading represents tracts with more than 0 AFS/square mile.



SOURCES

Airgood-Obrycki, W., & Rieger, S. (2019). *Defining Suburbs: How Definitions Shape the Suburban Landscape*. Joint Center for Housing Studies.

https://www.jchs.harvard.edu/sites/default/files/Harvard_JCHS_Airgood-Obrycki_Rieger_Defining_Suburbs.pdf

Alternative Financial Services: A Primer. (2009). FDIC Quarterly, 3(1), 39–47. <https://www.fdic.gov/analysis/quarterly-banking-profile/fdic-quarterly/2009-vol3-1/fdic140-quarterlyvol3no1-afs-final.pdf>

Antonelli, W. (2021, October 11). *It can take years for Google Maps to update certain features — here's how they get the data to update Street View, traffic, and more*. Business Insider.

<https://www.businessinsider.com/guides/tech/how-often-does-google-maps-update>

Bank Access Report. (2021). American Bankers Association.
<https://www.aba.com/news-research/research-analysis/bank-access-report>

BankFind Suite: API for Data Miners & Developers. (2023). FDIC.
Retrieved March 1, 2023, from
<https://banks.data.fdic.gov/docs/>

Barcellos, S. H., & Zamarro, G. (2019). *Unbanked status and use of alternative financial services among minority populations*. *Journal of Pension Economics and Finance*, 20(4), 1–14.
<https://doi.org/10.1017/s1474747219000052>

Baradaran, M. (2019). *The Color of Money : Black Banks and the Racial Wealth Gap*. The Belknap Press Of Harvard University Press.

Berre, S., Blickle, K., & Chakrabarti, R. (2021, June 30). *Banking the Unbanked: The Past and Future of the Free Checking Account*. Liberty Street Economics.
<https://libertystreeteconomics.newyorkfed.org/2021/06/banking-the-unbanked-the-past-and-future-of-the-free-checking-account/>

Birkenmaier, J., & Fu, Q. (2017). *Household Financial Access and Use of Alternative Financial Services in the U.S.: Two Sides of the Same Coin?* *Social Indicators Research*, 139(3), 1169–1185.
<https://doi.org/10.1007/s11205-017-1770-6>

Boel, P., & Zimmerman, P. (2022). *Unbanked in America: A Review of the Literature*. *Economic Commentary*, 2022-07.
<https://doi.org/10.26509/frbc-ec-202207>

Castro Ramírez, L. M., & Shultz, C. S. (2021). *BankOn California*. California Department of Financial Protection and Innovation.
<https://dfpi.ca.gov/wp->

content/uploads/sites/337/2022/02/BankOn-California-Report-2021.pdf?emrc=afc73b

County Launches "BankOn" Family Financial Education Program. (2018, July 27). SCVNews.com. <https://scvnews.com/county-launches-bankon-family-financial-education-program/>

Cover, J., Fuhrman Spring, A., & Garshick Kleit, R. (2011). *Minorities on the Margins? The Spatial Organization of Fringe Banking Services.* *Journal of Urban Affairs*, 33(3), 317–344. <https://doi.org/10.1111/j.1467-9906.2011.00553.x>

Creamer, J., & Warren, L. (2022). *Unbanked and Impoverished? Exploring Banking and Poverty Interactions over Time.* U.S. Census Bureau. <https://www.census.gov/content/dam/Census/library/working-papers/2022/demo/sehsd-wp2022-16.pdf>

Davidson, C. (2018, October 16). *Lack of Access to Financial Services Impedes Economic Mobility.* *Federal Reserve Bank of Atlanta.* <https://www.atlantafed.org/economy-matters/community-and-economic-development/2018/10/16/lack-of-access-to-financial-services-impedes-economic-mobility>

Faber, J. W. (2019). *Segregation and the Cost of Money: Race, Poverty, and the Prevalence of Alternative Financial Institutions.* *Social Forces*, 98(2), 819–848. <https://doi.org/10.1093/sf/soy129>

Faber, J. W., & Friedline, T. (2020). *The Racialized Costs of "Traditional" Banking in Segregated America: Evidence from Entry-Level Checking Accounts.* *Race and Social Problems*, 12. <https://doi.org/10.1007/s12552-020-09296-y>

Fowler, C. S., Cover, J. K., & Kleit, R. G. (2014). *THE GEOGRAPHY OF FRINGE BANKING**. *Journal of Regional Science*, 54(4), 688–710. <https://doi.org/10.1111/jors.12144>

Get Banked and the Advanced Child Tax Credit. (2021). Los Angeles Public Library. <https://lapl.org/whats-on/events/get-banked>

Graves, S. M. (2003). *Landscapes of Predation, Landscapes of Neglect: A Location Analysis of Payday Lenders and Banks.* *The Professional Geographer*, 55(3), 303–317. <https://doi.org/10.1111/0033-0124.5503017>

Haymes, S., Vidal de Haymes, M., & Miller, R. (Eds.). (2014). *The Routledge Handbook of Poverty in the United States.* Routledge. <https://doi.org/10.4324/9781315755519>

Hegerty, S. W. (2019). *“Banking Deserts,” Bank Branch Losses, and Neighborhood Socioeconomic Characteristics in the City of Chicago: A Spatial and Statistical Analysis.* *The Professional Geographer*, 72(2), 194–205. <https://doi.org/10.1080/00330124.2019.1676801>

Hegerty, S. W. (2022). *“Banking Deserts,” City Size, and Socioeconomic Characteristics in Medium and Large U.S. Cities.* Northeastern Illinois University. <https://arxiv.org/pdf/2203.03069.pdf>

Hessler, J. (2021, December 21). *Race and Ethnicity for Los Angeles According to 2020 Census by Dot Density.* ArcGIS Online. <https://www.arcgis.com/apps/mapviewer/index.html?webmap=69131528a2994d69998943ed55173fad>

How Google sources and uses information in local listings - Local Listings Help. (2023). Support.google.com. Retrieved March 1, 2023, from <https://support.google.com/local-listings/answer/9851099?hl=en>

Julius, S. (2021, September 21). *Median Income and AMI (census tract).* Los Angeles GeoHub; City of Los Angeles. <https://geohub.lacity.org/datasets/lacounty::median-income->

and-ami-census-tract/explore?location=33.966029%2C-118.429090%2C11.54

Kashian, R. D., Tao, R., & Perez-Valdez, C. (n.d.). *Banking the Unbanked: Bank Deserts in the United States*. University of Wisconsin, Whitewater. Retrieved March 1, 2023, from <https://citeseerx.ist.psu.edu/document?repid=rep1&type=pdf&doi=9ff75c2066cb7253393f2f48614e13f16fce838d>

Kaufman, R. (2018, Jul 03). *Los Angeles May Force Its Banks to Disclose Unethical Sales Practices*. Next City. <https://www.proquest.com/magazines/los-angeles-may-force-banks-disclose-unethical/docview/2063794584/se-2>

Khashadourian, E., & Tom, S. (2007). *The Unbanked Problem in Los Angeles*. United Way of Greater Los Angeles. <https://citeseerx.ist.psu.edu/document?repid=rep1&type=pdf&doi=ba353fb9901bd3226a82344ca2fa8a04f28cfe82>

Kutzbach, M., Northwood, J., & Weinstein, J. (2021). *FDIC National Survey of Unbanked and Underbanked Households*. FDIC. <https://www.fdic.gov/analysis/household-survey/2021report.pdf>

Li, W., Dymski, G., Chee, M. W. L., Ahn, H.-H., Aldana, C., & Zhou, Y. (2006). *How Ethnic Banks Matter: Banking and Community/Economic Development in Los Angeles*. In *Landscapes of the Ethnic Economy*. Rowman & Littlefield Publishers. https://books.google.com/books?hl=en&lr=&id=1Ru_AAAAQBAJ&oi=fnd&pg=PA113&dq=banking+in+los+angeles&ots=a86LOGRIjs&sig=HZ5UzK49z_BxeJaUhx7jwErD1YE#v=onepage&q=banking%20in%20los%20angeles&f=false

Mende, M., Salisbury, L. C., Nenkov, G. Y., & Scott, M. L. (2019). *Improving Financial Inclusion through Communal Financial Orientation: How Financial Service Providers Can Better Engage Consumers in Banking Deserts*. *Journal of Consumer Psychology*. <https://doi.org/10.1002/jcpy.1103>

Miller, M. J. (2015). *Social Finance in Black Geographies: A Statistical Analysis of Locations in Los Angeles County*. *Harvard Journal of African American Public Policy*, , 78-91. <https://www.proquest.com/scholarly-journals/social-finance-black-geographies-statistical/docview/1691261331/se-2>

Morgan, D., Pinkovskiy, M., & Perlman, D. (2018, January 10). *The "Banking Desert" Mirage*. *Liberty Street Economics*. <https://libertystreeteconomics.newyorkfed.org/2018/01/the-banking-desert-mirage/>

NAICS Identification Tools. (2019). NAICS Association. <https://www.naics.com/search/>

Padua, L. A., & Doran, J. K. (2016). *From Being Unbanked to Becoming Unbanked or Unbankable: Community Experts Describe Financial Practices of Latinos in East Los Angeles*. *Journal of Community Practice*, 24(4), 428-444. <https://doi.org/10.1080/10705422.2016.1233477>

Saboe-Wounded Head, L. (2019, January 25). *Predatory Lending & Alternative Financial Services*. *South Dakota State University Extension*. <https://extension.sdstate.edu/predatory-lending-alternative-financial-services>

Sakong, J., & Zentefis, A. K. (2022). *Bank Access Across America*. https://files.consumerfinance.gov/f/documents/cfpb_2022-research-conference_session-7_zentefis-sakong_paper.pdf

Sawyer, N., & Temkin, K. (2002). *Analysis of Alternative Financial Service Providers*. Fannie Mae Foundation.

<https://www.urban.org/sites/default/files/alfresco/publication-pdfs/410935-Analysis-of-Alternative-Financial-Service-Providers.PDF>

SimplyAnalytics. (2019). SimplyAnalytics.
<https://app.simplyanalytics.com/index.html>

Taylor, K.-Y. (2019). *Race for Profit : How Banks and the Real Estate Industry Undermined Black Homeownership*. University Of North Carolina Press.

Urevich, R. (2022, March 21). *Putting Teeth Into Los Angeles' Responsible Banking Laws*. Capital & Main.
<https://capitalandmain.com/putting-teeth-into-los-angeless-responsible-banking-laws>

Wang, J., & Zhang, D. H. (2021). *The Cost of Banking Deserts: Racial Disparities in Access to PPP Lenders and their Implications*. Harvard University.
<https://davidzhang.scholar.harvard.edu/files/dhz/files/geographyppp.pdf>

Weinstein, L. (n.d.). *Research Guides: Fintech: Financial Technology Research Guide: Unbanked & Underbanked*. Library of Congress. Retrieved February 25, 2023, from
<https://guides.loc.gov/fintech/21st-century/unbanked-underbanked#:~:text=The%20most%20common%20responses%20were>

What is Bank On – Consumer & Business. (n.d.). Los Angeles County Department of Consumer & Business Affairs. Retrieved March 10, 2023, from <https://dcba.lacounty.gov/bankon/>

Zoning. (2023, February 15). Los Angeles GeoHub; City of Los Angeles.
https://geohub.lacity.org/datasets/49ad06a6b8c945debbbea865b1832ee2_0/explore?

filters=eyJhT05FX1NNUIkiOlsiQ09NTUVSQ0lBTCJdfQ%3D%3D&location=34.090271%2C-118.390462%2C15.50