

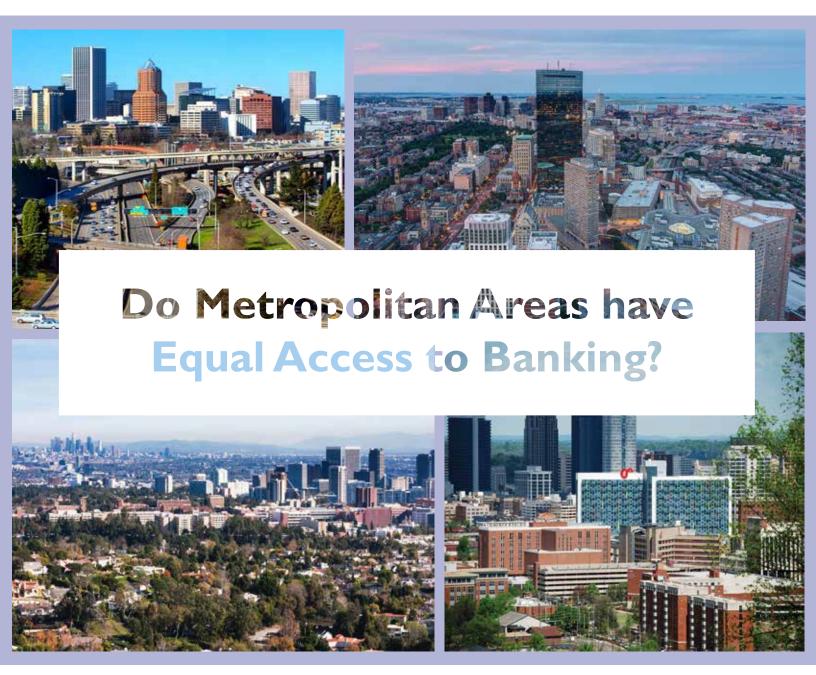








February 1, 2017



A Geographic Investigation of Financial Services Availability

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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

Metropolitan areas are places where the majority of residents in the US live and work. Each of these areas has unique features regarding education, employment, public transit options, arts, recreation, and worship opportunities. Each metropolitan area also has a unique financial services landscape — a mix of both mainstream and alternative financial services, which may offer households different types of products and services to help manage resources and make ends meet.

While prior research has examined the geo-spatial distribution of mainstream and alternative financial services *within* particular cities and metropolitan areas, little is known about how the availability of these services varies *across* metropolitan areas for the entire country. For instance, what is the availability of financial services in the Kansas City area, where the "snowbelt" city's poverty rate is slightly higher than the national average, 30% of residents are Black, the population is growing, and the Federal Reserve and FDIC both have branches? And, how does the availability of Kansas City area's financial services compare to that of the Detroit area, where the "rustbelt" city's poverty rate is nearly three times the national average, 83% of residents are Black, the population is shrinking, and major manufacturing companies are closing? Or the Riverside, CA area, a "sunbelt" city located in the San Joaquin Valley with an agriculture-based economy, a poverty rate that is higher than the national average, and a Latino population of 48%? Variation in this availability may indicate that households living in different communities have greater or lesser access to financial services to promote financial stability.

Using financial services and community demographic data for 356 metropolitan statistical areas (MSAs) across the US, we compared the concentrations or densities of bank and credit union branches and alternative financial services.

Key Findings

- There is tremendous variation in the availability of financial services in MSAs across the US, and distinct geographic patterns emerge in this availability.
 - o Bank and credit union densities are higher in "snowbelt" and "rustbelt" MSAs of the Northeast and Midwest, whereas alternative financial service (AFS) provider densities are higher in "sunbelt" MSAs of the South and West.
 - o Among MSAs with at least 2 million residents, Kansas City has the highest density of banks and credit unions 0.44 or nearly half a bank or credit union per 1,000 people. By comparison, Riverside, CA has the lowest density 0.14. The density in Detroit is near average (0.33).
 - o Medium and large MSAs with a greater proportion of banks or credit unions relative to AFS providers are more likely to be found in the Northeast or Midwest than in the South or West.
 - o For every AFS provider, there are 8 banks or credit unions in the Northeast and Midwest, yet only 4 banks or credit unions in the South and West.

- The availability of financial services specifically, the proportion of banks or credit unions relative to AFS providers also differs depending on the size of the MSA.
 - o The ratio of banks and credit unions to AFS providers is highest in small MSAs (6.61), followed by medium (4.85), and large (4.06) MSAs.
 - o In large MSAs with 2 million or more people, the highest ratio is in Pittsburgh, PA with nearly 14 banks and credit unions per AFS provider (13.54). The lowest ratio is in Riverside, CA with about one bank or credit union for every AFS provider (1.20). The average ratio is in Detroit (3.94).
 - o In medium MSAs with between 500,000 to 2 million people, the highest ratio is in Omaha, NE (18.48) and the lowest is in Modesto, CA (1.26).
- MSAs with higher concentrations of Latino, Black, and poor residents also have higher concentrations of AFS providers.
 - o There are fewer banks and credit unions relative to AFS providers in large MSAs with greater Latino resident populations. The average proportion of Latino residents is 28% in large MSAs with bank/credit union-to-AFS ratios that are below the median of 3.94, compared to 7% in MSAs with at- or above-median ratios.
 - o In large MSAs with higher poverty rates, there are slightly fewer banks and credit unions relative to AFS providers. The average proportion of residents living in poverty is 15% in MSAs with below-median bank/credit union-to-AFS ratios, compared to 13% in MSAs with at- or above-median ratios.

Introduction

The location of mainstream and alternative financial services is not evenly distributed in communities (e.g., Anacker & Crossney, 2013; Burkey & Simkins, 2004; Hegerty, 2016). AFS providers tend to be more common in communities with greater proportions of racial/ethnic minority and low-income households, while banks and credit unions are more common in communities with greater proportions of white and higher-income households (Barth, Hilliard, Jahera, & Sun, 2016; Fowler, Cover, & Kleit, 2014; Gallmeyer & Roberts, 2009; Hegerty, 2016; Prager, 2014; Ratcliffe, McKernan, Kalish, & Martin, 2015; Smith, Smith, & Wackes, 2008; Tempkin & Sawyer, 2004). However, there is considerable geographic overlap; mainstream and alternative financial service providers are often co-located in the same areas (Fowler, Cover, & Kleit, 2014; Tempkin & Sawyer, 2004)

Households' financial health may be affected by variations in the availability and type of financial services in their communities.

Households' financial health may be affected by variations in the availability and type of financial services in their communities. For example, bank presence in lower-income communities is associated with homeownership (Ergungor, 2010) and small business (Nguyen, 2015) opportunities. Conversely, the presence of AFS providers such as payday loan and check cashing stores in communities is associated with regular use of these services (Friedline & Kepple, 2016), which can be very costly due to very high interest rates on short-term loans, unnecessary costs, hidden fees, and prepayment penalties (Bertrand & Morse, 2011; Consumer Financial Protection Bureau [CFPB], 2013; Edmiston 2011; Wolff, 2015). Dependence on AFS is associated with financial problems in households (Melzer, 2011; Skiba & Tobacman 2009). Thus, in communities where there are fewer banks or credit unions or where AFS providers are commonplace, households may lack sufficient opportunities to manage their finances using safe and affordable financial products and services (Baradaran, 2013; 2015).

An Investigation of Financial Services in US Metropolitan Statistical Areas

This brief report investigates the differences in the densities of mainstream and alternative financial services¹ in metropolitan statistical areas (MSAs) in the US. MSAs include a core urban area of at least 50,000 residents, the county in which the core urban area is located, and adjacent counties with a "high degree of social and economic integration with the core as measured by commuting ties"². MSAs are an important geographic unit to study as they represent clusters of zip codes across city, county, and sometimes state lines that share a common market and work commuting zone.

Data for this report come from the US Geological Survey, Federal Deposit Insurance Corporation (FDIC), National Credit Union Administration (NCUA), Esri Business Analyst, Bureau of Economic Analysis, and US Census Bureau's American Community Survey (ACS). The

¹ AFS providers included auto title loan, payday loan, check cashing, tax refund, pawn shop, and rent-to-own services.

² Office of Management and Budget. See https://www.whitehouse.gov/sites/default/files/omb/bulletins/2015/15-01.pdf

sample consisted of 356 MSAs, which contained 16,620 zip codes or 53% of all zip codes in the US. Detailed analyses were conducted for 107 MSAs, including 33 MSAs with a population of 2 million or more residents, and 74 MSAs with a population of 500,000 to 2 million residents. Data reported in this brief represent averages of zip codes within MSAs³. Additional information on the data and methods is available in the technical appendix.

We assessed the number of 1) bank and credit union branches and 2) alternative financial service (AFS) providers for every 1,000 people in each MSA, which was comprised of multiple zip codes. We also calculated the ratio of banks and credit unions to AFS providers to reflect the relative balance between these two types of financial service providers in each MSA. The distribution of these ratios was then compared based on the following community characteristics:

- Region of the country;
- Percentage of households living in poverty; and
- Percentage of Black and Latino households.

Overall, there is an average of 0.34 bank and credit union branches for every 1,000 residents in MSAs, compared to 0.37 for the entire US, and .07 AFS providers for every 1,000 residents living in MSAs, compared to .05 for the entire US.

Regionally, there are some differences concerning densities in MSAs:

	Bank/Credit	AFS	AFS>=
Census Region	Union Density	Density	Bank/CU
Northeast	0.36	0.05	31%
Midwest	0.42	0.05	27%
South	0.32	0.09	38%
West	0.24	0.10	49%

Examining the ratio of banks and credit unions to AFS providers, there are 8 banks/credit unions for every AFS provider in the Midwest and Northeast, 4 in the South and West. However, within each region, there is considerable variation. In the Midwest, the ratio ranges from 4 in Detroit to 18 in Omaha, NE. In the Northeast, the range is 6 in Baltimore to 13 in Lancaster, PA. In the South, the range is 2 in Miami to 7 in Raleigh, NC. In the West, the range is 1 in Riverside, CA to 15 in Provo-Orem, UT.

MSAs were classified as small, medium, and large based on total population using Bureau of Economic Analysis guidelines. The densities of banks and credit unions are very similar for these three classifications. Though AFS density increases with MSA size, small MSAs with populations under 500,000 have a higher proportion of zip codes where AFS outnumber or are equal to banks and credit unions. However, on average, the ratio of banks and credit unions to AFS providers is highest in small MSAs (6.61), followed by medium (4.85), and large (4.06) MSAs.

³ For example, the St. Louis MSA is comprised of 246 zip codes that include the city of St. Louis and St. Charles, 7 counties in eastern Missouri and 8 counties in southwestern Illinois.

MSA size	Bank/Credit Union Density	AFS Density	AFS>= Bank/CU
Small (<500k)	0.34	0.05	41%
Medium (500k – 2m)	0.34	0.07	35%
Large (2 m+)	0.33	0.08	31%

Detailed analyses for large (2 million or more residents) and medium (500,000 to 2 million residents) MSAs follow below.

Large MSAs (2 million+ residents)

Among 33 MSAs with a population of 2 million or more, the average and median bank/credit union densities per 1,000 residents were 0.31. Densities ranged from a low of 0.14 in Riverside-San Bernardino-Ontario, CA to a high of 0.44 in Kansas City. Median AFS density was 0.07 per 1,000 residents, while the average AFS density was 0.09. AFS densities ranged from a low of 0.02 in Pittsburgh, PA, which is in a state that prohibits payday lending, to a high of 0.19 in Los Angeles, CA, which is in a state with light regulations on payday lending.⁴

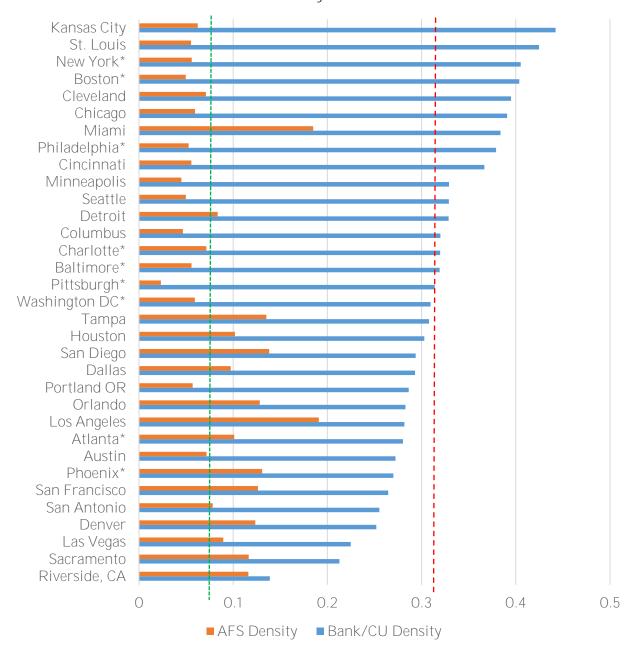
Large MSAs have a median bank/credit union density of 0.31 per 1,000 residents, and MSAs with densities above this median were more likely to be in the Northeast and Midwest than in the South and West.

MSAs with bank/credit union densities above the median were more likely to be in the Northeast and Midwest than in the South and West. For example, nine out of the top ten MSAs in bank/credit union density were located in the Midwest or Northeast. Conversely, MSAs with the highest AFS densities were more likely to be in the West and South.

⁴ Our sample included AFS providers that are not necessarily subject to state payday lending regulations, such as auto title loan, check cashing, tax refund, pawn shop, and rent-to-own services.

Bank/credit union densities are lowest in Riverside-San Bernardino-Ontario, CA and highest in Kansas City. AFS densities are lowest in Pittsburgh, PA, which is in a state that prohibits payday lending, and highest in Los Angeles, CA, which is in a state with light payday lending regulations.

Chart 1. Bank/Credit Union & AFS Density: MSAs with 2 Million or More Residents

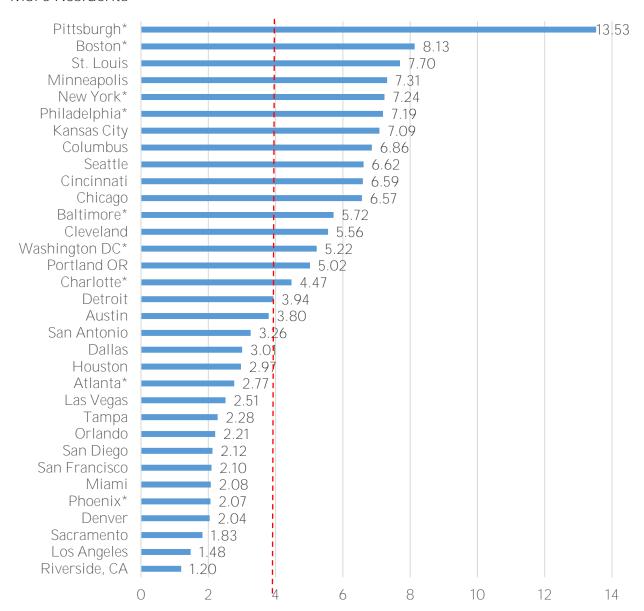


Note: Red dotted line indicates median bank/credit union density (0.31); Green dotted line indicates median AFS density (0.07); *indicates state in which payday lending is banned.

A different way of understanding bank/credit union and AFS densities is to examine the ratio of these two different types of financial services. Chart 2 below ranks large MSAs based on this ratio, which represents the number of banks and credit unions for every AFS provider. For example, in Austin, TX, the ratio is 3.80, which means there are nearly 4 banks or credit unions for every AFS provider.

There are nearly 14 bank or credit union branches for every one AFS in Pittsburgh, PA. In contrast, there is one bank or credit union branch for each AFS in Riverside, CA.

Chart 2. Ratio of Bank/Credit Unions to AFS Providers: MSAs with 2 Million or More Residents



Note: Red dotted line indicates median ratio (3.94); *indicates state in which payday lending is banned.

There are regional differences in MSAs' financial services densities. The ratio of banks and credit unions to AFS providers is higher among MSAs in the Northeast and Midwest, and lower among those in the South and West.

Comparing Charts 1 and 2, the same geographic pattern holds, where the ratio of banks and credit unions to AFS providers is higher among MSAs in the Northeast and Midwest, and lower among MSAs in the South and West. In fact, the MSAs with the three lowest ratios are all located in California. Also, four out of six MSAs located in states where payday lending is banned have above-median ratios.

Changes in the rank order of MSAs are also evident comparing Charts 1 and 2. For example, Kansas City loses its #1 ranking for bank/credit union density to Pittsburgh and drops to #7 for the ratio indicator. Conversely, St. Louis holds steady at #2 and #3 in both charts. Miami drops from #7 in ranking for bank/credit union density to #28 for the ratio indicator, reflecting the high number of both types of financial services in that community.

Social and Economic Characteristics

The average proportion of Latino residents was 28% in large MSAs with a bank/credit union-to-AFS ratio that is below the median (3.94), compared to 7% in MSAs with an at-or above-median ratio⁵. That is, there are fewer banks and credit unions relative to AFS providers in large MSAs with greater Latino resident populations. Conversely, the proportion of Black residents was 12% in MSAs with at- or above-median ratios compared to 10% in MSAs with below-median ratios, though this difference was not statistically significant.

There are fewer banks and credit unions relative to AFS providers in large MSAs with greater Latino resident populations.

Concerning economic characteristics, the average proportion of residents living in poverty was 15% in MSAs with below-median ratios, compared to 13% in MSAs with at- or above-median ratios⁶. The five-year (2010 to 2015) growth in gross domestic product (GDP) was 15% in MSAs with below-median ratios compared to 10% in at- or above-median MSAs⁷. That is, communities with economies growing at a faster rate – which tend to be located in the South and West – nonetheless have a lower ratio of banks and credit unions to AFS providers.

⁵ The difference in the average proportion of Latino residents between bank/credit union-to-AFS ratios below or at or above the median is statistically significant: t(32) = 7.44, p < .001.

⁶ The difference in the average proportion of residents living in poverty between bank/credit union-to-AFS ratios below or at or above the median is statistically significant: t(32) = 3.13, p < .01.

⁷ The difference in the GDP between bank/credit union-to-AFS ratios below or at or above the median is statistically significant: t(32) = 2.96, p < .01.

Medium MSAs (500,000 to 2 million residents)

Among 74 MSAs with a population of 500,000 to 2 million residents, average and median bank/credit union densities per 1,000 residents were 0.33 – slightly higher than for large MSAs. Densities ranged from a low of 0.14 in the Bakersfield, CA to a high of 0.65 in the Omaha, NE. Median AFS density was 0.07 per 1,000 residents, while the average AFS density was 0.08. AFS densities ranged from a low of 0.02 in Albany, NY to a high of 0.16 in San Jose, CA.

Medium MSAs with a population between 500,000 and 2 million have about 5 banks or credit unions for every AFS provider.

Among medium MSAs, the median ratio of banks or credit unions to AFS providers was 5.16, which means there are slightly more than 5 banks or credit unions for every AFS provider. The range was 1.26 in Modesto, CA to 18.48 in Omaha, NE.

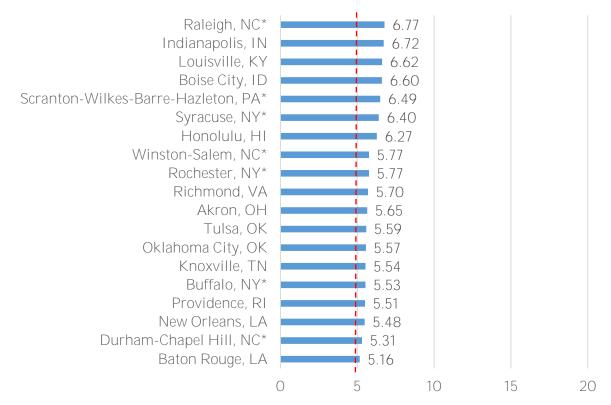
Charts 3 – 6 list medium MSAs ranked in quartiles of ratios of bank/credit union to AFS providers. The first quartile represents MSAs with the highest ratios, indicating a greater number of banks or credit unions relative to AFS providers.

Omaha, NE 18.48 Madison, WI 16.58 Des Moines-West Des Moines, IA 16.28 Provo-Orem, UT 14.73 Lancaster, PA* 13.39 Harrisburg-Carlisle, PA* 12.01 Albany, NY* Wichita, KS 10.73 Portland-South Portland, ME 10.24 Allentown, PA* 8.94 Salt Lake City, UT 8.47 Milwaukee, WI 8.05 Toledo, OH 7.73 Worcester, MA* 7.51 Dayton, OH 7.31 Spokane-Spokane Valley, WA 7.15 Youngstown-Warren-Boardman, OH-PA* 7.00 Springfield, MA* 6.84 20

Chart 3. Ratio of Bank/Credit Unions to AFS Providers: Top Quartile, Medium MSAs

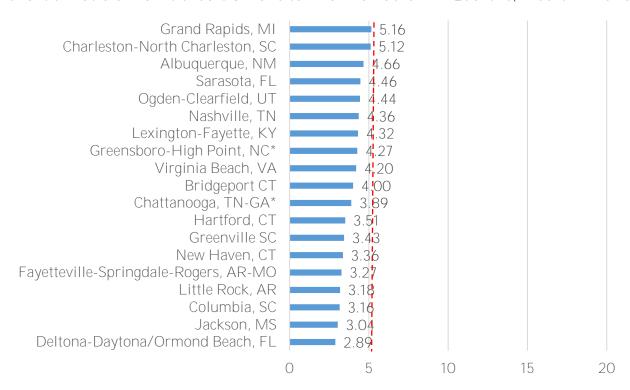
Note: Red line indicates median bank/credit union to AFS provider ratio (5.16). *indicates state in which payday lending is banned.

Chart 4. Ratio of Bank/Credit Unions to AFS Providers: 3rd Quartile, Medium MSAs



Note: Red line indicates median bank/credit union to AFS provider ratio (5.16); *indicates state in which payday lending is banned.

Chart 5. Ratio of Bank/Credit Unions to AFS Providers: 2nd Quartile, Medium MSAs



Note: Red line indicates median bank/credit union to AFS provider ratio (5.16); *indicates state in which payday lending is banned.

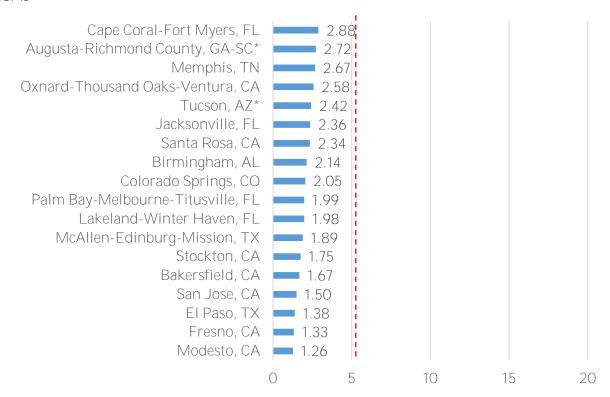


Chart 6. Ratio of Bank/Credit Unions to AFS Providers: Bottom Quartile, Medium MSAs

Note: Red line indicates median bank/credit union to AFS provider ratio (5.16); *indicates state in which payday lending is banned.

The general geographic pattern reflected in charts 3 – 6 is that in the top quartile – where banks and credit unions far outnumber AFS providers – MSAs located in the Midwest and Northeast are over-represented. At the other extreme – where the number of banks and credit unions only slightly exceeds the number of AFS providers, MSAs located in the South and West are over-represented.

Regional differences emerge even among medium MSAs. When the density of banks and credit unions far exceeds that of AFS providers, there are far more MSAs located in the Midwest and North.

With respect to state payday lending bans, 14 MSAs in states with bans had ratios above the median, compared to 4 MSAs in states with bans that had ratios below the median. However, it is important to note that AFS providers included not just payday lenders, but providers that offered other services such as check cashing. Though, some evidence suggests that different types of AFS providers like rent-to-own and pawn shops may enter into and supplement alternative financial services markets where payday lenders are prohibited (Carter, 2015; Friedline & Kepple, 2016).

As seen in Chart 7 below, differences in social and economic characteristics exist among medium-sized MSAs based on the ratio of banks and credit unions to AFS providers. The most notable differences are found comparing the top and bottom quartiles. In the top quartile — where banks and credit unions far outnumber AFS providers — the proportion of residents who are Latino, Black, or living in poverty is considerably lower than in the bottom quartile, where there are far fewer banks and credit unions relative to AFS providers.

There are higher proportions of residents who are Latino and living in poverty in medium MSAs with the lowest ratio of banks and credit unions to AFS providers—where access to safe and affordable financial products and services may be of greatest concern.

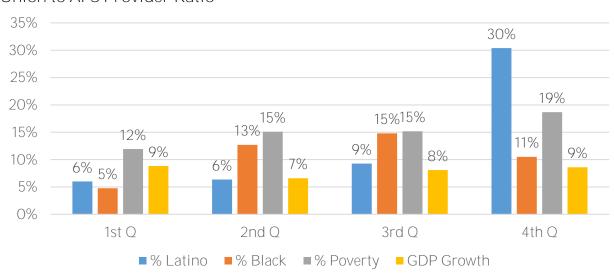


Chart 7. Social and Economic Characteristics of Medium MSAs by Bank/Credit Union to AFS Provider Ratio

The average proportion of Latino residents was 30% in MSAs with the bottom quartile of ratios, compared to 6% in MSAs in the top quartile⁸. The average proportion of Black residents was 11% in bottom quartile MSAs, compared to 5% in MSAs in the top quartile⁹.

Concerning economic characteristics, the average proportion of residents living in poverty was 19% in bottom quartile MSAs, compared to 12% in top quartile MSAs¹⁰. However, in both the top and bottom quartiles, five-year economic growth was 9%.

⁸ The difference in the proportion of Latino residents between the bottom and top quartile of ratios is statistically significant: t(34) = 4.05, p < .001.

⁹ The difference in the proportion of Black residents between the bottom and top quartile of ratios is significant at trend level: t(34) = 1.89, p = .07.

¹⁰ The difference in the proportion of residents living in poverty between the bottom and top quartile of ratios is statistically significant: t(34) = 4.23, p < .001.

Discussion

Variation in Financial Service Density

The overarching question we sought to answer in this brief was whether the availability of financial services is equal across metropolitan areas of the US. The clear answer to this question is no, as there is tremendous variation in financial service densities in MSAs across the US. Among the 107 MSAs that we examined in detail, the number of banks or credit unions per 1,000 residents ranged from a low of 0.13 in Riverside, CA to a high of 0.65 in Omaha, NE – an 80% difference. More importantly, we found that the ratio of banks and credit unions to AFS providers also varied considerably, from a low of 1.20 also in Riverside, CA to a high of 18.48, also in Omaha – a huge difference. That is, in Riverside, CA, there are nearly as many AFS providers as banks or credit unions. Moreover, these cannot solely be explained by differences in MSAs' population densities. This is because we measured financial services per 1,000 people and also examined MSAs based on small, medium, and large population sizes.

The ratio of banks and credit unions relative to AFS providers is much higher in the "snowbelt" than in the "sunbelt". Thus, people are migrating to and the population is growing fastest in places where there are fewer mainstream banking options.

Geographically, a distinct pattern emerged in our findings where the ratio of banks and credit unions relative to AFS providers was much higher in the Northeast and Midwest – the "snowbelt", than in the South and West – the "sunbelt". Yet based on 2015 Census figures, a migration of residents from the snowbelt to the sunbelt has resumed following the Great Recession (Frey, 2016). Thus, people are migrating to and the population is growing fastest in places where there are fewer mainstream banking options.

MSAs where the number of banks or credit unions does not exceed the number of AFS providers by very much have higher concentrations of Latino, Black, and poor residents.

Differences in the average characteristics of MSAs offer some clues about why communities may have banks and credit unions that far outnumber AFS providers. More specifically, MSAs where the number of banks or credit unions does not exceed the number of AFS providers by very much have higher concentrations of Latino, Black, and poor residents. This is an important finding because the ratios are averaged across all of the zip codes in an MSA – not just zip codes with higher concentrations of racial/ethnic minorities and poor households. For example, Riverside, Modesto, Fresno, Bakersfield, and Stockton, CA are all in the 10 MSAs with the lowest ratios and have, on average, a resident population that is 44% Latino and 22% poor. Except for Riverside, these are all California in-land cities located in the San Joaquin Valley, an isolated area with an agriculture-based economy and unemployment rates far exceeding the nation as a whole.

The Importance of Financial Inclusion Policies

Efforts to promote financial inclusion may be especially important in MSAs where ratios of banks and credit unions to AFS providers are low and where poverty rates are high.

In MSAs where ratios are low and where poverty rates are higher, efforts to promote financial inclusion may be especially important. Low-income households need greater access to banks and credit unions as an alternative to AFS such as payday loans, which have very high interest rates and fees and result in loan rollovers for many borrowers, trapping them in a cycle of debt (Bianchi, 2012; CFPB, 2013). Banks and credit unions also offer a broader range of financial products and services to meet the needs of households, such as savings accounts, certificates of deposits, and auto loans.

Financial inclusion efforts in MSAs should also ensure that low-income households can access safe and affordable products and services through banks and credit unions. For example, Bank On coalitions sponsored by the Cities for Financial Empowerment Fund are working with banks and credit unions in several cities such as Sacramento, CA, Houston, TX, and Lansing, MI to increase access to basic, low-cost transaction accounts with no overdraft fees¹¹.

The National League of Cities (2015) identified 25 cities where financial inclusion efforts are exemplary, as indicated by having six or more financial inclusion building blocks in place, such as support from city leaders and coordinated efforts across multiple organizations toward a common vision. Financial inclusion efforts may be especially important in NLC cities where the ratio of banks and credit unions to AFS providers is very low, such as Los Angeles (1.48) and Tempe, AZ (2.07) – which also have higher than average poverty rates. The inherent difficulty in bringing these services to areas such as Los Angeles and Tempe is that these cities are part of very large MSAs. Therefore, the responsibility falls upon practitioners and policy makers to identify which areas and neighborhoods are in particular need. For example, the ratio of banks/credit unions to AFS providers in the 319 zip codes that comprise the Los Angeles MSA ranges from 0 to 25. Areas where AFS providers outnumbered banks or credit unions (e.g., ratio <1) were located mostly south and southeast of downtown, stretching to Anaheim, Long Beach and Orange, including areas such as Compton, Florence-Graham, Huntington Park, Whittier, Watts, yet also included some areas west and north of downtown including Van Nuys and pockets of Echo Park, Glendale, Northridge, and Koreatown. Conversely, areas where banks and credit unions outnumbered AFS providers by at least 5:1 were mostly located west of downtown, including Bel Air, Beverly Hills, Brentwood, Century City, Chinatown, Encino, Hermosa Beach, Malibu, Mid-Wilshire, Pasadena, Redondo Beach, Santa Monica, and Westwood. Exceptions included Irvine, Monterey Park, Newport Beach, and Rowland Heights. Thus, even within a low ratio MSA, there is great variability across areas and neighborhoods of the MSA where there may be distinct "pockets" of financial service availability, or lack thereof.

¹¹ See http://cfefund.org/project/bank-on/

Conclusion

The findings in this report tell only part of the story of the availability of financial services. That a particular community has a much higher number of banks or credit unions relative to AFS providers is no guarantee that households – especially low-income ones – will have access to and want to use safe and affordable financial products and services. This depends in part on banks and credit unions' willingness to offer products that meet standards such as the FDIC's Model Safe Accounts Template (Federal Deposit Insurance Corporation [FDIC], 2012) or the similar BankOn standards developed by Cities for Financial Empowerment¹².

¹² See http://cfefund.org/wp-content/uploads/2016/11/Bank-On-National-Account-Standards-2015-2016-Final.pdf

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Technical Appendix

This study used several sources of data to compare average zip code densities of mainstream and alternative financial services within metropolitan statistical areas (MSAs), including the Federal Deposit of Insurance Corporation (FDIC), National Credit Union Association (NCUA), Esri Business Analyst, Bureau of Economic Analysis, and US Census Bureau's American Community Survey (ACS).

The sample was comprised of 356 MSAs covering a total of 16,620 zip codes, which is 52% of all zip codes in the US. Total population represented by these 356 MSAs was 256 million persons or 83% of the total US population.

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 quarter in 2014.

Data by zip code on alternative financial service locations were collected from 2015 Esri Business Analyst Geographic Information System (GIS). Twelve codes from the North American Industry Classification Systems (NAICS) were used to identify alternative financial services and included auto title loan, payday loan, 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 in population. Densities were truncated at the 99th percentile to exclude extreme outliers. For example, the 63045 zip code is Earth City, MO, a large business park home to the grocery store chain Save-A-Lot and the former St. Louis Rams' training facility.

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. These variables included the percentages of the population that was of different racial groups or was living in poverty. Data concerning the five-year (2010 to 2015) growth in gross domestic product (GDP) in each MSA came from the Bureau of Economic Analysis.