Analysis of

ALTERNATIVE FINANCIAL SERVICE PROVIDERS

FannieMae FOUNDATION

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PREPARED FOR
THE FANNIE MAE FOUNDATION
BY THE URBAN INSTITUTE
METROPOLITAN HOUSING AND
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WASHINGTON, DC

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EXECUTIVE SUMMARY

Most Americans conduct their financial affairs using retail banks or similar mainstream financial institutions, giving them ready access to some of the most efficient and sophisticated financial services in the world. But alongside these consumers, millions of minority and low-income households conduct financial transactions without ever using mainstream financial services. Indeed, according to a recent estimate, as many as 56 million adults have no relationship to mainstream financial service providers. Many of these consumers often rely on alternative financial service providers—check-cashing outlets, payday lenders, pawnshops, rent-to-own stores, and auto title lenders.[1] While these alternative, nonbank financial service providers offer convenient services and easy access to cash, their services often carry high costs, limiting low-income families' ability to accumulate assets and establish a credit history.

It is well established that minority and low-income families are more likely than other families to use the alternative financial service market. Less clear is how much of this use occurs simply because these businesses fill a void created by the absence of conventional services. Previous studies have found fewer conventional services and more alternative services per capita in low-income neighborhoods. But these studies tend to be marred by narrow geographic coverage and other methodological weaknesses. Previous studies, for example, have relied on the Standard Industrial Classification (SIC) code—which reflects an establishment's primary business—to identify alternative providers. This method misses liquor stores and other retail establishments that also provide financial services (mainly check cashing).

To address the limitations of previous studies and to examine more definitively the location of alternative providers, this report investigates the location of three types of alternative providers—check-cashing outlets, payday lenders, and pawnshops—in eight diverse demographic and regulatory environments: Cook County, Illinois

[1] General Accounting Office. 2002. "Electronic Transfers." Report to the Subcommittee on Oversight and Investigations, House of Representatives, September.

(major city Chicago); Fulton County, Georgia (major city Atlanta); Harris County, Texas (major city Houston); Jackson County, Missouri (major city Kansas City); Los Angeles County, California (major city Los Angeles); Miami-Dade County, Florida (major city Miami); Shelby County, Tennessee (major city Memphis); and Washington, D.C.

For each of the eight sites, the study presents a demographic profile of alternative provider neighborhoods (census tracts with at least one alternative provider) and bank neighborhoods (census tracts with at least one retail bank). It then examines how the racial/ethnic composition and poverty rates of these neighborhoods differ from the site averages. It uses the same technique to compare the characteristics of areas that contain geographic "clusters" of alternative providers and banks (five or more providers located near each other). It also examines the mix of banks and alternative providers within neighborhoods and assesses whether the regulatory environment affects the number and location patterns of financial service providers.

FINDINGS

Five major findings emerge from the study.

Alternative financial service providers are disproportionately located in minority, low-income neighborhoods. In seven of the eight sites, the typical alternative provider neighborhood has a greater share of minorities than the overall site or the typical bank neighborhood. Alternative provider neighborhoods also tend to have a higher poverty rate.

Alternative providers tend to cluster in neighborhoods with a higher share of minority and low-income residents. In seven of the eight sites, minorities account for a higher share of residents in the areas that contain alternative financial service clusters. The picture, however, differs slightly for specific minority groups. In all eight sites, alternative financial providers tend to cluster in neighborhoods that are disproportionately Hispanic. In only two sites are these providers clustered in neighborhoods that are disproportionately African American.

More alternative financial service providers per capita (and fewer banks) are found in census tracts that are disproportionately minority and/or poor. This holds true in all eight study sites. Interestingly, however, conventional banks outnumber alternative providers in all but the very highest minority neighborhoods (neighborhoods in which minorities constitute at least 75 percent of the population).

Neighborhoods often contain both banks and alternative providers, casting doubt on the "spatial void hypothesis," which contends that alternative providers fill a supply vacuum. In all eight sites, the majority of alternative providers are located in neighborhoods with at least one bank. Furthermore, many of these banks are located near the alternative providers. In each of the eight sites, the median distance between alternative providers and banks is no more than seven city blocks; in five sites, the distance is five blocks or less.

The regulatory environment makes little difference to the locations of alternative financial service providers. Many local jurisdictions and many states have enacted laws to limit the allowable types of alternative providers and the fees they charge. The analysis finds that the regulatory environment (weak, intermediate, or strong) makes little difference to the number and location of such providers across sites, although it may influence the mix of institutional types. During the study period, for example, Fulton County (Atlanta) and the District of Columbia prohibited payday lenders. Our data suggest that this restriction may simply have increased the per capita representation of pawnshops in Fulton County and of check cashers in Washington, D.C.

NEXT QUESTIONS TO ANSWER

Our analysis provides definitive evidence that alternative financial service providers are disproportionately located in minority and poor neighborhoods. This finding holds regardless of a city's geographic location or socioeconomic composition. These conclusions are consistent with findings of other studies using less comprehensive data and methods. But we have three additional pieces of evidence that may move the debate to a new level.

First, alternative providers do not operate in geographic isolation from banks. Second, the regulatory environment makes little difference to the number or location of alternative providers or banks. Third, alternative provider clusters (i.e., groups of at least five in close proximity to each other) are more likely to be found in predominantly Hispanic neighborhoods than in predominantly African-American neighborhoods.

This combination of findings suggests that, contrary to popular perception, consumers do not choose alternative financial service providers because an area lacks mainstream providers. Rather, location is not the only factor affecting a customer's decision to use an alternative provider instead of a traditional bank. It appears that mainstream financial providers either are not offering lower-income, minority households the core products and services they need or providers are not effectively reaching out to these consumers. These possible shortcomings point to the need for further research into the financial service needs of low-income communities and the effectiveness of different outreach strategies.

INTRODUCTION

Most Americans conduct their financial affairs using retail banks or similar mainstream financial institutions, giving them ready access to some of the most efficient and sophisticated financial services in the world. But alongside this conventional financial market is a growing alternative financial services industry—made up of nonbank check-cashing outlets, payday lenders, pawnshops, rent-to-own stores, and auto title lenders—that primarily serves lower-income minority and immigrant families. The fees and rates charged in this alternative market are typically much higher than those charged by mainstream financial institutions for similar services. Fees can be 15 to 17 percent for a two-week loan; annual percentage rates (APRs) can range as high as 300 percent.

Although alternative providers have always existed to some degree, an increasing number of lower-income consumers are relying on them for basic financial services. Here are the facts:[2]

- The number of nonbank check-cashing establishments in the United States doubled between 1996 and 2001. These establishments now cash more than 180 million checks, totaling about $60 billion a year.[3]
- More than 10,000 payday loan outlets originate a total volume of between $8 billion and $14 billion a year, up from almost zero a decade ago.[4] The industry projects that by 2004, 15 percent of U.S. households will become customers of this type of lending.[5]
- Pawnshops today number between 12,000 and 14,000, up from about 5,000 in 1985.[6]

2 Carr, James H., and Jenny Schuetz. 2001. *Financial Services in Distressed Communities: Framing the Issue, Finding Solutions*. Washington, D.C.: The Fannie Mae Foundation. Report.

3 Rhine, Sherrie L., Maude Toussaint-Comeau, Jeanne Hogarth, and William Greene. 2001. "The Role of Alternative Financial Service Providers in Serving LMI Neighborhoods." In *Changing Financial Markets and Community Development, A Federal Reserve System Community Affairs Research Conference, Proceedings of a Conference held in Washington, D.C., April 5-6, 2001*: 59–80.

4 Stegman, Michael A., and Robert Faris. 2002. *Payday Lending: A Business Model that Encourages Chronic Borrowing*. Chapel Hill, NC: Center for the Study of Community Capitalism. Report.

5 AARP Public Policy Institute. 2001. *The Alternative Financial Service Industry.* Issue Brief Number 51.

6 Carr, James H., and Jenny Schuetz. 2001.

7 Ibid.

- About 3,000 rent-to-own stores serve more than 3 million customers a year.[7]
- These alternative financial service providers are estimated to process about 280 million transactions per year, representing roughly $78 billion in revenue.[8]

Analysts have offered both customer demand and supply-related explanations for the explosive growth in the alternative financial services sector. Demand explanations hold that consumers of the alternative market prefer to conduct their financial transactions with nonbanks. These customers are willing to pay relatively high fees for the conveniences of location, hours, and ability to conduct several transactions at the same time—such as cashing checks, paying bills, and wiring money. Supply explanations posit that alternative providers, especially payday lenders, are filling a market void resulting from conventional providers reducing their services to these customers. As one analyst puts it, "[t]he vacuum in consumer credit created by the recent withdrawal of the majority of mainstream lenders from the small loan market is being filled largely by companies offering payday loans."[9]

It is well established that minority and lower-income families are more likely than other families to use alternative financial service providers. (See Appendix A for a summary of previous research.) Less clear is how much of this use occurs simply because these institutions are disproportionately located in minority and poorer neighborhoods (where banks are disproportionately absent).

This location question is important because many observers think that the lack of retail bank branches forces residents of lower-income, high-minority neighborhoods to choose alternative financial providers. If, however, banks are located in neighborhoods that also have alternative providers, the implication is that banks are not offering products and services that meet these residents' needs or are not sufficiently reaching out to their communities. Understanding the location patterns of banks and alternative providers will help policy makers, financial service executives, and community leaders craft appropriate responses to connect the unbanked to the financial mainstream.

Using comprehensive and up-to-date information regarding the location of alternative providers, the analysis addresses the following questions:

- In what kinds of neighborhoods—in terms of racial/ethnic makeup and poverty

[8] Ibid.

[9] Stegman and Faris 2001, p.1.

characteristics—are alternative financial providers located? Are alternative providers found in the same kinds of neighborhoods as banks?

- Are alternative providers located primarily in neighborhoods that do not contain mainstream financial institutions, thereby filling a market void created by a lack of mainstream providers?
- Do the location patterns of alternative and mainstream financial service providers vary across cities with different demographic characteristics and regulatory environments?

The analysis has three major strengths over previous studies:

A more accurate count of alternative financial service providers. The analysis draws on state licensing data as the primary data source for identifying alternative providers. Previous studies have been restricted to data sources based on the Standard Industrial Classification (SIC) code, which only gives an institution's "primary" business. This method misses the many retail establishments whose primary business is something else but that also provide financial services, mainly check cashing (such as liquor or convenience stores).

Identification of neighborhood clusters of banks and alternative financial institutions. In addition to more accurate neighborhood-level information regarding the location of alternative providers, the analysis uses a technique that identifies clusters of providers (at least five in the same area). This technique provides statistically significant estimates of neighborhood clusters of banks/alternative providers. The use of clusters provides a more accurate picture of the geographic distribution of the marketplace served by traditional and alternative providers.

Study sites that are more representative. Previous studies have been restricted to very few geographic areas, which means that their findings may apply only to a specific area. This analysis includes seven metropolitan counties plus Washington, D.C., covering western, midwestern, and eastern seaboard states. It uses counties rather than cities to ensure identification of markets wholly within a given state. The particular selection of counties ensures a range of demographic and regulatory characteristics in the study.

The basic data on the racial/ethnic and economic characteristics of the neighborhoods of banks and of alternative financial providers come from 2000 census data at the tract level (in the analysis, "neighborhood" and "census tract" are used interchangeably). Together the sites include a total of 3,082 alternative financial institutions and

5,031 banks. (For a fuller explanation of the study's strengths and methodology, see Appendixes B and C.)

OVERVIEW OF THE ALTERNATIVE FINANCIAL SERVICES INDUSTRY

TABLE 1. **ALTERNATIVE FINANCIAL SERVICE PROVIDERS**

TYPE OF ALTERNATIVE PROVIDER	SERVICES PROVIDED	FEES/RATE PER TRANSACTION	VOLUME OF TRANSACTIONS ($)	TOTAL ESTIMATED FEES ($)
Check Casher	Cashes checks, including payroll, personal, and government checks, for a per-check fee. Many check cashers also sell money orders and other money transmittals.	2 to 3% of check amount for payroll and government checks; as high as 15% for personal checks.	$60.0 billion	$1.5 billion
Payday Lender	Small cash advances, usually between $100 and $300, based on personal checks held by the lender for a scheduled period of time, usually two weeks. Where allowed by state law, many check-cashing outlets offer payday loans. Because payday loans are originated with a personal check as collateral, borrowers must have a bank account, steady job, and no history of writing bad checks.	15 to 17% fee for a two-week loan. If the loan is rolled over, this creates an effective APR of 400% or more.	$10.0–$13.8 billion	$1.6–$2.2 billion
Pawnshop	Loan issued with pledged collateral. The average loan is around $70, which represents roughly 50 percent of the collateral's resale value.	1.5 to 25% monthly, which is 30 to 300% APR.	$3.3 billion	Not available
Rent-to-Own Shop	Consumer goods provided through installment payments.	Effective prices 2 to 3 times retail.	$4.7 billion	$2.35 billion
Auto Title Lender	Single-payment loans provided, usually with 30-day terms, which are secured by an auto title. Typical loan is for 25% of the collateral value.	1.5 to 25% monthly, which is 30 to 300% APR.	Not available	Not available

Sources: James H. Carr and Jenny Schuetz. 2001. *Financial Services in Distressed Communities: Framing the Issue, Finding Solutions*. Washington, D.C.: Fannie Mae Foundation. Report; AARP Public Policy Institute. 2001. *The Alternative Financial Service Industry.* Issue Brief Number 51; Federal Reserve Bank of Boston, Communities and Banking. 1999. "Check Cashers: Moving from the Fringes to the Financial Mainstream"; and Illinois Department of Financial Institutions. 1999. *Short Term Lending*. Report.

Alternative institutions provide an array of financial services with different customer bases (table 1).

Of the providers in table 1, check-cashing establishments process the largest volume of transactions: about $60 billion annually. The bulk of the revenue earned by check cashers comes from check-cashing fees, although many also sell money orders and other types of financial transmittals. For government and payroll checks, customers typically pay a fee of between 2 percent and 3 percent of the check's value; higher fees are charged to cash personal checks. The total estimated fee income for check cashers is more than $1 billion a year.

Payday lenders, pawnshops, rent-to-own stores, and auto title lenders provide customers with relatively small short-term loans. Customers typically take out such loans (often several to a customer)[10] as a way "to make ends meet" during hard times.[11] In many cases, though, these loans are not paid back within the initial term. Instead, many such borrowers roll over their loans repeatedly (on average, 10 to 13 times, according to one estimate),[12] incurring additional fees and interest. Rolling over payday loans in this manner incurs effective APRs typically exceeding 300 percent and sometimes as high as 900 percent.[13]

It is important to note that many customers of alternative financial service providers also have regular bank accounts.[14] Most payday lenders, in fact, require customers to have a checking account. In addition, check-cashing establishments do not serve only unbanked households.[15] In Chicago, for example, a recent study found that 19 percent of total banked households and 40 percent of banked households living in

10 Stegman and Faris, 2001, found that in North Carolina the average customer had seven payday loans.

11 Illinois Department of Financial Institutions. *Short Term Lending,* p. 6.

12 In a study of three states, the Consumer Federation of America and the U.S. Public Interest Group found that payday loan customers rolled over their loans between 10 and 13 times. Consumer Federation of America and the U.S. Public Interest Research Group. 2001. *Rent-A-Bank Payday Lending: How Banks Help Payday Lenders Evade State Consumer Protections.* Report.

13 Consumer Federation of America and the U.S. Public Interest Research Group. 2001.

14 Caskey, John P. 2002. *Bringing Unbanked Households into the Banking System.* Cambridge, Mass.: Harvard University Joint Center for Housing Studies.

15 The unbanked, however, are heavy users of check cashers. By one estimate, 71 percent of unbanked households that cashed checks did so at a check-cashing outlet. Dunham, Constance R. 2001. "The Role of Banks and Nonbanks in Serving Low- and Moderate-Income Communities." In *Changing Financial Markets and Community Development, A Federal Reserve System Community Affairs Research Conference, Proceedings of a Conference held in Washington, D.C. April 5-6, 2001*: 31-58.

16 Rhine et al. 2001, p. 64.

low- and moderate-income neighborhoods used a currency exchange (check casher) to obtain financial services.[16]

FINDINGS

The study reveals five major findings. Each is discussed in turn.

Finding 1. Alternative providers are disproportionately located in minority, low-income neighborhoods.

RACIAL/ETHNIC MAKEUP

Figure 1 illustrates the relevant comparisons for each of our sites. For each site, the pie chart on the left shows the racial/ethnic makeup of the county as a whole. The other two pie charts for each site show the racial/ethnic makeup of the typical neighborhood of an alternative provider and the typical neighborhood of a conventional bank, respectively.

In all but one of the eight sites, the typical neighborhood served by an alternative financial service provider overrepresents minorities relative to the county as a whole. In Cook County (Chicago), for example, the average alternative-provider neighborhood is 60 percent minority.

The picture for specific minority groups is slightly more varied. For alternative-provider neighborhoods, African Americans are overrepresented in six of the sites—the exceptions being Miami-Dade County (Miami) and Jackson County (Kansas City). Hispanics are also overrepresented in six sites but underrepresented only in Jackson County (Kansas City). Asians, in sharp contrast, are represented in exactly the same proportion for the alternative-provider neighborhood as for the county in four of the sites and are slightly underrepresented in the other four.

In all eight sites, the typical neighborhood served by a bank overrepresents non-Hispanic whites relative to the county as a whole. Hispanics are underrepresented in six sites, and account for the same proportion of the population in the other two. Blacks are underrepresented in all eight sites.

A useful way of showing the implications of this information is to superimpose the

FIGURE 1. **ALTERNATIVE FINANCIAL SERVICE PROVIDERS**

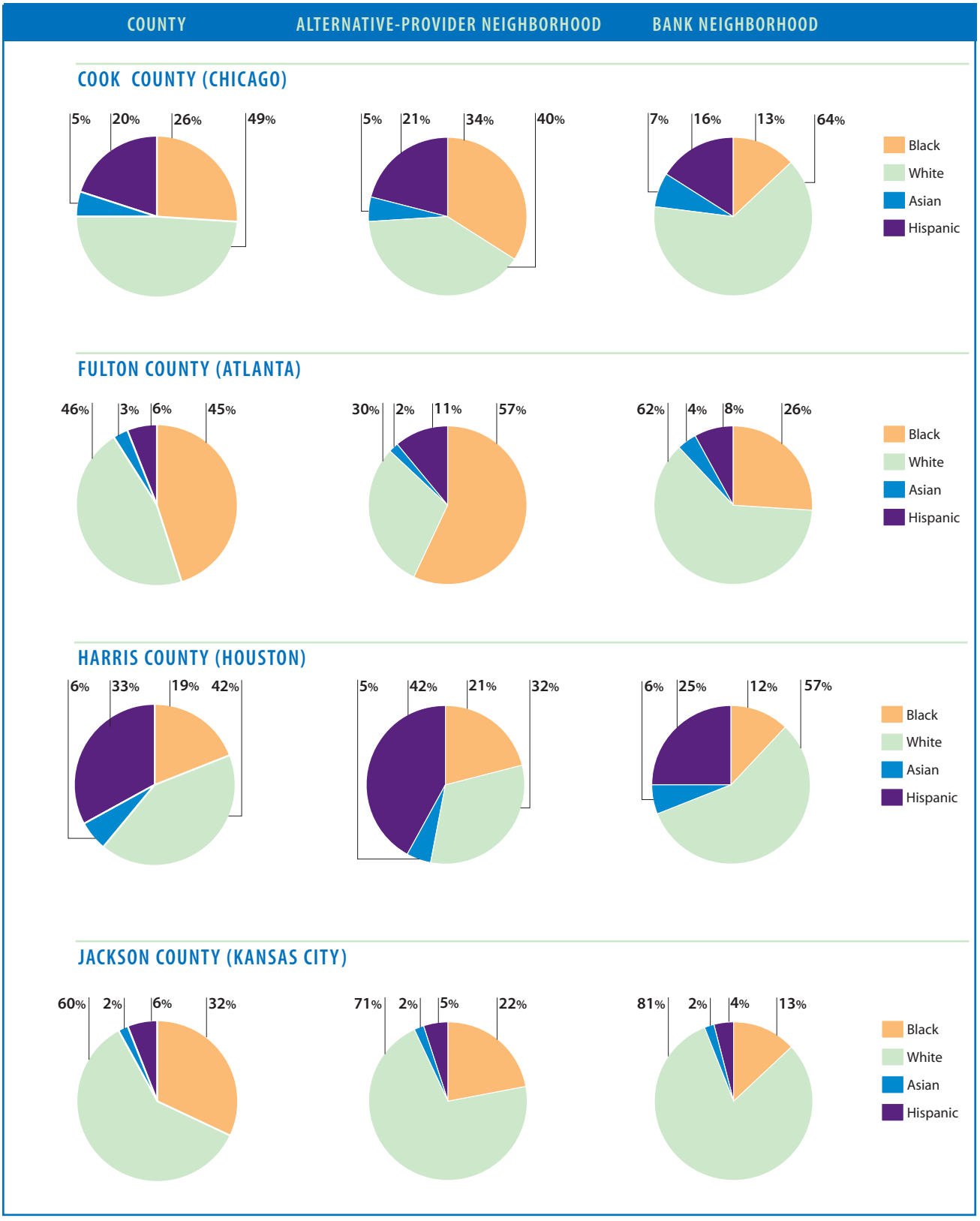


FIGURE 1. **ALTERNATIVE FINANCIAL SERVICE PROVIDERS** (CONTINUED)

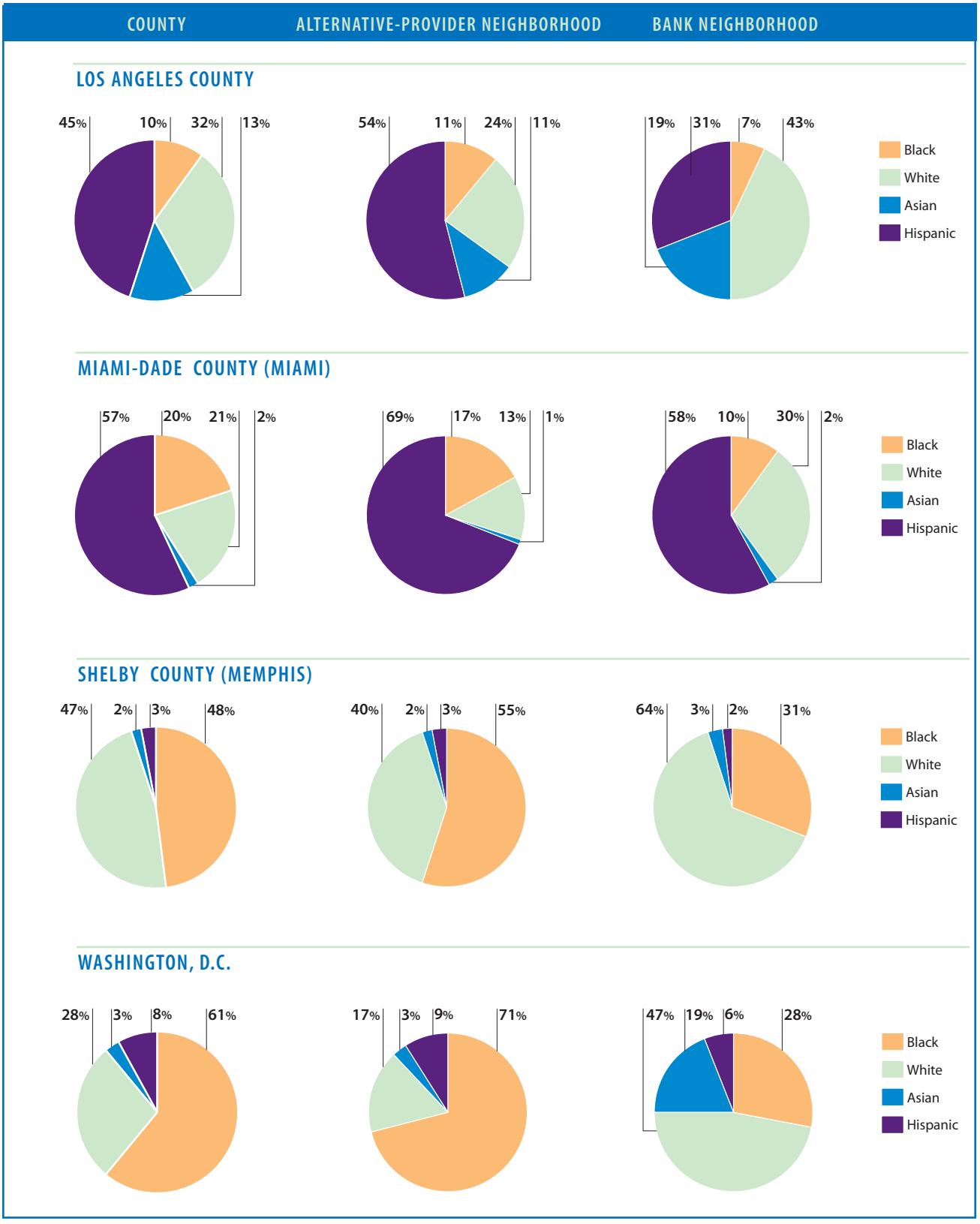
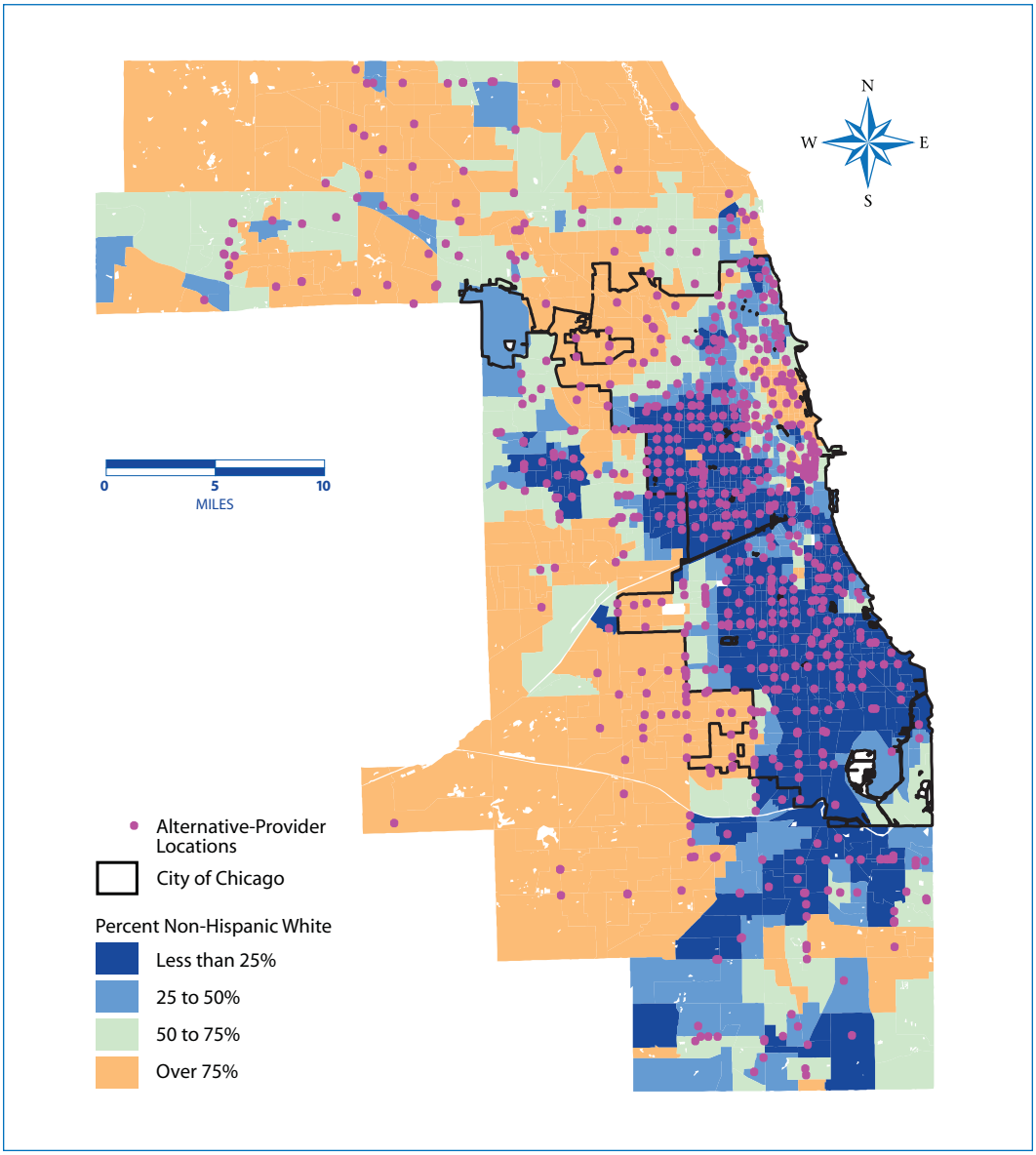
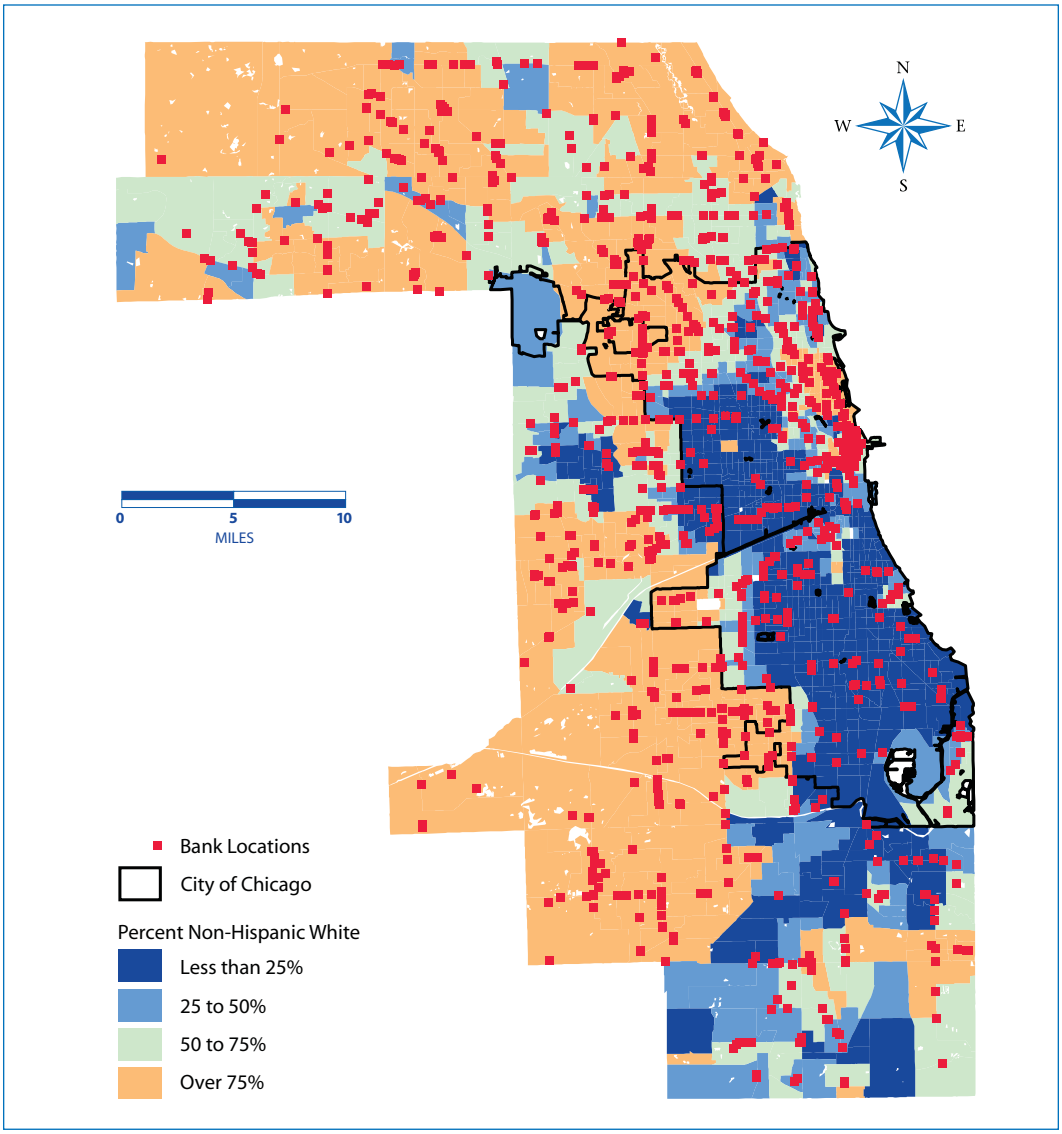


FIGURE 2. **COOK COUNTY, ILLINOIS: LOCATION OF ALTERNATIVE PROVIDERS, WITH PERCENT NON-HISPANIC WHITE**



location of the alternative providers and banks on the percentage of non-Hispanic whites per neighborhood. This is done for Cook County (Chicago) for alternative providers (figure 2) and for banks (figure 3). Alternative financial service providers are most common within the city of Chicago, located primarily downtown and in high-minority areas on the south and west sides of the city. Banks, by contrast, are located primarily downtown, in low-minority areas on the north side of the city and in the suburbs.

FIGURE 3. **COOK COUNTY, ILLINOIS: LOCATION OF RETAIL BANKS, WITH PERCENT NON-HISPANIC WHITE**



THE POVERTY PICTURE

Financially vulnerable households are overrepresented in the neighborhoods of alternative providers and underrepresented in the neighborhoods of banks (table 2). Alternative-provider neighborhoods have higher percentages of people below the poverty level than the county as a whole in all sites except Jackson County (Kansas City). The largest percentage-point gap is in Fulton County (Atlanta). Bank neighborhoods, in contrast, have lower percentages of the population below the poverty level than the county as a whole in every site, with the largest percentage-point gap being in Washington, D.C., and the lowest in Miami-Dade County (Miami).

TABLE 2. **POVERTY RATE OF THE AVERAGE NEIGHBORHOODS OF ALTERNATIVE PROVIDERS AND BANKS**

SITE	POVERTY RATE		
	COUNTY	ALTERNATIVE PROVIDER	BANK
Cook County (Chicago)	13%	16%	9%
Fulton County (Atlanta)	16%	24%	13%
Harris County (Houston)	15%	19%	13%
Jackson County (Kansas City)	12%	12%	9%
Los Angeles County	18%	22%	15%
Miami-Dade County (Miami)	18%	23%	17%
Shelby County (Memphis)	16%	18%	12%
Washington, D.C.	20%	22%	13%

Finding 2. Alternative providers are clustered in disproportionately minority and poor neighborhoods.

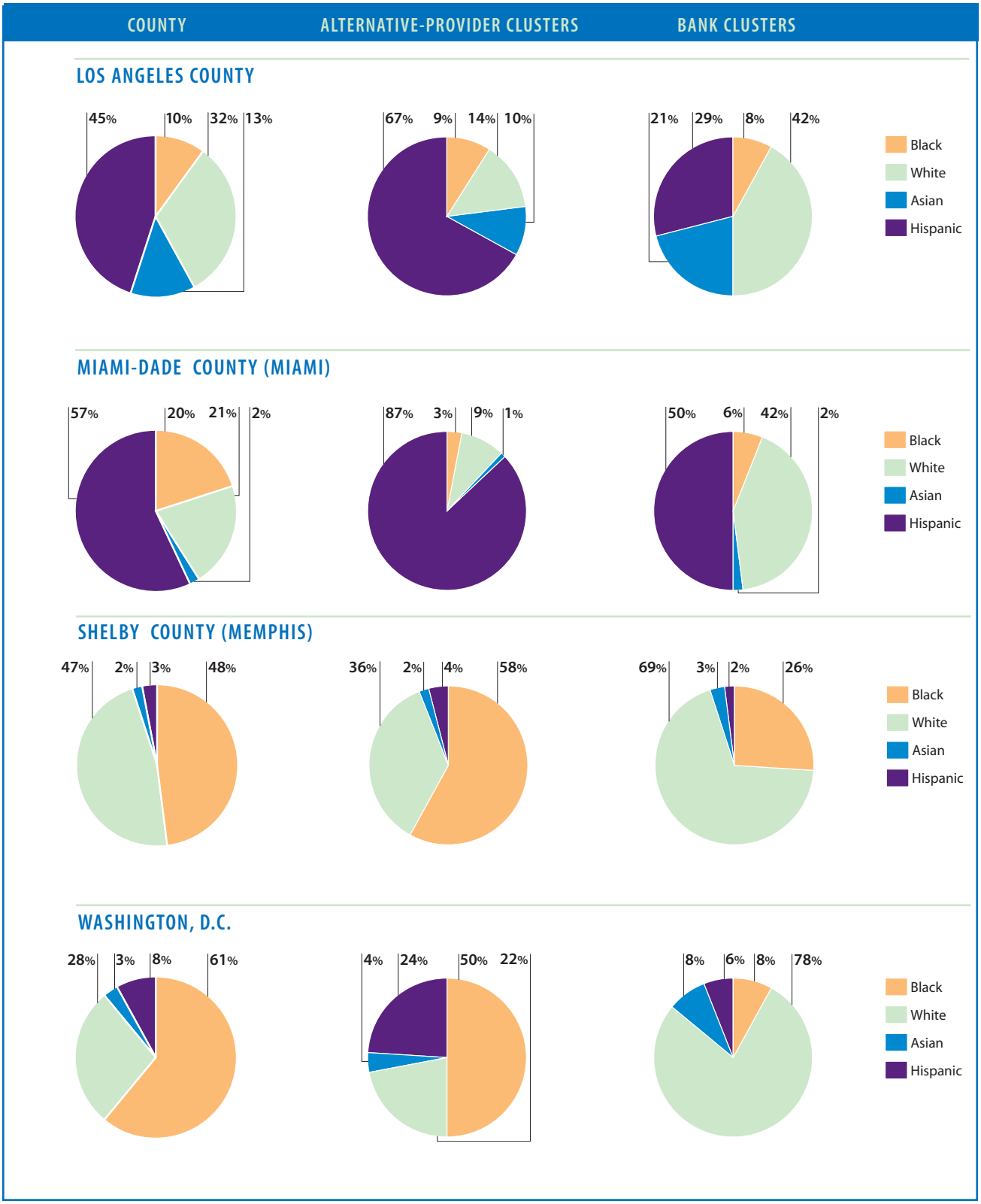
RACIAL/ETHNIC MAKEUP

Analysis of the racial/ethnic characteristics of the alternative-provider clusters reveals a picture similar to that at the neighborhood level—alternative-provider clusters are in predominantly minority areas. Figure 4 shows the cluster demographics in the eight sites. In each panel, the left pie chart shows the ethnic/racial makeup of the relevant county, the middle pie chart shows the makeup of alternative-provider clusters, and the right pie chart shows the makeup of bank clusters. In all sites except Jackson County (Kansas City), alternative providers cluster in neighborhoods that are majority nonwhite. In contrast, in six of the eight sites—all except Miami-Dade County (Miami) and Los Angeles County—banks cluster in neighborhoods that are majority white.

When we look at minority groups individually, however, the situation is different from the pattern observed for alternative providers at the neighborhood level. Hispanics are overrepresented in neighborhoods of alternative-provider clusters in all eight sites. This finding compares with African-American overrepresentation in only two of the sites—

FIGURE 4. **RACIAL/ETHNIC COMPOSITION OF COUNTY, ALTERNATIVE-PROVIDER CLUSTERS, AND BANK CLUSTERS**

FIGURE 4. **RACIAL/ETHNIC COMPOSITION OF COUNTY, ALTERNATIVE-PROVIDER CLUSTERS, AND BANK CLUSTERS** (CONTINUED)



Harris County (Houston) and Shelby County (Memphis). Bank clusters, on the other hand, mirror the neighborhood-level pattern, with non-Hispanic whites overrepresented in all eight sites, African Americans underrepresented in all eight sites, and Hispanics underrepresented in six of the eight sites.

To demonstrate the clustering pattern—using Washington, D.C., as our example—we superimpose alternative-provider and bank clusters on a map showing the percentage of non-Hispanic whites (figure 5) and the percentage of Hispanics (figure 6) by neighborhood. Alternative-provider clusters are located in high-minority neighborhoods and bank clusters in high–non-Hispanic white neighborhoods (figure 5). Alternative-

FIGURE 5. **WASHINGTON, D.C.: LOCATION OF ALTERNATIVE PROVIDERS AND RETAIL BANK CLUSTERS, WITH PERCENT NON-HISPANIC WHITE**

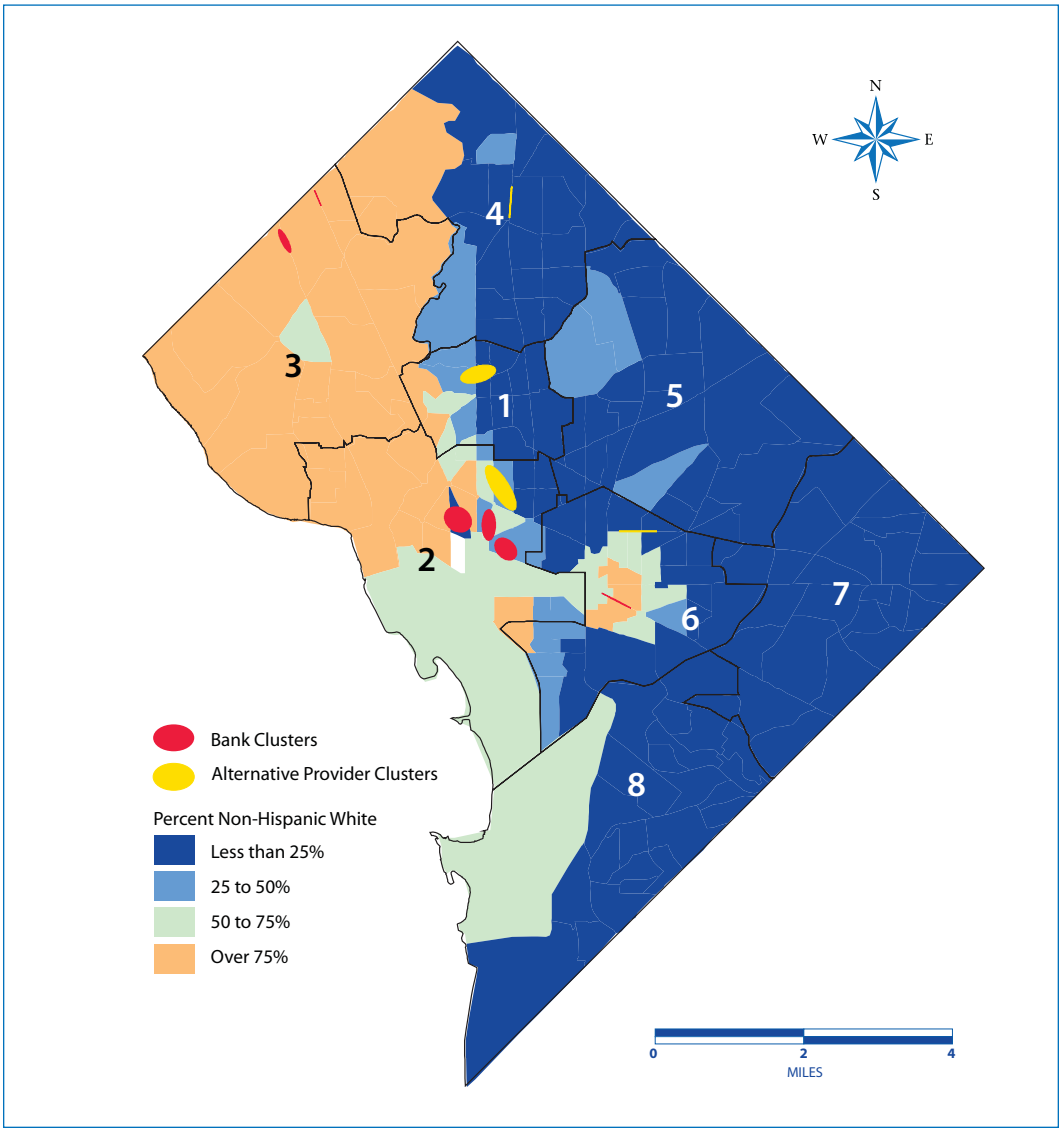
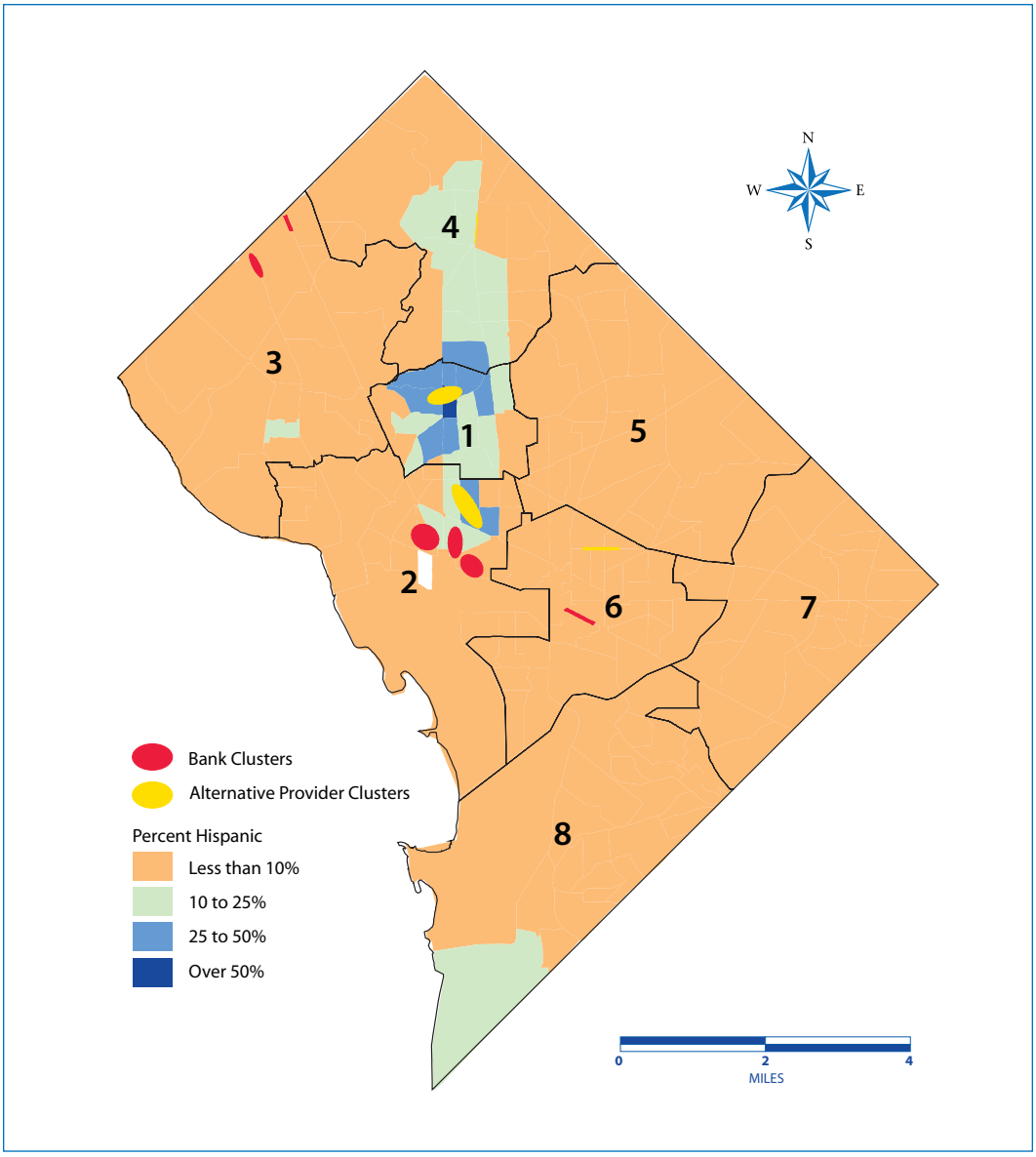


FIGURE 6. **WASHINGTON, D.C.: LOCATION OF ALTERNATIVE PROVIDERS AND RETAIL BANK CLUSTERS, WITH PERCENT HISPANIC**



provider clusters, however, are located in neighborhoods with the highest proportions of Hispanic residents (figure 6). The clusters are not located in the highest minority areas in the eastern part of the city, for example, which are largely African American. Banks, as expected, cluster downtown and in low-minority areas in the northwestern part of the city.

THE POVERTY PICTURE

Similar to the neighborhood-level patterns, alternative financial service providers cluster in neighborhoods with higher poverty rates than their county averages (table 3). Bank clusters, by contrast, are located in neighborhoods with a significantly lower poverty rate than the county average.

TABLE 3. **POVERTY RATE OF ALTERNATIVE-PROVIDER AND BANK CLUSTERS**

SITE	POVERTY RATE		
	COUNTY	ALTERNATIVE-PROVIDER CLUSTER	BANK CLUSTER
Cook County (Chicago)	13%	20%	11%
Fulton County (Atlanta)	16%	21%	11%
Harris County (Houston)	15%	20%	11%
Jackson County (Kansas City)	12%	13%	9%
Los Angeles County	18%	28%	15%
Miami-Dade County (Miami)	18%	22%	13%
Shelby County (Memphis)	16%	18%	8%
Washington, D.C.	20%	22%	7%

Finding 3. There are more alternative providers (and fewer banks) for every 10,000 residents in neighborhoods that are disproportionately minority and/or poor.

RACIAL/ETHNIC MAKEUP

Overall, we find that alternative providers are more numerous per capita in areas with higher minority populations. Alternative providers also outnumber conventional banks in the neighborhoods with the highest minority populations. Table 4 shows the per capita results. In all eight sites, the number of alternative providers per 10,000 residents increases with the share of the minority population, at least up to neighborhoods with a 50-75 percent minority population, and in six of the eight sites with up to a 75-90 percent minority population. In seven of the eight sites—all except Jackson County (Kansas City)—neighborhoods that are less than 10 percent minority have the lowest numbers of alternative providers.

TABLE 4. NUMBER OF ALTERNATIVE PROVIDERS PER 10,000 RESIDENTS, CLASSIFIED BY CENSUS TRACT PERCENT MINORITY

SITE	CENSUS TRACT PERCENT MINORITY						COUNTY AVERAGE
	UNDER 10%	10-25%	25-50%	50-75%	75-90%	OVER 90%	
Cook County (Chicago)	0.6	1.2	1.6	1.5	1.8	1.8	1.5
Fulton County (Atlanta)	0.3	0.4	1.1	3.6	1.4	1.6	1.2
Harris County (Houston)	0.2	0.4	1.1	1.7	1.7	1.6	1.0
Jackson County (Kansas City)	1.7	2.6	3.8	2.0	0.7	1.1	2.1
Los Angeles County	0.5	0.6	1.0	1.5	1.7	1.9	1.0
Miami-Dade County (Miami)	0.0	0.0	0.4	0.8	1.4	2.4	1.6
Shelby County (Memphis)	1.2	1.6	2.8	2.7	3.1	2.4	2.3
Washington, D.C.	0.0	0.6	1.7	2.6	3.5	2.6	2.2

TABLE 5. NUMBER OF BANKS PER 10,000 RESIDENTS, CLASSIFIED BY CENSUS TRACT PERCENT MINORITY

SITE	CENSUS TRACT PERCENT MINORITY						COUNTY AVERAGE
	UNDER 10%	10-25%	25-50%	50-75%	75-90%	OVER 90%	
Cook County (Chicago)	3.6	2.8	3.1	1.6	1.3	0.8	2.2
Fulton County (Atlanta)	3.7	4.4	2.3	5.7	2.2	1.0	2.8
Harris County (Houston)	3.1	3.5	2.2	2.2	1.1	0.8	2.0
Jackson County (Kansas City)	3.4	3.5	3.4	1.5	0.7	0.4	2.8
Los Angeles County	3.2	3.3	2.4	1.8	1.5	0.9	1.7
Miami-Dade County (Miami)	NA	7.0	4.2	4.2	1.8	1.2	2.4
Shelby County (Memphis)	4.0	4.4	2.1	2.5	1.6	1.0	2.6
Washington, D.C.	138.9*	5.7	3.7	5.9	1.9	1.0	2.7

* This number is unusually high because the few neighborhoods in Washington, D.C., that are less than 10 percent minority tend to be located in the banking center of the city.

Banks show the opposite pattern (table 5), although slightly less strongly, with the maximum number of conventional banks per 10,000 residents being either in neighborhoods with less than 10 percent minority or in neighborhoods between 10 and 25 percent minority. (The result for Washington, D.C. is highly anomalous because only a few neighborhoods are less than 10 percent minority, and these areas tend to be in the banking center of the city.)

Interestingly, banks outnumber alternative providers in all but the highest minority neighborhoods. In all eight sites, for example, neighborhoods under 10 percent minority and between 10 and 25 percent minority have more banks than alternative providers per capita. And in six of the eight sites, the same thing is true for neighborhoods that are 25-50 percent minority and 50-75 percent minority. Only in the tracts with the very highest percent minority (75 percent) do alternative providers tend to outnumber banks.

THE POVERTY PICTURE

Neighborhoods with higher poverty rates also tend to have higher numbers of alternative providers per capita (see table 6). In six of the eight sites, neighborhoods with poverty rates over 30 percent have the highest number of alternative providers per

TABLE 6. **NUMBER OF ALTERNATIVE PROVIDERS PER 10,000 RESIDENTS, CLASSIFIED BY CENSUS TRACT POVERTY RATE**

SITE	CENSUS TRACT POVERTY RATE					AVERAGE NUMBER OF ALTERNATE PROVIDERS
	UNDER 5%	5-10%	10-20%	20-30%	OVER 30%	
Cook County (Chicago)	1.0	1.5	1.6	1.5	2.1	1.5
Fulton County (Atlanta)	0.2	1.1	1.7	1.9	2.1	1.2
Harris County (Houston)	0.3	1.0	1.6	1.8	2.0	1.3
Jackson County (Kansas City)	1.2	3.7	2.0	1.6	1.7	2.1
Los Angeles County	0.6	0.9	1.5	1.9	2.3	1.5
Miami-Dade County (Miami)	0.2	0.6	1.7	2.1	2.5	1.6
Shelby County (Memphis)	0.6	2.6	3.2	3.3	2.4	2.3
Washington, D.C.	0.9	1.1	2.8	3.6	1.4	2.2

TABLE 7. **NUMBER OF BANKS PER 10,000 RESIDENTS, CLASSIFIED BY CENSUS TRACT POVERTY RATE**

SITE	CENSUS TRACT POVERTY RATE					AVERAGE NUMBER OF BANKS
	UNDER 5%	5-10%	10-20%	20-30%	OVER 30%	
Cook County (Chicago)	3.1	2.5	1.8	1.2	0.8	2.2
Fulton County (Atlanta)	2.8	3.9	3.9	1.3	1.9	2.8
Harris County (Houston)	2.3	2.9	1.6	1.2	2.1	2.0
Jackson County (Kansas City)	2.6	4.2	2.9	1.3	0.7	2.8
Los Angeles County	1.9	2.4	1.9	1.2	1.2	1.7
Miami-Dade County (Miami)	2.3	2.7	2.8	1.4	2.2	2.4
Shelby County (Memphis)	3.6	3.3	1.6	2.3	1.3	2.6
Washington, D.C.	5.6	3.0	2.0	2.2	2.5	2.7

capita (ranging from 2.0 to 2.5 providers per 10,000 residents). In all eight sites, neighborhoods with poverty rates below 5 percent have the lowest number of alternative providers per capita (ranging from 0.2 to 1.2 per 10,000 residents).

The picture for banks is consistent with the alternative-provider pattern (table 7). In seven of the eight sites, the neighborhoods with the highest number of banks per 10,000 residents have poverty rates of 10 percent or less. Likewise, higher-poverty tracts tend to have the lowest number of banks per capita. In all eight sites, the smallest number of banks per capita is in neighborhoods with 20-30 percent poverty or higher.

Finding 4. Banks are often located in the same neighborhoods as alternative providers, casting doubt on the spatial void hypothesis, which contends that alternative providers fill a supply vacuum.

Banks are not completely absent from neighborhoods served by alternative financial service providers. As shown in table 8, in all eight sites the majority of alternative providers serve neighborhoods with at least one bank. Across all eight sites, 59 percent of alternative providers are located in neighborhoods with one or more bank(s).

TABLE 8. NUMBER OF ALTERNATIVE PROVIDERS, CLASSIFIED BY RETAIL BANK PRESENCE IN NEIGHBORHOOD

SITE	ALTERNATIVE-PROVIDER TRACT	
	HAS A BANK	HAS ALTERNATIVE PROVIDER ONLY
Cook County (Chicago)	467	321
Fulton County (Atlanta)	58	34
Harris County (Houston)	251	180
Jackson County (Kansas City)	96	39
Los Angeles County	764	673
Miami-Dade County (Miami)	241	112
Shelby County (Memphis)	141	57
Washington, D.C.	76	49

TABLE 9. DISTANCE BETWEEN ALTERNATIVE PROVIDERS AND CONVENTIONAL BANKS AND BETWEEN ALTERNATIVE PROVIDERS, IN MILES

SITE	MEDIAN DISTANCE BETWEEN ALTERNATIVE PROVIDERS AND NEAREST BANK	MEDIAN DISTANCE BETWEEN ALTERNATIVE PROVIDER AND NEAREST ALTERNATIVE PROVIDER
Cook County (Chicago)	0.17	0.32
Fulton County (Atlanta)	0.29	0.23
Harris County (Houston)	0.37	0.26
Jackson County (Kansas City)	0.23	0.14
Los Angeles County	0.32	0.17
Miami-Dade County (Miami)	0.23	0.23
Shelby County (Memphis)	0.26	0.14
Washington, D.C.	0.25	0.15

Another indicator of spatial isolation is the median distance between alternative providers and banks. If alternative providers are closer to one another than to banks, spatial isolation would seem to be a factor in determining location patterns. The analysis indicates the contrary (table 9). In only two sites is the median distance between alternative providers shorter than that between alternative providers and banks. And in all of the sites, the median distance between alternative providers and banks is no more than about seven city blocks (0.35 miles). In five of the eight sites, the median distance is five blocks or less (0.25 miles).

The presence of banks in alternative-provider clusters provides another test to the spatial void hypothesis. Here again, the hypothesis is not supported (table 10). Across all eight sites, more than two-thirds of alternative-provider clusters include at least one bank. And in seven of the eight sites, alternative-provider and bank clusters overlapped some (although this overlap may simply be typical of a downtown business area).

TABLE 10. **BANK PRESENCE WITHIN ALTERNATIVE-PROVIDER CLUSTERS**

SITE	NUMBER OF ALTERNATIVE-PROVIDER CLUSTERS	CLUSTERS THAT INTERSECT WITH BANK CLUSTERS	CLUSTERS WITH ONE OR MORE BANKS
Cook County (Chicago)	18	11	14
Fulton County (Atlanta)	2	1	2
Harris County (Houston)	22	4	14
Jackson County (Kansas City)	9	3	6
Los Angeles County	57	14	37
Miami-Dade County (Miami)	20	2	17
Shelby County (Memphis)	14	5	13
Washington, D.C.	4	0	3
TOTAL	**146**	**40**	**106**

Finding 5. The regulatory environment makes little difference to the location of alternative providers and banks.

Many local jurisdictions and states have enacted laws to limit the allowable types of alternative providers and the fees they charge. A reasonable expectation would be that such regulations would affect the number and location of alternative providers, with more favorable regulations—such as allowing higher or unlimited fees—resulting in more banking alternatives. This expectation, however, is not supported by the analysis (table 11). From site to site, there is little difference in the number and location of alternative providers, regardless of whether the area represents a weak, intermediate, or strong regulatory environment.

As indicated in table 11, Fulton County (Atlanta)—which requires licenses for check cashers and pawnshops and has fee limits—has 1.2 alternative providers per 10,000

TABLE 11. **NUMBER OF ALTERNATIVE PROVIDERS PER 10,000 RESIDENTS, BY REGULATORY ENVIRONMENT**

SITE	REGULATORY ENVIRONMENT[1]	NUMBER OF ALTERNATIVE PROVIDERS PER 10,000 RESIDENTS
Cook County (Chicago)	Intermediate	1.5
Fulton County (Atlanta)	Strong	1.2
Harris County (Houston)	Weak	1.3
Jackson County (Kansas City)	Weak	2.1
Los Angeles County	Strong	1.5
Miami-Dade County (Miami)	Strong	1.6
Shelby County (Memphis)	Intermediate	2.3
Washington, D.C.	Strong	2.2

[1] Strong = county/local government requires licensing for all of the alternative providers examined and regulates aspects of business operations.

Moderate = county/local government regulates key aspects of business operations for some of the alternative providers examined.

Weak = county/local government places few, if any, restrictions on the types of alternative providers examined.

residents. This per capita figure is nearly identical to that of Harris County (Houston), which does not require check cashers to have a license and places no restrictions on their fees. Similarly, Washington, D.C., an area with a strong regulatory environment, has the second-highest per capita number of alternative providers among our sites—2.2 alternative providers per 10,000 residents.

While the regulatory environment seems to have little effect on the total number of alternative providers in a site, it may influence the mix of alternative-provider types. For example, during the study period, Fulton County and Washington, D.C., prohibited payday lenders. But prohibiting one type of alternative provider may simply increase the per capita representation of other types of alternative providers—for example, pawnshops are disproportionately numerous in Fulton County (Atlanta), and check cashers in Washington, D.C.

There is evidence, however, that one type of regulation probably has an effect on location patterns. Chicago restricts the minimum distance between check cashers to one-half mile. Given this restriction, it is not surprising that the median distance between alternative providers in Cook County (Chicago) is about one-third of a mile—25 percent longer than the next longest distance, which is about a quarter mile in Fulton County (Atlanta).

NEXT QUESTIONS TO ANSWER

The analysis provides definitive evidence that alternative providers are disproportionately located in minority and poor neighborhoods. This finding holds irrespective of a city's regulatory environment, geographic location, or demographic composition. Moreover, alternative providers tend to cluster in neighborhoods that are minority and poor. Conversely, banks are located in neighborhoods with higher proportions of non-Hispanic whites and lower proportions of residents at or near poverty. Controlling for population size does not change this conclusion. Neighborhoods with higher poverty rates and minority populations have higher numbers of alternative financial service providers and lower numbers of banks per capita. These areas also tend to have more alternative providers than banks per capita.

These conclusions are consistent with findings of other studies using less comprehensive data and methods. But we have three additional pieces of evidence that may move the debate about reasons for these findings to a new level.

First, alternative financial service providers do not operate in isolation from banks. Indeed, the typical distance between alternative providers and the nearest bank is not much farther than the distance between alternative providers and their nearest alternative-provider neighbor. Second, the regulatory environment makes little difference to the number or location of alternative providers. It does affect the types of alternative providers that are operating in a jurisdiction, but not the total number, because the permissible types of alternative providers may increase their numbers to compensate. Third, clusters of alternative providers (i.e., groups of at least five in close proximity to one another) are more likely to be found in predominantly Hispanic neighborhoods than in predominantly African-American neighborhoods.

This combination of findings suggests that future research on these location patterns should identify the reasons consumers give for using alternative providers and examine the types of nonbank transactions most typical of different types of customers.

APPENDIX A

THE LOCATION OF ALTERNATIVE FINANCIAL SERVICES PROVIDERS: THE RESEARCH SO FAR

As indicated in table A–1, alternative providers have been found to be located disproportionately in low- and moderate-income neighborhoods. These findings are consistent regardless of the study site, data used, or statistical methods employed.

TABLE A–1. **PREVIOUS SPATIAL ANALYSES OF ALTERNATIVE-PROVIDER LOCATION**

STUDY	LOCATION(S) ANALYZED	DATA AND METHODS	RESULTS
Bachelder, Sam, and Sam Ditzion. 2000. Survey of Non-Bank Financial Institutions. Boston, Mass.: Dove Consulting. Report.	Atlanta, Boston, San Antonio, and San Diego	ZIP-code level GIS analysis of InfoUsa database of check cashing, currency exchange, and money transfer firms; SIC codes 609903, 609901 and 609910 (referred to as NFBIs) outlets. Analysis included correlation coefficients of number of NFBIs and demographic variables. In addition, study calculated distances between NFBIs and retail bank branches.	Statistically significant positive correlation between number of alternative providers and number of adults working less than 50 weeks per year. Inverse, but not statistically significant relationship between number of alternative providers and median family income. Alternative providers tend to be farther from other alternative providers than from retail bank branches.
Federal Reserve Bank of Boston. 1999."Check Cashers: Moving from the Fringes to the Financial Mainstream." Federal Reserve Bank of Boston, Communities and Banking (26): 2-15.	Boston, Hartford, and Providence	Dun and Bradstreet records of check cashing outlets geocoded to 1990 census tracts and 1990 U.S. census data. Clusters identified by drawing circles around the densest number of check-cashing outlets found within the tightest radius of a metropolitan area.	Demographic characteristics of census tracts within clusters are disproportionately low- and moderate-income and below the poverty line. Yet, tracts are not unbanked: there are a large number of depository institutions within check-cashing outlet clusters.
Doyle, Joseph J., Jose A. Lopez, and Marc R. Saidenberg. 1998. "How Effective is Lifeline Banking in Assisting the 'Unbanked.'" Federal Reserve Bank of New York, Current Issues in Economics and Finance 4(6):1-6.	New York City	New York State Banking Department; SNL Branch Migration DataSource version 1.5; U.S. Postal Service.	As of June 1995, 20 percent of check-cashing outlets were in low-income census tracts; 29 percent of outlets were in ZIP codes with no bank branches. However, 71 percent of New York City's check-cashing outlets share a ZIP code with at least one bank branch.

APPENDIX B

STUDY STRENGTHS

The study has three major strengths: It covers eight study sites that differ in geographic, demographic, and regulatory characteristics; contains a more accurate and up-to-date count of alternative providers than past studies; and uses sophisticated techniques for comparing neighborhoods in which alternative providers and banks are found.

More Representative Study Sites

Unlike previous studies, which covered only a limited number of geographic locales, this study looks in detail at seven metropolitan counties—Cook County, Illinois (major city Chicago); Fulton County, Georgia (major city Atlanta); Harris County, Texas (major city Houston); Jackson County, Missouri (major city Kansas City); Los Angeles County, California (major city Los Angeles); Miami-Dade County, Florida (major city Miami); Shelby County, Tennessee (major city Memphis)—and Washington, D.C.

- We chose the particular set of counties to ensure that we covered a range of demographic characteristics (table B–1). Our sites range, for example, between 21 percent and 59 percent white, between 10 percent and 60 percent black, and between 3 percent and 57 percent Hispanic. In terms of poverty rates, the sites range between 12 percent and 20 percent poor.
- We chose the county as our unit of analysis, rather than the metropolitan area, to ensure that we could identify financial service markets that are wholly contained

TABLE B-1. **DEMOGRAPHIC INFORMATION ON STUDY SITES**

SITE	PERCENT WHITE	PERCENT BLACK	PERCENT HISPANIC	PERCENT ASIAN	POVERTY RATE	MEDIAN INCOME ($)
Cook County (Chicago)	48%	26%	20%	5%	13%	45,922
Fulton County (Atlanta)	46%	45%	6%	3%	16%	47,321
Harris County (Houston)	43%	19%	33%	6%	15%	42,598
Jackson County (Kansas City)	59%	32%	6%	2%	12%	39,277
Los Angeles County	32%	10%	45%	13%	18%	42,189
Miami-Dade County (Miami)	21%	20%	57%	2%	18%	35,966
Shelby County (Memphis)	47%	49%	3%	2%	16%	39,593
Washington, D.C.	28%	60%	8%	3%	20%	40,127

TABLE B-2. **SUMMARY OF STATE ALTERNATIVE-PROVIDER REGULATIONS**

SITE	REGULATORY ENVIRONMENT	CHECK CASHERS[1]		PAYDAY LENDERS[2]		PAWNSHOPS[3]	
		LICENSE REQUIRED	FEE LIMITS	LICENSE REQUIRED	FEE LIMITS	LICENSE REQUIRED	FEE LIMITS
Cook County (Chicago)	Intermediate	Yes	Yes	Yes	No	Yes	Yes
Fulton County (Atlanta)	Strong	Yes	Yes	Not applicable	Not applicable	Yes	Yes
Harris County (Houston)	Weak	No	No	Yes	Yes	Yes	Yes
Jackson County (Kansas City)	Weak	No	No	Yes	No	No	No
Los Angeles County	Strong	Yes	Yes	Yes	Yes	Yes	Yes
Miami-Dade County (Miami)	Strong	Yes	Yes	Yes	Yes	Yes	Yes
Shelby County (Memphis)	Intermediate	Yes	Yes	Yes	Yes	No	No
Washington, D.C.	Strong	Yes	Yes	Yes	Yes	Yes	Yes

[1] Eskin, Sandra. 1999. *Check Cashing: A Model State Statute*. AARP Public Policy Institute, March.
[2] Renuart, Elizabeth. 2000. *Payday Loans: A Model State Statute*. AARP Public Policy Institute, October.
[3] National Pawnbrokers Association. 1996. Summary of State Rates, October.
Note: Fulton County does not allow payday lenders.

within a given state. This approach allows us to assess the effect of a state's regulations on alternative provider location patterns (table B–2).

- To ensure a wide geographic spread, our eight sites include western, midwestern, and eastern seaboard states. Within those states, we restricted our selection to counties with a major city to ensure a focus on metropolitan markets.

In addition to offering demographic and geographic diversity, the study considers variations among states in the regulation of alternative financial service providers. Using state regulatory information, each site was rated as strong, moderate, or weak. Sites were classified as strong if they required all three types of alternative providers studied (check cashers, payday or deferred-deposit lenders, and pawnshops) to be licensed and regulated aspects of business operations, most importantly by placing limits on interest rates and fees. Moderate regulatory environments were those that regulated key aspects of business operations for some types of alternative providers. Weak regulatory environments were classified as those that imposed few, if any, restrictions on the three types of alternative providers studied (table B–3).

COMPREHENSIVE IDENTIFICATION OF ALTERNATIVE-PROVIDER LOCATION

Unlike previous research, which uses only census tract characteristics, this analysis

TABLE 3. **NUMBER OF ALTERNATIVE PROVIDERS AND BANKS FOR STUDY SITES**

SITE	POPULATION	NUMBER OF CHECK CASHERS	NUMBER OF PAYDAY LENDERS	NUMBER OF PAWNSHOPS	TOTAL ALTERNATIVE PROVIDERS	NUMBER OF BANKS
Cook County (Chicago)	5,376,000	520	231	79	830	1,236
Fulton County (Atlanta)	816,000	57	NA	47	104	256
Harris County (Houston)	3,400,000	210	186	205	449*	725
Jackson County (Kansas City)	654,000	44	114	25	153*	190
Los Angeles County	9,519,000	1,289	563	211	1,500*	1,699
Miami-Dade County (Miami)	2,253,000	150	4	231	381*	558
Shelby County (Memphis)	897,000	71	192	40	260*	249
Washington, D.C.	572,000	107	Not applicable	18	125	199

* The total number of alternative providers is less than the sum of each category because some businesses may serve as more than one type of alternative provider.

uses two different techniques that together provide a more definitive picture of the characteristics of neighborhoods where alternative providers and banks are located. First, for each study area, we generate a demographic profile of a "typical neighborhood" (i.e., census tract) where alternative providers and banks are most likely to be found.[17] We then compare the demographic composition—minority and poverty characteristics—of these typical neighborhoods with their respective county averages. This method allows us to determine whether the neighborhoods served by alternative providers (or banks) are significantly different from the county as a whole. Second, in each study area, we identify geographic clusters, or "hot spots," that contain at least five alternative providers or banks in close proximity to each other.[18] We then compare the average demographic characteristics of these clusters with their respective county averages. These two approaches give us a comprehensive picture of the types of neighborhoods in which alternative providers are located and allow us to compare the neighborhoods with those served primarily by banks.

17 We generate this profile using an "exposure index," a technique commonly by used by demographers. Specifically, each census tract in a given study area is weighted by the number of alternative providers (or banks). These tract weights are then used in averaging relevant census information to create a demographic profile of the typical neighborhood served by an alternative provider or retail bank.

18 We identify these areas using a "nearest neighbor hierarchical clustering technique," a method often used to identify high-crime areas and by epidemiologists to reveal patterns of disease epidemics. This technique allows us to identify areas that exhibit a statistically significant concentration of alternative providers and retail banks that would not result if their location patterns were random. Juxtaposition of these clusters with the underlying census tracts allows us to develop demographic profiles of clusters for both alternative providers and banks.

APPENDIX C

DATA AND METHODS

Data Collection

For each of the eight sites, we collected state licensing data for three types of alternative financial providers: check cashers, payday or deferred-deposit lenders, and pawnshops. If state licensing data were not available or did not include an address, we purchased business data from INFO-USA, a commercial vendor of business information. We rely on state licensing data as the primary source because, when available, it offers a more accurate picture of the number of alternative providers. INFO-USA and other commercially purchased sources of business information distinguish between types of businesses based on Standard Industrial Classification (SIC) code. Both check cashers and payday lenders share the same SIC code, so the INFO-USA data cannot distinguish between these types of providers. Furthermore, the primary business of many licensed alternative financial services providers is unrelated to financial services. In Washington, D.C., and Los Angeles County, for example, several licensed check cashers were also liquor stores or convenience stores. For retail bank data, we used the Federal Deposit Insurance Corporation (FDIC) bank branch database. This data set provides a listing of the addresses of the branch locations of all FDIC-insured institutions.

In four of the eight sites, the data used came from state licensing information and the FDIC database. Texas and Missouri do not require a license for check cashing, so we used INFO-USA data for check cashers in Harris County and Jackson County. We were unable to obtain licensing data for pawnshops in Jackson, Shelby, and Fulton Counties. In addition, in Fulton County, the publicly available check-cashing data did not include addresses, so we used the INFO-USA database instead. The data sources for each site are listed in table C–1.

Statistical Methods

The data for the eight sites were geocoded so that we could identify the census tracts containing each alternative provider and retail bank branch. This approach allowed us to conduct the following two analyses: (1) calculate exposure indices for alternative providers and retail bank branches that measure the demographics in a typical census tract that has at least one alternative provider or retail bank branch; and (2) Nearest Neighbor Hierarchical Clustering (NNHC) techniques to identify

TABLE C-1. **DATA SOURCES**

SITE	CHECK CASHER	PAYDAY LENDER	PAWNSHOP	RETAIL BANK
Cook County (Chicago)	Illinois Department of Financial Institutions	Illinois Department of Financial Institutions	Illinois Office of Banks and Real Estate	FDIC
Fulton County (Atlanta)	INFO-USA	Not available	INFO-USA	FDIC
Harris County (Houston)	INFO-USA	Texas Office of the Consumer Credit Comissioner	Texas Office of the Consumer Credit Comissioner	FDIC
Jackson County (Kansas City)	INFO-USA	Missouri Division of Finance	INFO-USA	FDIC
Los Angeles County	California Department of Justice–Check Cashers Permit Program	California Department of Justice–Check Cashers Permit Program	California Department of Justice–Pawnbroker Division	FDIC
Miami-Dade County (Miami)	Florida Department of Financial Services	Florida Department of Financial Services	Florida Dept. of Agriculture and Consumer Services	FDIC
Shelby County (Memphis)	Tennessee Department of Financial Institutions	Tennessee Department of Financial Institutions	INFO-USA	FDIC
Washington, D.C.	District of Columbia Department of Banking and Financial Institutions	Not available	District of Columbia Department of Consumer and Regulatory Affairs	FDIC

areas with high concentrations of alternative providers and retail banks and report the demographic characteristics of areas that contain clusters of alternative providers and retail bank branches.

These techniques are used together to address the research questions. Therefore, our conclusions are not based on statistical artifacts that may result from only using one type of analysis. Rather, the two types of analyses together provide a more definitive picture of the spatial locations of alternative providers. The exposure index, which is widely used in demographic analyses, shows the demographic composition of the census tract of an average alternative provider. By itself, however, the exposure index does not tell us about the relative exposure of minority and low-income families to alternative providers. Therefore, throughout the analysis, we compare the exposure index of lower-income and minority families to the proportion of such families in the overall study site composition.

For example, if a study site's average census tract has a minority population of 50 percent, then we would expect the census tract of the average alternative provider to have the same proportion. If it is higher, say 75 percent, then the average census tract with an alternative provider is considered disproportionately minority. Conversely, if the exposure index is lower, then we would conclude that the census tracts that have an alternative provider are disproportionately nonminority.

We used NNHC techniques to identify clusters of alternative providers and retail bank branches. The technique is often used in criminological and epidemiological studies of incidents (crime activity, illnesses, etc.) and uses the actual location of events as a unit of analysis. NNHC rigorously assesses whether or not events in a particular geographic area are more closely located than would be expected if they were randomly distributed across space. Consider, for example, the possibility that alternative providers were located according to the position of darts thrown at a map on the wall. The locations would be random and very unlikely to cluster in particular areas. The actual distribution pattern in space is compared with a random pattern, and the GIS program identifies clusters—locations of a number of alternative providers or retail bank branches in a relatively small spatial area—that are not the result of chance.

Criminologists have used these clusters (or "hot spots") to pinpoint the location of high-crime areas. Similarly, epidemiologists use cluster analysis to identify areas

that may have an inordinately high level of a given disease. We use the technique to assess whether or not neighborhoods that have only one alternative provider or retail bank branch are different from those that have a cluster. We do not suggest that clusters of alternative providers or retail bank branches are "hot spots" in need of a targeted intervention. We use the technique to further analyze how alternative providers are located in space and compare this distribution in a consistent fashion to retail bank branches.

We used the NNHC procedure built into the Crimestat 2.0 software. In this program, the NNHC technique requires the specification of two thresholds: the minimum number of observations necessary for a cluster as well as the degree of statistical significance. In our NNHC analyses, we define a cluster as a spatial area that has at least five alternative providers or retail bank branches close enough together that the likelihood that the grouping resulted from chance is 1 percent. A minimum of five retail banks or alternative providers was determined using preliminary analyses of Washington, D.C., and Los Angeles County. We decided that higher thresholds were too restrictive to be informative given the variations in population and geography among the eight sites. The 1 percent threshold was selected to ensure that the clusters represented reliably nonrandom concentrations of alternative providers and retail banks. Using a lower threshold would have resulted in a higher number of clusters.

The NNHC technique is used in two ways. First, the clusters are mapped according to the geographic distribution of retail bank and alternative-provider clusters across the eight sites. Some of these maps are included in the report. (A complete set of maps for the eight sites and a more comprehensive description of the data are available from the authors.) Second, once the clusters are identified, the census tracts that underlie the clusters are identified and are used to describe the demographic composition of the clusters.

Finally, we also classified census tracts by their poverty rates as well as their percentage minority population. The total population, number of alternative providers, and number of retail banks were summarized by each class of census tract. These numbers were used to determine the per capita distribution of retail banks and alternative providers within different types of neighborhoods. This part of the analysis attempts to describe residents' "exposure" to banks and alternative providers.

The report also analyzes whether retail banks and alternative providers occupy the same neighborhoods, using three basic techniques. First, in all eight sites, the geocoded bank and alternative-provider data were assigned to census tracts, and we counted how many census tracts with an alternative provider also contain a retail bank. Second, we used the geocoded data to calculate the distance between each alternative provider and its nearest alternative provider as well as its nearest retail bank branch. We then compared the median distance between alternative providers as well as between alternative providers and retail banks for each of the eight sites. Finally, the nearest-neighbor clusters for alternative providers were analyzed to see if they contained any retail bank branches.

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