

## Spatial Segregation of Financial Services in Racial and Ethnic Minority Neighborhoods

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### Abstract

In this study I examine the association of neighborhood socio-demographic characteristics with the access to different types of financial institutions in Chicago. Using the U.S. Census data at the block group level and geocoded addresses of four types of financial institutions extracted using North American Industry Classification System code (NAICS), I examine whether racial and ethnic minority neighborhoods are segregated from access to financial services. Preliminary findings suggest that neighborhoods with a high percentage of African Americans have the most severe physical inaccessibility to all types of financial services, except for alternative banking (e.g. check cashing places). Utilizing spatial Poisson regression, I will examine how racial and ethnic minority neighborhoods are segregated from financial services and describe the patterns of spatial segregation of financial services.

Financial exclusion is defined as the ‘inability of some financial services segments to access financial services in appropriate form’ (Panigyrikis et al, 2002). Previous research have found that racial and ethnic minorities are more susceptible to be financially excluded, yet whether or not financial segregation occurs for racial and ethnic minorities at the neighborhood level is inconclusive.

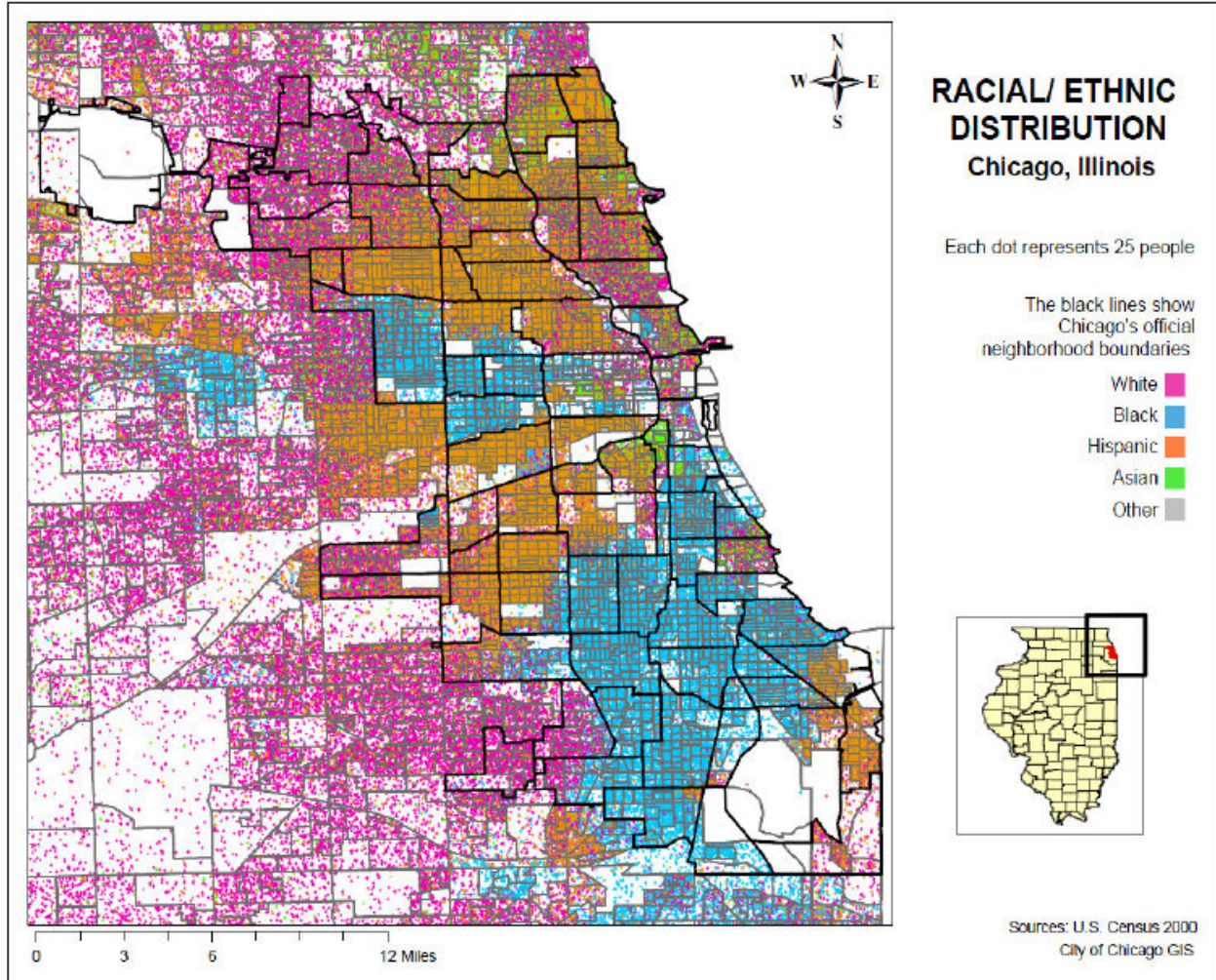
In January 2009, the Federal Deposit Insurance Corporation (FDIC) sponsored the United States Census Bureau’s Current Population Survey (CPS) in order to collect data on U.S. households who do not have any bank accounts (FDIC, 2009). Out of approximately 54,000 households who received the FDIC’s supplement survey, nearly 47,000 households (a response rate of 86%) participated. According to their report, nearly 7.7 percent of U.S. households and approximately 9 million households do not have any type of bank account. When the numbers of households who do not have any banks accounts are calculated by different racial-ethnic minority groups, the findings are even more astounding: An estimated 21.7 percent of African American households and 19.3 percent of Hispanic households do not have any bank accounts (FDIC, 2009). In this light of existing racial-ethnic disparity in access to financial resources, it is worth the effort to investigate the spatial distribution of various financial institutions in urban areas to examine how racial and ethnic minority neighborhoods are segregated from financial services and describe the patterns of spatial segregation of financial services.

#### Study Area and Neighborhood Characteristics

Chicago is chosen as the appropriate study area for this paper for two reasons. First there is a great amount of research on racial and residential segregation in Chicago and its impact on various dimensions of racial-ethnic minorities. This is advantageous in that finding access to different types of financial institutions can be compared to other resources (e.g., “Do racial-ethnic minorities have the unequal access to only certain resources?”) Second, unlike other geographical areas, Chicago has seventy seven well-defined neighborhood boundaries that have been developed by the City of Chicago Department of Planning and Development (See Map 1). Neighborhood characteristics used in this study are: median household income, poverty rate, racial and ethnic minority composition (i.e., African American percentage and Hispanic percentage), education, age and some characteristics.

#### Data

Neighborhood characteristics are obtained from the U.S. Census 2000 at the block group level. Data of four different financial services is obtained from NexisLexis database where data on all institutions registered with Standard Industrial Classification code (SIC) and North American Industry Classification System code (NAICS) is available. Although both SIC and NAICS have been widely used in research, this current research utilizes NAICS code because it achieves a more cohesive classification and is a better tool for research (Krishnan and Press, 2003). The four different financial services utilized in this research are; commercial banking, saving institutions, credit unions and alternative banks (e.g, registered check cashing places and title loan places).



[Map 1] Racial and Ethnic Distribution in Chicago, 2000

## Methods

To examine how racial and ethnic minority neighborhoods are segregated from financial services and describe the patterns of spatial segregation of financial services, I will utilize spatial Poisson regression. For preliminary findings, I have used the measure of physical accessibility to these financial services is measured using methodology relying on defined accessibility measure calculated within geographic information systems (GIS). In this research, the distance to the closest service is used as the measure of accessibility which is one of the most commonly used measures of accessibility (Talen and Anselin, 1998). To evaluate immediate proximity, the distance to the closest service is calculated from the centroid of block groups and then the population-weighted average measure of the block group is applied:

$$Z^a = \frac{\sum w_b (\min | d_{bs} |)}{\sum w_b}$$

Where,

$Z^a$  = distance between census block group and nearest financial service.

$d_{bs}$  = distance between census block group and financial service s.

$w_b$  = total population of block group b.

The distance to the closest service (proximity) is calculated using the shortest network distance which corresponds to the shortest path when walking (Apparicio et al, 2007).

Preliminary Findings

The findings show that neighborhoods with a high percentage of African Americans have less access to commercial banks and saving institutions, and they have more access to credit unions (see Map2). Results of the regression suggest that the neighborhoods with a high percentage of racial-ethnic minorities, African Americans and Hispanics, have more severe physical inaccessibility to different types of financial services (Table 1). These results suggests that the FDIC’s findings of disproportionately higher rate of African Americans and Hispanics not having any bank accounts may be due to the physical inaccessibility to these financial services in their neighborhoods. Since the financial exclusion can have formidable consequences for individuals’ lives, policy makers and financial services should pay closer attention to reach out to these neighborhoods where access to financial services are marginalized.

	Natural Log of Commercial Banks		Natural Log of Credit Unions		Natural Log of Saving Institutions		Natural Log of Alternative Banks	
	coeff.	sig.	coeff.	sig.	coeff.	sig.	coeff.	sig.
African American %	0.005	0.00	-0.003	0.00	0.007	0.00	0.002	0.00
Hispanic %	-0.002	0.00	0.002	0.01	-0.009	0.00	0.000	0.00
Median Household Income	-5.510E-6	0.00	6.112E-6	0.02	-3.006E-6	0.01	-5.501E-6	0.02

[Table 1] Simple Regression of Access to Financial Services

References

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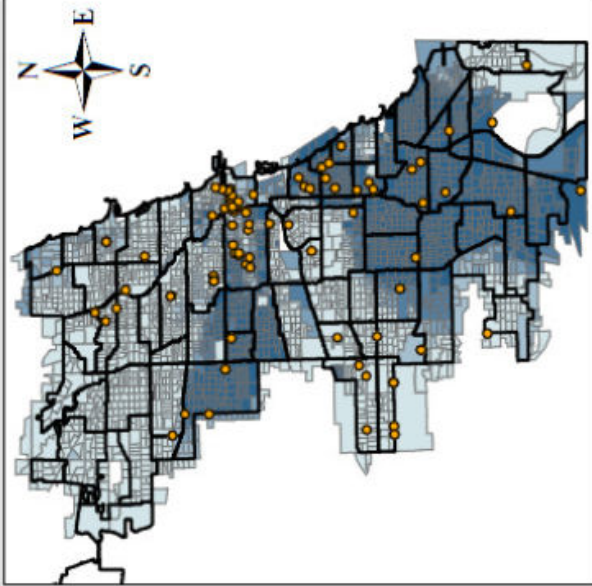
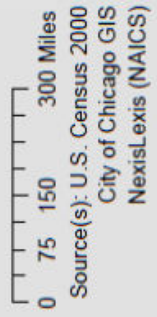
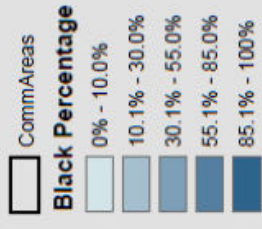
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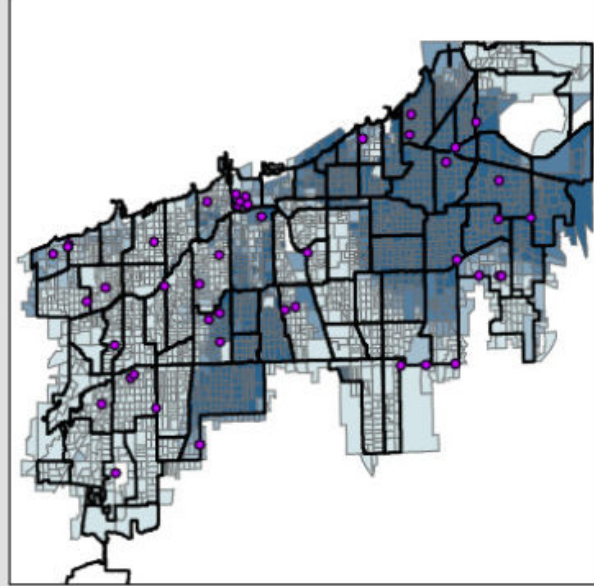
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# SPATIAL DISTRIBUTION OF FINANCIAL SERVICES Chicago, Illinois

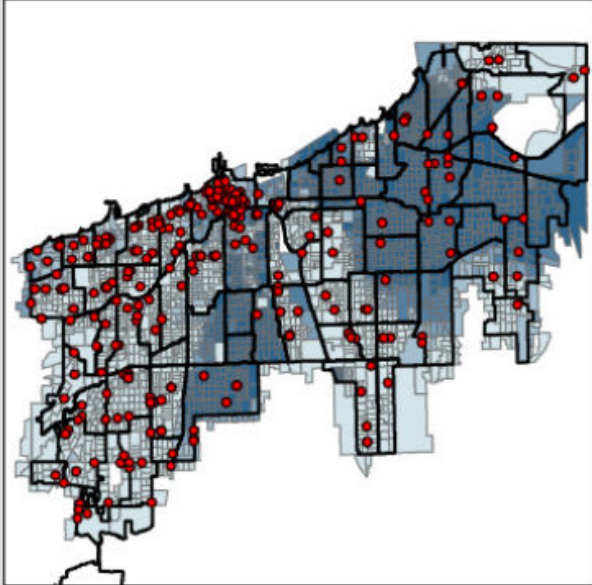
Against African American Percentage



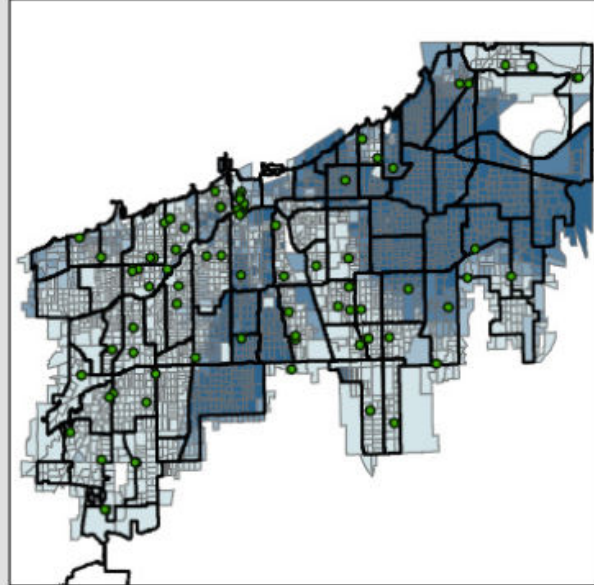
Commercial Banks



Credit Unions



Saving Institutions



Alternative Banks

[Map2] Spatial Distribution of Financial Services in African American Percentage]