

A CITY DIVIDED:

A Survey of Demographic Trend Divergence Across Spatial and Racial Boundaries in Chicago, 2010–16

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By

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ABSTRACT

Chicago's black population has dropped by a third from its 1950 peak, and continues to drop even as other racial groups grow. Because of Chicago's severe racial segregation, this population loss is geographically disproportionate. How has population change citywide in the 2010s caused demographic trends in declining and growing parts of the city to diverge? I use Census data to analyze trends in age, income, homeownership, employment, and housing vacancy in predominantly black versus nonblack tracts. I find that the black child population is decreasing, while the senior population is growing citywide. Losses from black neighborhoods skew toward homeowners and higher-income households, while nonblack neighborhoods are seeing a boom in young adult white-collar renter households. Finally, while vacant housing units are highly concentrated in black neighborhoods, some heavily vacant areas are seeing new growth. I recommend the city pursue homeownership retention initiatives and undertake an evaluation of local parenting needs.

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INTRODUCTION

The United States population is highly urbanized, and becoming more so every year. According to the 2010 census, 81% of Americans lived in urban areas, while only 19% of the population was rural.¹ Most American cities and their metropolitan areas are growing, as new residents seek out the economic opportunities present in urban areas. There is, however, one notable exception: Chicago was the only city in the nation's ten largest to lose population in 2017. Like many formerly industrial cities in the Great Lakes "Rust Belt", it has been experiencing a virtually uninterrupted pattern of population decline since the 1950s. The 1950 decennial census recorded Chicago's population at just over 3.6 million, its highest performance on a decennial census.² The 2010 census recorded Chicago as having just under 2.7 million inhabitants, a decrease of nearly 1 million people and approximately 25%.³ Since 2010, growth has essentially been flat, with an increase of 0.3% over the past 6 years. Yet this flat growth does not indicate that losses have stalled across the city; rather, it represents the averaging out of immense gains in one part of the city offset by immense losses from another. Many neighborhoods near the Loop (the city's central business district) and on the North and Northwest Sides have been thriving for the past several years and many are, in fact, gaining population.

1) United States Environmental Protection Agency. "Report on the Environment: Urbanization and Population Change." Accessed 12/7/18. <https://www.epa.gov/roe/>

2) Gibson, Campbell. "Population of the 100 Largest Cities and Other Urban Places in the United States: 1790 to 1990." U.S. Census Bureau. 1998. Accessed 12/7/18. <https://www.census.gov/population/www/documentation/twps0027/twps0027.html>

3) U.S. Census. "Chicago city, Illinois; United States: Quickfacts." Accessed 12/7/18. <https://www.census.gov/quickfacts/fact/table/chicagocityillinois,US/POP010210>

A trip south on the Dan Ryan Expressway tells a different story. Impoverished and working-class neighborhoods in the traditionally black sections of Chicago's South Side are losing residents at an astounding rate, along with much of the West Side. While the citywide rate of loss between 2000 and 2010 was 6.9%, the lakefront community of South Shore lost 19.2% of its residents, mid-South Side Englewood lost 23.8%, and Riverdale, located on the city's southern border, lost a staggering 33.9%, over a third of its population.⁴

Chicago's population loss is geographically lopsided because it is racially and economically lopsided: between 2000 and 2010, Chicago lost 181,000 black residents, compared to only 52,000 white residents (Hunt and DeVries 2013); between 2010 and 2016 the city lost another 80,598 black residents, while every other racial group saw population gains.⁵

The driving forces behind Chicago's dramatic demographic shifts are well documented. Many are examples of social and economic shifts playing out in urban centers across the country: deindustrialization, suburbanization and white flight, structural racism, and deepening income inequality (Choldin and Hansen 1981). However, a significant portion of the city seems to more closely resemble more recent urban sociology scholarship, particularly along the themes of gentrification and neoliberal growth. The North Side and much of the Northwest Side have aesthetic, demographic, and cultural features in common with other American cities with a large population of educated professionals, an international footprint as a center of finance and trade, and an attractive quality of life. Much of the South and West Sides, however, more closely resemble cities with insufficiently diversified economies that were unable to recover from

4) City of Chicago Data Portal. "Census 2010 and 2000." Accessed 10/26/18.
https://www.cityofchicago.org/content/dam/city/depts/zlup/Zoning_Main_Page/Publications/Census_2010_Community_Area_Profiles/Census_2010_and_2000_CA_Populations.pdf

⁵ American Community Survey.

deindustrialization. Many American cities with booming professional economies still face similar circumstances of decline and decay in specific neighborhoods. How a city with Chicago's size and stark levels of inequality handles the competing needs of its growing and declining sectors can inform the way other cities address spatially concentrated inequities.

Most of the literature on "urban decay" was formed before the emergence of global megacities as vehicles for capital investment and centers of specialized financial services. In the last quarter of the 20th century, when most of this research was undertaken, the general outlook in American cities was one of broad decline and decay, of urban jungles and post-industrial wastelands. Newer conceptions of the city focus on the emerging "global city", defined by a dominant financial and management services sector, a concentration of global firms and international capital, significant international investment in local real estate, and a bifurcated class structure populated by international elites and low-skilled service workers (Friedmann 1986, Sassen 2006). How does this context reshape our understanding of the distinctions between the demographic disparities between the black and nonblack sections of Chicago?

The aim of this research project is to catalogue a selection of the spatial and racial differences in demographic trends in Chicago. How is the steady loss of black Chicagoans borne out across age and income demographics, and how do these changes compare with the demographic shifts occurring in growing areas? What do these shifts tell us about what these neighborhoods will look like in the coming years? And what does it mean to have such disparate worlds in such close proximity: what happens when these two worlds interact?

BACKGROUND

I. Population decline and the fragmenting of the neighborhood

Between 2000 and 2010, Chicago had the greatest numerical loss in employment of the top 10 major metro areas. Most of the losses were in construction and manufacturing (Hunt and DeVries 2013). This decline is reflective of a trend that began in the 1950s: as economic activity shifted from the urban core to the outer fringes, immigrants and other new arrivals to the region settled directly in the outer suburbs and exurbs, bypassing the Chicago neighborhoods that had historically housed ethnic enclaves and starving them of new economic life (Greene 1997). In struggling neighborhoods, high crime rates, particularly homicide rates, drove outmigration and net population loss (Morenoff and Sampson 1997).

General trends have been observed with regard to the causes and effects of population loss on urban communities, which tend to be intertwined and self-perpetuating. Urban sociologists studying the second half of the 20th century, notably William Julius Wilson (1987) and Massey and Denton (1996), noted that the outmigration of the middle class, particularly in black neighborhoods, drained community economic and social institutions of stability and vitality, sparking a vicious cycle of population loss. In their models, as businesses, churches, and block clubs begin disappearing from the fabric of a neighborhood, quality of life there declines, and more and more families who have the means to move out do so, leaving behind only those who cannot afford to move. In this vicious cycle of depopulation, local businesses lose customers and cannot afford to stay open; each shuttered establishment on a commercial strip results in fewer shoppers visiting the street, and causes neighboring businesses to suffer. A shrinking neighborhood may have trouble attracting new investment. Some recent empirical research has

borne out these conclusions: Glaser and Gyourko (2005) find using a sample of over 300 cities nationwide that while decline is a slower process than growth, it is more persistent in that once it has begun in a particular geography it is likely to continue its trajectory over decades.

The built environment also plays a role in this cycle of decline. Deteriorating housing stock may empty out, leading to vast swaths of vacant and abandoned buildings and lots (Jakle and Wilson 1992). Public transit, sanitation, emergency services, and road maintenance are administered less efficiently in lower-density areas (Bradbury et al. 1992): as the tax base shrinks, revenue falls, but the costs of providing government services to a shrinking population does not fall sharply enough to cover the difference. These tax woes also manifest as an increased property tax burden on homeowners in areas with declining home values: downward reassessments of these properties often lag behind their actual values, forcing homeowners to pay disproportionate fees (Baar 1981). Hollander (2010) has found a connection between depopulation and decreases in income, deterioration of housing stock, and decreased provision of social services in Flint, Michigan. Deteriorating physical conditions and burdensome property taxes provide even more “push factors” that encourage people with the means to do so to leave.

One of the most profound and difficult to measure effects of these losses is the psychosocial impact on the remaining community. Residents of the hardest-hit neighborhoods may have lost one out of every four neighbors. As Massey and Denton have observed, social institutions falter when their anchors leave. Social clubs, neighborhood associations, church-sponsored youth leagues and service groups are harder to sustain when there are fewer locals. Research on mortality during the devastating heat wave that occurred in Chicago in 1995 found a significant connection between the amount of commercial decline that had occurred in a neighborhood and the severity of the heat wave’s impact on mortality (Browning et al. 2006). As

cohesion and communal identification both evaporate, political organizers and social change advocates may have a harder time rallying their neighbors' energy and resources towards advocating for their communities on a larger platform.

This phenomenon has negative effects not just on the level of neighborhood-wide institutions: social networks and interpersonal relationships suffer too, and the decline of these networks has consequences on the neighborhood's ability to respond to residents' immediate needs and crises. While perhaps the most obvious example of the uses of spatially defined social networks is the proverbial borrowing of a cup of sugar from one's neighbor, people also rely on friends and neighbors for help during medical emergencies, short-term childcare arrangements, carpool transportation, and a host of other needs. While the strongest connections that emerged from the heat wave studies (Browning et al. 2006) were related to commercial decline in terms of heat wave mortality among seniors, the research also indicated that neighborhoods with low levels of collective efficacy and weak social networks had higher mortality rates under normal conditions. While these effects may not materialize in this analysis, they are important to keep in mind as potential consequences of these demographic shifts.

II. Segregation and the effect of racism

Chicago is an impressively diverse city, but it also has a major segregation problem: the Chicago metro area has the third-highest level of black-white segregation among U.S. cities (Frey 2018), a pattern that is due in large part to segregation within the city limits. The significant differences in socioeconomic status, access to capital, and population loss between black and nonblack neighborhoods are made more concentrated by the severity of the segregation. The United States government employed two primary tools in the mid-20th century to deepen the racial wealth gap and ensure the rapidly growing population remained

racially segregated. Redlining, a federal policy, prevented black families from buying homes in black neighborhoods. Restrictive covenants, which were locally enforced clauses in most suburban deeds that forbade owners from selling to black families, meanwhile, prevented them from moving into white neighborhoods. These policies combined to put black families at a serious financial disadvantage by locking them out of homeownership, the most important tool for building wealth (Rothstein 2017).

The primary effect of redlining was on black families' ability to obtain mortgages. Mortgages from the Federal Housing Administration, or FHA, opened the possibility of homeownership to millions of American families. Created in 1934, the FHA offered government-backed low-interest 30-year mortgages. Prior to the inception of this program most financial institutions only offered 10-year mortgages, which were less attainable for lower-income households since they required a larger monthly payment over a shorter span. Thanks to rising postwar demand and the ease of obtaining FHA funding, new suburban developments cropped up at a dizzying pace and American families became homeowners in enormous numbers. As a standardized model of assessing risk, the FHA created maps that grouped land parcels into four levels of investment risk. Families were usually able to obtain mortgages for homes in areas designated Type A, the lowest-risk class, or Type B, "Still Desirable". In contrast, prospective homeowners usually faced high interest rates for Type C ("Declining") properties, and often could not find willing lenders at all for properties in the redlined Type D neighborhoods.

Redlining was not racially discriminatory on its face; rather, it seems to represent a sound financial strategy on the part of the public and private lenders. It was applied, however, in an obviously racially discriminatory manner, as black neighborhoods were almost universally

redlined and therefore declared unsound investments. FHA maps of Chicago demonstrate this practice, as the historic “black belt” neighborhoods of the near South Side like Douglas and Fuller Park were all redlined. Even when loan officials did not personally discriminate against black loan applicants (and they often did), the redlined status of a given property gave them a good reason to turn black families away (Rothstein 2017).

Redlining alone, however, would not have shut black families out of homeownership entirely. Even if they were unable to buy homes in black neighborhoods, middle- and upper-income black families should have been able to purchase homes in Type A or Type B neighborhoods. But such purchases were made impossible by restrictive covenants, which were written into contracts by developers and owners alike. Because most homeowners believed the presence of black residents in their neighborhoods would lower their property values, they often drew up restrictive covenants with their entire neighborhoods. Furthermore, spurred by this erroneous belief, the FHA usually withheld financing for the construction of new developments unless the builder included a restrictive covenant on the deeds. The government not only upheld the legality of racially restrictive covenants on individual deeds and contracts, it also actively encouraged their adoption in new developments.

Thanks to redlining, black families could not buy homes in black neighborhoods. Thanks to restrictive covenants, they could not buy homes in white neighborhoods. They had two options. On the one hand, they could continue to rent, which would prevent them from building equity. Furthermore, since homeownership was so expensive in black neighborhoods and black families had so few neighborhoods in which to live, landlords were able to prey on black tenants, carving up apartments into tiny units and charging exorbitant rents (Rothstein 2017). On the other hand, they could seek out loans from predatory lenders, but these loans would come with

usurious interest rates. While redlining and restrictive covenants were both declared illegal with the 1968 Fair Housing Act, the entrenched segregation and wealth imbalance they helped create has been difficult to reverse.

Deindustrialization also hit black workers harder than whites in most major industrial cities. In Chicago in particular, an unusually large portion of the workforce among all racial groups was dependent on the manufacturing sector, but black workers were not significantly more dependent than other groups. However, their larger concentration in the steel industry, which was the hardest hit by deindustrialization, resulted in a much higher rate of deindustrialization-related job loss (Parks 2011).

III. Shifting priorities in the neoliberal city

Historically, the location of cities has depended on proximity to natural resources and transportation networks. Coastal and riverine locations offered easy and cheap methods of shipping goods in the pre-industrial era; railroad hubs like Chicago flourished during the industrial period, as cities and towns cropped up near resources like oil and ore. During the middle of the twentieth century, the most profound and visible changes happening in American cities were the results of suburbanization, active deindustrialization, and the escalation of the War on Drugs, and much of the scholarship on urban population decline comes from this perspective. Since then, however, major cities have pivoted away from serving as centers of trade and production to centers of major financial transactions and related professional services (Sassen 2006). At the same time, a new demographic phenomenon has emerged: the so-called “back-to-the-city movement”. While the term has a wide range of definitions, its most general usage refers to the repopulation of urban centers by young, highly educated professionals, the

population previously most inclined to move to the suburbs (Hyra 2015, Revington 2018). These two closely linked processes form a sea change in American urban life.

As the United States economy deindustrializes, a different resource is increasingly deciding the fate of cities: human capital, which Florida (2003) defines as “endowments of highly-educated and productive people”. As shipping becomes cheaper and faster, production of goods has become decentralized, and much of it takes place in the developing world.

Professional services, meanwhile, can be centralized for transnational firms due to the ease and speed of telecommunications and the mobility of capital. Cities have historically been centers of innovation because they benefit from the effects of an agglomeration economy. The concentration of individuals with specialized skills and equipment allows for cross-industry knowledge exchanges, quick communication between producers and consumers, and the growth of a specialized labor pool (Florida 2003). Rather than locating headquarters at the site of their raw materials, firms locate their production sites wherever manufacturing costs are cheapest and establish centralized administrative headquarters in major urban areas with a high concentration of educated professionals.

The effect of human capital’s new position as the key resource is cities are increasingly prioritizing the goal of attracting the greatest number of young professionals to join the back-to-the-city movement. Richard Florida, in his seminal work *The Creative Class* (2003), identifies the young professionals in question as the eponymous “creative class”, which includes the “super-creative core” of artists, writers, engineers, academics, and analysts, as well as the “creative professionals”, who occupy the more traditional white-collar industries of law, finance, technology, and business. He argues that this population is the primary driver of urban innovation, and that cities with the correct amenities, which he defines as “technology, talent,

and tolerance”, will be the ones that achieve the most success in attracting them. Young professionals are attracted to cities with a high level of diversity and tolerance, prominent academic institutions, and a high concentration of artists and cultural attractions.

These qualities can all be found in Chicago’s popular and high-income neighborhoods like Wicker Park, Lake View, and Lincoln Park. These neighborhoods are filled with restaurants, coffee shops, art galleries, and boutiques; they are known for being gay-friendly; their well-maintained parks, historic housing stock, and low crime rates make them attractive places to live for well-educated, upwardly mobile individuals with disposable income and a taste for the cosmopolitan.

As Florida’s creative class grows in Chicago and similar cities across America, so too does the class of service workers whose livelihoods consist of providing the amenities that attract so-called creatives. Urban economies can be roughly divided into two sectors: the basic sector, which produces goods and services for export and brings capital into the city, and the nonbasic sector, which produces goods and services that are consumed internally and merely circulates capital. In his “global cities hypothesis”, Friedmann (1986) notes that as cities morph into megacenters of finance and capital investment, the population stratifies into high-wage basic industry professionals and low-wage nonbasic industry workers, with the two groups separating geographically and the middle class shrinking. Total employment in the Chicago-Naperville-Joliet Metropolitan Area⁶ remained relatively constant over the past ten years, with a labor force of 3,744,813 workers in October 2008 and 3,751,182 in October 2018, an increase of less than a tenth of percent. Employment in the professional and business services sector, despite a drop

⁶ Distinct from the municipal population, but provides useful context, and precise employment data are more readily available at this level.

from the 2008 financial crisis, increased from 616,700 in 2008 to 694,500 in 2018, an increase of 12%. Employment in leisure and hospitality also increased during the same period, from 317,300 to 383,200, an increase of nearly 21%. (It should be noted that employment in financial services and information technology did not increase, but these sectors are smaller than professional and business services, and financial services employment experience a severe decline during the financial crisis from which it has only recently recovered. Financial employment within the city itself, meanwhile, has seen significant growth.)⁷ Meanwhile, according to the Bureau of Labor Statistics, employees in “food preparations and serving-related occupations”, “building and grounds cleaning and maintenance occupations”, combined with cashiers and retail salespersons, total 580,210, approximately 15% of the workforce.⁸ These jobs, which fall within the nonbasic sector, tend to pay less and offer less job security.

Both these populations must exist within the same city. Gentrification and redevelopment are expanding the territory of the creative class in many areas, but in many more the divides follow historic lines of segregation and disinvestment. Because of these historical racial divides, some formerly industrial areas like the West Loop and Wicker Park have since transformed into thriving arts districts, while South Side industrial neighborhoods like Back of the Yards and South Deering have not. Chicago has all the amenities required for growth and innovation under Florida’s model, but only in select areas; Florida himself admits that most of his “creative” cities also have ballooning rates of inequality. Guerreri et al. (2012) find that cities in overall population decline experience the greatest rates of loss in poor neighborhoods and relatively mild decline in rich neighborhoods.

⁷ Bureau of Labor Statistics. “Economy at a Glance: Chicago-Naperville-Joliet, IL.” Accessed 12/9/18. https://www.bls.gov/eag/eag.il_chicago_md.htm

⁸ Ibid.

DATA AND METHODS

Sources

Data were sourced from the American Community Survey (ACS), an ongoing survey administered by the U.S. Census that collects information about population, age, sex, race, income, employment, housing tenure, and a variety of other social and economic variables.⁹ Surveys are sent out monthly to 295,000 randomly selected households, totaling 3.5 million households annually. Each household in the country has approximately a 1/40 chance of being selected, and response rates are usually around 95%, indicating a high participation rate with little concern for selection bias.¹⁰ The ACS collects data on the state, county, tract, and block group level. All economic data were adjusted for inflation to match 2016 U.S. dollars. The primary unit of analysis in this study is the census tract as defined in 2010. Census tracts are sufficiently granular to disaggregate neighborhoods that may be large and heterogeneous, but not so granular that they are visually overwhelming or obscure trends. Shapefiles for community area and tract boundaries were sourced from the City of Chicago Data Portal.¹¹¹²

Defining Black vs. Nonblack Tracts

The two primary groups I am comparing are highly segregated black tracts and highly segregated nonblack tracts, since the city's black population is the only major racial group in decline (the white and Asian populations have both grown, as has the Latino population of all

⁹ U.S. Census Bureau. "About the American Community Survey." <https://census.gov/programs-surveys/acs/about.html>

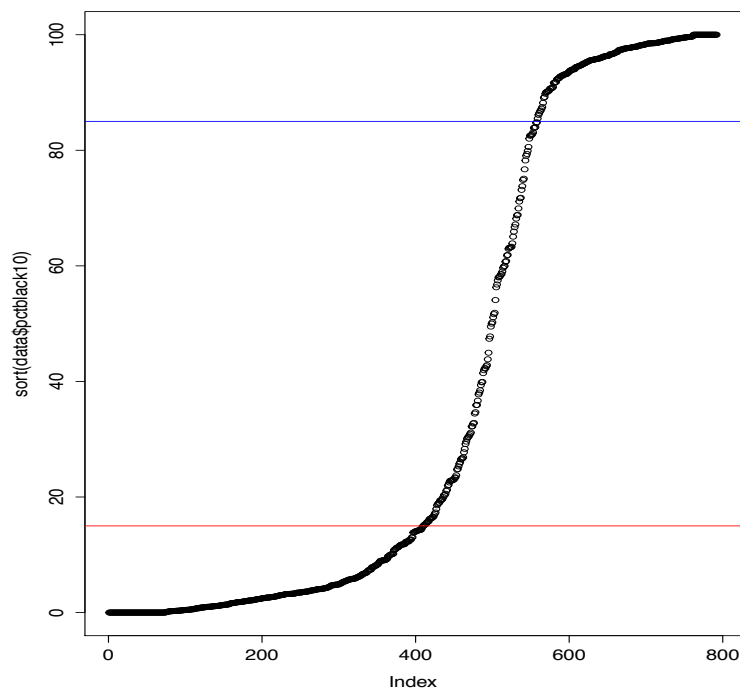
¹⁰ Ibid.

¹¹ Tracts: <https://data.cityofchicago.org/Facilities-Geographic-Boundaries/Boundaries-Census-Tracts-2010/5jrd-6zik>

¹² Community Areas: <https://data.cityofchicago.org/Facilities-Geographic-Boundaries/Boundaries-Community-Areas-current-/cauq-8yn6>

racess). To compare trends in segregated black neighborhoods with trends in neighborhoods with a small black population, I used 85% as a segregation cutoff for black neighborhoods, and 15% as a cutoff for nonblack neighborhoods.

Figure 2: Tracts in Chicago sorted by percent black residents (2010)



The purpose of looking at black neighborhoods separately is to hold race as a factor relatively constant, and accomplishing this goal effectively requires excluding the majority-black tracts that fall below the 85% cutoff. The vast majority (over 4/5) of majority-black census tracts in Chicago are above the cutoff. Income, for example, is closely tied to race in Chicago: the correlation between percent black and median income is -0.541 ($p < 0.0001$). Selecting only the tracts above the 85% cutoff ensures that an evaluation of the effect of income is not just an evaluation of the effects of race, because it will be testing for differences in income between neighborhoods of roughly equivalent racial composition. There is much less variation in

percentage of black residents between the 234 census tracts that are over 85% black (representing nearly 30% of the city's 794 census tracts) than there is between the 59 tracts that are over 50% but under 85% black. Similarly, there is less variation of the black population in the 410 neighborhoods with fewer than 15% black residents (just over 50% of the city's tracts) than in the 88 neighborhoods with between 15% and 50% black residents.

These cutoff points also capture a significant majority of Chicago's population. Over 71% of Chicago's black population lives in extremely segregated tracts. Meanwhile, 82% of Chicago's nonblack population lives in tracts that are less than 15% black. Additionally, the handful of majority-black tracts in Chicago that are below this cutoff are often outliers created by quirks of social and geographical history. As the prevalence of extreme (i.e. over 85%) segregation of black residents attests, the social, economic, and political pressures that have shaped racial segregation in the city are exceptionally strong. The few tracts that fall between are likely to have some kind of special factor that makes them out of the ordinary. The cutoff point is a compromise between capturing the experiences of as many black Chicagoans as possible while keeping the sample as uniform as possible in terms of racial composition: essentially, balancing large group size with in-group uniformity.

Statistical Methods

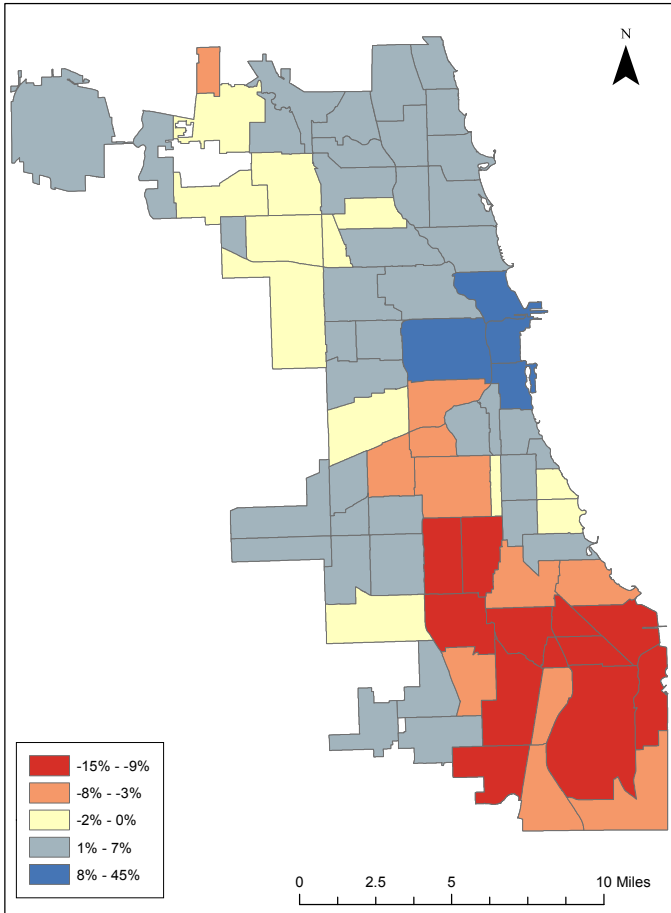
I performed basic statistical correlation tests in RStudio 0.99 (with ggplot2 package) using the Pearson's r test. To test for spatial clustering of numeric variables, I used the Global and Local Moran's I Spatial Autocorrelation tests in ArcGIS v. 10.4. The global test uses a large volume of statistical calculations to determine whether values are distributed in a manner one might expect to find if they were randomly distributed, or whether they are either clustered or dispersed. A large positive z-score indicates that values are likely to be clustered, while a large

negative z-score indicates that values are likely to be evenly dispersed. In addition to z-scores and p-values, the global test produces a Moran's Index, which can fall between -1 and 1 and indicates how clustered or dispersed the values are. A score of 1 indicates perfect clustering, while a score of -1 indicates perfect dispersal, while a score of 0 indicates a random distribution. The local test identifies which individual tracts are in statistically significant clusters of either high or low values, as well as identifying tracts that are statistically significant outliers compared to their surroundings. The Moran's I test can define proximity based on either inverse distance from the centroid of the polygon or contiguity with the edges and corners of surrounding tracts. I used inverse distance, as it tends to be the best option for a large continuous dataset.¹³

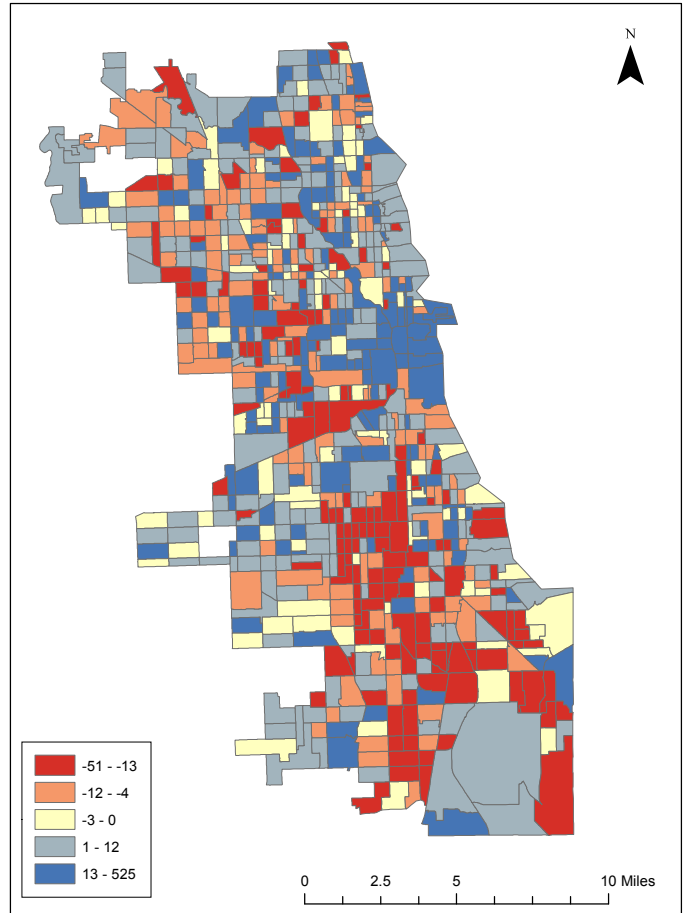
¹³ ESRI. "Modeling Spatial Relationships." <https://pro.arcgis.com/en/pro-app/tool-reference/spatial-statistics/modeling-spatial-relationships.htm#GUID-729B3B01-6911-41E9-AA99-8A4CF74EEE27>

RESULTS

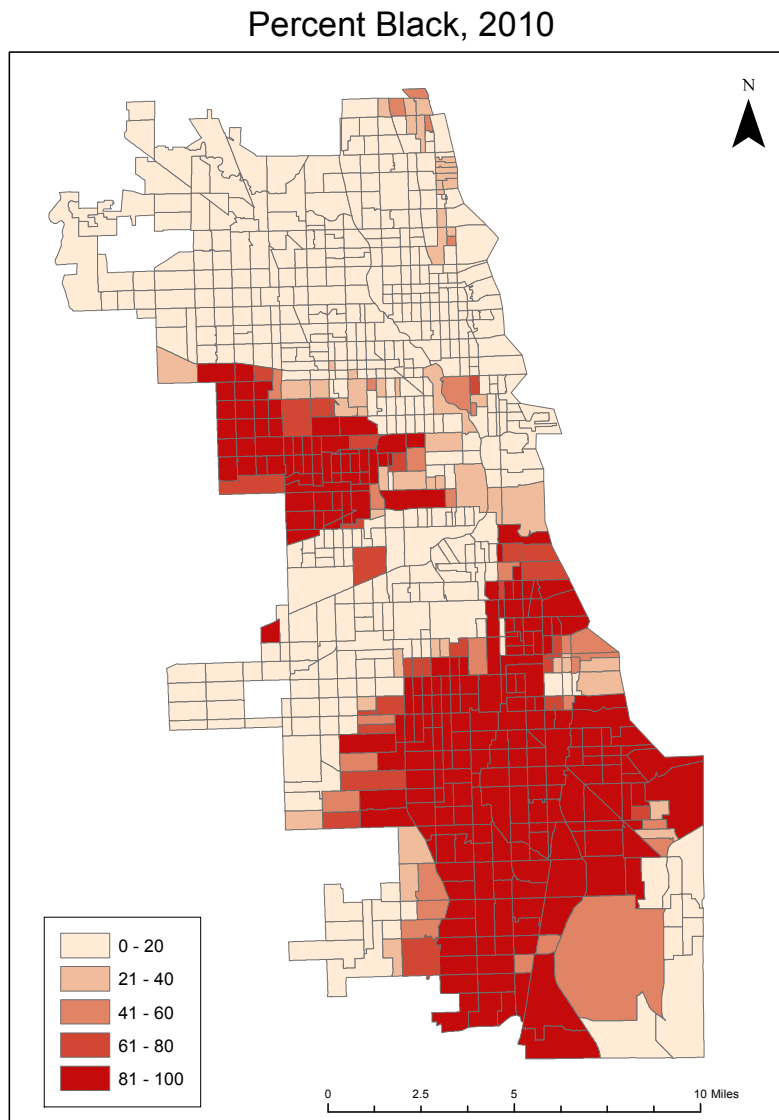
Population Change 2010-2016 by Community Area



Population Change 2010-2016 by Census Tract



I. RACE



In 2016, Chicago had 1,321,873 white residents, 843,631 black residents and 165,229 Asian residents; 791,626 people identified as Hispanic or Latino (counted by the ACS as a separate category from race). Across racial and ethnic groups, Chicagoans are exceedingly likely to live in neighborhoods where they belong to the dominant group (Table 1). For black residents, however, the segregation is more severe: over two-thirds of the black population lives in neighborhoods that are over 85% black.

Table 1: Percentage of population living in census tracts where they are in the racial/ethnic majority, by racial/ethnic group

Racial/ethnic group	Percent living in tracts where group comprises > 50% of population	Percent living in tracts where group comprises > 85% of population
White alone (Not Hispanic or Latino)	84.0	22.5
Black or African American alone (All ethnicities)	82.1	68.6
Hispanic or Latino (All races)	64.2	27.1

Thanks to the legacy of racism, black and white neighborhoods in Chicago have vastly different levels of wealth and capital. The correlation between income and percent black population in Chicago census tracts is -0.541 ($p < 0.0001$), while for percent white it is 0.772 ($p < 0.0001$). Homeownership rates are higher in nonblack neighborhoods than in black ones, and the percent of families making less than \$10,000 a year is 2.5 times higher in black neighborhoods (15% vs. 6%).

II. AGE

Chicago's black neighborhoods have vastly different age distributions than nonblack neighborhoods. In general, black neighborhoods have more children and seniors, and fewer young adults. In 2010, children (here defined as under 18 years of age) made up 28.1% of the total population in black neighborhoods, compared with only 21.8% in nonblack neighborhoods. Seniors (here defined as over 65 years of age) made up 12.8% of the population in black neighborhoods and 9.7% everywhere else. 25-34 year olds, meanwhile, made up 12.1% of the population in black neighborhoods but 21.4% of the population elsewhere. Figures 3 and 4 show

that nonblack neighborhoods have a large concentration of young adults and relatively few children, while black neighborhoods have a more even distribution across all age groups.

A major implication of these distributions is that a much larger share of residents in black neighborhoods is either too young or too old to be in the formal workforce, while people of working age make up a large and growing share of nonblack neighborhoods. A lower ratio of workers to dependents means that workers with low-wage jobs are more likely to experience financial strain because they are more likely to have dependents to support, and temporary loss of employment can have greater consequences.

Fig. 3: Total Chicago population by age group, all tracts with <15% black residents

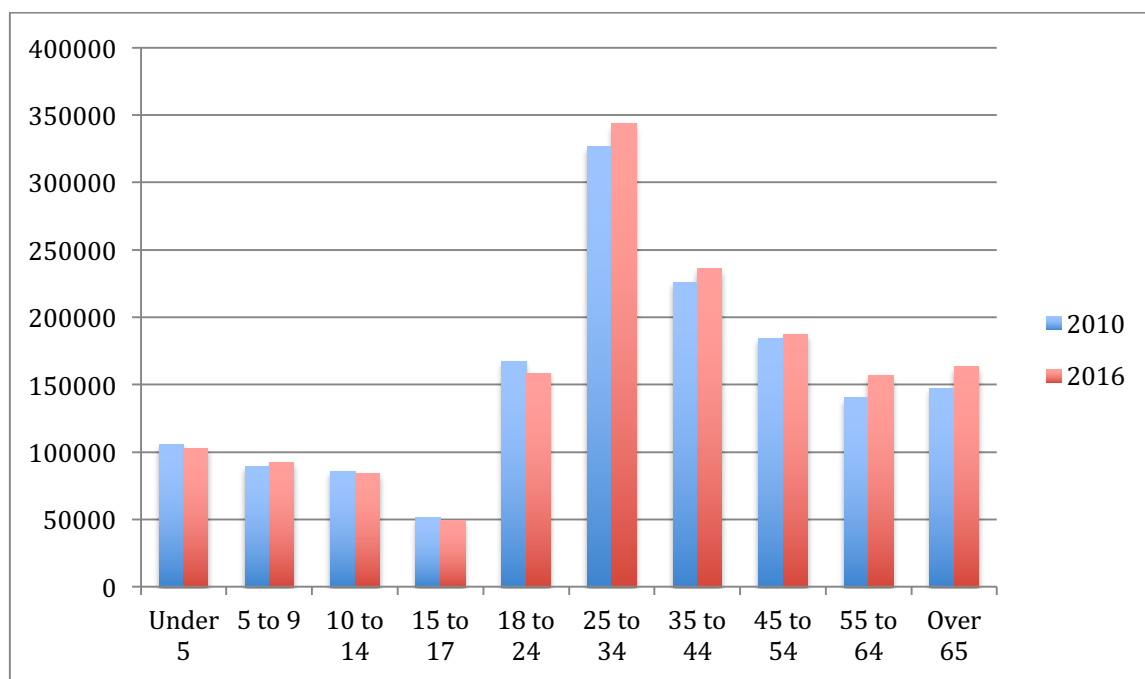
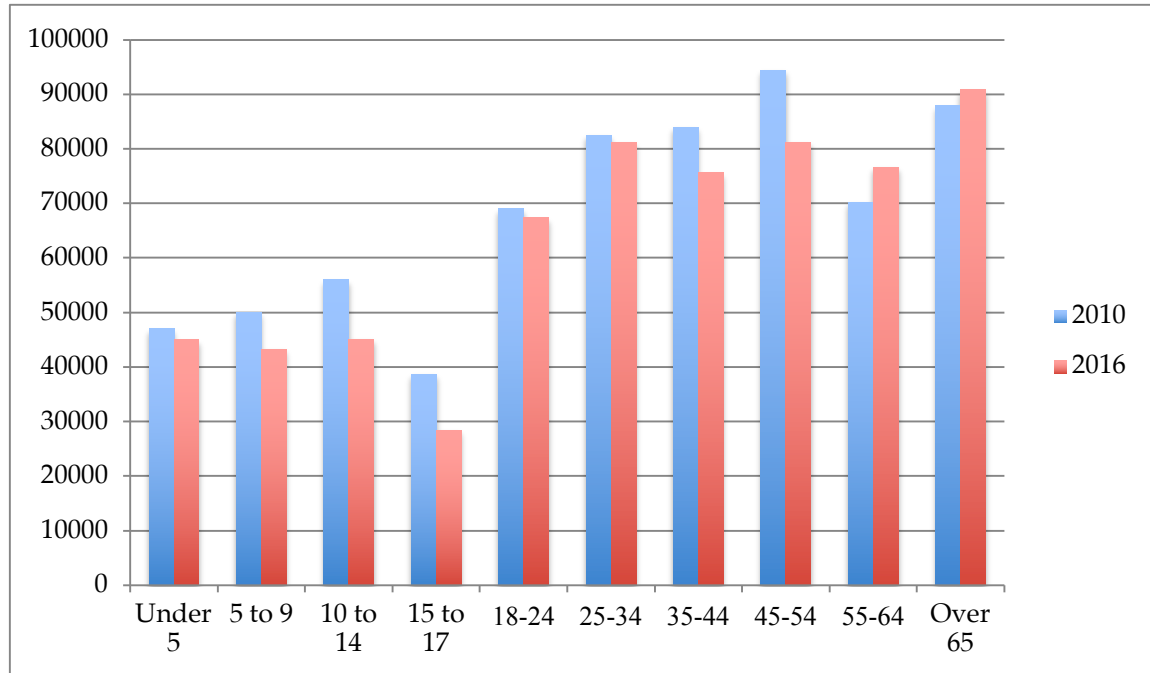


Fig. 4: Total Chicago population by age group, all tracts with >85% black residents



Localized Decline in the Child Population

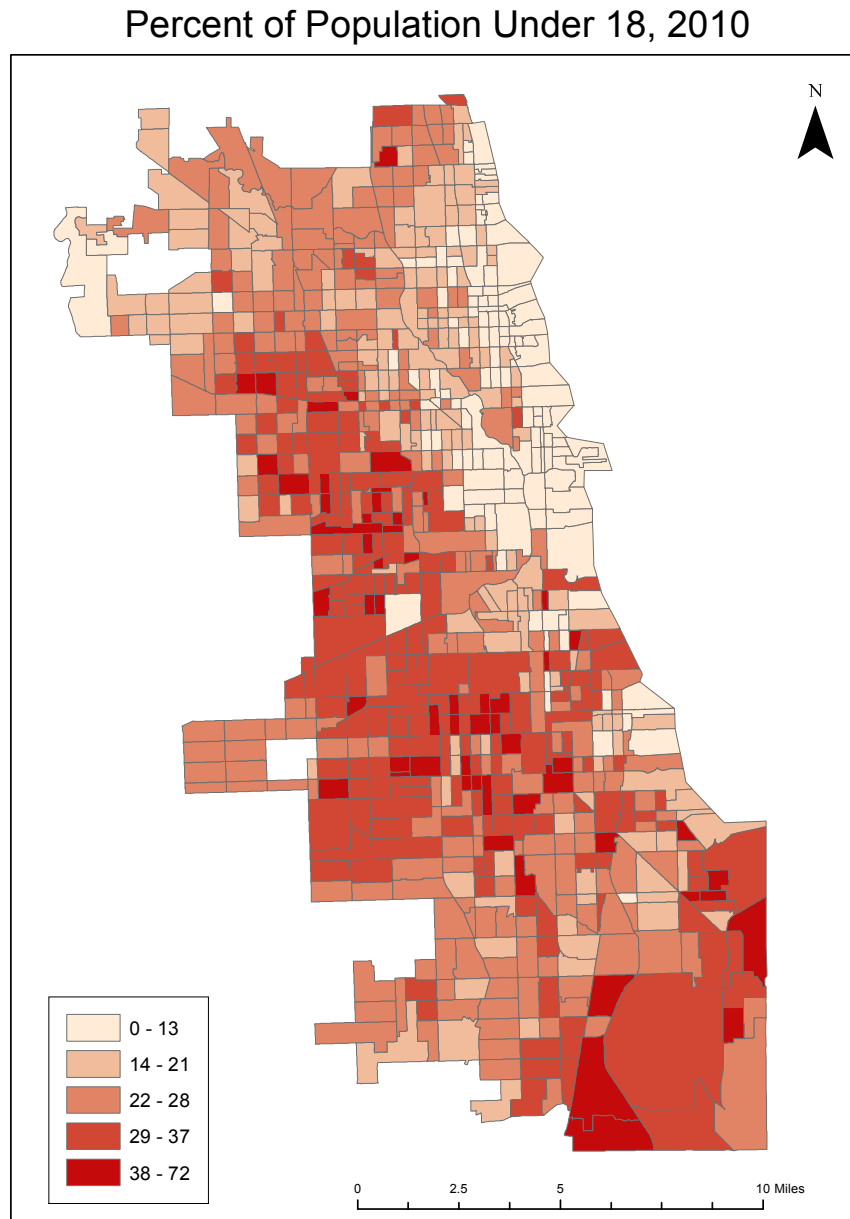


Fig. 5

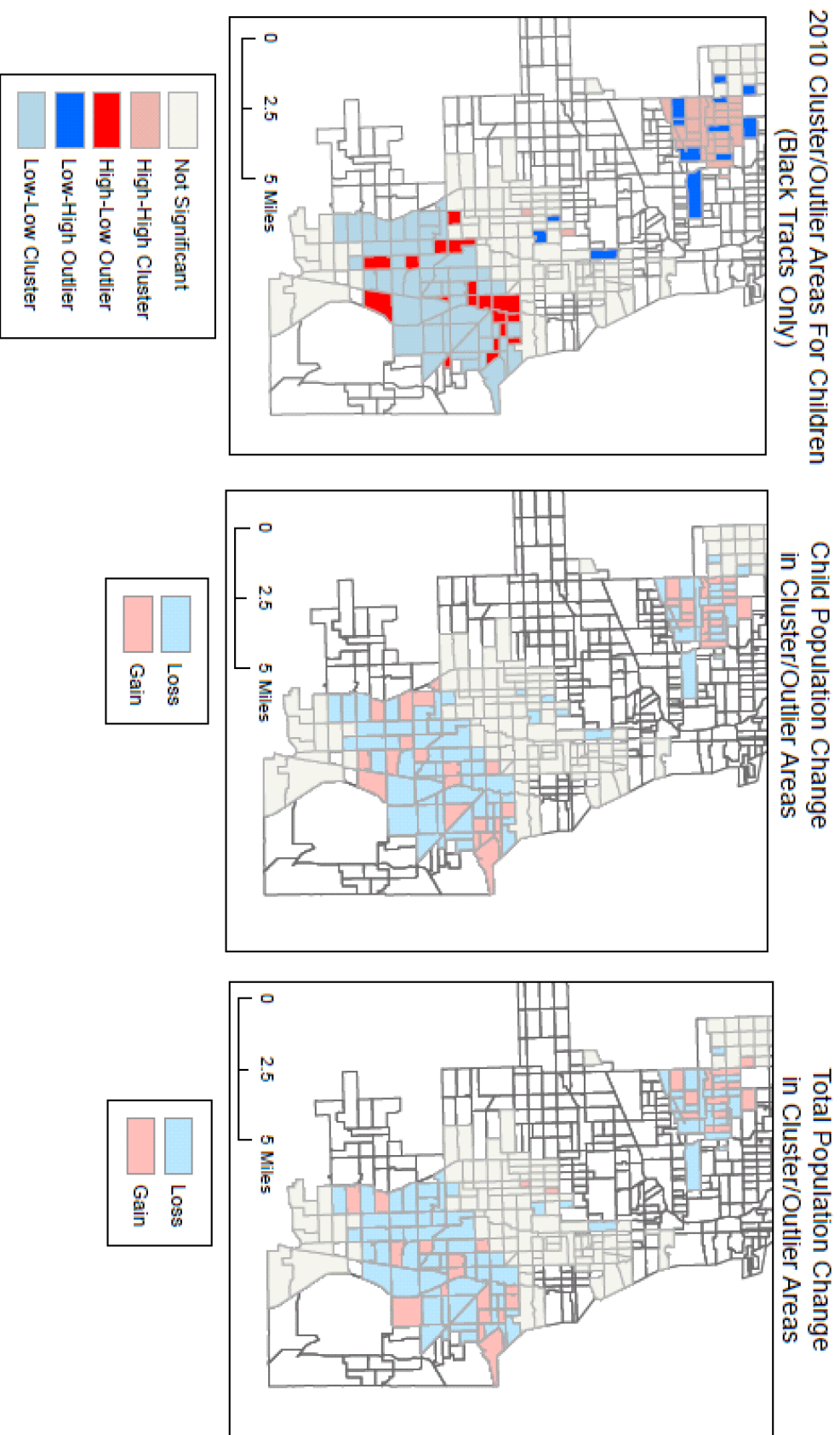
Black neighborhoods are losing children faster than any other age group. Children constituted 67% of total population losses in black tracts, over twice their proportion of the 2010 population. The most striking losses are among older children: while the under 5 group lost only

shrank by 3%, the population of 5-9 year olds dropped by 14%, 10-14 year olds by 19%, and 15-17 year olds by over 26%.

Population loss tends to occur in areas where the existing population of children is proportionally low: in black tracts, a correlation of 0.266 ($p < 0.0001$) exists between percent children in 2010 and population growth, indicating that tracts with a higher percentage of children were somewhat insulated from population loss, while tracts with a low percentage of children tended to lose people. Fig. 6 illustrates that tracts with unusually low proportions of children in 2010 tended to lose them over time, while tracts with unusually high proportions tended to gain them. A statistical corroboration of this trend is that the Moran's index of clustering of the child population, while statistically significant in both years also increased between 2010 and 2016 from 0.11 to 0.17, indicating more extreme clustering.

However, in tracts that were not already outliers, a higher child population is slightly more likely to lose children (-0.209 , $p = 0.0013$), which makes sense because the extraordinary volume of child population loss has to come from somewhere. While the presence of children is a deterrent against population loss across the study area, it only affects the clustering of the child population in places that were already outliers in terms of their child population. In nonblack neighborhoods, meanwhile, a negative correlation exists (-0.226 , $p < 0.0001$) between percent children in 2010 and population change between 2010 and 2016. However, a slight positive correlation (0.187 , $p = 0.0001$) exists between the *increase* in percent children and population change.

Fig. 6



A Localized Influx of Young Adults

Percent of Population Ages 25-34, 2010

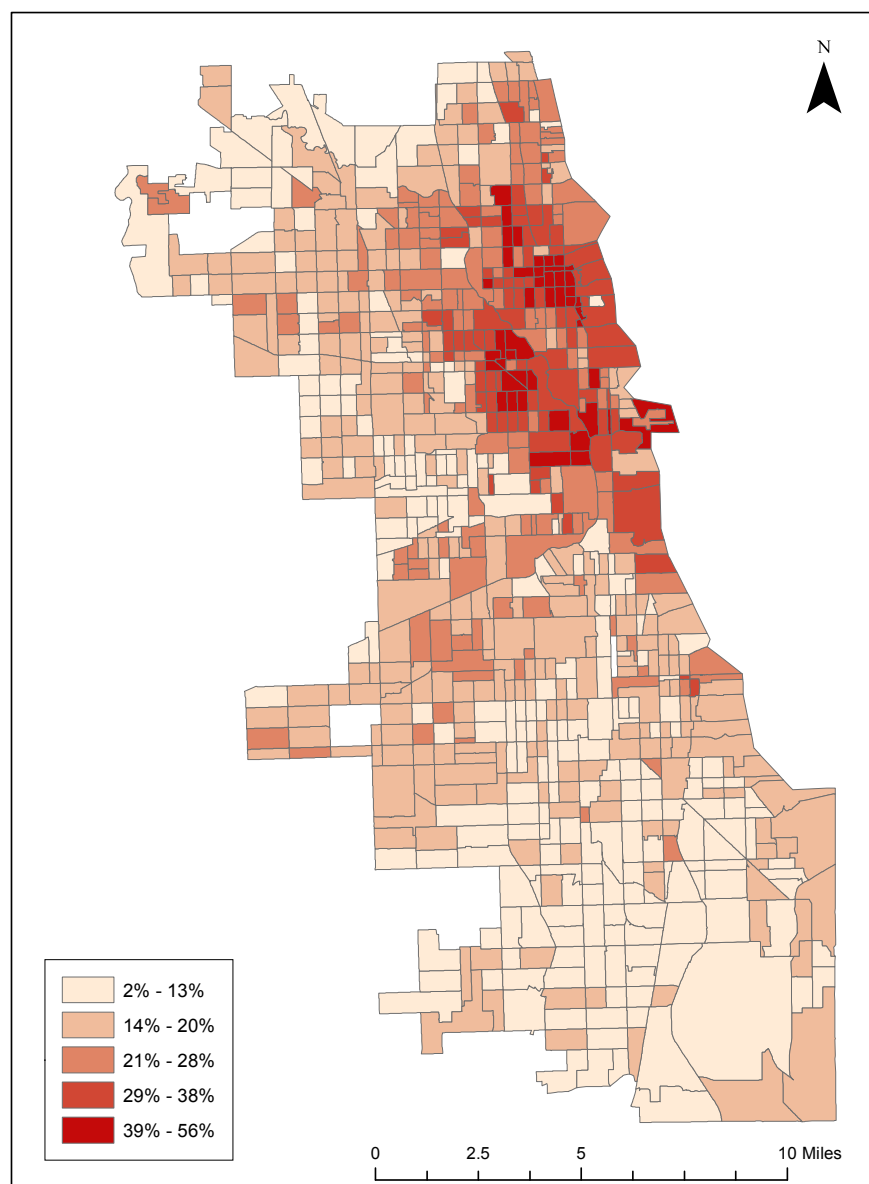
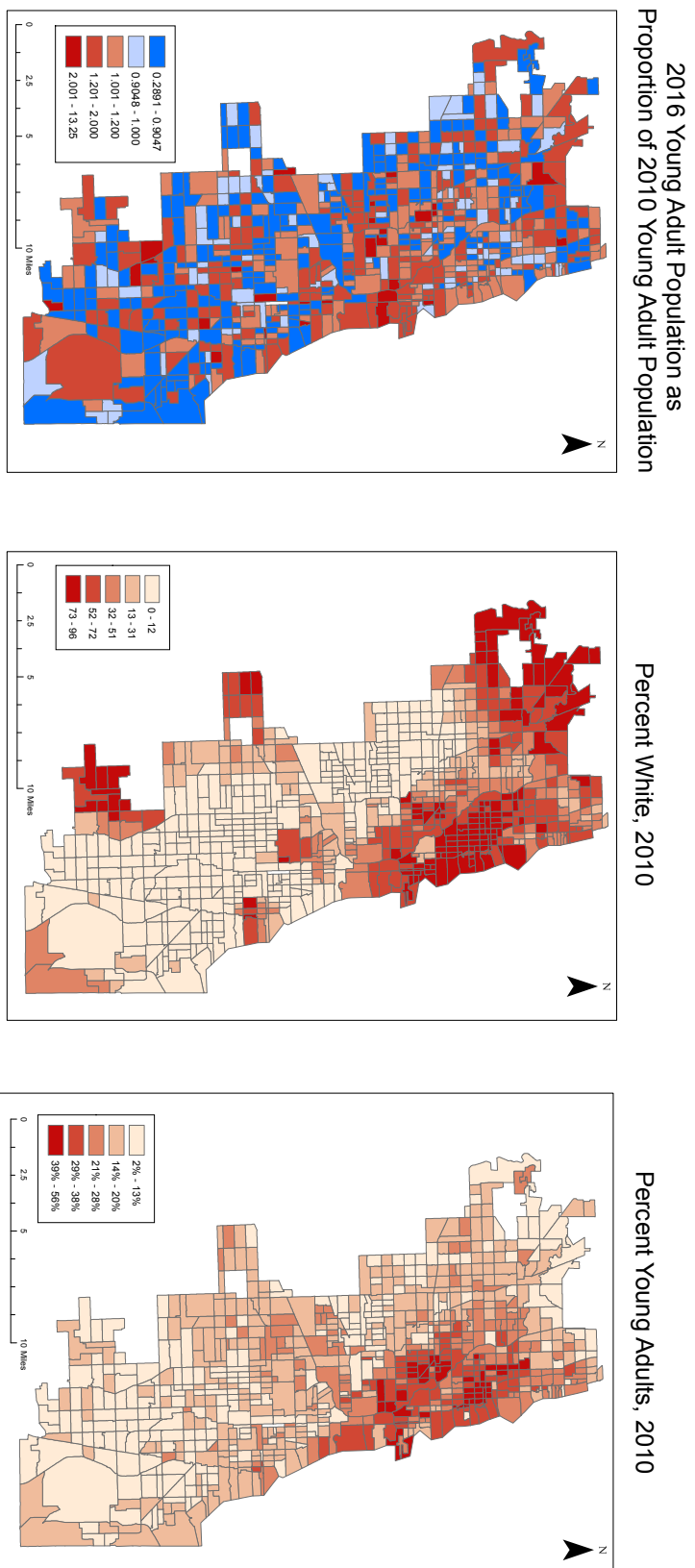


Fig. 7

In addition to being the largest single age bracket, adults aged 25-34 were the single largest source of population growth between 2010 and 2016 in nonblack tracts, with an increase of over 17,000. As Fig. 7 demonstrates, this age group is highly concentrated on the North Side and the near Northwest Side (mainly in the Wicker Park and Bucktown areas, but with a growing presence in Logan Square). These areas are predominantly white, and the data confirm that the proportion of residents ages 25-34 is strongly correlated with the proportion of white residents (0.545, $p < 0.0001$), while strongly negatively correlated with the proportion of black residents (-0.480 , $p < 0.0001$). However, growth in this age bracket was not confined to areas with a preexisting population, as the correlation between percent ages 25-34 in 2010 and growth in that age bracket was not statistically significant in either black or nonblack tracts. The proportion of residents ages 25-34 in 2010 had no effect on overall growth either. What was significant for growth was race: areas with a higher white population in 2010 were more likely to see an increase in their young adult population (0.208, $p < 0.0001$), while areas with a higher black population were slightly more likely to see a decrease in that age bracket (-0.099 , $p = 0.0053$). The effect of white population on young adult growth is not due to the size of the preexisting young adult population, as this factor was not statistically significant. While most of the areas with a significant young adult population are highly white, there are also many predominantly white neighborhoods that do not have a significant young adult population, particularly on the Far Northwest Side. Fig. 8 illustrates how increases in the young adult population map more closely onto the existing white population than the existing young adult population.

Fig. 8



Widespread Growth in the Senior Population

Percent of Population Over 65, 2010

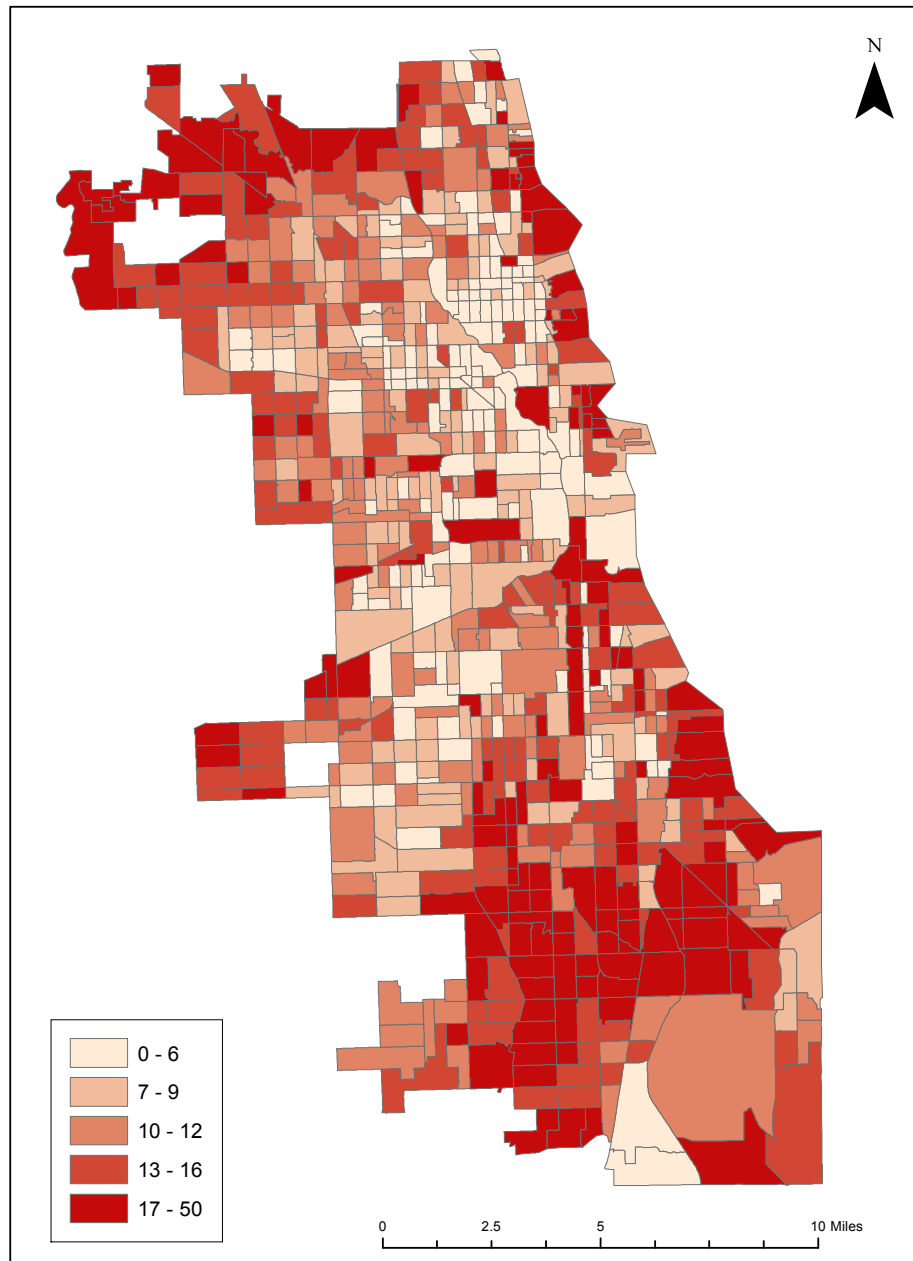
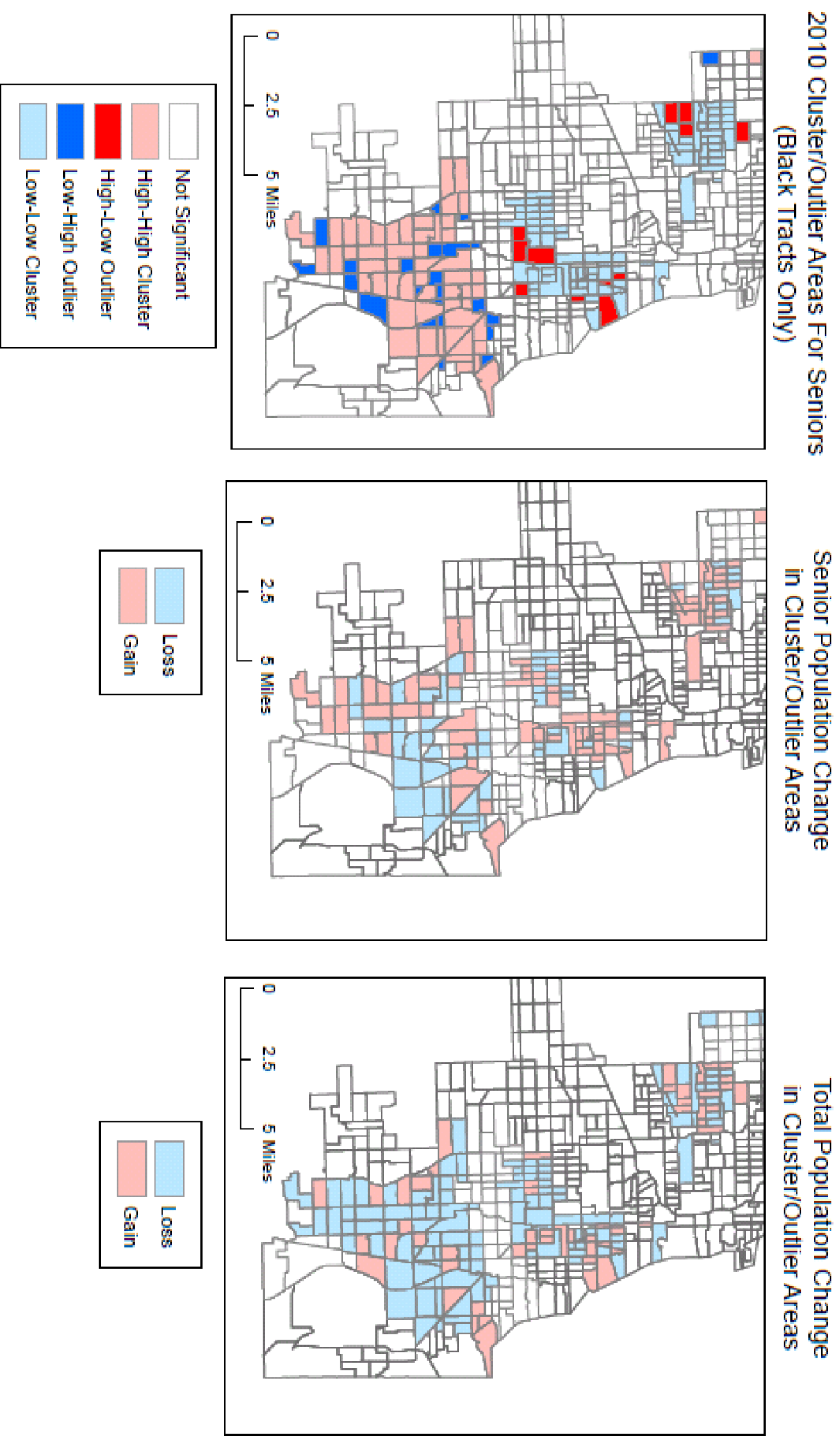


Fig. 9

The only age group that is growing across Chicago's black neighborhoods is older adults 55 and up (see Fig. 9). While black tracts lost over 44,000 residents between 2010 and 2016, a

decrease of over 6%, they actually gained 9,349 older adults. (The number of black residents actually dropped by 60,000, or 9% of the total, but this 60,000 is offset slightly by increases in the nonblack population.) The trend of growth in the senior population plays out at the tract level. 146 of 234 tracts, or 62%, gained older adults; of these, 60% experienced a decline in overall population despite gaining older adults. This growth was evenly spread across the study area, rather than occurring in areas with an already-high senior population. In fact, percent population over 55 had a negative effect (correlation -0.275 , $p = 0.0002$) with the raw number change in older adult population. Fig. 10 illustrates that areas with especially high or low 2010 populations of older adults did not uniformly gain or lose older adults between 2010 and 2016, but that the growth of this segment of the population was essentially randomly distributed. These high-senior areas are not driving senior population growth with any special senior-friendly factor; rather, senior populations are rising across the board. Whatever reasons seniors have for relocating to (or remaining in) Chicago, they are not specific to certain neighborhoods (such as proximity to elder care facilities, lower crime rates, or ease of getting around), but general enough that growth in this population is relatively evenly spread out. This trend is in contrast with growth of the child population, which does depend heavily on the presence of an existing child population.

Fig. 10



III. SOCIOECONOMIC STATUS

Diverging Income Trends

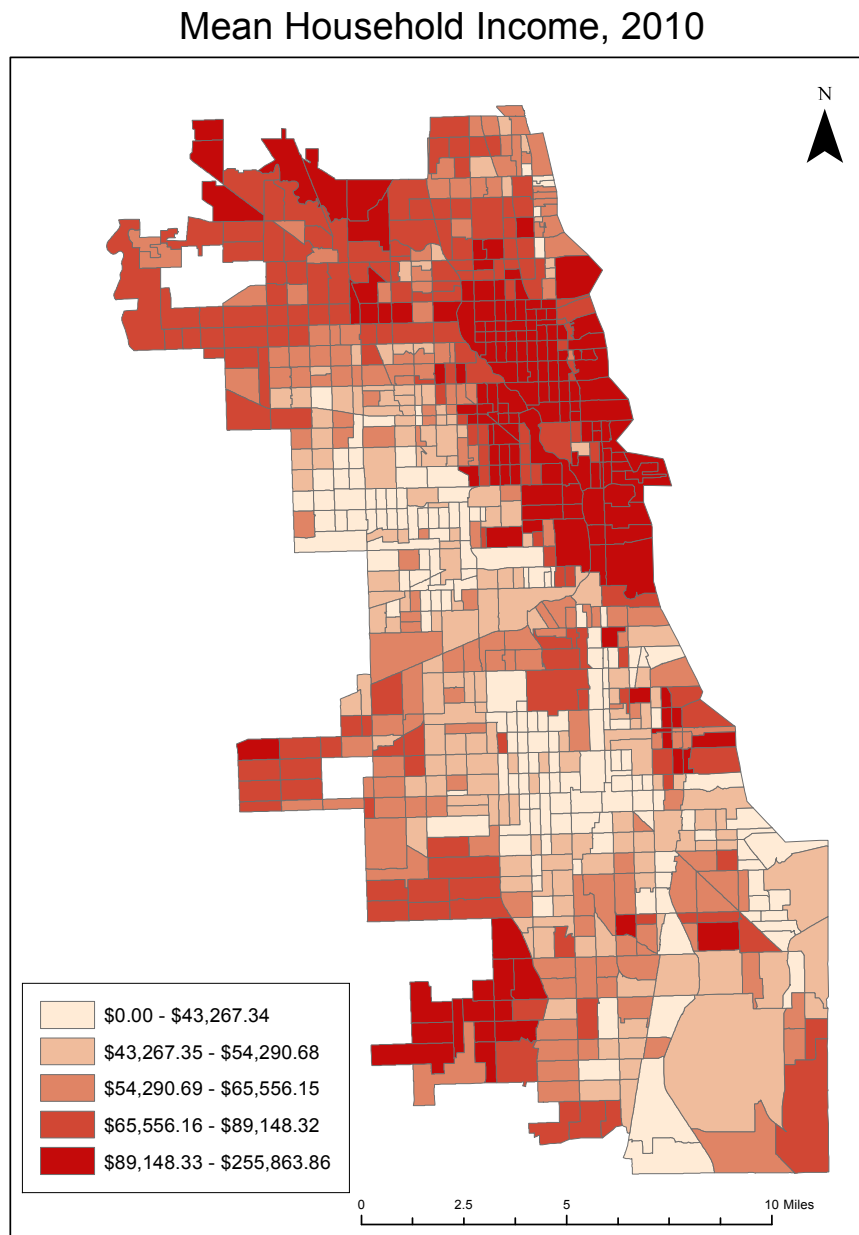


Fig. 11

Due to the numerous structural factors discussed earlier, black Chicagoans are at significant financial disadvantages compared to nonblack (but especially white) Chicagoans. This financial disadvantage (or advantage) is naturally concentrated in black neighborhoods. The

mean household income across black tracts was \$47,614, while it was 173% higher at \$82,304 in nonblack tracts (adjusted to 2016 inflation levels). The difference in per capita income was even greater at 196% (\$18,146 vs. \$35,571). Figs. 12 and 13 illustrate the differences in income distribution between segregated black and nonblack tracts. The largest single income bracket in black tracts by far is the under \$10,000 group, which represents extreme poverty for any household size. As income goes up, the population of the bracket goes down, until a bump at the middle incomes of \$50,000-\$99,999, and then go down again. While over 15% of households in black tracts earn less than \$10,000 per year, only 11% earn more than \$100,000. In Fig. 13, on the other hand, the single largest group in nonblack neighborhoods is \$75,000-\$99,999. Over 28% of households in these tracts earn over \$100,000 per year, while only 6% fall into the lowest bracket.

Fig. 12: Number of households by income bracket 2010-2016, >85% black tracts

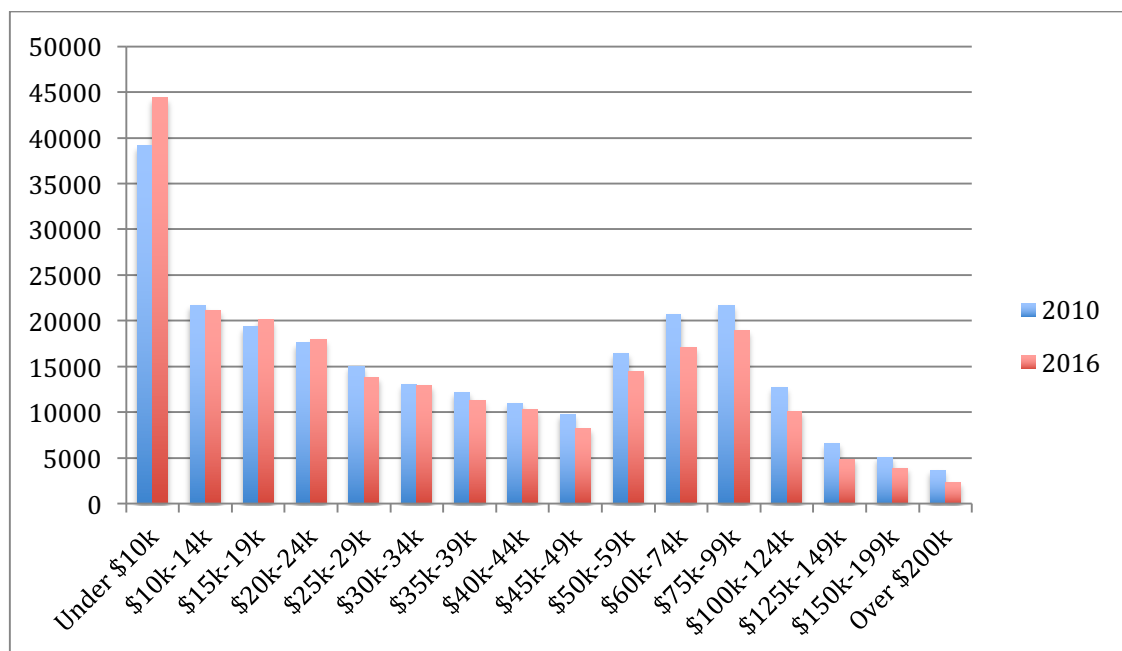
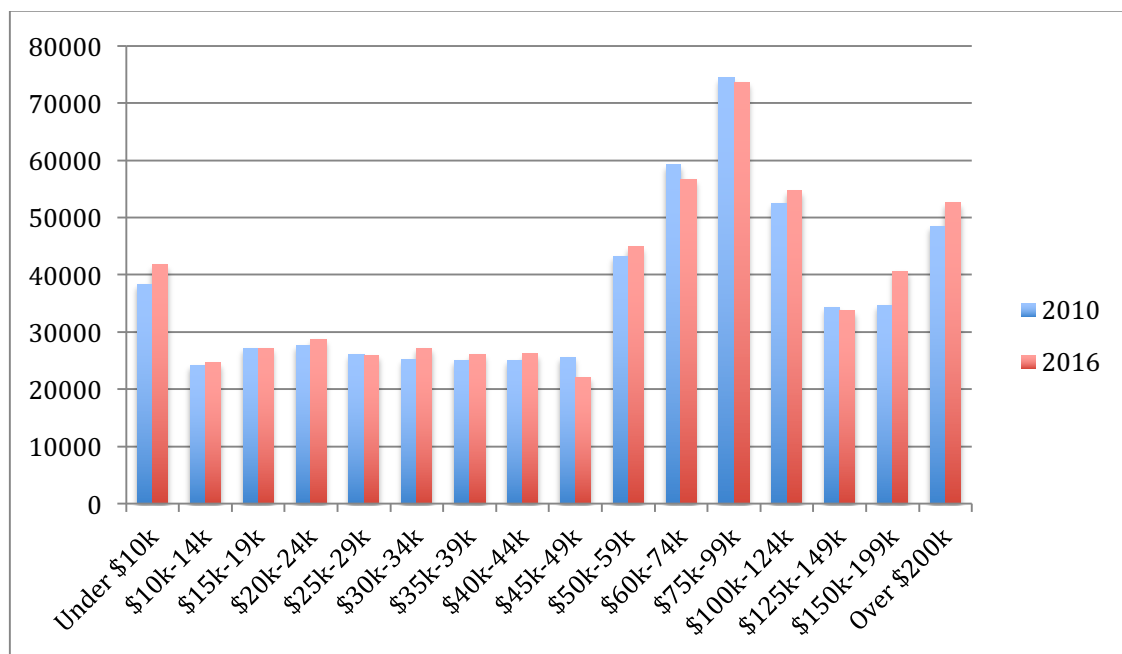


Fig. 13: Number of households by income bracket 2010-2016, <15% black tracts



The under \$10,000 bracket is growing in both black and nonblack tracts, but much faster in black tracts—an increase of 5,398 households or 13%, compared to 3,529 or 9% in nonblack tracts. (It should not be ignored, though, that even in nonblack tracts the number of households in this bracket is growing faster than the overall rate of growth; the number of households in extreme poverty is growing citywide). These numbers may be going up because poor families are moving into Chicago; a more straightforward explanation, however, is that existing low-income residents' incomes are falling and pushing them down into the bottom bracket.

At the other end of the spectrum, however, black and nonblack neighborhoods' fates diverge more sharply. Every single income bracket above \$25,000 decreased in size from 2010-2016 in black tracts. Every bracket above \$45,000 decreased by more than 10%, and every bracket above \$100,000 decreased by more than 20%. Overall, the number of households earning over \$100,000 decreased by 6,710, or 23%—over half the total numeric decrease in households. Similarly, the number of households earning between \$50,000 and \$100,000 decreased by 8,407,

or 14%. The correlation between mean 2010 income and population change in black tracts is -0.135 ($p = 0.0384$), which indicates that the drop in these higher income brackets is likely due to wealthier households moving out rather than dropping down to lower income brackets. It would also require a significant change in income for a family to drop from one of the top income brackets to one of the brackets that is increasing. A possibility that these data do not preclude, however, is that middle- and upper-income black households may be moving out of segregated black neighborhoods into other parts of Chicago, rather than leaving the city entirely. But the significant black population loss during this time period makes it very likely that the majority of these families did, in fact, leave the city.

Black neighborhoods have historically had a greater level of socioeconomic integration than nonblack ones, because virtually the entire black population was confined to a select set of neighborhoods, leaving middle- and upper-class black families with no opportunities to self-segregate within the already-overcrowded black neighborhoods. Perhaps for this reason, the correlation between mean income and population change is only -0.135 ($p = 0.0384$). There is no statistically significant correlation between change in a tract's median income and population change in the tract. There is, however, a negative correlation (-0.331 , $p < 0.0001$) between a change in the number of households earning over \$100,000 and the change in the number of households earning under \$50,000, indicating that when higher-income households leave, lower-income households take their place.

In nonblack neighborhoods, meanwhile, growth is occurring at both ends of the income spectrum. The total number of households in these tracts increased by 15,226 between 2010 and 2016. The bracket with the greatest numeric increase (as well as the highest proportional increase) is the \$150,000-\$199,999 group, which grew by 5,905 households or 16%. The next

biggest growth occurred in the \$200,000+ group, which grew by 4,201 households or 8%. Third, however, was the under \$10,000 group, which grew by 3,529 households or 9%. When grouped into low (\$0-\$50,000), middle (\$50,000-\$100,000), and high (\$100,000+) income brackets, the change in households looks like this:

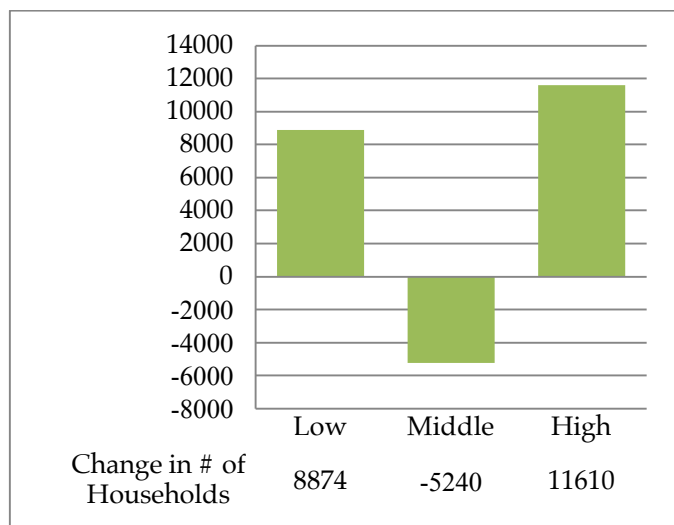


Fig. 14

The income spectrum is bifurcating, with the bottom and top growing and the middle dropping out. Mean income in 2010 does not correlate significantly with population change ($p = 0.1109$), but it does in 2016 ($0.240, p < 0.0001$), indicating that high incomes at the end of the study period reflect an influx of high earners.

High earners in nonblack tracts tend to be young, while in black tracts young adults are not. A $0.387 (p < 0.0001)$ correlation exists in nonblack tracts between percent of population aged 25-34 and mean income in 2010, while in black tracts the correlation is a relatively weak $-0.145 (p = 0.0264)$.

Spatial Polarization of Employment Sectors

Percent of Workforce in Business, Finance, Management (2010)

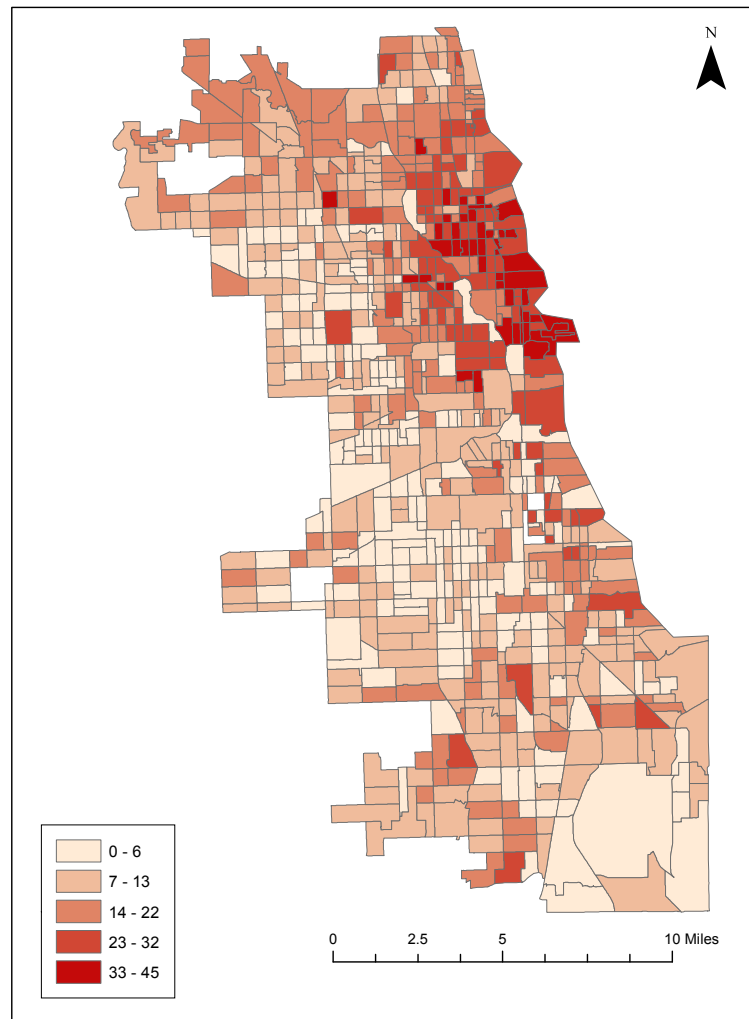


Fig. 15

The defining indicator of a city that has cemented its place in the postindustrial economy and the age of the “global city” is whether or not it has a significant professional and financial services sector. Chicago in the 2010s certainly fulfills that criterion: over 36% of the city’s employed population worked in finance, business, or other professional occupations at the outset of the decade. However, Table 2 demonstrates that these jobs are not evenly spread throughout

the city or its population. Given the massive disparities in income citywide, it should not be surprising that employment in white-collar jobs is similarly uneven.

Table 2: Correlations between racial/ethnic proportions of tract population and employment sectors

Industry	% Non-Hispanic White	% Black	% Hispanic/Latino
Finance/Business/Management	0.633 p < 0.0001	-0.302 p < 0.0001	-0.312 p < 0.0001
Professional and Related	0.500 p < 0.0001	-0.147 p < 0.0001	-0.388 p < 0.0001
Food Preparation and Serving	-0.110 p = 0.0020	-0.214 p < 0.0001	0.372 p < 0.0001
Building and Grounds Cleaning/Maintenance	-0.341 p < 0.0001	0.111 p = 0.0018	0.246 p < 0.0001
Construction, Extraction, Maintenance	-0.115 p = 0.0012	-0.214 p < 0.0001	0.450 p < 0.0001
Production (Manufacturing)	-0.315 p < 0.0001	-0.170 p < 0.0001	0.601 p < 0.0001

Finance and professional jobs are highly concentrated in neighborhoods with large white populations, while both traditional industrial jobs (construction and production) and service sector jobs (food prep and cleaning/maintenance) dominate in Hispanic/Latino neighborhoods. The only sector that is more prominent in black tracts is cleaning and maintenance, and then by a smaller margin. Black tracts, however, tend to have more integration in terms of white- and blue-collar or service sector jobs than nonblack tracts (Table 2). In nonblack tracts, tracts with a higher proportion of young adults 25-34 in 2010 are overwhelmingly correlated with finance jobs (0.553, p < 0.0001) and professional jobs (0.508, p < 0.0001), with the correlations increasing to 0.683 and 0.544, respectively, by 2016. Meanwhile, in black tracts finance jobs only have a weak correlation with young adult population (0.135, p = 0.0395) that disappears in

2016, and a weak *negative* correlation between professional jobs and young adult population (-0.129 , $p = 0.0489$) that only appears in 2016.

Table 3: Correlations between population of white-collar workers (business/management + professional) and population of other workers in black vs. nonblack tracts (2010)

Occupation	Correlation with white-collar jobs in black tracts	Correlation with white-collar jobs in nonblack tracts
Food prep	Not significant	-0.265 ($p < 0.0001$)
Cleaning/maintenance	-0.223 ($p = 0.0006$)	-0.476 ($p < 0.0001$)
Construction	Not significant	-0.548 ($p < 0.0001$)
Manufacturing	-0.138 ($p = 0.0349$)	-0.548 ($p < 0.0001$)

White-collar and non-white collar jobs in black tracts, however, became more spatially separate in black tracts between 2010 and 2016 (Tables 3 and 4), indicating a slight trend toward matching the rest of the city.

Table 4: Correlations between population of white-collar workers (business/management + professional) and population of other workers in black tracts, 2010 vs. 2016

Occupation	Correlation in 2010	Correlation in 2016
Food prep	Not significant	-0.204 ($p = 0.0017$)
Cleaning/maintenance	-0.223 ($p = 0.0006$)	-0.279 ($p < 0.0001$)
Construction	Not significant	-0.125 ($p = 0.0563$)*
Manufacturing	-0.138 ($p = 0.0349$)	-0.147 ($p = 0.0253$)

*On the verge of being statistically significant, but a large change from 2010 p-value of 0.7061.

The proportions of this set of industries is relatively even between black and nonblack tracts, with the significant exception of finance, which makes up a much lower proportion of the workforce in black tracts. The primary difference between the two is in growth. In black tracts all

of these industries are relatively stagnant, the exception being a nearly 10% drop in manufacturing employment. In nonblack tracts, meanwhile, financial and professional jobs dominate, and both sectors grew by 16% and 14%, respectively. Service-sector cleaning and food prep job growth is flat, and the traditionally blue-collar construction and manufacturing sectors have declined by 17% and 15% respectively.

Fig. 16: Number of workers employed in different sectors of the workforce in >85% black tracts, 2010 and 2016

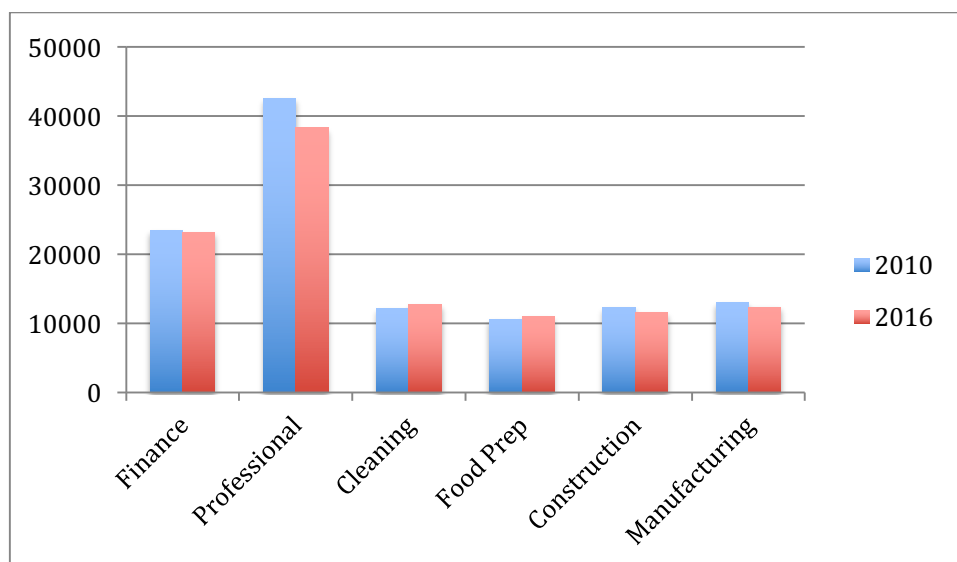
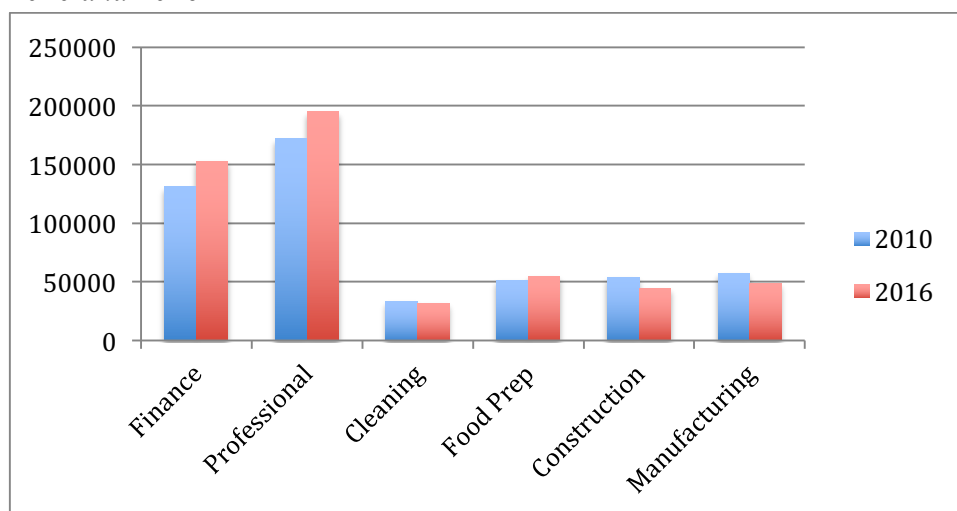


Fig. 17: Number of workers employed in different sectors of the workforce in >15% black tracts, 2010 and 2016



IV HOUSING

An Exodus of Homeowners

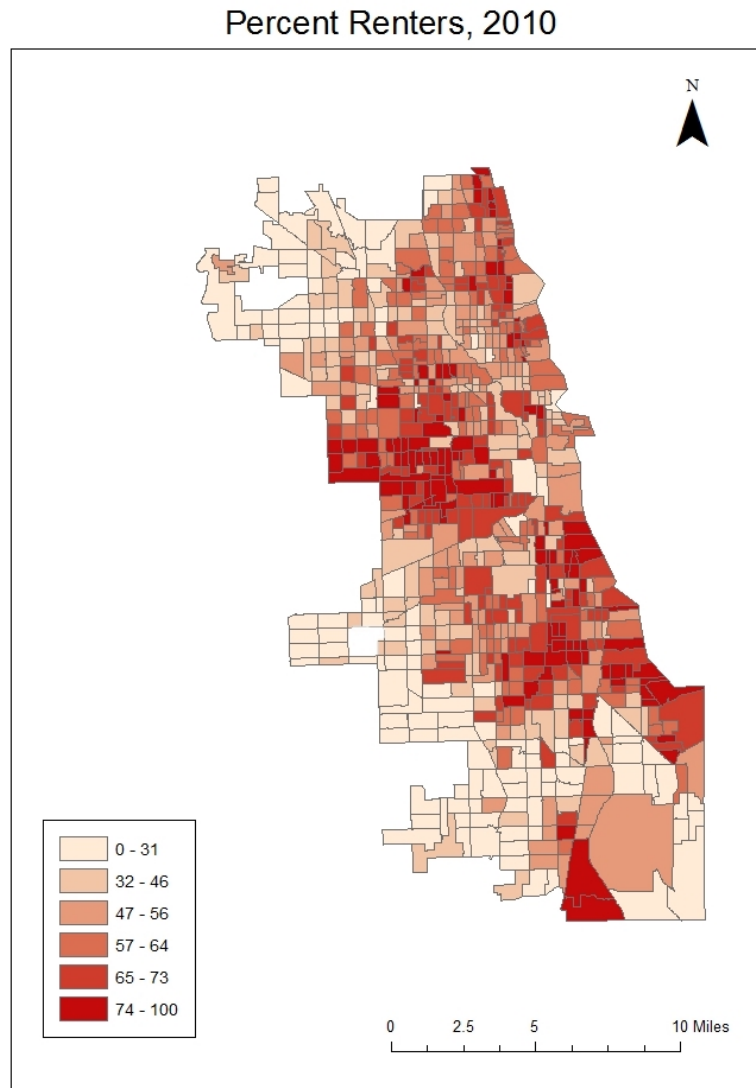


Fig. 18

Wealth in America, as discussed in the Background section, is intimately tied to homeownership. Not surprisingly, therefore, homeownership is less common in Black Chicago, with 41% of households in black tracts owning the unit they occupied, compared with 52% in nonblack tracts. Homeownership rates fell in both black and nonblack tracts, while the number of renters grew. Black tracts lost 13,227 homeowners (about 10% of the total) and gained 706

renter households (less than 1%), while nonblack tracts lost 16,747 homeowners (about 5% of the total) and gained 31,943 renter households (about 10%).

While both black and nonblack tracts are losing homeowners, in nonblack tracts the loss is more than offset by new renters. In black tracts a high rate of homeownership is negatively correlated with population change (-0.222 , $p = 0.0006$), while no such correlation exists in nonblack tracts ($p = 0.701$). The connection between homeownership and population loss makes sense in the context of an exodus of middle- and upper-income families, because in black tracts a strong relationship exists between homeowner rates and income (0.675 , $p < 0.0001$). In nonblack neighborhoods, however, the correlation is much smaller at 0.153 ($p = 0.0019$).

This difference could be because of an unusually large number of low-income homeowners or of high-income renters. When only the bottom income quartile is tested, the correlation jumps to 0.422 ($p < 0.0001$), but when only the top income quartile is tested, it becomes no longer statistically significant ($p = 0.0635$). These results indicate that a notable proportion of nonblack tracts' highest earners are not homeowners. A correlation of -0.474 ($p < 0.0001$) between homeownership and proportion of 25-34 year olds indicates that these high-income renters may be young professionals who are unwilling to take on the debt of homeownership, unsure how long they plan to remain in Chicago, less anchored to one particular neighborhood, or otherwise predisposed to rent.

Meanwhile, home prices have largely been flat, as Chicago's housing market has had one of the weakest recoveries from the housing crisis.¹⁴ While nonblack tracts tend to have much higher

¹⁴ Rodkin, Dennis. "Why Chicago home prices lag: Poor job growth, high taxes." *Crain's Chicago*, March 31, 2018.
<https://www.chicagobusiness.com/article/20180330/ISSUE01/180329888/why-chicago-home-prices-lag-poor-job-growth-high-taxes>

home values than black tracts (correlation between percent black and median home value -0.554 , $p < 0.0001$), their growth has been similarly stagnant.

Vacancy and Revitalization

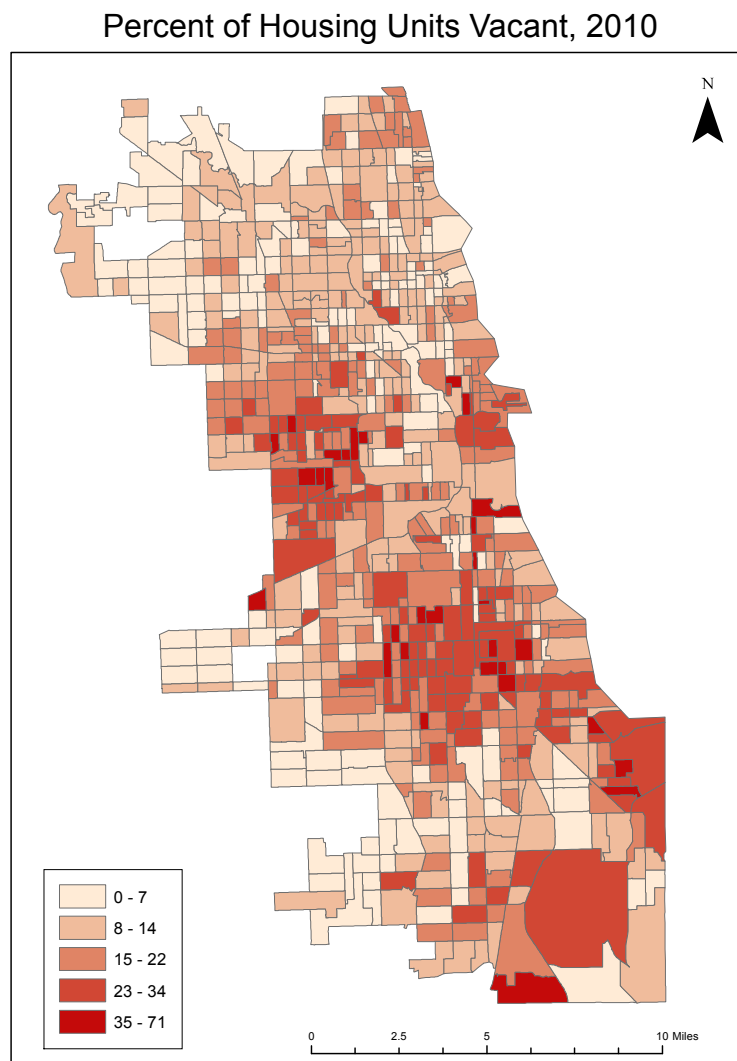


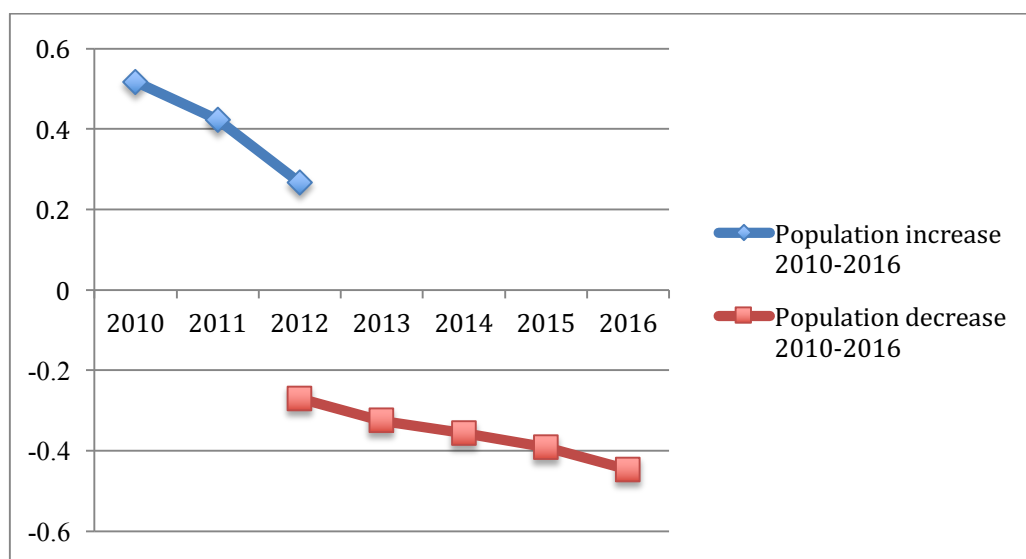
Fig. 20

Vacancy rates in black tracts are much higher than in nonblack tracts, with a mean of 20.15% in black tracts and 12.10% everywhere else. A relatively strong positive correlation of 0.376 exists between initial vacancy rates (in 2010) and population change in black tracts. There is a strong relationship (-0.403) between income and initial vacancy rate, so some of this

correlation is likely explained by median income, as we have previously seen that higher incomes correlate with higher rates of population loss in black neighborhoods. Income, however, only accounts for a -0.135 correlation with population change, so a significant part of the effect of initial vacancy rates arises from more than income alone. These dynamics also exist in nonblack tracts: initial vacancy rates and income are negatively correlated (-0.322), initial vacancy rates and population change are positively correlated (0.321), and the correlation cannot be explained by income (no correlation between income and population change).

Comparing end vacancy rates (in 2016), however, yields different results. In black tracts a negative correlation of -0.276 appears, while in nonblack tracts there is no correlation. While at the outset higher vacancy rates seem to indicate room for potential growth, continued high vacancy rates indicate that the vacancies have not been filled, or have perhaps increased. This effect can be seen more clearly when black tracts with increasing population and decreasing population are separated:

Fig. 21: Correlation Between Annual Vacancy Rates and 2010-16 Population Change



The positive correlation between high vacancy rate and population increase is only statistically significant until 2012, while the correlation between low vacancy rate and population decrease becomes statistically significant in 2012. 2012 appears to be the cutoff year for trends to manifest. If a high-vacancy neighborhood has not kicked off its population gain by 2012, it is unlikely to do so in the next four years, and if a low-vacancy neighborhood was not already losing people by 2012, it is unlikely to begin.

Are these trends indicating that relatively full neighborhoods are emptying faster, or that relatively empty neighborhoods are more likely to grow? The answer seems to be both. Vacancy rates tended to converge to the mean between 2010 and 2016, with 62% of above-median tracts seeing vacancy rate decreases and 68% of below-median tracts seeing vacancy rate increases (Table 5). Of tracts that had above-median vacancy rates in 2010, 39% experienced a population increase, but only 26% of tracts with below-median vacancy rates did (Table 6).

Table 5: >85% black tracts, organized by initial vacancy rate and vacancy rate change (total = 234)

	Vacancy rate increase	Vacancy rate decrease
Vacancy rate above 2010 median	44	73
Vacancy rate below 2010 median	80	37

Table 6: >85% black tracts, organized by population change and vacancy rate change (total = 234)

	Population increase	Population decrease
Vacancy rate above 2010 median	46	71
Vacancy rate below 2010 median	30	87

Vacancy rate changes can occur through two processes: a change in population or a change in the housing stock. In a neighborhood with decreasing vacancy rates, people might be moving into a neighborhood and lowering the vacancy rate, or property owners may be tearing down vacant buildings. In a neighborhood with increasing vacancy rates, people might be moving out, or new construction might simply be outpacing demand. Table 7 reveals the following:

- In tracts where vacancy rates are *increasing*, the cause is almost always population loss. Population loss appears in 91% of these cases, while unit increases only occur in 18.5%. In fact, in over 80% of cases, the number of units is still decreasing, but the population is decreasing even faster.
- In tracts where vacancy rates are *decreasing*, unit loss appears more frequently as a causal factor than population gains. Population gain appears in 53% of cases, while unit loss appears in over 75%.

Table 7: >85% black tracts, organized by population change and vacancy rate change (total = 234)

	Vacancy rate decrease	Vacancy rate increase
Population increase	58	18
Population decrease	52	106
Unit increase	27	23
Unit decrease	83	100 (+1 no unit change)

DISCUSSION

Wilson's theory of the vicious cycle of depopulation still applies on the macro level, to the predominantly black communities of Chicago as a whole. It holds up less well, however, on a more granular level. According to Wilson's work, we should expect to see more intense population loss in over the study period in areas that had more vacant homes and lots to begin with. On the tract level, however, a greater proportion of vacancies did not spur additional population loss, but rather insulated against it. People left low-vacancy tracts at greater rates than high-vacancy ones, and growth was more likely to occur in high-vacancy areas. Wilson would also predict that areas with a strong middle class would remain stable, while areas with a weaker middle-class presence would continue to see the households with the highest incomes move out, leaving behind only the poorest families. In Chicago during this period, meanwhile, the presence of a high concentration of middle- and upper-income families offered little security from population loss, as those families tended to be the ones leaving in the largest numbers.

Tied to this phenomenon is the mass exodus of homeowners, even more impressive given the fact that homeowners have made a significant financial investment in staying in place at least for several years and must usually sell their homes before moving away, which takes significantly more time and effort. Perhaps these families were trying to get out from under a depreciating investment—as Moore (2016) notes, black homeowners in Chicago were hit especially hard by the 2008 foreclosure crisis and black neighborhoods recovered more slowly, and the data indicate that home values sagged during this 6-year period; however, a longer period of observation would be required to confirm the significance of home values as a motive. Home values also struggled in many nonblack tracts, and nonblack tracts also saw a loss of homeowners: the primary difference was that the loss was offset by an increase in renters. While

the 2000s were a period of decline for already-struggling black neighborhoods, the 2010s appear to be a period of decline for black communities that were long considered stable and middle-class.

Trends in the child population, however, may suggest the contrary—that local stability does protect against decline. Even while the child population drops precipitously across the black sections of the city, the presence of children, and by extension families (even if the child’s caregivers are guardians or relatives other than the parents) reduces overall population loss. Meanwhile the overall trend of youth population loss hints at the possibility that families are moving out of Chicago because they find it an inhospitable place for older children. Concerns like safety grow more pressing as children get older and become more independent; similarly, the quality of public education is only relevant for parents of school-age children, and may become more a more important factor as children approach high school, a time that is often crucial in determining a child’s future educational and career outcomes.

The disparities between age demographic spread between black and nonblack populations are in contrast with nationwide averages. Nationwide, young adults make up a larger proportion of the black population than the white population, and the black young adult population is roughly on par with other racial groups, whereas the senior population is overwhelmingly white.¹⁵ Many Northern cities with large black populations—notably Washington, D.C., Detroit, and Cleveland—follow similar population distribution trends where the black population is disproportionately very old and very young. A significant number, however, including New

¹⁵ Gao, George. “Biggest share of whites in U.S. are Boomers, but for minority groups it’s Millennials or younger.” Pew Research Center, *FactTank*, July 2016. <https://www.pewresearch.org/fact-tank/2016/07/07/biggest-share-of-whites-in-u-s-are-boomers-but-for-minority-groups-its-millennials-or-younger/>

York, Boston, Columbus, Indianapolis, and Milwaukee, exhibit a different trend. In these cities the black population skews younger than other racial groups and drops off significantly for adults and seniors. Some are somewhere in the middle, like Baltimore and Philadelphia, which have slightly larger black senior populations than their black young adult populations but still have a lower concentration of seniors.¹⁶ Segregation alone does not seem to determine which kind of pattern a city follows, as Milwaukee, Detroit, New York, and Philadelphia all rank near Chicago in terms of black-white segregation (Frey 2018) and have a variety of population distributions.

The growth of the senior population—citywide but especially in black tracts—is notable because it raises the stakes of Browning et al.’s (2006) findings about elderly mortality rates and community cohesion. In the majority of black neighborhoods, the senior population is growing while the rest of the population shrinks, increasing the odds that seniors will have no ties to younger neighbors or friends who can check on them and provide a link to the outside world.

Meanwhile, the growth and extreme spatial concentration of white-collar professionals on the North Side, overlapping with this area’s growth of 25-34 year olds and high-income families, indicates that this part of the city is succeeding according to Florida’s “creative city” criteria. The polarized nature of growth in the nonblack tracts—with low-income and high-income households increasing in number, and the middle class stagnating—fits well with Friedmann’s (1986) “spatial and class polarization of world cities”. While Friedmann notes “the failure of semi-peripheral world cities [world cities located in developing countries as opposed to the “core” of primary nations like the U.S. and most of Europe] to develop a substantial middle class”, elements of this polarization occur even in Chicago, which he classifies as a primary core city. The separation of different segments of the workforce, with white-collar workers living in

¹⁶ U.S. Census Bureau, 2010 Census data. Data compiled by statisticalatlas.com

different areas also fulfills Friedmann's assertion that "spatial polarization arises from class polarization". In black tracts, meanwhile, upper-income households are in decline, young adults make up a small and shrinking proportion of the population, and economic polarization is much less severe (though it is increasing). Young adults are highly likely to work in white-collar fields in nonblack tracts, while young adults living in black tracts are not any more likely to be a part of the creative class or have a high household income than any other age group.

Perhaps the most surprising finding is the distribution of population loss itself: while large-scale trends are clearly visible, on the individual tract level the geographic distribution becomes much more random. The literature on depopulation has much less predictive power when the observer zooms in too close. Influencing population fluctuation on the tract level likely involves a host of idiosyncratic factors are likely in each case that demographic information alone does not convey. And no single demographic indicator had a predictive power above 0.5. Age, family structure, income, and other factors about the neighborhood all play roles, but none appears to be the most important driver of depopulation. Different factors take on added importance in different areas: for instance, the child population has a more noticeable effect in outlier areas, while the effect of the senior population occurs throughout.

Additionally, looking at "push factors" that incentivize people to leave Chicago—economic opportunity, housing markets, child-friendly resources—cannot shed light on the "pull factors" that entice people to move to destinations outside Chicago. When people leave one place and move to another, it is usually because of a combination of push factors and pull factors, and whether push factors or pull factors have the stronger effect is still unknown. Two notable pull factors are the "Reverse Great Migration", a trend that has emerged over the past few decades. Large numbers of black residents of Midwestern and Northeastern cities whose relatives moved

into these areas during the Great Migration of the early 20th century have begun moving back to the South, seeking the social networks of their relatives (Frey 2004). Another significant nationwide demographic trend has been a shift away from Midwestern and “Rust Belt” cities with declining populations and job opportunities toward cities in the “Sun Belt” of the South and Southwest, where the cost of living is cheaper, the climate is warmer, and job growth is more robust. The Sun Belt has held particular attraction for middle-class and highly educated populations (Frey 2004), which coincides with the sharp drop in the population of higher-income black Chicagoans.

POLICY RECOMMENDATIONS AND CONCLUSION

1. *Pursue homeownership retention initiatives.*

Homeowners are one of the fastest-declining groups citywide. Further research is needed to determine the specific reasons homeowners are moving out of Chicago, but here are a few options to stabilize homeownership rates, especially in low-income areas where homeownership is a riskier investment.

- a. *A forgivable loan rehabilitation program.* In 2016 the city piloted a forgivable loan program targeted at residents of Humboldt Park near the Bloomingdale Trail park, or “606”. Local longtime homeowners were concerned that gentrification encouraged by the development of the 606 would make the neighborhood unaffordable for them. This loan program, developed in response to these concerns, offered up forgivable loans of up to \$25,000 for qualified owner-occupants to make necessary repairs on their homes. If the owners remain in their homes four years after accepting the loans, the debts are forgiven. This program, while popular, had a relatively narrow reach, with enough funding for only a couple dozen homeowners and a geographic range of just over a square mile; it is still too early to evaluate the program’s success level, but it was well received locally.¹⁷ A similar program could be expanded and implemented in black neighborhoods like Chatham that have traditionally had high rates of homeownership (Moore 2016).

¹⁷ Biasco, Paul. “As area near 606 gentrifies, loans give residents hope.” *DNAInfo Chicago*, Feb 22, 2016. <https://www.dnainfo.com/chicago/20160222/west-humboldt-park/606-loan-program-aims-stop-gentrification-humboldt-park/>

b. *Reassessing property values citywide.* As previously discussed, homeowners in poorer neighborhoods tend to be overassessed in terms of property values compared to homeowners in wealthier ones. Baar (1981) finds that units in multifamily buildings tend to be taxed at a higher rate than single-family homes; this difference rests a disproportionate burden on the poor, who are more likely to live in multifamily dwellings. Homeowners facing inappropriately high property tax burdens have a strong incentive to sell their homes and move, either within Chicago or elsewhere. Regressive property tax assessment has been documented in Chicago recently: Berry (2016) finds that between 2011 and 2015 as much as \$800 million in property taxes was shifted from the top 10% of properties to the rest. Presently an appeals process exists, but is disproportionately utilized by the wealthy, an imbalance that ends up shifting even more of the property tax burden onto lower-income homeowners.¹⁸ The city should perform outreach campaigns to homeowners in neighborhoods that are typically overassessed to inform homeowners of the reassessment

2. *Invest in children.*

Children are the fastest-declining demographic in Chicago, and black neighborhoods are losing children at astounding rates. This population loss has contributed to school closures on the South Side, and unless there is significant in-migration of black young adults, the subsequent generation of black Chicagoans will be even smaller. Policymakers should prioritize making Chicago an excellent place to raise a family in addition to being an excellent place for young professionals to move.

¹⁸ Grotto, Jason. “The problem with appeals.” *Chicago Tribune*, June 10, 2017.
<http://apps.chicagotribune.com/news/watchdog/cook-county-property-tax-divide/appeals.html>

- a. *Conduct comprehensive surveys of black parents and families.* In order to pinpoint the key aspects of why families with children are leaving in such large numbers, the city government should conduct a series of interviews and surveys to determine what factors have been most important in choosing whether to stay in Chicago and where to live within Chicago. Important factors to examine include: crime and the perception of crime; school quality and post-graduation prospects; availability of childcare and other social services; and retail and related amenities.
- b. *Invest in CPS.* Chicago Public Schools is notorious for poor performance, mismanagement, and extreme segregation. The city government is aware of CPS' shortcomings and an education policy specialist could likely write an entire book of recommendations for CPS, so I will not attempt to do so here, but will simply underscore the key role CPS undoubtedly plays in families' decisions to leave the city.

3. *Topics for further research.*

The information that can be gleaned from census data is limited, and there is a wide range of avenues for further research on Chicago's population trends. They could include any of the following:

- Interviews with people who are moving out of Chicago;
- Ethnographic studies of individual declining neighborhoods;
- Quantitative analysis of where emigrants from Chicago are moving;
- Quantitative analysis of intra-city moves and levels of housing mobility;
- Analysis on depopulation's effects on the housing or job markets.

CONCLUSION

Chicago's flagging population is a sign of the city's bumpy transition into a post-industrial hub. It also reveals which parts of the city are becoming unlivable and for whom: black families with children, black homeowners, the black middle and upper class. The geographic and racial lines along which this population loss is borne out are directly traceable to the city's history of segregation and race-based discrimination. Whether the people who stay behind—the elderly, the poor, residents of hollowed-out neighborhoods—choose to do so or simply have no other option is not immediately clear. Meanwhile, a certain section of the city has become a magnet for a particular kind of person: young, white-collar, childless, geographically mobile, and usually white. If the city intends to stem the steady decline of its black population, it must identify the key push factors that are causing certain groups to leave. Where the city chooses to focus its attention—on stemming decline or on boosting white-collar growth—will reveal how willing they are to balance goals of equity and racial justice with the need to compete on the national stage.

BIBLIOGRAPHY

- Baar, Kenneth K. "Property Tax Assessment Discrimination Against Low-Income Neighborhoods." *The Urban Lawyer* Vol. 13 no. 3 (Summer 1981): 333-406.
<https://www.jstor.org/stable/27891010>
- Berry, Christopher. "Estimating Property Tax Shifting Due to Regressive Assessments." Center for Municipal Finance, Harris School of Public Policy at the University of Chicago, 2018.
<https://harris.uchicago.edu/files/inline-files/Estimating%20Property%20Tax%20Shifting%20Due%20to%20Regressive%20Assessments.pdf>
- Bradbury, Katharine L., Anthony Downs and Kenneth A. Small. *Urban Decline and the Future of American Cities*. Washington: The Brookings Institution. 1982.
- Browning, Christopher R., Danielle Wallace, Seth L. Feingberg, and Kathleen A. Cagney. "Neighborhood Social Processes, Physical Conditions, and Disaster-Related Mortality: The Case of the 1995 Chicago Heat Wave." *American Sociological Review*, Vol. 71 (August 2006): 661-678.
- Bunce, Harold L., and Sue G. Neal. "Trends in City Conditions During the 1970s: A Survey of Demographic and Socioeconomic Changes." *Publius* Vol. 14, no. 2 (Spring 1984): 7-19.
<https://www.jstor.org/stable/3330100>
- Choldin, Harvey M. and Claudine Hanson. "Subcommunity Change in a Changing Metropolis." *The Sociological Quarterly* 22, no. 4 (10, 1981): 549-563. <https://search-proquest-com.proxy.uchicago.edu/docview/60065825?accountid=14657>.
- Florida, Richard. "Cities and the Creative Class." In *The Urban Sociology Reader*, Jan Lin and Christopher Mele, eds. New York: Routledge. 2005.
- Frey, William H. "The New Great Migration: Black Americans' Return to the South, 1965-2000." The Brookings Institution, *The Living Cities Census Series*, May 2004.
https://www.brookings.edu/wp-content/uploads/2016/06/20040524_Frey.pdf

- Frey, William H. "Black-White Segregation Edges Down Since 2000, Census Shows." The Brookings Institution, *The Avenues*, December 2018.
<https://www.brookings.edu/blog/the-avenue/2018/12/17/black-white-segregation-edges-downward-since-2000-census-shows/>
- Friedmann, John. "The World City Hypothesis." In *The Urban Sociology Reader*, Jan Lin and Christopher Mele, eds. New York: Routledge. 2005.
- Glaeser, Edward L., and Joseph Gyourko. "Urban Decline and Durable Housing." *Journal of Political Economy* Vol. 113, no. 2 (April 2005): 345-375.
<https://www.jstor.org/stable/10.1086/427465>
- Greene, Richard P. "Chicago's New Immigrants, Indigenous Poor, and Edge Cities." *The Annals of the American Academy of Political and Social Science* 551 (1997): 178-90.
<http://www.jstor.org/stable/1047946>.
- Guerrieri, Veronica, Daniel Hartley, and Erik Hurst. "Within-City Variation in Urban Decline: The Case of Detroit." *The American Economic Review*, Vol. 102, no. 3 (May 2012): 120-126. <https://www.jstor.org/stable/23245515>
- Hollander, Justin B. "Moving Toward a Shrinking Cities Metric: Analyzing Land Use Changes Associated With Depopulation in Flint, Michigan." *Cityscape* Vol. 12, No. 1 (2010): 133-151. <https://www.jstor.org/stable/20868735>
- Hunt, D. B. and Jon B. DeVries A.I.C.P. "Planning Chicago." *Planning* 79, no. 1 (Jan 2013): 18-22. <https://search-proquest-com.proxy.uchicago.edu/docview/1282532896?accountid=14657>
- Hyra, Derek. "The Back-to-the-City Movement: Neighbourhood Redevelopment and Processes of Political and Cultural Displacement." *Urban Studies* Vol. 52 no. 10 (August 2015), 1753–1773. <https://doi.org/10.1177/0042098014539403>
- Jakle, John A. and David Wilson. *Derelict Landscapes: The Wasting of America's Built Environment*. Savage, Maryland: Bowman & Littlefield Publishers, Inc. 1992.
- Massey, Douglas S. and Nancy A. Denton. *American Apartheid: Segregation and the Making of the Underclass*. Cambridge: Harvard University Press. 1993.
- Moore, Natalie Y. *The South Side*. New York: St. Martin's Press. 2016
- Morenoff, Jeffrey D. and Robert J. Sampson. "Violent Crime and the Spatial Dynamics of Neighborhood Transition: Chicago, 1970-1990." *Social Forces* Vol. 76, no. 1 (Sep 01,

- 1997): 31. <https://search-proquest-com.proxy.uchicago.edu/docview/1290988631?accountid=14657>.
- Parks, Virginia. "Revisiting Shibboleths of Race and Urban Economy: Black Employment in Manufacturing and the Public Sector Compared, 1950–2000." In *International Journal of Urban and Regional Research* Vol. 35 no. 1(Jan 2011): 11-29.
https://faculty.sites.uci.edu/virginiaparks/files/2018/12/Parks_IJURR_2011.pdf
- Revington, Nick. "Pathways and Processes: Reviewing the Role of Young Adults in Urban Structure." In *The Professional Geographer* Vol. 70 no. 1 (Feb 2018): 1-10.
<https://doi.org/10.1080/00330124.2017.1288574>
- Rothstein, Richard. *The Color of Law: A Forgotten History of How Our Government Segregated America*. New York: W.W. Norton. 2017.
- Rybczynski, Witold and Peter D. Linneman. "How to Save our Shrinking Cities." *The Public Interest* 135, (Spring, 1999): 30. <https://search-proquest-com.proxy.uchicago.edu/docview/1298114650?accountid=14657>.
- Sassen, Saskia. "The Urban Impact of Economic Globalization." In *The Urban Sociology Reader*, Jan Lin and Christopher Mele, eds. New York: Routledge. 2005.
- Wilson, William Julius. *The Truly Disadvantaged*. Chicago: University of Chicago Press. 1987.