Black-White and Hispanic Segregation Magnitudes and Trends from the 2016 American Community Survey

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Abstract

This article takes a fresh look at the incidence of Black-White and Hispanic-Non-Hispanic segregation across metropolitan America using 5-year estimates from the 2016 American Community Survey (ACS). Until recently, researchers had to wait for the publication of the Decennial Census for this type of data, but in 2015, the Census Bureau added census tract-level tabulations of demographic and economic data to the ACS, making it possible to track neighborhood and metropolitan-level changes at more frequent intervals. This analysis adds to the discussion about residential segregation and opportunity in five ways. First, as noted above, it is as up-to-date as the data will allow, and employs two complementary (rather than substitutable) measures of residential segregation. Second, it considers Black-White and Hispanic-non-Hispanic segregation in parallel, gaining mutual insights from each. Third and most important, it is undertaken at the metropolitan scale, the geography at which today's housing markets function. Fourth, it considers variations in segregation levels by metropolitan area size, something that has not been done before. Lastly, it looks at the associations between changes in residential segregation levels between 2000 and 2016 and various measures of metropolitan growth, demographic composition, residential mobility, and land use regulatory regimes.

Notwithstanding today's politically charged times, most Americans continue to believe that racial, ethnic, and gender discrimination are fundamentally wrong, and that governments at all levels have an affirmative responsibility to enforce anti-discrimination laws.[1] This responsibility is enshrined in the 14th Amendment to the U.S. Constitution, which was enacted in 1868, and the Civil Rights Act

1 The Institute of Government and Public Affairs at the University of Illinois has compiled the results of national surveys summarizing Americans' attitudes toward race from the 1940s until the present. A digest of those results is available at https://igpa.uillinois.edu/programs/racial-attitudes.

of 1964, the Voting Rights Act of 1965, the Equal Employment Opportunity Act of 1972, and the Fair Housing Acts of 1968 and 1988.

Unfortunately, when it comes to housing, this responsibility has all too frequently been ignored. Longstanding works by Logan and Schneider (1984); Jackson (1987); Massey and Denton (1993); Farley and Frey (1994); Yinger (1995); Logan, Stults, and Farley (2004); Ross and Turner (2005); and Reardon, et al. (2008); and more recent works by Glaeser and Vigdor (2012), Sugrue (2014), and Rothstein (2017) have documented how America's federal housing and mortgage programs have too often been administered in a racially discriminatory manner resulting in a substantial worsening of residential segregation. Still, as the results of a series of national fair housing audits conducted in 1977, 1989, 2000, and 2012 indicate, the incidence of all forms of housing discrimination has declined significantly during the past 40 years (Oh and Yinger, 2015).

This decline in housing discrimination has been accompanied by a slower fall-off in residential segregation (Krysan and Crowder, 2017). Nationally, the Black-White dissimilarity index, a measure of how many resident households of U.S. metropolitan areas would have to move to achieve complete Black-White integration, has declined from its all-time high of .73 in 1980 (Iceland and Weinberg, 2002), to .47 in 2016. While several U.S. cities remain "hyper-segregated" along Black-White lines—defined as a dissimilarity index value of .70 or higher—most U.S. cities and metropolitan areas have witnessed notable declines in Black-White segregation since 1990. Unfortunately, the same cannot be said for Latinos, for whom residential segregation is generally on the upswing: among the United States' more than 360 metropolitan areas, the average Hispanic dissimilarity index value[2] rose from .31 in 2000 to .35 in 2016.

The assumption when looking at these trends is that reduced residential segregation is automatically a good thing. Well before its landmark 1954 ruling in *Brown v. Board of Education*[3] in which the U.S. Supreme Court unanimously declared racially segregated schools to be inherently unequal and therefore a violation of the 14th Amendment's Equal Protection Clause, the federal courts have looked at housing discrimination as a fundamental societal ill requiring active government intervention to remedy.[4]

The key question, of course, is *how* active? For the most part, the federal courts have left this question to the states, which except for the New Jersey Supreme Court in its three Mt. Laurel decisions (Massey, et al., 2013), have largely stayed on the sidelines. This is why the Supreme Court's recent 5-4 decision in *Texas Dept. of Housing and Community Affairs v. Inclusive Communities Project, Inc.*[5] to re-enter the segregated housing field—and its finding that well-intended government housing programs which had the effect of generating a "disparate racial impact" constituted a violation of the Fair Housing Act—was such a surprise. Following up on the

2 Comparing the numbers and locations of census respondents who self-identified as "Hispanic" or "Latino" to those who did not identify as such.

3 *Brown v. Board of Education of Topeka*, 347 U.S. 483 (1954).

4 The U.S. Supreme Court ruled racially-restrictive zoning to be unconstitutional in *Buchanan v. Warley* in 1917 (*Buchanan v. Warley*, 245 U.S. 60 (1917)), and racially restrictive covenants to be unconstitutional in *Shelley v. Kraemer* in 1948 (*Shelley v. Kraemer*, 334 US 1 (1948)).

5 *Texas Dept. of Housing and Community Affairs v. Inclusive Communities Project, Inc.*, 576 US 1 (2015).

Supreme Court's decision, the Obama Administration promulgated the Affirmatively Furthering Fair Housing Rule (AFFH) requiring cities and towns receiving federal housing and community development funds to identify the extent of residential segregation in their communities, to determine whether and how local policies might be worsening residential segregation, and to create plans to affirmatively reduce fair housing barriers (HUD, 2015). HUD's original due date for these AFFH plans of January 2018 has since been extended by Trump Administration HUD Secretary Ben Carson until after 2020.[6]

At the heart of the Supreme Court's reasoning in the *Texas Dept. of Housing and Community Affairs* case is the view that racially segregated housing markets continue to constitute a threat to individual and community welfare. This was certainly the case in 1968 when The United States National Advisory Commission on Civil Disorders, (better known as the Kerner Commission) issued its warning that worsening residential discrimination and segregation were putting the United States on a path to becoming "two societies, one black, one white—separate and unequal" (Report Summary, Chapter 17, 1968). Indeed, it was the Kerner Commission's strong condemnation of residential segregation as the principal cause of the nation's urban riots, and the subsequent assassination of Dr. Martin Luther King Jr. that encouraged an otherwise indifferent Congress to enact the Fair Housing Act of 1968.

The argument that living in a segregated neighborhood adversely affects individual outcomes is mostly borne out by the available data. A series of articles by James Rosenbaum and colleagues (1995; 2002; 2005) pointed to the generally salutary effect of the Gautreaux court decree, which enabled African-American residents of segregated public housing projects in Chicago to move to integrated suburban communities. A 2005 Brookings collection by de Souza-Briggs entitled *The Geography of Opportunity: Race and Housing Choice in Metropolitan America*, reviewed the many connections between government housing policy-segregated housing markets and reduced economic and social opportunity. More recently, a series of longitudinal studies by Chetty, Hendren, and others (2014; 2016; 2018) of children growing up in low-opportunity neighborhoods have pointed to residential segregation as the principal cause of the persistent gap in economic achievement levels between comparably educated African-Americans and Whites.

This article takes a fresh look at the incidence of Black-White and Hispanic-Non-Hispanic segregation across metropolitan America using 5-year estimates from the 2016 American Community Survey (ACS).[7] Until recently, researchers had to wait for the publication of the Decennial Census for this type of data. Fortunately, in 2015, the Census Bureau added census tract-level tabulations of demographic and economic data to the ACS, making it possible to track neighborhood and metropolitan-level changes at more frequent intervals. With such data in

6 https://www.hudexchange.info/programs/affh/

7 The Census Bureau now publishes three sets of ACS estimates: (1) 1-year estimates based on sample data collected over a 1-year period and covering places larger than 65,000 residents; (2) 3-year estimates based on sample data collected over a 3-year period and covering places larger than 20,000 residents; and (3) 5-year estimates based on sample data collected over a 5-year period and covering all places, including census tracts. Going forward, the 3-year series has been discontinued. Dollar values and ranges in multi-year ACS samples are adjusted for inflation. The Census Bureau samples the population by households. The national ACS sample is based on a sample factor of 1.6 percent. State sample factors vary from a low of 1.3 percent in Florida, Georgia, Texas, and Mississippi, to a high of 2.7 percent in Minnesota, Wisconsin, and Alaska.

hand, it is now possible to look past simple averages and trends at the full range of contemporary metropolitan segregation patterns and outcomes.

This was not the case 40 years ago when minority populations were limited to central cities and when suburban municipalities routinely relied on a combination of restrictive zoning, realtor steering, and discriminatory mortgage lending to exclude Black and Hispanic residents. Such practices, although hardly unknown, are far less common today. Precisely because the incidence of discriminatory practices has been so substantially reduced—although by no means eliminated—today's Black and Hispanic households seeking to improve their housing and neighborhood conditions have many more geographic options than did their counterparts a generation ago. Whether they can take advantage of those options in a manner that reduces residential segregation or contributes to a reduction in poverty or an increase in housing affordability is the subject of this article.

This analysis adds to the discussion about residential segregation and opportunity in four ways. First, as noted earlier, it is as up-to-date as the data will allow, and employs two complementary (rather than substitutable) measures of residential segregation. Second, it considers Black-White and Hispanic-non-Hispanic segregation in parallel, gaining mutual insights from each. Third and most important, it is undertaken at the metropolitan scale, the geography at which today's housing markets function. Currently, the United States has 383 metropolitan areas. Lastly, it considers variations in segregation levels by metropolitan area size, something that has not been done before.

The great strength of this analysis, its comprehensive and comparative focus on metropolitan-level indices and outcomes, is also its Achilles' heel. Today's housing and labor markets function at a metropolitan scale, but the outcomes generated by those markets are mostly experienced at an individual, household, or neighborhood level. For the Latino high school graduate unable to find a good job within easy commuting distance, or for the poor African-American family looking for a nearby affordable rental unit, the fact that their metropolitan area is less segregated along Black-White or Hispanic lines than most is irrelevant. What matters is how the forces of discrimination and segregation affect them in their neighborhood.

The remainder of this brief article is organized into three parts. Part I looks at the current state of Black-White and Hispanic segregation among America's 383 metropolitan areas using two complementary measures of residential segregation: dissimilarity indices, and Moran's I, a measure of spatial autocorrelation. Part II uses regression analysis to explore some of the metropolitan-scale factors most associated with changes in Black-White and Hispanic segregation since the year 2000. Part III concludes with a summary of the major findings and their implications for federal, state, and local residential integration policy.

A few notes on measurement before we get to our key findings. Following the literature, the principle measure of residential segregation used in this article is the *dissimilarity index*, or DI.[8] DIs combine small area (for example, census tracts or zip code districts) differences in racial

8 The basic formula for the index of dissimilarity comparing two groups, A and B is: $\frac{1}{2} * \sum_i (| a_i/A - b_i/B |)$ where a_i is the population of group A in the *i*-th area; A is the total population of group A; b_i = the population of group B in the *i*-th area; and B is the total population of group B.

or demographic makeup to generate larger area (for example, city- or metropolitan area-level) summaries of residential segregation. DIs vary between 0 and 1: a DI value of 0 indicates complete integration whereas a value of 1 indicates complete segregation. DIs are easy to compute. Because they are linear, they are easy to interpret—a DI of .5 means one-half the population would have to move to achieve an integrated outcome; a value of .75 means that three-fourths of residents would have to move.[9]

Dissimilarity indices have limitations. They can only be used to compare segregation across two groups (for example, Blacks versus Whites or Hispanics versus non-Hispanics), and they can be less than reliable when used in highly diverse communities. To get around this problem, this article has both Black-White DIs and Hispanic-Non-Hispanic DIs.[10] This use of dichotomous groupings oversimplifies internal differences within groups. For example, although most African-Americans identify themselves as being Black or of mixed race, not all Cuban-Americans see themselves as being within the same Hispanic ethnic group as Puerto Ricans or Mexican-Americans—although the Census Bureau reports them as such. For many Hispanics, immigration status is more important than ethnicity.

Dissimilarity indices summarize segregation. They do not measure spatial concentrations. To understand the difference, consider the following example. In metropolitan area A, the White population is dispersed on the east side of town while the Black population is dispersed on the west side. In metropolitan area B, the Black population is concentrated in the central city while the White population is dispersed throughout the suburbs. Both metropolitan area A and B are highly segregated and have similar DI values, but in metropolitan area B, the Black population is also spatially clustered.

To measure spatial concentrations, or more precisely, the degree to which population characteristics are spatially auto-correlated, geographers use a statistic known as *Moran's I*.[11] Moran's I typically varies between -1 and +1: a Moran's I value of 1 indicates that a population or activity is completely concentrated at one point in space; a Moran's I value of 0 indicates that a population or activity is located randomly in space, whereas a Moran's I value of -1 indicates complete dispersal—that the population or activity is distributed along the edge of the space of interest. Moran's I values follow a statistical distribution, meaning that their statistical significance can be assessed. For most urban activities, Moran's

9 Researchers have proposed numerous segregation measures in addition to the dissimilarity index. These can be grouped into exposure measures (including the dissimilarity index, the isolation index, and the entropy index), concentration measures (including Massey and Denton's absolute concentration index), centrality measures, and clustering measures. Exposure and concentration measure values tend to have similar magnitudes, which are different from centrality and clustering values. The Census Bureau (https://www.census.gov/hhes/www/housing/resseg/pdf/app_b.pdf) identifies and compares 17 such measures.

10 Following Census Bureau practice, this article will refer to census respondents who identify themselves as either Hispanic or Latino as Hispanic.

11 Moran's I is defined as

$$I = \frac{N}{W} \frac{\Sigma_i \, E_j \, w_{ij}(x_i - \bar{x})(x_j - \bar{x})}{\Sigma_i (x_i - \bar{x})^2}$$

Where N is the number of spatial units indexed by i and j; x is the variable of interest; $\bar{x}$ is the mean of x; w_{ij} is a matrix of spatial weights with zeroes on the diagonal (i.e. $w_{ii} = 0$); and W is the sum of all w_{ij}.

I values fall between -.1 and +.3. Values greater than .5 indicate extreme spatial concentration, or, in the language of sociologists, the presence of a ghetto. Readers should exercise caution in interpreting Moran's I values: unlike dissimilarity index values, Moran's I values are not linear.

Finally, readers should remember that all measures calculated from the American Community Survey are based on counts from a sample survey, not a comprehensive census. This means that they are subject to the problem of sampling error, especially in smaller census tracts (Napierala and Denton, 2017). Measures and indices constructed from ACS data should therefore be interpreted with caution, especially when observed differences over time and space are small.

I. Current Black-White and Hispanic Segregation Levels Among U.S. Metropolitan Areas

To orient readers to the extent of segregation in America, this study starts the way many segregation studies do: with listings of the nation's most segregated metropolitan areas. Because segregation varies by metropolitan area size—larger metropolitan areas are consistently more segregated than smaller ones—the author divides the listings into three metropolitan area size categories: (1) exhibit 1 includes large metropolitan areas with more than one million residents in 2016; (2) exhibit 2 includes mid-sized metropolitan areas having a 2016 population between 250,000 and 1 million; and (3) exhibit 3 includes small metropolitan areas with fewer than 250,000 residents in 2016. Each exhibit lists the 25 most segregated metropolitan areas in each metropolitan area size category as well as the category average. Dissimilarity index values are listed for 2000 and 2016, whereas Moran's I statistics are listed just for 2016. Black-White values are listed in the top block of each exhibit; Hispanic values are listed in the bottom block.

Exhibit 1A

Top 25 Large Metro Areas Ranked by 2000 and 2016 Black-White Segregation Measures

Large Metro Areas: 2016 Population gt. 1 million	2000 Black-White Dissimilarity Index Value	Large Metro Areas: 2016 Population gt. 1 million	2016 Black-White Dissimilarity Index Value	Large Metro Areas: 2016 Population gt. 1 million	2016 Moran's I for Black Share of Tract Population
Detroit, MI	0.86	Milwaukee, WI	0.79	Detroit, MI	0.88
Milwaukee, WI	0.82	Detroit, MI	0.73	Milwaukee, WI	0.76
Chicago, IL-IN-WI	0.79	Chicago, IL-IN-WI	0.72	Jacksonville, FL	0.71
Buffalo, NY	0.79	Greater New York, NY-NJ	0.71	Washington, DC-VA-MD	0.67
Cleveland, OH	0.78	Cleveland, OH	0.71	Providence, RI-MA	0.66
Greater New York, NY-NJ	0.75	St. Louis, MO-IL	0.71	Philadelphia, PA-NJ-DE	0.66
St. Louis, MO-IL	0.74	Buffalo, NY	0.70	Baltimore, MD	0.65
Cincinnati, OH-KY-IN	0.73	Cincinnati, OH-KY-IN	0.65	Atlanta, GA	0.61
Indianapolis, IN	0.71	Pittsburgh, PA	0.65	Boston, MA-NH	0.60
Philadelphia, PA-NJ-DE	0.70	Philadelphia, PA-NJ-DE	0.65	Indianapolis, IN	0.60
Kansas City, MO-KS	0.70	Boston, MA-NH	0.63	Orlando, FL	0.57
Memphis, TN-MS-AR	0.69	Baltimore, MD	0.63	Tampa-St. Petersburg, FL	0.57
New Orleans, LA	0.69	Indianapolis, IN	0.62	Cleveland, OH	0.55
Baltimore, MD	0.69	New Orleans, LA	0.62	St. Louis, MO-IL	0.53
Pittsburgh, PA	0.68	Memphis, TN-MS-AR	0.61	Nashville, TN	0.52
Boston, MA-NH	0.67	Miami-Ft. Lauderdale, FL	0.60	Charlotte, NC-SC	0.52
Miami-Ft. Lauderdale, FL	0.66	Washington, DC-VA-MD	0.59	Pittsburgh, PA	0.51
Los Angeles-Long Beach, CA	0.64	Denver, CO	0.59	Louisville, KY-IN	0.50
Atlanta, GA	0.63	Kansas City, MO-KS	0.57	Columbus, OH	0.48
San Francisco-Oakland, CA	0.63	Columbus, OH	0.56	Raleigh, NC	0.45
Louisville, KY-IN	0.63	Atlanta, GA	0.56	San Diego, CA	0.42
Washington, DC-VA-MD	0.63	Louisville, KY-IN	0.56	Cincinnati, OH-KY-IN	0.41
Columbus, OH	0.63	Providence, RI-MA	0.55	Denver, CO	0.40
Tampa-St. Petersburg, FL	0.62	San Francisco-Oakland, CA	0.55	Chicago, IL-IN-WI	0.38
Denver, CO	0.62	Minneapolis-St. Paul, MN	0.53	Buffalo, NY	0.38
Large Metro Average (N=48)	**0.61**	**Large Metro Average (N=48)**	**0.55**	**Large Metro Average (N=48)**	**0.39**

Exhibit 1B

Top 25 Large Metro Areas Ranked by 2000 and 2016 Hispanic Segregation Measures

Large Metro Areas: 2016 Population gt. 1 million	2000 Hispanic Dissimilarity Index Value	Large Metro Areas: 2016 Population gt. 1 million	2016 Hispanic Dissimilarity Index Value	Large Metro Areas: 2016 Population gt. 1 million	2016 Moran's I for Hispanic Share of Tract Population
Providence, RI-MA	0.60	Providence, RI-MA	0.56	Miami-Ft. Lauderdale, FL	0.71
Chicago, IL-IN-WI	0.59	Milwaukee, WI	0.54	Providence, RI-MA	0.69
Boston, MA-NH	0.56	Boston, MA-NH	0.53	Milwaukee, WI	0.67
Cleveland, OH	0.56	Chicago, IL-IN-WI	0.53	Tampa-St. Petersburg, FL	0.56
Milwaukee, WI	0.56	Miami-Ft. Lauderdale, FL	0.52	San Jose, CA	0.56
Miami-Ft. Lauderdale, FL	0.56	Cleveland, OH	0.51	San Antonio, TX	0.52
Greater New York, NY-NJ	0.53	Los Angeles-Long Beach, CA	0.51	San Diego, CA	0.50
Philadelphia, PA-NJ-DE	0.52	Greater New York, NY-NJ	0.48	Philadelphia, PA-NJ-DE	0.49
Los Angeles-Long Beach, CA	0.52	Philadelphia, PA-NJ-DE	0.48	Orlando, FL	0.46
Phoenix, AZ	0.49	Detroit, MI	0.47	Oklahoma City, OK	0.46
Buffalo, NY	0.49	Oklahoma City, OK	0.46	Boston, MA-NH	0.44
San Antonio, TX	0.47	Phoenix, AZ	0.45	Detroit, MI	0.38
Dallas-Fort Worth, TX	0.47	Memphis, TN-MS-AR	0.45	Charlotte, NC-SC	0.38
Denver, CO	0.47	Denver, CO	0.45	Nashville, TN	0.36
Atlanta, GA	0.46	Buffalo, NY	0.43	Greater New York, NY-NJ	0.34
Houston, TX	0.45	Nashville, TN	0.43	Jacksonville, FL	0.32
San Jose, CA	0.45	Indianapolis, IN	0.43	Atlanta, GA	0.32
San Diego, CA	0.44	San Diego, CA	0.42	Indianapolis, IN	0.30
Detroit, MI	0.44	San Jose, CA	0.42	Austin, TX	0.28
Charlotte, NC-SC	0.42	Dallas-Fort Worth, TX	0.42	Cleveland, OH	0.27
Oklahoma City, OK	0.42	Richmond, VA	0.41	Denver, CO	0.26
Nashville, TN	0.42	Atlanta, GA	0.41	Houston, TX	0.26
Minneapolis-St. Paul, MN	0.41	Cincinnati, OH-KY-IN	0.41	Seattle, WA	0.25
Washington, DC-VA-MD	0.41	Houston, TX	0.40	Las Vegas, NV	0.25
Austin, TX	0.41	San Antonio, TX	0.40	Dallas-Fort Worth, TX	0.24
Large Metro Average (N=48)	**0.40**	**Large Metro Average (N=48)**	**0.41**	**Large Metro Average (N=48)**	**0.28**

As of 2016, the nation's 48 largest metropolitan areas included 55 percent of its African-American population and 62 percent of its Hispanic population. In the year 2000, the average Black-White dissimilarity index value among these 48 large metropolitan areas stood at .61. Eleven large metropolitan areas met the criterion of being hyper-segregated—meaning that their Black-White DI values exceeded .70. The set of hyper-segregated metropolitan areas was led by former industrial giants with shrinking central cities in the Midwest: notably Detroit, Milwaukee, Chicago, Buffalo, Cleveland, and St. Louis. The Greater New York City metropolitan area, which includes Newark and adjacent communities, Westchester County, Nassau and Suffolk counties on Long Island as well as New York City, also met the hyper-segregation threshold in 2000. Although a good number

of northeastern and southern metropolitan areas are also on the top 25 Black-White segregation list for 2000, the only western metropolitan areas to appear are Los Angeles-Long Beach, San Francisco-Oakland, and Denver.

Sixteen years later, by 2016, the African-American population of the country's largest metropolitan areas had grown by 21 percent, raising the African-American population share from 15 percent in 2000 to 15.6 percent in 2016. These increases were accompanied by a decrease in Black-White segregation, with the average Black-White dissimilarity index among large metropolitan areas declining from .61 in 2000 to .55 in 2016. Along similar lines, the roster of hyper-segregated large metropolitan declined from 11 to 7. The decline in Black-White DI values was widespread, with most large metropolitan areas experiencing DI value declines in the range of 4 to 8 points. Among the notable exceptions were Providence, where the DI value fell by only 1 point; and Milwaukee, St. Louis, and Pittsburgh, where DI values fell by just 3 points. On the positive side of the ledger, Black-White DI values fell by 13 points in Kansas City between 2000 and 2016, by 12 points in Detroit, and by 9 points in Indianapolis. Comparing regions, the largest Black-White DI value declines between 2000 and 2016 were among metropolitan areas in the West.

The third column in exhibit 1 lists metropolitan areas according to their Moran's I values. As noted previously, Moran's I is a non-linear measure of spatial autocorrelation, or the extent to which spatial entities with high characteristic values (for example Black population shares by census tract) are tightly clustered in space. Despite its limitations,[12] Moran's I is arguably a more reliable measure than the dissimilarity index of how residential segregation is personally experienced by minority populations. With a few notable exceptions, the top 25 list of large metros based on 2016 Moran's I values corresponds closely to the top 25 2016 list based on DI values. The major exceptions—metropolitan areas that appear on the 2016 Moran's I list but not on the DI list—are mostly in the South, and include Jacksonville, Orlando, Nashville, Charlotte, Raleigh, and San Diego. African-American residents of these metropolitan areas are likely to experience extreme spatial separation racial isolation from Whites, although the metropolitan area is not highly segregated along Black-White lines.

Turning to measurements of Hispanic segregation, the trends run in the opposite direction, with the average Hispanic DI among large U.S. metropolitan areas having risen modestly from .40 in 2000 to .41 in 2016. This increase was accompanied by a whopping 52-percent increase in the Hispanic population, bringing the Hispanic population share of large U.S. metros to 21.8 percent in 2016. Seven large metros had Hispanic DI values above .5 in 2016: Providence (.56), Milwaukee (.54), Boston (.53), Chicago (.53), Miami-Ft. Lauderdale (.52), Cleveland (.51), and Los Angeles-Long-Beach (.51). This number was down slightly from 2000, when nine large metropolitan areas, including these seven plus Greater New York City and Philadelphia had Hispanic DI values above .50. Milwaukee, Chicago, Greater New York, and Cleveland were also on the list of Black-White hyper-segregated metropolitan areas in 2016, giving them the dubious distinction of topping two 2016 segregation lists. Other large metros with high levels of Black-White and Hispanic segregation in 2016 included Detroit, Boston, Buffalo, and Indianapolis. Unlike the top 25 segregation list for African-Americans, the 2016 top 25 list for Hispanics was not dominated by any geographic region.

12 Estimated Moran's I values are sensitive to the number, area, and perimeter values of the spatial units included in the Moran's I calculation.

The list of large metros in which Hispanics were spatially concentrated in 2016 was notably different from the 2016 segregation list. Among the metropolitan areas with very high Hispanic Moran's I values in 2016 but with lower DI values were Tampa-St. Petersburg (Moran's I = .56), San Jose (.56), San Antonio (.52), San Diego (.50), and Orlando (.46). Among all large U.S. metropolitan areas, the average 2016 Hispanic Moran's I value stood at a relatively low .28.

Exhibit 2A

Top 25 Medium-sized Metro Areas by 2000 and 2016 Black-White Segregation Measures

Mid-sized Metro Areas: 2016 Population between 250,000 and 1 million	2000 Black-White Dissimilarity Index Value	Mid-sized Metro Areas: 2016 Population between 250,000 and 1 million	2016 Black-White Dissimilarity Index Value	Mid-sized Metro Areas: 2016 Population between 250,000 and 1 million	2016 Moran's I for Black Share of Tract Population
Provo-Orem, UT	0.79	Peoria, IL	0.67	Lancaster, PA	1.05
Flint, MI	0.76	Flint, MI	0.66	York-Hanover, PA	0.84
McAllen, TX	0.75	Dayton, OH	0.65	Worcester, MA	0.84
Dayton, OH	0.73	Birmingham, AL	0.65	Bridgeport, CT	0.80
Syracuse, NY	0.71	Syracuse, NY	0.65	Hartford, CT	0.78
Youngstown, OH-PA	0.71	Youngstown, OH-PA	0.65	Portland, ME	0.76
York-Hanover, PA	0.71	Rochester, NY	0.64	Dayton, OH	0.75
Birmingham, AL	0.70	Harrisburg, PA	0.62	Flint, MI	0.73
Toledo, OH	0.70	Chattanooga, TN-GA	0.60	New Haven, CT	0.66
Chattanooga, TN-GA	0.69	Bridgeport, CT	0.60	Knoxville, TN	0.63
Harrisburg, PA	0.69	Jackson, MS	0.60	Harrisburg, PA	0.61
Cape Coral-Fort Myers, FL	0.69	Albany, NY	0.60	Rochester, NY	0.58
Fort Wayne, IN	0.69	Toledo, OH	0.60	Winston-Salem, NC	0.58
Rochester, NY	0.69	Grand Rapids, MI	0.60	Wilmington, NC	0.58
Peoria, IL	0.68	Columbus, GA-AL	0.59	Huntsville, AL	0.57
Sarasota, FL	0.67	Hartford, CT	0.59	Durham, NC	0.55
Scranton-Wilkes-Barre, PA	0.67	Sarasota, FL	0.59	Cape Coral-Fort Myers, FL	0.54
Omaha, NE-IA	0.66	Shreveport, LA	0.58	Syracuse, NY	0.54
Boise City-Nampa, ID	0.66	Omaha, NE-IA	0.58	Youngstown, OH-PA	0.53
Beaumont, TX	0.65	Scranton-Wilkes-Barre, PA	0.58	Akron, OH	0.52
Akron, OH	0.65	Cape Coral-Fort Myers, FL	0.58	Asheville, NC	0.51
Brownsville, TX	0.65	Springfield, MO	0.57	Poughkeepsie, NY	0.51
Mobile, AL	0.64	Wichita, KS	0.57	Birmingham, AL	0.48
Bridgeport, CT	0.64	Akron, OH	0.57	Daytona Beach, FL	0.48
Lancaster, PA	0.63	McAllen, TX	0.57	Trenton, NJ	0.46
Mid-sized Metro Average (N=103)	**0.54**	**Mid-sized Metro Average (N=103)**	**0.49**	**Mid-sized Metro Average (N=103)**	**0.34**

Exhibit 2B

Top 25 Medium-sized Metro Areas by 2000 and 2016 Hispanic Segregation Measures

Mid-sized Metro Areas: 2016 Population between 250,000 and 1 million	2000 Hispanic Dissimilarity Index Value	Mid-sized Metro Areas: 2016 Population between 250,000 and 1 million	2016 Hispanic Dissimilarity Index Value	Mid-sized Metro Areas: 2016 Population between 250,000 and 1 million	2016 Moran's I for Hispanic Share of Tract Population
Reading, PA	0.67	Reading, PA	0.62	Lancaster, PA	1.08
Lancaster, PA	0.60	Scranton-Wilkes-Barre, PA	0.56	Allentown, PA-NJ	0.75
Hartford, CT	0.58	Springfield, MA	0.55	Poughkeepsie, NY	0.74
Allentown, PA-NJ	0.57	Salinas, CA	0.54	York-Hanover, PA	0.68
Springfield, MA	0.57	Allentown, PA-NJ	0.53	Hartford, CT	0.68
York-Hanover, PA	0.57	Hartford, CT	0.51	Reading, PA	0.68
Salinas, CA	0.56	Oxnard, CA	0.50	Bridgeport, CT	0.67
Oxnard, CA	0.52	Montgomery, AL	0.48	Salinas, CA	0.67
Worcester, MA	0.52	Omaha, NE-IA	0.48	Daytona Beach, FL	0.64
New Haven, CT	0.50	Lancaster, PA	0.48	New Haven, CT	0.59
Bridgeport, CT	0.50	Grand Rapids, MI	0.47	Rochester, NY	0.55
Grand Rapids, MI	0.48	Trenton, NJ	0.47	Tucson, AZ	0.52
Rochester, NY	0.48	Fayetteville, AR-MO	0.46	Trenton, NJ	0.51
Tucson, AZ	0.47	York-Hanover, PA	0.46	Scranton-Wilkes-Barre, PA	0.5
Durham, NC	0.47	Birmingham, AL	0.46	Salem, OR	0.47
Bakersfield, CA	0.47	Worcester, MA	0.45	Portland, ME	0.42
Trenton, NJ	0.46	Bridgeport, CT	0.45	Youngstown, OH-PA	0.42
Naples, FL	0.46	Youngstown, OH-PA	0.45	Springfield, MA	0.42
Omaha, NE-IA	0.45	Jackson, MS	0.45	Santa Barbara, CA	0.42
Manchester, NH	0.45	Des Moines, IA	0.45	Reno-Sparks, NV	0.41
Harrisburg, PA	0.45	Bakersfield, CA	0.45	Cape Coral-Fort Myers, FL	0.38
Fayetteville, AR-MO	0.44	New Haven, CT	0.45	Fort Wayne, IN	0.38
Sarasota, FL	0.44	Santa Barbara, CA	0.44	Sarasota, FL	0.38
Corpus Christi, TX	0.44	Manchester, NH	0.44	Modesto, CA	0.37
Santa Barbara, CA	0.43	Tucson, AZ	0.43	Oxnard, CA	0.37
Mid-sized Metro Average (N=103)	**0.35**	**Mid-sized Metro Average (N=103)**	**0.37**	**Mid-sized Metro Average (N=103)**	**0.27**

As of 2016, the nation's 103 mid-sized metropolitan areas,[13] those with populations between 250,000 and 1 million, included 14 percent of its African-American population and 16 percent of its Hispanic population. Going back to the year 2000, the average Black-White dissimilarity index value among these metropolitan areas stood at .54. This was eight points below the comparable value for large metropolitan areas. The nine metropolitan areas that met the criterion for being hyper-segregated along Black-White lines—Provo, Orem, Flint, McAllen, Dayton, Syracuse, Youngstown, York-Hannover, Birmingham, and Toledo—were mostly but not entirely in the

13 According to the U.S. Office of Management and Budget (OMB) metropolitan areas are defined as one or more adjacent counties or county equivalents that have at least one urban core area of at least 50,000 population. Micropolitan areas are defined similarly but include more than 10,000 residents and less than 50,000.

industrial Midwest. These same metropolitan areas also topped the list of most segregated mid-sized metropolitan areas in 2016, although none were hyper-segregated. The average 2016 Black-White DI value for these mid-sized metros was .49, down from five points from 2000.

The third column in exhibit 2 lists metropolitan areas according to their Moran's I values. With a few notable exceptions, the top 25 list of large metros based on 2016 Moran's I values corresponds closely to the top 25 2016 list based on DI values. African-American residents of mid-sized metropolitan areas in Pennsylvania and Connecticut were far more likely to live in conditions of extreme spatial segregation—close together with one another and far away from Whites—than Black residents of mid-sized metros in other states.

Turning to measurements of Hispanic segregation, the trends run in the opposite direction, with the average Hispanic DI among large U.S. metropolitan areas having risen modestly from .35 in 2000 to .37 in 2016. This change was accompanied by a whopping 72-percent increase in the Hispanic population, bringing the Hispanic population share of mid-sized U.S. metros up to 18 percent in 2016 from 13 percent in 2000. Seven mid-sized metros had Hispanic DI values above .50 in 2016: Reading (.62), Scranton-Wilkes Barre (.56), Springfield, MA (.55), Salinas (.54), Allentown (.53), Hartford (.51), and Oxnard, CA (.50). As with African-Americans, Pennsylvania was over-represented on the list of mid-sized metros with heightened Hispanic segregation levels in 2016.

The list of mid-sized metros in which Hispanics were spatially concentrated in 2016 was similar in composition to the 2016 segregation list to its immediate left. Four of the nine mid-size metropolitan areas with 2016 Hispanic Moran's I values above .60—a value indicating a level of spatial concentration corresponding to ghettoization—were in Pennsylvania. Among all mid-sized metropolitan areas, the average 2016 Hispanic Moran's I value stood at a relatively low .27.

Exhibit 3A

Top 25 Small Metro Areas Ranked by 2000 and 2016 Black-White Segregation Measures

Small Metro Areas: 2016 Population less than 250,000	2000 Black-White Dissimilarity Index Value	Small Metro Areas: 2016 Population less than 250,000	2016 Black-White Dissimilarity Index Value	Small Metro Areas: 2016 Population less than 250,000	2016 Moran's I for Black Share of Tract Population
Missoula, MT	0.96	Lewiston, ID-WA	0.74	Niles-Benton Harbor, MI	0.85
St. George, UT	0.95	Muskegon, MI	0.71	Kingston, NY	0.77
Lewiston, ID-WA	0.89	Niles-Benton Harbor, MI	0.70	Spartanburg, SC	0.72
Prescott, AZ	0.88	Fort Smith, AR-OK	0.69	Pittsfield, MA	0.60
Glens Falls, NY	0.82	Monroe, LA	0.67	Janesville, WI	0.54
Bismarck, ND	0.81	Glens Falls, NY	0.66	Holland-Grand Haven, MI	0.53
Wausau, WI	0.79	Lake Charles, LA	0.64	Springfield, OH	0.46
Mount Vernon, WA	0.77	Pocatello, ID	0.62	Danville, IL	0.46
Coeur d'Alene, ID	0.77	Pine Bluff, AR	0.61	Anniston, AL	0.45
Muskegon, MI	0.75	Laredo, TX	0.61	Auburn, AL	0.45
Bend, OR	0.74	Saginaw, MI	0.61	Decatur, IL	0.44
Niles-Benton Harbor, MI	0.74	Utica-Rome, NY	0.61	Utica-Rome, NY	0.41
Saginaw, MI	0.72	Johnstown, PA	0.60	Atlantic City, NJ	0.41
Medford, OR	0.72	Erie, PA	0.60	Bremerton, WA	0.39
Logan, UT-ID	0.71	Rochester, MN	0.59	Sandusky, OH	0.38
Lake Havasu City, AZ	0.71	Billings, MT	0.59	Duluth, MN-WI	0.37
Monroe, LA	0.70	St. Cloud, MN	0.59	Morristown, TN	0.35
Waterloo, IA	0.68	Waterloo, IA	0.59	Lafayette, LA	0.35
Redding, CA	0.68	Sheboygan, WI	0.58	Saginaw, MI	0.35
Billings, MT	0.67	Abilene, TX	0.58	Binghamton, NY	0.34
Kankakee, IL	0.66	Atlantic City, NJ	0.57	Huntington, WV-KY-OH	0.33
Oshkosh-Neenah, WI	0.66	Jackson, MI	0.56	Johnson City, TN	0.33
Vero Beach, FL	0.66	Great Falls, MT	0.56	Panama City, FL	0.33
Casper, WY	0.65	Mansfield, OH	0.56	Pascagoula, MS	0.32
Johnstown, PA	0.65	Huntington, WV-KY-OH	0.56	Lynchburg, VA	0.32
Small Metro Average (N=208)	**0.49**	**Small Metro Average (N=208)**	**0.44**	**Small Metro Average (N=208)**	**0.22**

Exhibit 3B

Top 25 Small Metro Areas Ranked by 2000 and 2016 Hispanic Segregation Measures

Small Metro Areas: 2016 Population less than 250,000	2000 Hispanic Dissimilarity Index Value	Small Metro Areas: 2016 Population less than 250,000	2016 Hispanic Dissimilarity Index Value	Small Metro Areas: 2016 Population less than 250,000	2016 Moran's I for Hispanic Share of Tract Population
Glens Falls, NY	0.54	Lebanon, PA	0.51	Holland-Grand Haven, MI	0.91
Tyler, TX	0.53	Pine Bluff, AR	0.50	Mount Vernon, WA	0.77
Santa Cruz-Watsonville, CA	0.51	Decatur, AL	0.49	Madera, CA	0.71
Decatur, AL	0.50	Fort Smith, AR-OK	0.49	Santa Cruz-Watsonville, CA	0.7
Green Bay, WI	0.50	Weirton, WV-OH	0.49	Boulder, CO	0.58
Kennewick-Richland, WA	0.49	Yuma, AZ	0.48	Gainesville, GA	0.48
Yakima, WA	0.48	Santa Cruz-Watsonville, CA	0.48	Dalton, GA	0.42
Holland-Grand Haven, MI	0.47	Yakima, WA	0.47	Morristown, TN	0.41
Utica-Rome, NY	0.47	Bangor, ME	0.47	Rome, GA	0.41
Fond du Lac, WI	0.46	Utica-Rome, NY	0.47	Vineland, NJ	0.4
Vineland, NJ	0.45	Joplin, MO	0.47	Medford, OR	0.4
Midland, TX	0.44	Holland-Grand Haven, MI	0.46	Bay City, MI	0.39
Erie, PA	0.44	Morristown, TN	0.46	Fort Smith, AR-OK	0.35
Mount Vernon, WA	0.43	Gainesville, GA	0.46	Lebanon, PA	0.35
Fort Smith, AR-OK	0.43	Huntington, WV-KY-OH	0.46	Norwich, CT	0.32
Lebanon, PA	0.42	Spartanburg, SC	0.46	Greeley, CO	0.32
Morristown, TN	0.42	Springfield, OH	0.45	Joplin, MO	0.31
Ocean City, NJ	0.41	Niles-Benton Harbor, MI	0.44	Atlantic City, NJ	0.29
Amarillo, TX	0.41	Green Bay, WI	0.44	Sandusky, OH	0.29
Madera, CA	0.41	Tyler, TX	0.44	Amarillo, TX	0.29
Norwich, CT	0.41	Cleveland, TN	0.44	Hanford-Corcoran, CA	0.29
Gainesville, GA	0.40	Vineland, NJ	0.43	Carson City, NV	0.29
Yuma, AZ	0.40	Williamsport, PA	0.43	Punta Gorda, FL	0.28
Dalton, GA	0.40	Rocky Mount, NC	0.43	Utica-Rome, NY	0.27
Sioux City, IA-NE-SD	0.40	Madera, CA	0.43	Santa Fe, NM	0.26
Small Metro Average (N=208)	**0.26**	**Small Metro Average (N=208)**	**0.33**	**Small Metro Average (N=208)**	**0.22**

As of 2016, the nation's 200-plus small metropolitan areas , those with a population less than 250,000, included 7 percent of its African-American population and 6 percent of its Hispanic population. Going back to the year 2000, the average Black-White dissimilarity index value among these metropolitan areas stood at .49. This was 12 points below the comparable value for large metropolitan areas, and 5 points below the comparable value for mid-sized metropolitan areas. By 2016, the average Black-White dissimilarity index value among small metropolitan areas had declined further to .44. Seventeen small metropolitan areas met the criteria of being hyper-segregated along Black-White lines in 2000; by 2016, the roster of hyper-segregated small metropolitan areas had fallen to just three: Lewiston, ID, Muskegon, MI, and Niles-Benton Harbor, MI. As with the set of mid-sized metros profiled in exhibit 2, a disproportionate share of Black-White-segregated small metropolitan areas were in Michigan and Pennsylvania. The third column

in the top of exhibit 3 lists small metropolitan areas according to the degree to which their Black residents are extremely spatially concentrated. The 13 metros at the top of this list, those with a 2016 Moran's I value of .4 or greater, are a diverse set that follow no regional or state pattern. Among all small metropolitan areas, the average 2016 Black Moran's I value stood at a relatively low .22.[14]

Turning to measurements of Hispanic segregation among small metropolitan areas, the trends are much more worrisome. From a relatively low base of .26 in the year 2000, the average Hispanic DI value for small metropolitan areas increased seven points to .33 in 2016. Befitting the general state of population flux in many small metropolitan areas, the list of metros with higher levels of Hispanic segregation in 2016 (in the middle column of the lower block of Exhibit 3B) did not match the comparable list in the left-hand column for the year 2000. The right-hand side list of small metros in which Hispanics were spatially concentrated in 2016 was similarly diverse. Given their small size to begin with, large influxes of any demographic group to the set of small metropolitan areas will tend to generate significant changes in segregation and spatial concentration patterns.

II. Patterns of Change

Having identified contemporary metropolitan Black-White and Hispanic segregation levels, we now turn to analyzing patterns of segregation change. As we have seen, Black-White segregation is in decline nationally, whereas Hispanic segregation is on the rise. These broad national trends mask sharp differences among individual metropolitan areas. For example, in Los Angeles, America's second largest metropolitan area,[15] the Black-White DI fell by an impressive 19 points between 2000 and 2016, from .64 to .45. Meanwhile, In Chicago, the nation's third largest metro, the Black White DI fell by a less impressive 7 points, from .79 to .72. In Orlando, the Hispanic DI rose by 3 points between 2000 and 2016, while 90 miles away, in Tampa-St. Petersburg, it fell by 4 points.

Metropolitan area size mattered more for Hispanics than African-Americans. Black-White DIs declined by an average of .06 between 2000 and 2016 among large metropolitan areas (those with a population of 1 million or more), by .05 among mid-sized metropolitan areas (those with a 2016 population between 250,000 and 1 million) and by .05 among smaller metropolitan areas (those with a 2016 population less than 250,000). The corresponding changes for Hispanic DIs were +.01 for large metropolitan areas, +.02 for mid-sized metropolitan areas, and +.06 for small metropolitan areas.

Beyond size, what other metropolitan area-specific factors were consistently associated with recent changes in Black-White and Hispanic DI values? To find out, I regressed 2000 DIs against their 2016 counterparts along with fifteen other metropolitan area-specific factors often thought to affect segregation levels. These additional factors included—

- **Population growth rate and initial share:** The author includes the overall population growth rate for each metropolitan area between 2000 and 2016, as well as Black and Hispanic population growth rates, to identify the association between population growth and segregation

14 This does not include the 98 metropolitan areas for which the calculated Moran's I values were not statistically significant.

15 The Los Angeles metropolitan area includes Los Angeles and Santa Ana counties, but not Ventura, Ontario, and Riverside counties. Ventura County is identified as the Oxnard metropolitan area, while Ontario and San Bernardino counties comprise the Riverside-San Bernardino metropolitan area.

outcomes.[16] Among the full metropolitan area sample, the 2000–2016 population growth rate ranged from a high of +123 percent in Gainesville, Florida to a low of -16 percent in Johnstown, Pennsylvania. The African-American population growth rate over the same period ranged from a high of +770 percent in Prescott, Arizona to a low of -50 percent in Valdosta, Georgia. The Hispanic population growth rate varied from a low of 15 percent in the Los Angeles metropolitan area to a high of +550 percent in the Scranton-Wilkes-Barre, Pennsylvania. The data also include the 2000 Black and Hispanic population shares of each metropolitan area.

- **Residential mobility rates:** The author includes information on residential mobility to identify the association between mobility and segregation outcomes.[17] Information on moving activity is published annually in the American Community Survey. Among the full sample of metropolitan areas, the share of homeowners who moved at least once between 2000 and 2009 ranged from a low of only 24 percent in Johnstown, Pennsylvania, to a high of 63 percent in Las Vegas, Nevada. The share of renters who moved at least once between 2000 and 2009 varied more narrowly, ranging from 63 percent in the Greater New York region to 94 percent in Provo-Orem, Utah.

- **Demographic and income characteristics:** Recent attitudinal studies have found younger residents, immigrants, and those with more education to generally be more willing to live in integrated neighborhoods than older residents, native-borns, and those with less education (Frey, 2014). To identify whether these relationships might apply at the metropolitan as well as neighborhood level, the author includes variables measuring the share of foreign-born residents as of the Year 2010; the share of adults with a bachelor's degree (also as of 2010); and the median population age (also as of 2010). To identify whether there might be an association between income and segregation, the author also includes a variable measuring median household income in 2010. Among the full metropolitan area sample, the share of foreign-born residents in 2010 ranged from a low of .8 percent in Parkersburg (West Virginia) to a high of 38 percent in Miami-Ft. Lauderdale. The share of adults with bachelor's degrees in 2010 ranged from a low of .8 percent in Dalton (Georgia) to a high of 32 percent in Boulder (Colorado). Median age varied from a low of 24.3 years in Provo-Orem (Utah) to a high of 54.8 years in Punta Gorda (Florida); and 2010 median household income varied between $31,264 in Brownsville (Texas) to $86,286 in San Jose (California).

- **Non-traditional land use regulatory regimes:** Historically, the most common approach used by communities to exclude unwanted residents was to zone out apartments and homes on smaller lots (Pendall, 2000). A 2006 Brookings report by Pendall, Puentes, and Martin identified those states that rely on zoning as their principal approach to land use regulation and those that have adopted alternative approaches. They characterized these alternative approaches as Reform (adding growth management regulations on top of zoning), Wild

16 Faster-growing metros may find it more difficult to coordinate racially exclusionary practices than slower-growing ones. Likewise, metropolitan areas with large minority populations may find it politically difficult to impose additional formal and informal restrictions.

17 Residential mobility is correlated with population growth, but it is not the same thing. Among the full sample of metropolitan areas, the correlation coefficient between 2000–2016 population growth rates and 2000-to-2009 residential mobility rates were .46 for renters and .58 for homeowners. All else being equal, we might expect residential segregation to be less severe in places where people move more frequently, whether in search of a better job, or to improve their neighborhood and housing situations.

West Texas (loosening the ability of zoning to limit land uses), and Exclusionary (allowing individual municipalities to specifically exclude apartment projects). Metropolitan areas in states in each of these non-traditional regulatory regime categories were identified using fixed-effect variables. A fourth fixed effect variable was used to denote metros in Florida, which was a member of the Reform group of states until 2009.

Exhibit 4 presents a full set of descriptive statistics for each of the above variables, organized by metropolitan area size group.

Exhibit 4

Descriptive Statistics for 2016 Dissimilarity Index Regressions, by Metro Area Size Category

	Variable	Mean and Standard Deviation Values for Large Metropolitan Areas (N=48)		Mean and Standard Deviation Values for Mid-sized Metropolitan Areas (N=103)		Mean and Standard Deviation Values for Small Metropolitan Areas (N=208)	
		Mean	St. Dev.	Mean	St. Dev.	Mean	St. Dev.
Dependent Variables ▶	2016 Black-White Dissimilarity Index	0.55	0.11	0.49	0.09	0.44	0.1
	2016 Hispanic Dissimilarity Index	0.41	0.08	0.37	0.08	0.33	0.08
Independent Variables ▶	2000 Black-White Dissimilarity Index	0.61	0.12	0.54	0.12	0.49	0.15
	2000 Hispanic Dissimilarity Index	0.4	0.11	0.35	0.11	0.26	0.10
	2000–2016 Population Growth Rate	21%	17%	21%	15%	21%	23%
	2000–2016 Black Population Growth Rate	32%	38%	50%	54%	117%	241%
	2000–2016 Hispanic Population Growth Rate	101%	53%	121%	73%	124%	72%
	2000 Black Population Share	15%	10%	12%	12%	11%	13%
	2000 Hispanic Population Share	12%	12%	12%	17%	8%	13%
	Reform LU Regime (0/1)	17%		13%		9%	
	Exclusionary LU Regime (0/1)	4%		3%		2%	
	Florida Location (0/1)	23%		14%		13%	
	Texas Location (0/1)	8%		7%		7%	
	% of Owners who Moved, 2000–2009	45%	7%	43%	6%	41%	6%
	% of Renters who Moved, 2000–2010	85%	6%	85%	4%	86%	4%
	2010 Median Household Income	$56,921	$8,939	$50,632	$8,401	$46,162	$6,205
	2010 Median Age (Years)	36.4	2.6	36.6	3.8	36.9	4.6
	2010 Percent College Graduates	20%	3%	17%	4%	15%	4%
	2010 Percent Foreign-born	14%	9%	9%	7%	6%	5%

Six sets of regression results are presented in exhibit 5, three each for Blacks and Hispanics, and two for each metro size category—large, mid-sized, and small. Recognizing that some of the included variables were unlikely to be statistically significant, but that including them might bias the effects of those that are, the author used backward stepwise regression to limit the set of included variables to those determined to be statistically significant.[18] Because the dependent variables are measured using different scales, the coefficient estimates are all presented in standardized form, making it possible to

18 Backward stepwise regression includes all potential independent variables in the initial regression model, and then sequentially eliminates those not determined to be statistically significant. As implemented in SPSS, backward stepwise regression also checks that previously-eliminated variables might subsequently re-enter the model.

compare the relative importance of each included variable. To allow for the possibility that Black-White segregation levels might affect changes in Hispanic segregation, and vice-versa, the author included Year 2000 Black-White and Hispanic DI levels in every regression, along with Black and Hispanic population growth rates and initial population shares.

Exhibit 5

Stepwise Regressions Comparing 2016 Black-White and Hispanic Dissimilarity Indices to 2000 Levels and Metro Characteristics

Dependent Variable & Metro Sample >>	2016 Black-White DI values in Metros with 1+ million residents	2016 Black-White DI values in Metros with 250,000 to 1 million residents	2016 Black-White DI values in Metros with 250,000 or fewer residents	2016 Hispanic DI values in Metros with 1+ million residents	2016 Hispanics DI values in Metros with 250,000 to 1 million residents	2016 Hispanic DI values in Metros with 250,000 or fewer residents
Independent Variable	**Standardized Coefficient**	**Standardized Coefficient**	**Standardized Coefficient**	**Standardized Coefficient**	**Standardized Coefficient**	**Standardized Coefficient**
2000 Black-White Dissimilarity Index	**.804****	**.77****	**.70****	**.39****	**.12***	DNE
2000 Hispanic Dissimilarity Index	**.11***	DNE	**.09**	**.46***	**.69****	.60**
2000–2016 Population Growth Rate	Did not enter (DNE)	**– .19****	DNE	– .33**	DNE	DNE
2000–2016 Black Population Growth Rate	DNE	**– .19****	**– .12**	**.52****	DNE	DNE
2000–2016 Hispanic Population Growth Rate	DNE	DNE	DNE	DNE	**.23****	**.22****
2000 Black Population Share	DNE	DNE	DNE	DNE	DNE	DNE
2000 Hispanic Population Share	DNE	DNE	DNE	.17	DNE	DNE
Reform LU Regime (0/1)	DNE	**– .10***	DNE	DNE	DNE	DNE
Exclusionary LU Regime (0/1)	DNE	DNE	DNE	DNE	DNE	DNE
Florida Location (0/1)	DNE	DNE	DNE	– .17*	DNE	DNE
Texas Location (0/1)	DNE	DNE	DNE	DNE	DNE	DNE
% of Owners who Moved, 2000–2009	DNE	DNE	**– .26****	DNE	DNE	**– .16***
% of Renters who Moved, 2000–2010	-.083	DNE	DNE	DNE	**– .28****	**– .32****
2010 Median Household Income	DNE	DNE	**– .11**	DNE	**– .10**	**– .30****
2010 Median Age	DNE	DNE	DNE	DNE	DNE	DNE
2010 Percent College Graduates	DNE	**.10**	**.23***	DNE	DNE	**.23****
2010 Percent Foreign-born	DNE	DNE	DNE	DNE	DNE	DNE
Constant	.215	.215	.399	– .032*	.65	.215
r-squared	.934	.78	.49	.75	.69	.52
Observations	46	102	204	47	102	205

** Indicates statistical significance at the .05 level*
*** Indicates statistical significance at the .01 level*

Among the key results—

- For both African-Americans and Hispanics, Year 2000 DI values were better predictors of Year 2016 DI values for larger metropolitan areas than for smaller ones. This suggests that segregation is characteristically more embedded in larger metropolitan areas. Supporting this finding of embeddedness, 2000 Black-White DI values were generally 3 to 10 times more important than other potential factors as predictors of 2016 Black DI values. For Hispanics, Year 2000 DI values were generally twice as important as other factors, suggesting a reduced degree of embeddedness.

- Higher levels of Hispanic segregation in 2000 in large and small metropolitan areas were strongly correlated with higher rates of Black-White segregation in 2016. Similarly, higher levels of Black-White segregation in 2000 were associated with higher rates of Hispanic segregation among large and mid-sized metropolitan areas in 2016. This suggests that the same practices and preferences that further Black-White segregation also serve to promote Hispanic segregation, and vice versa.

- The effect of population growth, although generally favorable to integration, varies by metropolitan area size. Population growth was associated with a decline in Black-White segregation levels between 2000 and 2016 in mid-sized metropolitan areas, but not in large or small ones. Population growth was strongly associated with a decline in Hispanic segregation levels during the 2000–2016 period, but only in large metropolitan areas.

- The population growth-integration association is different for African-Americans than Hispanics. Higher rates of African-American population growth were associated with reductions in Black-White segregation levels in mid-sized and small metropolitan area. Conversely, higher rates of Hispanic population growth were associated with an increase in Hispanic segregation levels in large metropolitan areas.

- Greater residential mobility—that is, having more opportunities to change house or move—is generally associated with greater integration, at least when measured at the metropolitan scale. This was especially true for African-American renters in large metropolitan areas and for Hispanic renters in mid-sized and smaller metropolitan areas. It was also true for African-American and Hispanic homeowners in small metropolitan areas.

- Measured at the metropolitan scale, median age and the share of foreign-born residents exerted no effect, positive or negative, on 2016 DI values for either African-Americans or Hispanics. This finding runs somewhat contrary to the conventional wisdom which suggests that younger residents and immigrants are more tolerant of diversity and more interested in living in integrated neighborhoods.

- Income levels, by contrast, do matter: measured at the metropolitan level, the presence of a wealthier population was generally associated with a higher level of integration. Hispanic DI values for 2016 were substantially lower in wealthier mid-sized and small metropolitan areas (measured by median household income), whereas 2016 Black-White DI values were slightly lower among wealthier and smaller metropolitan areas.

- "The assumption that education and integration are connected—specifically, that better-educated residents also prefer to live in integrated communities—is not born out by the data when measured at the metropolitan scale. Quite the contrary: in three of the six metropolitan area size categories, two Black and one Hispanic, a better-educated population (measured as the share of adults with a bachelor's degree) was associated with higher, not lower levels of segregation in 2016.

- How communities regulate land uses is only slightly associated with metropolitan segregation levels. Mid-sized metropolitan areas in states with so-called Reform land use regulatory regimes experienced larger declines in Black-White segregation than mid-sized metros in other states. This was not true for Hispanics. Being in a state with an exclusionary land use regime or in Texas, where land use regulations are less onerously applied, had no effect on 2016 segregation levels. By contrast, residents of large metropolitan areas in Florida—which switched from a quasi-reformed regulatory regime back to a zoning-based regime in 2009—experienced lower levels of Hispanic segregation in 2016 than in 2000.

V. Summary of Findings and Key Takeaways

This brief article uses recently-available Census data to provide a contemporary picture of Black-White and Hispanic residential segregation levels among U.S. metropolitan areas. It offers new findings in several areas:

- **Measured at the metropolitan scale, Black-White residential segregation continues to decline whereas Hispanic segregation is on the rise.** The decline in Black-White segregation levels is consistent across metropolitan area size categories, although larger metropolitan areas remain much more segregated along Black-White lines than smaller ones. Recent increases in Hispanic segregation levels have been more pronounced among smaller metropolitan areas.

- **Falling segregation levels are associated with population growth, but the effect varies by metropolitan area size.** For African-Americans, this growth-reduced segregation effect was greatest among mid-sized metropolitan areas. For Hispanics, the effect was most pronounced in large metropolitan areas. Higher rates of residential mobility, especially among renters, are also associated with declining residential segregation.

- **When it comes to reduced segregation, community demographic characteristics matter less than incomes.** The argument that better-educated metropolitan areas (measured as the share of adults with bachelor's degrees) and those with proportionately more immigrants should look upon integration more favorably is not born out by the recent data. By contrast, segregation levels did decline more between 2000 and 2016 in metropolitan areas with higher median incomes. For Hispanics, the income-segregation reduction effect was more pronounced in mid-sized and small metropolitan areas. For African-Americans, it was more pronounced among small metropolitan areas.

These results raise almost as many issues as they resolve, two of which are foremost. The first concerns the choice of spatial unit at which to analyze the connections between racial segregation and other urban outcomes. The second, which is informed by the first, concerns the appropriate role for federal policy.

Starting with the first issue, the results presented in this article suggest that when measured at the metropolitan scale, the associations between Black-White and Hispanic segregation levels and many of the factors thought to affect those levels are relatively weak, especially in large metropolitan areas where most of the nation's African-American and Hispanic populations are concentrated. This does not mean that such connections do not exist. Rather, to the extent that they do, they may be manifest at a smaller spatial scale—most likely that of the neighborhood. This reinforces the importance of anti-segregation and residential mobility programs (as well as anti-poverty programs) expressly targeting those neighborhoods where nearby job opportunities are few, and where minority residents are least able to secure better-quality and/or more affordable housing in the private marketplace. An increasing number of public housing agencies around the country are administering the Housing Choice Voucher program in this manner, and their progress should be closely followed.

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