Racial Residential Segregation in the United States

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Abstract

Residential segregation is a central factor in explaining socioeconomic gaps across race and ethnicity in the United States. Place of residence directly impacts access to schools, jobs, and healthcare. There is an ever-evolving literature across the social sciences disciplines documenting the general patterns in residential segregation as well as the causes and consequences of those patterns. This article reviews key parts of that literature. We provide an overview of the measurement of segregation and the general evolution of segregation patterns over time and at different scales. We then review the literatures on both segregation's determinants and its impact on a range of socioeconomic outcomes. We highlight the potential for new insights to be gained from new approaches to quantifying segregation and new frameworks such as stratification for understanding its complex roots.

JEL classifications: J1, N3, N9, R2 Keywords: Segregation, Race, Residential Sorting

1 Introduction

Segregation is a crucial part of explaining gaps in economic, social, schooling and health outcomes across races and ethnicities in the United States. The slave trade created a rigidly racialized country from the outset, and segregation patterns continued to evolve with waves of migration into the country from Europe and increasingly from Asia, Central America and Africa as well as with the urbanization of the country and changing patterns of agriculture and industrialization. All of these factors have influenced the trends in racial residential segregation and the contours of race in American society. Where individuals reside and why they reside there is a central piece to understanding how individual and group outcomes have evolved over time by race and ethnicity.

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In this article, we review the methods and substance of the literature on residential segregation. In doing so we face several challenges. The restriction to residential segregation still leaves us with a massive literature to draw useful connections between. Tackling preferences over the amenities of a neighborhood including its racial composition, the impacts of racially segregated classrooms and school districts, the role of the state in creating or destroying barriers to location decisions, or issues at the intersection of transportation networks, urban space and labor markets would each take an equally long article. Rather than be exhaustive, our approach will be to highlight some of the considerations researchers should make when pushing the study of segregation forward. We will use the existing literature to emphasize the importance of choosing the right scale when thinking about how segregation operates and how it can best be measured, the importance of choosing a measure that matches the reason that segregation is important in the specific context, and the importance of addressing the incredibly long-run persistence of segregation patterns. Another critical limitation of this piece is that it is written by economists for an economics journal which serves (primarily) an audience of economists. Much of the groundbreaking work on segregation resides outside of economics, particularly in sociology and demography. While we attempt to do justice to these literatures in this article, one key takeaway from writing this and engaging in the economics research community is that the advances and insights of these other disciplines are often overlooked. This is not an article providing a comprehensive history of the economics of segregation, it is an article meant to use key parts of that history to help researchers creatively push our knowledge of segregation forward.

The article has two major themes, which can be thought of as methods and substance. First, we provide a brief overview of how segregation is typically measured, with examples of how sensitive estimates can be relative to choices of measure and geographic scale. We then offer key stylized facts about segregation patterns across space and time, which reinforce how differently segregation operates at different scales. These stylized facts reinforce the importance of methods, the deliberate choice of measures and scales, while also providing the motivation for the remaining sections focused on substance, more specifically considering the causes and consequences of segregation. We summarize the literature on several primary mechanisms that lead to racial residential segregation and their effects on individual and group outcomes. As a point of departure, we emphasize a stratification interpretation to the causes and consequences of segregation that has been neglected in traditional economic approaches. We end with a call for a more robust and diverse segregation research agenda within economics.

2 Defining and Measuring Segregation

2.1 What do we mean by residential segregation and how do we typically measure it?

In a basic sense, residential segregation is an intuitive concept for people to grasp: a segregated location is one in which the spatial distribution of residents differs by some key characteristic such as race or income. Residents of one type will tend to live in different areas, or be segregated from, residents of another type. However, when one turns to actually quantify segregation it becomes clear that segregation is far from a simple concept. There are a wide range of ways a researcher could tackle the measurement of segregation depending on what types of neighborhoods, boundaries, economic activities, social interactions and political processes are of interest. As such, measures of segregation are intimately related to how we think about its material impact.

A range of measures have been employed in the sociology, demography and economics literatures. Borrowing from the typology laid out by Massey and Denton (1988), these measures each target a particular feature of segregation including evenness, exposure, concentration, centralization and clustering. Because of their convenience and applicability to a range of economics questions, the economics literature has tended to focus on isolation as a measure of exposure (how frequently majority and minority groups come in contact with one another) and dissimilarity or, more recently, the entropy or information index as measures of evenness (how evenly groups are distributed across subunits of a location).¹

¹Here we focus on segregation measures that are a single statistic calculated directly from an observed population distribution. We should note a different strand of the literature that begins by modeling the residential location choices of individuals and using heterogeneity in preferences and constraints to estimate the parameters of those structural models (see for example Bayer, Ferreira and McMillan (2007), Davis, Hartley and Gregory (2019), Christensen and Timmins (2022) and Caetano and Maheshri (2023)). These approaches still need to grapple with the question of scale and boundaries we discuss here, as defining neighborhoods and constraints in moving across neighborhoods are central to the approach.

These traditional segregation measures, while perhaps intuitive, have mathematical shortcomings that prevent them from being generalizable in important ways. For example, the dissimilarity index fails the principle of transfers; moving a member of a group to a neighborhood with a smaller share of that group does not necessarily decrease dissimilarity. The entropy index, while satisfying the principle of transfers, fails the principle of compositional invariance; if one increases the members of a group by a constant factor keeping all other group sizes constant, entropy will change. This requires caution when interpreting segregation estimates, recognizing that they can be sensitive to choices about geographic scale and borders and are not necessarily comparable across locations and over time. While we will defer to the large literature on the properties of various measures, including James and Taeuber (1985), Reardon and Firebaugh (2002) and Hutchens (2004) (as well as the analagous economics literature on inequality measures such as Jenkins and Van Kerm (2011)), these questions of scale and boundaries are central to any chosen measure and warrant discussion before we can assess the empirical literature on the causes and consequences of residential segregation.

2.2 Geographic Scale

Any measurement of segregation requires defining the geographic scale of interest. In the cases of the majority of segregation measures, this includes both defining the larger geographic area for which the segregation index will be computed and the relevant geographic subunits used in that computation. The choice of scale will impact the estimates of segregation and needs careful consideration. If the issue of interest is how variation in states expanding Medicaid has a disparate impact by race, a national estimate of segregation using states as the subunit is most relevant. Evaluating the effects of trade shocks might warrant looking at the distribution of people across counties within each state on the assumption that some counties are manufacturing-oriented while others are not. Many of the most prominent questions in the segregation literature center around metropolitan areas as the larger unit of interest and focus on sorting across census tracts within that area. But even in the context of urban segregation, the default unit of a census tract may miss important sorting occurring at the block level or across political and school district boundaries.

The resulting estimates of segregation can be highly sensitive to these choices of scale. As a way

of seeing how the choice of scale matters, consider estimates of dissimilarity for the United States as a whole in 2020 using different sizes of geographic subunits.² When looking at how segregated the Black population is from the White population, we get a dissimilarity index of 0.24 when using states as the subunit. That index rises to 0.42 when using counties, 0.59 when using census tracts and 0.67 when going all the way down to census blocks as the subunit. This clear increase in dissimilarity as we go to smaller subunits holds for other populations as well: the dissimilarity for the White population relative to the Asian population increases from 0.34 to 0.63 when going from states to census blocks while the dissimilarity for White population relative to the Hispanic population increases from 0.24 to 0.63.

This is an expected consequence of moving to finer units: larger geographic units obscure any segregation that occurs at a more local level. The estimates of national segregation using states as the subunit miss any differences across race in the tendency to live in urban versus rural areas. Estimates at the county level still obscure variation in where residents of different races reside within their cities and towns. This is not to say that the finest unit should always be chosen, but rather that it is important to first identify the type of segregation that is of interest and let that guide the choice of geographic scale. The census tract, a standard unit in the empirical residential segregation literature, is too large to capture sorting across census blocks relevant to local job networks (as in Hellerstein, McInerney and Neumark (2011)), might be the right size for measuring sorting across schools within a school district, but too small to focus on sorting across school districts. The question at hand and the mechanisms in mind should dictate the units used.

A nice example of researchers being explicit about the reasoning behind their choice of geographic scale is Steil, De la Roca and Ellen (2015, pg. 63): *"It is worth emphasizing that we measure segregation at the level of the metropolitan area rather than at the level of the neighborhood. We do so in part for theoretical reasons, as we believe that metropolitan area-level segregation may restrict choices and*

²Authors' calculations of dissimilarity using the United States Census Bureau's block-level 2020 redistricting data. Dissimilarity is calculated as $\frac{1}{2} \sum_{i=1}^{n} \left| \frac{a_i}{A_{\text{total}}} - \frac{b_i}{B_{\text{total}}} \right|$ where the overall area is divided into *n* subunits and a_i and b_i represent the number of residents of groups *A* and *B* living in subunit *i*. The category Black includes individuals who identify solely as Black and those who list multiple races, one of which is Black. The Asian category is defined in a similar way. The comparison group is the population of individuals solely identifying as White (both non-Hispanic and Hispanic). For the Hispanic segregation estimates, we compare those identifying as Hispanic to those identifying as not Hispanic (note that both groups include people of various races).

opportunities even for minorities who live in integrated neighborhoods. But studying segregation at the level of the metropolitan area also offers empirical advantages, as individuals are less likely to select into a particular metropolitan area than into a neighborhood based on their tastes, preferences, and unobserved resources." We also point to reader to Chetty et al. (2014, pg. 1586) for an example of a well-considered discussion of the choice of geographic scale in their study on geographical variation in intergenerational mobility. Going forward, careful articulation of scale and why it was chosen would be best practice for segregation research.

2.3 The (Potential) Endogeneity of Boundaries

Even when the relevant size of geographic subunits seems obvious based on the economic question of interest, the boundaries to use still present a challenge to getting meaningful estimates of segregation. Choosing different boundaries, even if they lead to similarly sized areas, can dramatically alter segregation estimates. As an example of how much this can matter, consider the seminal work on the rise of segregated cities by Cutler, Glaeser and Vigdor (1999). Data limitations forced them to switch from using wards to census tracts as the geographic subunit for their estimates of city-level dissimilarity and isolation. Figure 1 shows how this switch from ward- to tract-based estimates changes our understanding of segregation for several major cities in 1940, a year in which both ward and census tract data were available.³ Two features of the figure are particularly important. First, the choice of measure matters: the ordering of cities by level of segregation, and the overall levels of segregation, change significantly when switching from dissimilarity to isolation. Second, both the magnitude of segregation for a single measure and the ordering of cities change when moving from wards to tracts. Clearly, this sensitivity to the choice of boundaries could impact the conclusions of any given study of segregation.

If the location of borders were random, one could at least hope that the impacts on estimates of segregation would be unbiased. However, many borders are far from random and are often drawn taking race into account. Consequently, we should always entertain the possibility that these borders

³Dissimilarity is defined as in the earlier footnote. Using the same notation, isolation is $\sum_{i=1}^{n} \frac{a_i}{A_{\text{total}} + B_{\text{total}}} \frac{a_i}{A_{\text{total}} + B_{\text{total}}}$. Taking into account the maximum level of isolation possible given the city's population shares by race, Cutler, Glaeser and Vigdor normalize the index so that varies between zero and one.



Figure 1: Segregation by city in 1940 with ward- and tract-based estimates of dissimilarity and isolation. Data are from Cutler, Glaeser and Vigdor (2023), collected by Cutler, Glaeser and Vigdor (1999).

are endogenous in any study related to racial sorting. Consider wards, political boundaries that politicians might find advantageous to draw in ways that either split or concentrate the minority vote. If the goal is splitting the minority vote, these boundaries will produce an appearance of an integrated city. If the goal is to concentrate minority votes, the boundaries will suggest a highly segregated city even with the same underlying spatial distribution of households. To demonstrate how much of an impact these politically-motivated boundaries can have, we estimate the dissimilarity index for each state using potential congressional districts as the subunit under a range of ways to define those congressional district boundaries. The congressional district boundaries come from the 538 Atlas of Redistricting Project with the underlying population data taken from the 2010 Federal Census (Bycoffe et al., 2018).⁴

Figure 2 shows the substantial variation in segregation estimates when changing the motivation behind congressional district boundaries. For several states, the difference in estimated segregation under the Democrat versus Republican gerrymander maps is as large as the standard deviation of

⁴The boundaries are estimated by Bycoffe et al. (2018) as follows. Republican gerrymander boundaries maximize the number of Republican districts (those in which there is an 82 percent or greater chance of Republican victory). Democratic gerrymander boundaries accomplish the same but for Democratic victory. Compact boundaries are raceand party-blind boundaries that minimize the perimeters of the boundaries.



Figure 2: State-level dissimilarity estimates under different congressional district boundaries. Authors' calculations based on boundaries and population shares from the 538 Atlas of Redistricting Project (Bycoffe et al., 2018). To simplify the figure, only states with more than the median number of congressional districts (6) are shown.

segregation across all states. Furthermore, it is clear from the figure that the ordering of states from least to most segregated would vary substantially depending on how congressional district lines are drawn. What makes this more complicated is that in practice, these lines are going to depend on which political party is in power at the time of redistricting, meaning that the direction of bias in segregation estimates will vary by state and over time.

While congressional districts or wards have an obvious political component, other boundaries are often not independent of the racial composition of the local population. Consider the census tracts that replaced wards as subunits for estimating urban segregation. These tract boundaries explicitly took race into account. As stated in the Census Tract Manual, census tracts, "should contain, as far as practicable, people of similar racial or nationality characteristics..." (U.S. Department of Commerce Bureau of the Census, 1958, pg. 10). That, in and of itself, will tend to inflate estimates of segregation. Furthermore, census tract boundaries are often drawn to align with other municipal boundaries, meaning they will be tied to the differences across municipal boundaries in features like zoning that directly impact residential location by race. Considering how boundaries may be drawn with regard to race is essential to properly interpreting any segregation estimates based on those boundaries.⁵

With advances in global information systems (GIS) technology, it is now possible to effectively create independent boundaries. An example of this is the work by Shertzer, Walsh and Logan (2016) considering neighborhood change in Chicago from 1900 to 1930. They create a layer of hexagons to generate neighborhoods of arbitrary boundaries composed of the underlying census tracts. Such an approach gets around issues of politically motivated boundaries but, as noted above, it may be those political motivations and their consequences that shape how segregation impacts residents.

2.4 Shrinking the neighborhood to the household

The Shertzer, Walsh and Logan study motivates the hexagon approach with two other key points: using the hexagons creates consistent neighborhood boundaries over time and avoids relying on census tracts which may be too large to capture relevant individual neighborhoods. This approach is in line with a broader shift in (a subset) of the segregation literature. With improved access to census microdata in recent years, researchers have considered shifting from thinking about wards or census tracts in cities to focusing on the immediate neighbors of individuals. Echenique and Fryer (2007) motivate one such measure, their spectral segregation index, by arguing that a segregation index should disaggregate to the level of the individual and should capture that an individual is more segregated the more segregated the people he or she interacts with are. Underlying this approach to measuring segregation is an argument that social interactions are key to economic and social outcomes and that these interactions occur at a very local level. Their index measures the connectedness of individuals of the same group, estimated with block-level census data. Echenique and Fryer highlight that an empirical advantage of this approach is that their block-based index is invariant to arbitrary partitions of a city. This avoids many of the issues of scale and boundaries discussed above.

While the most disaggregated census data publicly available for modern estimates is at the census block level, historical census data is available at the individual level provided the census has passed

⁵It is important to note that this is not an argument for using strictly exogenous boundaries. These endogenous boundaries are likely to align with how people define their neighborhoods: a combination of shared characteristics with neighbors and obvious geographic dividers (e.g. SoHo being South of Houston). If these neighborhoods are what matters for the roles of segregation, then these borders are relevant when estimating segregation. See Coulton, Chan and Mikelbank (2011) and Coulton (2012) for interesting work using resident-drawn neighborhood boundaries to inform place-based policies.

the 72-year mark. In recent years, digitization of these historical census manuscripts created complete count data that allows for drilling down beyond the census block to the individual household. The door-to-door enumeration of these censuses provides spatial data even in the absence of addresses: next-door neighbors generally appear side by side on the census manuscript page. Logan and Parman (2017a) exploit this feature to construct a next-door-neighbor-based estimate of residential segregation for 1880 and 1940 that compares the observed number of Black households with White next-door neighbors to the expected number under complete integration (where the probability of having a White neighbor is simply equal to the White population share) and complete segregation (where all Black residents live in one racially homogenous neighborhood). Grigoryeva and Ruef (2015) take a related approach with the 1880 complete count data, constructing an estimate based on 'runs' of households of the same race on the census manuscript page for a sample of cities. Similar to Echenique and Fryer, these next-door neighbor measures of segregation avoid the issues of how to choose geographic subunit boundaries and provide a way to estimate segregation in smaller populations where relevant subunits simply may not exist. More recently, Eriksson and Ward (2019) constructed a multigroup extension to Logan and Parman's measure to apply the approach to the residential segregation of immigrants from 1850 to 1940.

While these measures at the individual level avoid the issues surrounding how a city or county is partitioned, they do have their own limitations. On the theory side, these measures are particularly useful for capturing social interactions that occur among people with close proximity, but they are less suited to capturing important impacts of segregation that occur at larger geographic scales (e.g. sorting across school districts). On a more practical note, they require more detailed data, particularly for the next-door neighbor based measures that depend on complete count census data, which currently are only available up to 1950. They are also more computationally intensive, though that is becoming less and less of a hurdle as computing power continues to improve. One advantage of these measures, however, is their scalability. Once an area is defined, the measure of segregation has the same interpretation. This allows for a broader set of areas where segregation can be measured, and allows for consistent measures over time.

2.5 Capturing other dimensions of segregation

One other area where these measures and the traditional measures discussed earlier fall short is in terms of capturing significant detail about the spatial patterns of residential segregation. Consider a city with two large minority communities located in two tracts near the center of the city and a second city with those same two large minority communities, but located on either side of the city out on the periphery. One would likely consider these two very different cities from the standpoint of segregation. In one, the minority communities are near one another and the central business district. In the other, they are isolated from each other and the center of the city. However, a measure such as dissimilarity or isolation using tracts as the geographic subunit would produce similar estimates of segregation for both cities. Next-door neighbor based measured would as well. Clearly a spatial element is missing (those dimensions of concentration, centrality and clustering mentioned earlier). Reardon and O'Sullivan (2004) provide a useful guide to the theoretical and practical considerations of measuring spatial segregation in ways that can capture these dimensions.

One last issue worth mentioning is that considering segregation along lines other than race introduces new measurement issues. In particular, questions surrounding the impact of segregation, even if initially focused on race, often lead to questions of segregation along income lines. This is highlighted by Quillian (2012), demonstrating that understanding the role of racial residential segregation in producing spatially concentrated poverty requires understanding the significant roles of poverty-status segregation within race and segregation from the higher-income members of other racial groups. Thinking about segregation along the lines of income introduces the need for ordinal measures of segregation such as the ordinal information theory index. While this falls outside the scope of this article, we refer the reader to Reardon (2009) for a useful guide to measuring segregation when the groups are defined by ordered categories.

3 Residential Segregation Over Time and Across Space

3.1 Segregation Patterns in the Modern United States

Figure 3 provides a basic overview of residential segregation in the United States using 2020 census data focusing on the dissimilarity index. The national segregation estimates assess how evenly each group is distributed across states. Here we immediately see how the choice of scale discussed in the prior section matters. At the national level, the Black population is less segregated than either the Asian or Hispanic populations. However, that seems at odds with conventional thinking about segregation within urban areas or the concentration of Black households in a wide swath of Southern counties. Indeed, that low estimate for national segregation is driven in large part by the spread of Black households between the rural Southern counties and the cities of Northeast, Midwest and West. When we switch to considering segregation at the state level, using counties as the geographic subunit, we immediately see higher levels of segregation for the Black population relative to both the Asian and Hispanic populations.

Moving from state-level segregation to county-level segregation, using census tract as the subunit, gets at sorting within rather than across metropolitan areas. Here we see even higher segregation levels for the Black population in absolute terms and relative to the Asian and Hispanic populations. A common feature of all three groups is that segregation is generally higher in counties with larger populations. Considering segregation within census tracts across census blocks, heterogeneity in segregation becomes quite substantial, with both highly-integrated and highly-segregated tracts common. This is an important reminder that the 'typical' neighborhood according to segregation estimates will be unrepresentative of a large share of individuals' experiences.

3.2 Segregation and Cities Over Time

3.2.1 Modern Trends and the Gradual Decline of Segregation

The pronounced segregation between census tracts, particularly in more densely populated counties, points to one of the major areas of focus in modern segregation studies: the sorting of individuals between city centers, suburbs and exurbs. Fischer et al. (2004) provide an excellent overview of these



Figure 3: Segregation, as measured by dissimilarity, at various geographic levels for the Black, Asian and Hispanic populations all relative to the White population. The geographic subunits used to calculate the national, state, county and tract level estimates are the state, county, tract and census block, respectively. Circle diameters are proportional to the population size of the location. A random 10 percent sample of counties and 0.5 percent sample of census tracts are displayed to keep the figure legible. Authors' calculations based on data from the United States Census Bureau's block-level 2020 redistricting data (U.S. Census Bureau, 2020).



Figure 4: Population-weighted mean segregation across metropolitan areas (MSAs) over time. The left panel splits MSAs into above and below median growth of population between 2000 and 2020. The right panel splits MSAs into above- and below-median growth of median income between 2000 and 2020. Segregation is measured using the dissimilarity index, with the census tract as the subunit. The segregation and population data are taken from the Diversity and Disparities project (American Communities Project, 2024). Household income data are from the Federal Census and American Community Survey, accessed through IPUMS NHGIS (Ruggles et al., 2024*b*; Manson et al., 2021).

varying levels of metropolitan segregation, using a Theil index to decompose segregation into the contributions from regional, metropolitan, center city-suburban, place and tract segregation. They find that the segregation of the Black population decreased in the last decades of the twentieth century due to neighborhoods becoming more racially integrated yet segregation on the basis of class became more pronounced as higher-income individuals increasingly clustered in specific metropolitan areas and in specific municipalities within those areas. Lichter, Parisi and Taquino (2015*b*) provide further evidence of these patterns: large post-1990 declines in metropolitan segregation by race but increases in between-place racial segregation. Those cities growing rapidly and those with large changes in racial composition, whether from increasing or decreasing Black population shares, experienced the largest declines in racial segregation (Glaeser and Vigdor, 2001).

These declines in residential segregation have continued into the twenty-first century. With the recently available 2020 census data, Logan and Stults (2022) demonstrate that Black-White residential segregation has continued to decline in metropolitan areas at rates similar to the 1980s and 1990s. Figure 4 uses the same data underlying Logan and Stults (2022), accessed through the Diversity

and Disparities Project, to plot these segregation trends.⁶ The late-twentieth-century declines in segregation clearly continue to today but the more modern data do suggest some changes to these patterns. The more rapid declines in segregation in more dynamic urban economies noted by Glaeser and Vigdor are not present in the twenty-first century. While more rapidly growing cities have lower segregation levels in any given decade, the pace of decline in Black-White segregation is similar between rapidly and slowly growing cities. The relationship between growth and segregation becomes even more ambiguous when considering income rather than population. Declines in segregation were similar between cities with above-median income growth and below-median income growth. Black-White segregation is higher in both low-income-growth and low-population-growth cities but the ordering reverses for Hispanic and Asian populations, with segregation similar or even slightly lower in low-income-growth cities relative to high-income-growth cities.

While Figure 4 suggests the correlates of declining segregation may differ between 1980 to 2000 and 2000 to 2020, both periods show clear downward trends in Black-White segregation. Yet despite these declines, the typical neighborhoods of a White and Black metropolitan residents remain quite different. Logan and Stults note that in 2020, the average White resident lives in a neighborhood (specifically, a census tract) that is 69% White and 9% Black while the average Black resident's neighborhood is 41% Black and only 34% White.

An important point in the literature on modern trends in residential segregation is that these differences in neighborhoods are not strictly along lines of racial composition. The typical Black city resident lives in a neighborhood that is not only disproportionately Black, but also differs in terms of income, schools, healthcare and a wide range of other dimensions. While we leave much of this to our sections on the consequences of residential segregation, it is worth highlighting the literature on patterns in one key element of socioeconomic quality: neighborhood income. Residential segregation along income lines reflects a combination of within-race segregation by socioeconomic status, differences in income distributions by race and racial residential segregation. The declines in racial residential segregation highlighted above would by themselves lead to an increase in the average

⁶This figure follows the typical approach in the literature of using the census tract as the subunit when calculating dissimilarity. We should note that this obscures important features of metropolitan segregation that occur below the census-tract level, as demonstrated by Lee et al. (2008).

neighborhood income of the typical Black city resident. However, the patterns of income segregation by race over time have also been significantly influenced by changes in income distributions by race and within-race class segregation.

Massey et al. (2003) detail these trends during the last decades of the twentieth century, focusing on segregation by socioeconomic status overall and within race. They find that both Black and White populations experienced declines in class segregation over the second half of the twentieth century, interrupted by a brief increase between 1980 and 1990. Reardon and Bischoff (2011) further highlight the impact of that increase: in 1970 income segregation was lower for Black households than White households but by 1990 increasing income segregation among Black households led to them experiencing greater income segregation than White households. Booza, Cutsinger and Galster (2006) and Bischoff and Reardon (2014) provide additional evidence of these changes in income segregation over time in the United States.

Firebaugh and Farrell (2016) and Reardon, Fox and Townsend (2015) extend this literature by providing more detailed evidence on the average racial composition and income distributions of neighborhoods for individuals across the income distribution by race. These data show significant declines in Black-White gaps in neighborhood advantage, with the Black-White gap in neighborhood median income declining by over 10 percent between 1990 and 2009 and declining by over 30 percent among high-income families (Reardon, Fox and Townsend, 2015). Echoing the trends in Figure 4, these declining gaps are not the case for Hispanic-White or Asian-White gaps, in large part because the Black-White gaps started significantly higher. Incorporating data up through 2016 and correcting for upward biases in income segregation estimates resulting from the reliance on a small number of income observations for each census tract, Logan et al. (2020) identify somewhat different trends. Their results show the rise in income segregation over the 1980s documented in these other studies but get more mixed evidence of trends from 1990 on. While income segregation for White families at the 90th percentile of the income distribution (segregation of affluence) declined, income segregation for families at the 10th percentile (segregation of poverty) rose. For Black families, there were declines the segregation of both affluence and poverty. Hispanic families saw income segregation decline in the 1990s but then rise again in the 2000s. The measurement issues highlighted by Logan et al.

cloud interpretations of the trends highlighted by earlier studies, but what remains clear is that even conditional on household income, Black households live in substantially poorer neighborhoods than White households. Black or Hispanic households earning over \$75,000 live in poorer neighborhoods on average than White households earning less than \$40,000 (Logan, 2011; Reardon, Fox and Townsend, 2015).

3.2.2 Historical Trends: The Rise of Highly Segregated Cities

The decline in the residential segregation of Black residents over recent decades stands in stark contrast to patterns of urban segregation in the middle of the twentieth century. In one of the seminal economics papers on the evolution of urban segregation in America, Cutler, Glaeser and Vigdor (1999) documented the rise of inner cities populated by Black residents with White residents moving to the suburbs, in part due to the White flight associated with the Great Migration (as demonstrated convincingly for the second wave of the Great Migration by Boustan (2010)). Cutler, Glaeser and Vigdor show a dramatic increase in both dissimilarity and isolation in cities across all regions from 1890 through 1960, at which point segregation estimates begin to decline in line the modern patterns discussed above. Collins and Margo (2001) show that this period of increasing urban segregation, particular from 1940 to 1960, was also associated with a widening of the gap in homeownership between Black and White residents.

More recent work, based on extensive efforts to map out household locations at finer geographies using complete count census data, has provided even more detailed accounts of increasing urban segregation leading up to and during the Great Migration (Logan et al., 2015; Shertzer, Walsh and Logan, 2016; Shertzer and Walsh, 2019). Relating back to our discussion of the choice of geographic scale, a key takeaway from Logan et al. (2015) is that historical urban segregation appeared far more pronounced when switching to enumeration-district-level data rather than the more traditional ward-level data.⁷

In contrast to the large modern literature on income segregation by race discussed above, there is very little to cite on income segregation trends during the early- and mid-twentieth century. This

⁷An enumeration district was the area covered by a single census enumerator. In terms of modern census geographies, they are most similar in size to a census tract.

is partly due to data constraints: the federal census only starts recording income in 1940 and, even once income is available, the biases resulting from small numbers of observed incomes discussed by Logan et al. (2020) are particularly problematic given the smaller Black urban populations. More importantly, the constraints on where Black families could live limited the extent to which income segregation could take place. Hence the literature on income segregation for Black households primarily picks up with the passage of the Fair Housing Act in 1968 and the Home Mortgage Disclosure Act in 1975, ushering in new residential mobility for the Black middle class and a rise in within-race income segregation (Farley and Frey, 1994; Reardon and Bischoff, 2011; Wilson, 2012).

3.3 Segregation Outside of Cities Over Time

The work of Cutler, Glaeser and Vigdor, Boustan and others has understandably focused on the cities attracting Black migrants during the first and second waves of the Great Migration. Indeed, the majority of the academic and popular discussion surrounding segregation tends to focus on cities and suburbs. However, recent work on more rural areas reveals that the substantial changes in segregation levels in cities over the last century are matched by those in rural areas. Understanding these rural segregation patterns over time broadens the set of mechanisms needed to explain the evolution of residential segregation in America.

When applying next-door neighbor estimates of segregation to complete count census data, Logan and Parman (2017*a*) demonstrate that the rise in segregation in cities documented by Cutler, Glaeser and Vigdor was not strictly an urban phenomenon. Figure 5 depicts the change in their next-door-neighbor-based measure of segregation from 1880 to 1940.⁸ It clearly demonstrates that rising segregation was not strictly an urban phenomenon. Rural counties, in both the South and the North, both among the sending and receiving counties during the Great Migration, also experienced similar rises in segregation.

A growing literature is recognizing the importance of segregation in more rural areas during more recent decades as well. A primary example of this is Lichter et al. (2007), providing estimates of the

⁸The figure covers only a fraction of counties as the change in segregation can only be calculated for counties with a nonzero number of Black households observed in both 1880 and 1940. Note that the races of their neighbors must be observed in the census as well.



Figure 5: Change in segregation, as measured by the Logan-Parman next-door-neighbor measure, from 1880 to 1940. This figure is taken from Logan and Parman (2017a, Figure 5) and is based on 1880 and 1940 complete count census data (Ruggles et al., 2024a). The figure is copyrighted by the *Journal of Economic History*.

dissimilarity index for rural and small-town America. Consistent with the examination of the first half of the twentieth century by Logan and Parman, Lichter et al. find that segregation patterns in rural areas generally mimic those of larger metropolitan areas for the Black, Hispanic and Native American populations.

This presence of segregation as a rural phenomenon raises another important point about the history of segregation, namely that there is remarkable persistence in geographic location by race over time. This point is clearly made by considering the modern distribution of the Black population across counties. If one looks at the share African American by county, there is a clear belt of large African American populations across the Southern states. Sometimes referred to as the Cotton Belt, this geographic distribution of the Black population reflects the antebellum distribution that was based not on locational preference models but the economics of slave plantation agriculture. A regression of county-level Black population share in 2010 on the yields of plantation crops in 1860 produces highly significant coefficients and an R-squared of 0.45, astonishingly large by labor economics standards.⁹

⁹Authors' estimates using population data from the 2010 Federal Census and crop data from the 1860 Census of Agriculture.

This suggests that the modern distribution of the Black population cannot be fully understood without consideration of the lasting impacts of the geography of slavery reinforced through Jim Crow policies after emancipation.

3.4 Segregation Beyond Black and White

The work by Lichter et al. (2007) emphasizes the important point that segregation patterns differ substantially by minority group, something also demonstrated by Figure 3 and Figure 4. While much of the literature is focused on the segregation of the Black population, an increasing share of segregation studies directly focus on the experiences of Hispanic, Asian and other minority populations. Iceland and Nelson (2008) provide an in-depth exploration of Hispanic segregation patterns in 2000 census data, emphasizing the importance of using various reference groups when estimating segregation (Anglos, African Americans, Hispanics of a different race). They demonstrate that U.S.-born Hispanics are less segregated from other U.S.-born groups compared to the respective foreign-born groups. Black Hispanics had particularly high levels of segregation. Another dimension of Hispanic segregation is provided by Lichter et al. (2010), showing that the Hispanic-White segregation is more pronounced in new destinations for Hispanic residents compared to established Hispanic areas. Lichter, Parisi and Taquino (2015a) build on this work, documenting declines in Hispanic segregation from the White population from 1990 to 2010 and noting that the Hispanic population is less segregated from the White population than the Black population. A different perspective is offered by an analysis of isolation from 1970 to 2010 by Rugh and Massey (2014), who show high but declining levels of segregation for Black residents compared with increasing Hispanic isolation (largely due to rapid population growth) and increasing but overall low levels of Asian isolation.

While much of the literature on historical segregation patterns focuses exclusively on the Black population, work on other populations is growing.¹⁰ Utilizing the next-door neighbor approach of Logan and Parman (2017*a*), Eriksson and Ward (2019) examine the residential segregation of immigrants from 1850 to 1940. Of particular note is their finding that there were high levels of segregation in rural

¹⁰Even in analyzing areas with multiracial segregation patterns, the Black/White dyad of residential segregation remains a central force. See Ponton (2024) for a recent example of the segregation history of Houston, Texas. In a similar vein, Gordon (2023) analyzes the text of racially restrictive deeds in the early 20th century and finds that despite the numerous and varied excluded groups in local areas, the one constant exclusion is that of Black people specifically.

areas and small factory towns. This reinforces the need to think of segregation much more broadly, not strictly as an urban phenomenon. In another historical exploration of segregation, Carter (2011) provides a stark contrast to other racial and ethnic groups in an exploration of Chinese American population redistribution. As Carter documents, rather than strictly moving to cities in segregated neighborhoods, as traditional notions of Chinatowns would suggest, the Chinese American population also spread itself across urban and rural counties throughout the United States in the early twentieth century. This led to a remarkably isolated population: 10 percent of US counties had exactly one Chinese resident while 37 percent of large counties (with populations greater than 25,000) had between two and 20 Chinese residents. The work by Carter and Eriksson and Ward underscores that historical segregation and assimilation patterns varied substantially across different racial and ethnic groups and constitutes fertile ground for future research as data sources and computational power continue to improve.

4 Causes and Consequences of Residential Segregation: Prefatory Remarks

In this section and the two that follow, we emphasize a stratification interpretation of the economics literature on the causes and consequences of residential segregation.¹¹ As highlighted in the recent reviews by Chelwa, Hamilton and Stewart (2022) and Darity (2022), stratification economics stresses the agency of groups and the complementarity of exclusionary practices predicated on within-community similarity. For the analysis of residential segregation, a stratification approach departs from traditional economic approaches by de-emphasizing atomistic or small-scale approaches to residential location (*neighborhood effects*) as opposed to larger institutional factors that restrict choices and outcomes for groups (*structural effects*). As noted by sociologists from at least Cox (1948), segregation is critical in a bipartite racial regime. Segregation is a tool to mark the segregated as inferior, and segregated communities are hostile to attempts to improve the prospects of the marginalized group

¹¹See Boustan (2011) for a more traditional review of the residential segregation literature.

as they negate the gains made for those who are segregated from them.¹² Segregation is seen as "absolutely necessary to maintain White ruling-class dominance. The colored zones, belts, and camps are fundamental restrictions upon the colored people. They restrict the latter's freedom of physical movement, the *sine qua non* of a normal life under capitalism" (Cox (1948), p. 381).

We focus primarily on Black/White segregation. That focus is partly due to the much larger literature on Black/White segregation, but also an acknowledgment that Black/White segregation is the primary organizing dyad for residential segregation in the United States' history. It is still the case that the largest measured effects of segregation processes are visited on Black Americans. For example, Christensen and Timmins (2023) find that the effects of discriminatory barriers in the rental market reduce Black household welfare by around 4% of income, and the losses are increasing with income since higher-income Black households have greater restrictions due to discrimination (they can afford to live more places, but are restricted from doing so), the largest of all between-group gaps. Similarly, Hall, Timberlake and Johns-Wolfe (2023) analyze the 2012 Housing Discrimination Study and conclude that Black homebuyers are the only racial minority that is consistently steered away from White neighborhoods. It is also the case that current segregation patterns are longstanding and have calcified over time along a Black/White residential pattern established in the 20th century (Li, 2023), which were discussed earlier.

Before turning to cause and effect, it is important to establish some additional limits to our discussion. In economics, there is some conflation between neighborhood effects and segregation, which reflect the scale and boundary issues discussed earlier. For example, causal identification of neighborhood effects in the Moving To Opportunity (MTO) and Gautreaux Assisted Housing Program (Gautreaux) have led to interpretations which present the results of these two experimental estimates as potential effects of segregated neighborhoods on outcomes (Chyn, Collinson and Sandler, 2023). Beyond the measurement issues themselves, a stratification approach would emphasize caution with such experimental comparisons (and the entire experimental enterprise in this case), as these two policies have very different context, setup, and populations.¹³ Further, viewing these policies as

 $^{^{12}}$ Cox (1948) also sees racial segregation as a tool of defining citizenship, in which Black people understand themselves to be living in a "White man's country." This can include lower quality public goods if they cannot be excluded from them entirely on the basis of race.

¹³MTO has been extensively analyzed by Kling, Liebman and Katz (2007); Ludwig et al. (2012), and in particular

evidence of segregated neighborhood effects downplays the structural barriers that exist for families who seek to change communities, which are significant. As Bergman et al. (2024) note, movement of Black households to neighborhoods with better amenities requires extensive time and effort, not only in gathering information about potential locations, but navigating external factors such as landlord preferences, cumbersome housing application processes, and social acclimation to communities which may be hostile to residents from different racial groups. These barriers are consistent with Cox (1948)'s ideas of lack of freedom of movement, and the MTO program showed that most moves were to socioeconomically different but racially similar communities. Moreover, analysis of the effect of moving between racially homogeneous neighborhoods in a segregated metropolis is fundamentally different from the process that created the racially homogeneous neighborhoods themselves.

Cox (1948) predicted the current belief among economists that spatial correlations in outcomes are driven by selection as opposed to differences in community-level inputs and/or structural factors. Belief that selection is the primary driver is the same as arguing that "imposed racial segregation [is] a mutually desirable spatial limitation between the races" while Cox noted "segregation really amounts to is a sort of perennial imprisonment...with relatively minimal opportunity for even the most ambitious of them to extricate themselves" and further noted that "Gobinesque contrasts between whites and colored people can now be easily supported by even measurative data...the cultural limitations achieved by segregation are so pervasive that color inferiority could be pointed out on almost any count" (p. 381-382). Empirically, Aliprantis and Kolliner (2015) find that low-poverty Black neighborhoods are quite similar to high-poverty White neighborhoods in non-poverty measures, a finding that itself would be consistent with Cox's description of the segregation process and mechanisms that stratify locations by race in addition to other factors. As such, estimating neighborhood

Chetty, Hendren and Katz (2016) discussing differences between short-, medium- and long-run impacts of MTO. Although MTO participants moved from high- to low-poverty neighborhoods, these neighborhoods were still segregated ones, in both instances predominantly Black ones. Interpretation of the results of these programs can be problematic, as noted by Aliprantis and Richter (2020), as social treatments may be confounded by additional programs. Interpretation can be further complicated by racially-essentialist arguments and attitudes. For example, Chyn, Collinson and Sandler (2023) find evidence that Black families who moved to communities with a larger proportion of White residents were more likely to have children in interracial marriage (the exact fear of a 1950s' antimiscegenationist). Further, Ponton (2024) shows that while public statements of White resistance to neighborhood integration were couched in concerns of property values and Black neighbor's ability to maintain their property, libidinal concerns about interracial sex (particularly White fear that their daughters would have relationships with Black men) were a driving force. Interpretations of neighborhood locations as "exposure to White people," without sufficient evidence for what these differences in exposure mean in the setting of a residential neighborhood and how to interpret them, is another concern.

effects is distinct from segregation. Differences along the dimensions of segregated communities may be important in estimating the marginal effects of neighborhoods on outcomes, but they have limited import when describing the process of residential racial segregation itself, which gives rise to a large number of racially segregated neighborhoods.

The tendency to view segregation as an equilibrium outcome of a dynamic process has conceptual advantages, but typically detracts from discussions of power and differences in agency that are critical to understanding segregation as a social and political process. Taking seriously the differentials in power in segregation, and the boundaries on movement that it creates, moves further to a consideration of groups and the spatial distribution of resources between them. This is the focus we take here.

5 Causes of Residential Segregation

Residential segregation is a product of a complex mix of preferences for neighbors, schools, housing policies, infrastructure, lending practices, commute time, amenities, and differences between racial groups in terms of income, wealth, political efficacy, and collective and individual discriminatory behavior. With such a long list of factors, inquiry moves quickly into determining which factors have had the greatest import. There is a literature analyzing and estimating the weights one would attach to each of these factors both between metropolitan areas and within metropolitan areas.¹⁴ The debates around preferences and their direct and indirect influence on levels and trends in segregation patterns is not new, and extends well beyond economics and sociology (Clark, 1986; Galster, 1988; Clark, 1989; Clark, 1989; Hamel and Wilcox-Archuleta, 2022).

Economists have placed the greatest emphasis on White preferences for racially homogeneous communities. As summarized by Shertzer and Walsh (2019), economists typically view segregation as arising from either the ability of White residents to limit the geographic choices of non-White residents via collective action, or the ability to flee from areas where non-White individuals are migrating to and creating barriers to non-White moves from those same locations. Economists have been silent on why, empirically, White households have stronger measured preferences for racially homogeneous

¹⁴Such analyses attempt to decompose an existing segregation measure's change into portions explained by changes in other variables believed to be causes of segregation.

neighborhoods, though survey and experiment data support the existence of those preferences. Surveys of attitudes toward living in hypothetical neighborhoods of varying racial composition pioneered by Farley, Bianchi and Colasanto (1979) strongly establish the preferences of White households to live in majority White neighborhoods with Black households holding substantially weaker preferences over the racial composition of their neighborhood. While these preferences of White households have weakened over time, they remain significant even into the twenty-first century (Farley, 2011). The preferences of White households for White neighborhoods and by experimental studies designed to disentangle preferences for race from preferences over socioeconomic conditions, such as income, that correlate with race (Krysan and Bader, 2007; Krysan et al., 2009). More recent surveys focus on a broader set of groups including Asian, Latino and Arab Americas households and find that while there are a range of nuanced preferences for diverse neighborhoods across these groups, a key result is that White households prefered neighborhoods with a White majority and their undesirable neighborhoods were defined by larger Black or Arab American populations rather than larger Latino or Asian populations (Krysan, Carter and Van Londen, 2017).¹⁵

A stratification approach would contend that the gains to racially homogeneous communities are highest for White residents as they are the dominant social group, and their preferences reflect the values attached to more racially exclusive White neighborhoods. The segregated community expands the ability to differentiate and inequitably distribute resources between groups using location. In a country where explicit racial discrimination is outlawed, geographic discrimination offers a second-best alternative. Both the affinity for homogeneous groups and the ability to use space to provision goods and services are consistent with coordinated expectations as in Schelling (1971). Importantly, these preferences need not map onto political partisanship or even racial animus, and attempts to do so conflate segregation with racial hatred as opposed to competition over scarce resources between groups. Early work by Campbell (1961) shows that desire for segregation is not cognitively dissonant from ideals of equality and freedom, and more recent work has drawn the distinction between discriminating

 $^{^{15}}$ In the Supreme Court case *Hurd v. Hodge* (1948), which was considered concurrent to the more famous *Shelley v. Kraemer* case which forbade restrictive covenants, testimony revealed that the defendant, Mrs. Frederick Hodge, stated that she would prefer a neighbor who was White and just released from jail to a Black neighbor "no matter how educated or cultured" simply because "he is white and I am white."

behavior and racial animus, showing that White people with very different political beliefs have similar underlying racially discriminatory behavior (Peyton and Huber, 2021), which can potentially explain why political beliefs themselves do not explain the presence of racially-segregated areas. Related to this, Hamel and Wilcox-Archuleta (2022) find that areas which receive a larger influx of Black *workers* during the day have more conservative political beliefs among White residents, consistent with political beliefs among White individuals being related to resident and non-resident flows of minorities as potential sources of contamination. There is also the external signal of a racially segregated areato all other residents of the area, the residents of the segregated area reveal that they have been successful is retaining their racial homogeneity against any challenges to integrate.

Theoretically, however, there is nothing particular about preferences for racial homogeneity that would require segregation to be restricted to cities. Even taking the preferences for homogeneity as a given does not always yield satisfying answers as to why segregation varies as substantially as it does across metropolitan areas. Card, Mas and Rothstein (2008) show that General Social Surveyderived indices of racial attitudes correlate with city-level tipping points estimated at the census track level. Tipping points are the percent of a neighborhood that is Black before the neighborhood moves towards being *entirely* Black.¹⁶ This relationship is also found when backing out racial preferences from estimating structural models of household location choices (see Blair (2023) building off the approach to estimating tipping points developed by Caetano and Maheshri (2017)).¹⁷ Further, cities with lower tipping points build less housing in outlying areas, suggesting an interplay between racial attitudes and the extent to which they reinforce existing segregation patterns. In a stratification frame, this is consistent with the a complementarity of exclusionary practices. In stratification, tipping points and housing supply are endogenous. First, a lower tipping point would create fewer integrated communities, and, second, less housing in outlying areas increases the gains to segregation by restricting housing supply in areas with high demand for racially homogeneous housing.

The methodology pioneered by Ananat (2011) highlights the role that infrastructure plays in allowing racial segregation to occur given the preferences described above. She uses the fact that

¹⁶The neighborhood therefore "tips" from being integrated to being racially homogeneous.

 $^{^{17}}$ Related to the decline but not disappearance of stated preferences for same-race neighbors discussed earlier, Blair (2023) finds that racial attitudes of households became less important in explaining tipping points from 1970 to 2010 while outside options (outlying neighborhoods) became more important.

cities with more bisecting railroad lines (railway "cuts") create more opportunities to form racially homogeneous communities within an urban area. As railroads in the Northeast and Midwest were developed decades before significant Black migration, they serve as factors that could facilitate more (where there are more cuts) or less (where there are fewer) residential segregation. Her instrument for segregation is directly tied to the census-tract level where dissimilarity and isolation are derived. At baseline, she finds that areas that had more artificial boundaries created by intersecting railroad tracks, those cities are more segregated, which is compelling insofar as areas created by railroads were not done with residential locations in mind.¹⁸ At present, this is the currently the best method to vield casual estimates of segregation's impact on urban outcomes, although it cannot be applied nationwide since a critical assumption is that cuts are created before Black in-migration, and therefore not applicable to the Southern US. Most important, the instrument leverages the *artificial* topology that eases the segregation process across areas that would have arguably similar preferences for racially homogeneous spaces. Drawing back to Cox, the railroad cuts are part of the "fundamental restrictions" that embody segregation because they help to define boundaries of communities. Equally important, the railroad cuts align with the census tracts that are used in traditional segregation measures, enhancing the first stage relationship between segregation and the artificial barriers.

At the national level, new data have revealed facts about segregation that trouble our existing narratives about mechanisms for segregation's increase in the twentieth century, which have described segregation in the United States only so far as they could measure it. For example, we know that interstate construction was predicated on existing segregation patterns where Black communities near the central city were razed to clear the way for interstate construction which fueled the rise of segregated suburban communities (Jones et al., 2024; Ware, 2021). The subsequent intensification of segregation in the twentieth century was directly related to the process of early twentieth century segregation in urban areas (Shertzer and Walsh, 2019). This focus on urban areas neglects the national rise in segregation, which was well underway before the mass production of the automobile, predates interstate construction and is not confined to cities (Logan and Parman, 2017a). Similarly, knowing that segregation increased nationwide tempers the use of measures such as technology (railroads

¹⁸Further analysis in Ananat (2011) supports the validity of the instrument.

or other divisions) to describe a phenomena that led to the same racial sorting but without those technological aids nor clearly-defined geographic subunits. Given this, a story of segregation that is mono-causal or one which depends on racial urban/suburban patterns will be insufficient to explain the historical and broad-scale changes in residential location and racial segregation.

With these caveats in mind, we organize the empirical literature on causes of residential segregation using the Cutler, Glaeser and Vigdor (1999) categorization of causes into three main classes of theories: a port of entry story, a collective action story, and a decentralized racism story. We then supplement these three classes with additional mechanisms that have been developed in the recent literature, placing them within these three classes when appropriate, but also consider when mechanisms span classes. The goal in this section is not to definitively resolve or argue for a key factor, particularly because different causes will take on greater importance at particular moments in time or particular locations. Instead, we lay out the evidence for specific causes and bring a stratification interpretation to them which emphasizes groups-based interactions.

5.1 Port of Entry

Segregation can arise in areas through a process where new migrants seek out areas with members of their own group. This can aid in minimizing transaction costs, assimilating to a new area, and lowering the cost of information. While this story has been documented at the granular, neighborbased level for White ethnic Americans in the late-nineteenth and early 20th centuries (Eriksson and Ward, 2019), the key difference for these groups was their eventual diffusion from "port" locations in urban areas to the larger metropolis. We note that this explanation cannot explain segregation in racial terms, as the South had low levels of ethnic inflows and ports of entry were not freely chosen for the enslaved population. For Black residents in Northern cities, however, the port locations were typically parts of the city that White ethnic residents left, and where Black residents arrived to in the early twentieth century during the Great Migration, changing White ethnic neighborhoods to racially homogeneous ones which then become the highly racially-concentrated neighborhoods in segregated cities.¹⁹

¹⁹Port of entry need not be a port or coastal location.

The literature has documented this phenomena extensively. The contemporary literature focuses on international migrants and immigrant enclaves, as in Gans (1962), Glazer and Moynihan (1963), Logan, Zhang and Alba (2002). These immigration flows lead to distinct country-of-origin flows that lead to contemporary ethnic enclaves. For example, the Minneapolis-Saint Paul MSA is home to two distinct ethnic groups driven by this process, the Hmong and Somali populations in the metro area are the largest in the United States. Twice as many Hmong Americans live in the Minneapolis MSA as in the next largest metro (Fresno, CA), and nearly one third of the Somali American population lives in the Minneapolis-Saint Paul MSA. Neither of these ethnic groups was a significant share of the population in the Minneapolis-Saint Paul MSA in 1980.

The evidence of this process working historically is part of the larger "Nation of Immigrants" narrative (Eriksson and Ward, 2019; Abramitzky and Boustan, 2022), where ethnic enclaves were common but also existed in rural areas and small cities with manufacturing and other industrial operations, increasing the scope of ethnic enclaves throughout the United States. Even more, the pace of assimilation, where ethnic groups began to co-habitate with other ethnic groups, was quite slow up to the Second World War. We now know that the White population was ethnically segregated at a high rate (Eriksson and Ward, 2019). Examples of such neighborhoods include the Lower East Side of Manhattan (for Jewish Americans in New York City), or Spanish Harlem (for Puerto Rican migrants), which had earlier been an Italian American enclave.

These enclaves and their persistence over time are important features of segregation. We know that minorities exhibit same-group preferences, although not to the same degree as White natives (Massey and Denton, 1993; Thernstrom and Thernstrom, 1999; Krysan and Farley, 2002; Bauer, Epstein and Gang, 2005; Waldfogel, 2008). While the literature has sometimes called this self-segregation, it is important to note that preferences for homogeneous communities could reflect desires for social networks, common language, and cultural practices. There is also the problem of limited information about destinations; seeing areas with high populations shares may be taken as evidence of success in the area. Enclaves can be driven in part by members of a minority group all responding to the same conditions across locations, leading to the same location choices (Bohn and Pugatch, 2015). These enclaves can also be a source of economic protection and entrepreneurship, catering to the ethnic tastes for food, entertainment, and services, as well as for political alliances. The infrastructure of these communities allowed them to be primarily self-supporting, and they also spurred withinethnic small business formation.²⁰ From a stratification perspective, ethnic enclaves help to establish group identity and membership, which can facilitate greater in-group cooperation when competing for resources.

The port of origin story, and the ethnic enclaves that it gave rise to, is particularly relevant when thinking about the subsequent Great Migration of Black Americans from the South at the beginning of the twentieth century (Spear, 1967). Black Americans moving to new locations in the urban North in the early twentieth century would have faced broadly similar location choices as White ethnics several years earlier. Many ethnic enclaves transitioned to Black neighborhoods in the early twentieth century, replacing ethnic concentration with racial concentration. However, the trajectory of segregation by race did not match the White ethnic story. Evidence from Logan et al. (2015), Shertzer, Walsh and Logan (2016) and Shertzer and Walsh (2019) shows urban segregation well before the Great Migration and Logan and Parman (2017a) show historical segregation in the South and in rural areas where ethnic enclaves would be rare due to limited immigration at the time. The difference between the trajectories of ethnic segregation and racial segregation imply that the two should not be thought of as part of the same general process. As Bayer, Fang and McMillan (2014) have shown, increasing income among Black residents can lead to increased segregation as cities develop higher-income Black enclaves in addition to existing segregated neighborhoods, but this pattern is not similarly observed for other ethnic groups. Moreover, rural segregation in the South increased over time, the opposite of the slow pace of White ethnic assimilation. While there are similarities in the dimensions of ethnic and racial segregation, the racial distinctions leave such analogies incomplete in explaining the severity and persistence of racial segregation itself.

The process of port of entry to enclave to racial segregation is dynamic and explained in part by an evolution of group identity and a urban-focused migration of Black Americans in the twentieth century. As described by Roediger (2002), European ethnic groups were not considered "White" upon their arrival to the United States. Racial covenants for property not only restricted sales to

²⁰Such enclaves are not limited to race and ethnicity. For example, many major American cities feature neighborhoods with large numbers of Gay and Lesbian households, and these enclaves can form in a manner similar to ethnic enclaves.

Black Americans, they typically named a number of White ethnic groups as well (Sood and Ehrman-Solberg, 2022; Gordon, 2023). Over time, the racial formation process led to a lessening of the ethnic restrictions but a maintenance of racial ones, specifically the exclusion of Black Americans. The expansion of White identity to include previously excluded ethnic groups is an important dimension of racial inequality as racial identification itself changed over time (Darity, Mason and Stewart, 2006). This reflects a process by which membership into the dominant group is both sought and allowed.²¹ One of the material benefits of the expansion of White identity was greater freedom of movement for White ethnics to other neighborhoods and an acceleration of the assimilation process itself. Indeed, Fouka, Mazumder and Tabellini (2021) show that areas which received more Black migrants during the Great Migration saw faster assimilation of White ethnic groups into the White collective racial identity.

Port of entry and the arrival of Black households play a critical role in the formation of White group identity as part of the assimilation process.²² That is, the arrival of Black Americans facilitated the formation of White group identity, and the axis of segregation moved from racial and ethnic to primarily racial. One feature of point of entry, then, is to facilitate the creation of racial segregation once the racialization process works to make migrants White and therefore grafted into the dominant group. This could help to explain the increase in segregation in areas that lost Black population share, as racialization requires physical separation from the marginalized group as a means of establishing racial hierarchies.

5.2 Collective Action

Segregation can develop and be held in place by institutional barriers to minorities moving into majority neighborhoods. In the terminology of Schelling (1971), majority households can use institutional powers to retreat to areas where they subsequently prevent minority members from encroaching upon. While port of entry stories tell us how segregation may arise initially, the collective action of groups

 $^{^{21}}$ We leave aside as exhaustive list of the sociological literature on racialization, which is one concept which can explain such differences.

 $^{^{22}}$ As defined by Cox (1948), part of this process is visual as racial distinctions hinge on the physical but ethnic distinctions do not. As such, the extension of Whiteness is concomitant to salience of Blackness. This is consistent with the starkest lines of social exclusion being draw by racial segregation as opposed to ethnic segregation (Li, 2023).

can be seen as a way of simultaneously marking and policing the borders of a segregated metropolis. As such, collective action has been seen as critical for the persistence of racial segregation in the face of economic and social convergence. Collective action includes both operations within cities, such as zoning, and between cities, such as the development of politically distinct communities/municipalities. Collective action can be seen as causing and leveraging segregation, for example by creating and exploiting systems that can distribute resources in racially-sensitive ways. At a theoretical level, collective action causes of segregation align well to stratification economics-based theories of inequality.²³

The economic literature on redlining is one example of collective action. The process of redlining is somewhat obscure in practice (a number of different processes fall under the layman's use of the term). In general, redlining refers to the practice of labeling communities and assigning a level of "risk," "acceptability," or "desirability" to it. In the popular use of the term, mortgages are more difficult to secure in redlined communities, renting is a much larger share of the area's household tenancy type, and the quality of public goods is worse. Redlined communities are named as such due to the practice of marking off areas of cities in a color-coded fashion, most notably by the Home Owners Loan Corporation (HOLC) in the 1930s. The HOLC adopted a color-coded, four-letter-grade scheme for neighborhoods. The first grade of "A" (green) was defined as the best areas with strong demand for housing, invariant to economic conditions. "B" (blue) areas as "still desirable" but not what new buyers with ample resources would be looking for in the housing market. The "C" (vellow) graded areas were explicitly defined as "declining" areas. Reasons for being considered in decline included expiring ethnic and racial restrictions on properties and the "infiltration" of "undesirable" immigrant groups and/or Black Americans.²⁴ The "D" (red) areas were "hazardous" areas that had already experienced sufficient "infiltration" and had higher poverty rates and proportions of renters. In the popular imagination, these redlined communities were marked for urban blight through the confluence of government action, local mortgage policies, and racial discrimination. This is further

 $^{^{23}}$ It is important to note that collective action requires race-making between the segregating and segregated groups. That is, the collective action can only occur after the collective is defined in racial terms. As in Cox (1948), this is a process of race relations.

²⁴The most desirable groups included those English, Scotch, French, German, Scandinavian or Northern Italian heritage. Less desirable groups included "Russian Jews of the lower class," Southern Italians, Black Americans, and Mexicans.

reinforced by the fact that the racial composition of an area was a key input into the grading process (Hynsjo and Perdoni, 2023).²⁵

This narrative, while convenient, ignores the reality of the program. The HOLC program was designed to stabilize the housing market via support for existing homeowners, so it is unlikely it could play a role in subsequent mortgage discrimination. Indeed, Fishback et al. (2022) find that the HOLC did not engage in discriminatory lending practices for distressed homeowners.²⁶

The Federal Housing Agency (FHA), which was designed to originate mortgages, was involved in racially discriminatory practices (Rothstein, 2018). This has been further established in recent work (Fishback et al., 2022), where the FHA did not originate many loans in Black communities nor to Black homeowners. More importantly, the FHA's policies predate the HOLC maps by several years, and the maps themselves reflect less the discriminatory bias of the federal government as opposed to discriminatory practices which created the segregated communities by the 1930s (Fishback et al., 2020). As noted earlier, cities had an infrastructure which enabled segregation to take place before any federal programs were created. Recent research shows that even in cities without HOLC maps, the segregation patterns were remarkably similar (Hynsjo and Perdoni, 2023). A common belief is that the HOLC and FHA maps would likely be similar and therefore substitute for one another in empirical applications trying to estimate the effects of redlining on outcomes. Fishback et al. (2022), however, show that the two agencies did not use the same criteria for map creation. In the few cities where FHA and HOLC maps exist, the overlap is partial.²⁷ While both HOLC and FHA map-making and subsequent housing policies may be related, understanding the exact mechanisms remains an area of active research.²⁸

Nevertheless, there is some evidence that the grading of these communities is related to subsequent

 $^{^{25}}$ While 36% of the general (eligible) population lived in D-graded areas, more than 80% of Black residents did. The process of grading areas explicitly noted the "infiltration" of groups as well as the percent of the population that was Black and/or the dominant immigrant group and their country of origin.

²⁶Another issue with HOLC maps is that they were constructed using current real estate operatives, who were likely to have ideas about the desirability and trajectory of these communities. Indeed, the HOLC rating form explicitly allowed space to describe the predicted trend in the existing neighborhood, making the HOLC grades prescriptive by design.

²⁷Part of the limited overlap reflects the fact that FHA used block-level data and made more precise maps than the HOLC, which zoned larger communities. This once again reinforces the importance of choice of scale when studying segregation.

²⁸There is a related literature in public health which looks at correlates of the HOLC redlining.

neighborhood outcomes. In Aaronson, Hartley and Mazumder (2021) and Aaronson et al. (2023) the authors use the borders between graded zones of the HOLC maps to determine differences in outcomes. They find that areas graded C, compared to neighboring areas graded B, were more segregated, had lower home values and lower rates of homeownership. More recently, they find that educational outcomes of children are worse for those in C graded communities relative to those in B graded communities (Aaronson et al., 2023). Similarly, Hynsjo and Perdoni (2023) use an algorithm to grade previously un-graded areas (exploiting the population threshold that led to cities being graded by the HOLC) and find that would-be D graded areas fared better than actually D graded areas in terms of homeownership and property values, and that actually D graded areas had significantly higher Black populations than their observably-equivalent would-be D graded communities in ungraded cities, which they take as evidence of the HOLC maps' persistence. Given the limited duration of the HOLC and the lack of overlap between the HOLC and the longer-lived FHA, the exact mechanisms underlying the relationship between the maps and segregation remains unknown. New research has shown that the racial disproportionality of the redlined zones is related to subsequent segregation. The continued limited access that Black households had to neighborhoods as cities expanded with suburbanization and the growth of the interstate concentrated the environmental harms of increased traffic on Black communities, which experienced few of the benefits as they were already located in central areas of cities (Weiwu, 2024).

Zoning represents another critical area of collective action. Zoning in cities is one way of increasing or decreasing the supply of housing and other amenities that can make areas more or less attractive to majority and minority households. Zoning is also intimately related to the political process, aligning preferences with the ability to create policies which would increase their likelihood of success. Shertzer, Twinam and Walsh (2016) find that zoning for industrial developments occurred along racial boundaries in Chicago, where the racial segregation preceded the zoning for industrial development. Industrial developments were significantly more likely to be placed near Black residential communities. More recently, Sahn (2022) finds that cities with greater racial diversity devote significantly less land to multifamily units. Since zoning influences both residential and industrial locations, zoning has been linked to environmental racism, where pollutants and environmental hazards are disproportionately located in and near non-White communities.

In the early history of American cities, zoning was explicitly racial. In Buchanan v. Warley (1917), the Supreme Court held that racially restrictive zoning, in this case the prohibition of Black households from buying in majority White areas, was unconstitutional. However, the Supreme Court ruled in Corrigan v. Buckley (1926) that racial covenants were enforceable private contracts. At the same time, the National Association of Real Estate Boards developed a racial covenants template which helped to nationalize and standardize the practice just as bedroom communities developed outside of major cities (Gordon, 2023). While not technically a zoning condition, racially restrictive covenants are a collective action, requiring homeowners to consent to the practice at the time of a development's establishment.²⁹ Recent research has shown that such policies have a long-term effect on the evolution of segregation and housing prices even as significant portions of existing housing stock in the United States were constructed well after such policies were ruled illegal. Areas which had restricted covenants are more racially homogeneous today and also enjoy higher property values than those with similar characteristics that never had such covenants (Sood and Ehrman-Solberg, 2022). It would not be until 1948 in *Shelley v. Kraemer* that private restrictions on property transactions, such as racial covenants, would be ruled unenforceable, and it was not until 1968 that they would be illegal.³⁰ As specified by Cox (1948), covenants are a way of enforcing racial norms and a second-class status to excluded groups, and this can only be accomplished via cooperation among the majority group.

Later developments aimed at ending the impact of these policies, such as the Fair Housing Act and the Equal Credit Opportunity Act, have been extensively studied for their impact on location choice, mortgage lending, and segregation (Yinger, 1986; Ondrich, Stricker and Yinger, 1999; Munnell et al., 1996; Gotham, 2000; Rothwell and Massey, 2009). At the market level, Cutler, Glaeser and Vigdor (1999) as well as Christensen and Timmins (2023) show that rental prices varied significantly by race, one way in which collective action, via landlords, acted to keep Black residents in Black neighborhoods.

²⁹Covenants made little, if any, mention of price for homes. As such, these were restrictions on race and ethnic makeup that were not related to ability to pay.

³⁰Although unenforceable, the covenants still exist in property records. In cities such as St. Louis, around one quarter of the housing stock of 1950 was covered by restrictive covenants.

In the middle of the 20th century, the private market used the practice of "blockbusting" to racially transform neighborhoods. Given the threat of increasing Black presence in an area, realtors would encourage White homeowners to sell their properties to brokers for below market prices. Since Black Americans faced significant obstacles securing housing, these same homes were offered for sale to them at inflated prices. In essence, this was a process that routinized racial housing speculation. Hartley and Rose (2023) provide one of the first quantitative assessments of the process, documenting the practice at the census tract level in the 1950s and 1960s. They find evidence of Blockbusting in 75% of the largest cities in the US, and specifically that roughly 10% of all census tracts that were not majority Black in 1950 transitioned via the blockbusting practice. They also find areas targeted for blockbusting continued to have depressed property values several decades after the process was made illegal in the Fair Housing Act of 1968. Similar to covenants, blockbusting is another pseudo-collective action requiring cooperation among members of the majority group.

While much of the research has focused on private home sales and developments, public housing can play a critical role in segregation as well. America's first public housing developments began in ethnic enclaves in New York City (the so-called First Houses, completed in 1936), and established many of the features of public housing projects. First, they used eminent domain and land condemnation to claim existing land for the purpose of development. Second, the Housing Authority issued bonds to fund the project. Third, the project remained in the Housing Authority's portfolio and under its purview- it was not subsequently privatized. While these policies provided a template for later urban public housing projects, they also provided weaknesses which lessened their ability to be duplicated in suburban areas. As we noted with the zoning process, urban politics and suburban politics created very different landscapes for public housing, urban renewal, and slum clearance. Public housing projects therefore have been related to increasing segregation, by concentrating racial minorities in housing developments, and decreasing segregation, by placing developments with large minority populations in predominantly-White areas. The history of public housing (see Bonastia (2006) and Bickford and Massey (1991)) suggests that on balance they have increased urban segregation. Recent work on the demolition of public housing by Aliprantis and Hartley (2015) and Chyn (2018) suggests that while the demolition led to reduced crime and better employment outcomes for displaced children,

it may not have significantly changed segregation patterns. For the individuals living in Chicago public housing studied by Chyn (2018), those not displaced by demolitions lived in census tracts that were 95 percent Black. The Black population share was only 3 percentage points lower for the census tracts displaced individuals resided in three years after demolition, and only one percentage point lower eight years after demolition.

Federal policy, most salient in the forms of the Housing Act of 1937, the Housing and Urban Development Acts (1965, 1968), the Fair Housing Act, as well as the evolution of Section 8 vouchers, has also been critical to urban segregation, the quality of housing for low-income households, and neighborhood sorting and zoning (Pendall, 2000; Collins, 2006). Although founded on policies to encourage neighborhood integration, HUD's pro-integration policies were ended very early in its tenure by the Nixon administration (Bonastia, 2000) in a move away from public housing programs to scattered-site housing approaches relying more on the private sector (Hogan, 1996; de Souza Briggs, Darden and Aidala, 1999). It is important to note that public housing policy need not be directly racial to have an impact on segregation. Simply accounting for the concentration of urban poverty among its non-White residents would easily show that public housing policies will have an effect on segregation and the concentration of urban poverty (Galster, 2013; Owens, 2016, 2015b,a). Empirically, Quillian (2012) has documented this phenomenon, which also features within-race sorting by poverty status in cities.

More recently, Taylor (2019) finds that urban housing programs such as Section 235 of the 1968 Housing and Urban Development Act accelerated household economic decline by subsidizing home loans for dilapidated properties sold at above-market prices to owners who were likely to default.³¹ The housing stock in these communities did not improve, but the economic status of the families declined through default and "flipped" properties where speculation was government-subsidized. This not only increased housing distress, it also negatively impacted wealth for existing homeowners.³² By the time the housing programs ended in 1973, the federal government had paid more than \$4 billion in

³¹Under the terms of the program, mortgage issuers profited from default since the government insured the mortgages, creating incentive problems that exacerbated the housing crisis in urban areas. While banks and savings and loan companies rarely participated in the program, brokers created markets for the securitized bundled loans for the program.

 $^{^{32}}$ Taylor (2019) uses contemporaneous federal audits and reports to argue that as many as one-quarter of the homes in the program were in such poor physical condition that they should not have been insured in the program due to their uninhabitable condition.

mortgage insurance claims, showing the extent of default concentrated in urban Black communities. While the program was advertised as an opportunity to encourage Black home ownership, it resulted in a wealth transfer to mortgage securitizers. In addition, homeowners who were not participants in the program saw their wealth decline as their property values lowered as a result of being co-located with a large number of distressed properties. While blockbusting, described earlier, was made illegal in 1968, Section 235 allowed for the continued exploitation of Black neighborhoods.

While collective action has provided a technology for enhancing segregation and an institutional basis for its persistence, collective action in the form of zoning and public housing policies cannot explain the totality of the national rise in segregation over time, nor its persistence in areas with a variety of zoning schemes and various levels of public housing. It can, however, illuminate the sheer number of available options that dominant groups can access for the purposes of segregation. For example, public housing in the form of high rises may partially explain Chicago's high levels of segregation, but they would not explain the persistence of racial segregation in rural areas of Illinois. As with port of entry, the mechanism of collective action has some limited potential to explain the scope of segregation patterns in the United States, but has been shown to have significant effects in particular locations and points in time.

5.3 Decentralized Racism

The third class of theories focus on decentralized racism, specifically the decision of White individuals to live in racially segregated neighborhoods, preferring racially homogeneous neighborhoods and matching those preferences through their actions. Individual action requires contemplating issues that are directly racial in nature, and the racialization process as well. While the port of entry and collective action explanations hinge on racial or ethnic identity in part, racial group identity is a directly salient feature of decentralized racism. Our discussion of the economic theory underlying this individual action approach begins with the seminal work of Schelling (1971), which we align to the theory of stratification economics, and then consider the contemporary literature on tipping points (Card, Mas and Rothstein, 2008) and the material benefits of racial identity (Darity, Mason and Stewart, 2006). Following the literature, we focus primarily on White-identified population, who canonically express greater desire for racially homogeneous communities.

The model of Schelling (1971) has been used to discuss the individual "demand" for segregation, typically thought of as emanating from White households. That is, White households with preferences for same-race neighborhoods move to racially homogeneous communities.³³ At varying levels of preference. White households prefer racial homogeneity over relatively small areas (say their neighbors and their neighbors' neighbors), and Schelling shows that in equilibrium this sorting can lead to extreme segregation. The basic feature of this type of segregation has been validated both before and after the Great Migration (Boustan, 2010; Shertzer and Walsh, 2019), which suggests that even with small Black communities, White households preferred to live separately from Black Americans. More recently, Li (2023) finds high willingness-to-pay for all-White communities in the early 20th century. Indeed, the empirical relationship between White outflows and non-White inflows has been used to argue that collective action was neither a necessary nor sufficient condition for segregation to increase in the twentieth century. At the national level, Logan and Parman (2017a) show that increases in racial segregation could not be explained by increases in the Black population. While economists have shied away from speaking on preferences of this type as racial animus, it remains unclear the extent to which such preferences coalesced with neighborhood associations, school integration protests, and other violent activity which physically intimidated Black households seeking to live in White neighborhoods (Massey and Denton, 1993), which have typically been seen as part of collective action.

One point highlighted in the work of Boustan (2010) is that the segregation observed is not only about residential physical separation of the races, which could occur within cities, but also the desire to exclude Black Americans from public goods, which required suburbanization and the establishment of independent municipal bodies. This implies that preferences are not only about community, but also about the provision of services and collective decision making body itself. Critically, this expands the notion of neighborhoods to incorporate people relatively distant but with similar racial identities. Most important, the desire to exclude others from public goods is consistent with the concept of stratification economics of intentional inclusion of same-race members and exclusion of others beyond

³³Recent work by Thompson and Trejo (2022) shows that while White individuals underestimate the level of school segregation, when they are informed about its actual level support for desegregating policies does not increase.

preferences of racial homogeneity in a compact space. If Blackness itself is seen as infectious and dangerous (Chelwa, Hamilton and Stewart, 2022; Darity, 2022) the separation between groups would need to include both geographic space and political/social space as well.

Decentralized racism plays an implicit role in the comprehensive approach to segregation developed by Bayer, Ferreira and McMillan (2007). Segregation reflects a complex interaction between preferences for schools and the income and racial composition of neighborhoods, issues of scale (see p. 611 discussing people valuing neighbor characteristics on same block), and how communities operate using principles from industrial organization on differentiated product demand. Similar to the literature on the demand for segregation, communities also "supply" segregation to various degrees for consumers, who show a willingness to pay for the racial homogeneity and racially exclusive amenities. The most novel findings are that households segregate on both race and education, the willingness to pay for better schools alone (to the extent that this can be identified) is remarkably small, and that race is not directly priced into housing, but rather a by-product of the lower-quality neighborhoods that Black households are more likely to live in. This model has been applied by Schonholzer (2022), who finds that 8% of house-price variation is due to households' desire for public goods. Further, the application, using more than 1 million home sales, finds that the composition of the group of peers households share goods with drives the willingness to pay. That is, there is little willingness to pay for the public goods themselves. Related to this, Angrist et al. (2021) show that school demand by White and Asian parents is unrelated to a school's value-added and instead driven entirely by the school's percent of White and Asian students, which is similar to the high willingness to pay estimated in Li (2023).

Although school quality and neighborhood demographics may be endogenous, their evolution and persistence are poorly explained by the current sorting of households at a point in time. In sociology, scholars such as Lareau and Goyette (2014) have drawn on a broad range of work on neighborhood choice with particular attention to the role of schools in parental location decisions. The issue of schooling also brings us back to the technical issue of boundaries. Macartney and Singleton (2018) demonstrate that school boards shift attendance zones, and change school segregation even though residential segregation (measured by census tracts or other typical units) does not change.³⁴ The racial composition of the school board is shown to be related to the segregation or desegregation of the schools in the district.³⁵

The same patterns can be seen not only in suburbanization, but also in gentrification, where White households have moved into historically segregated Black communities and Black households move out. This can decrease segregation over time as communities move from being predominantly Black to racially mixed to predominantly non-Black, although the speed of these transitions tends to be slower than the neighborhood transitions seen in the twentieth century. In many instances, the public support for neighborhood renewal represents another transfer to White households from the state in the form of improved infrastructure, tax advantages, and rezoning for more or less dense housing and businesses. One positive of these transitions is that increased investment can improve the community for long-term residents who have not been displaced. Part of this mirrors the general amenities of cities and the fact that high-earning (but childless) couples may place little value on schooling as opposed to proximity to the central city, which is typically close for Black neighborhoods due to interstate construction and other infrastructure projects in the twentieth century. Socially, they can experience increased social isolation and alienation in their home communities.³⁶ Unlike White residents who faced similar circumstances a century before, Black residents do not have the same political and economic options White households availed themselves to (Hwang and Sampson, 2014). This has left the urban landscape fundamentally different from the previous generation of White flight from urban communities (Anderson, 2012).³⁷

The hedonic housing literature, in particular, explores the role of economic inequality contributing

³⁴The measure of segregation at the school level versus the neighborhood level is interesting and reveals some patterns of parental desire for racial homogeneity in schools that is stronger than the desire for neighborhoods. For example, New York City is one of the the most racially segregated school districts in the United States, yet the district would be markedly less segregated if every child attended their physically closest school. School choice and exam-entry schooling by the district has led to novel methods of hoarding public goods (in this case, school resources) by White households, while allowing them to simultaneously engage in gentrification.

³⁵The relationship between school segregation and neighborhood segregation is difficult to unbundle, but attempts to mitigate the neighborhood-school relationship via busing have historically been resisted.

³⁶Social commentators and sociologists have also noted that gentrifiers are more likely to use police and other stateinstitutions in their interactions with long-term residents (Beck, 2020).

³⁷Collins and Shester (2013) find that slum clearance programs in the mid-twentieth century increased property values and incomes for city residents, while Jones et al. (2024) find that urban renewal programs led to declines in the number of Black businesses. The positive effects on income may mask negative impacts on wealth and entrepreneurship.

to racial segregation. Even in the absence of racist attitudes on the part of residents, demand for neighborhood amenities that gives rise to sorting by income can generate racial segregation. Given the economic inequality by race in the United States, income segregated communities will also be racially segregated. Iceland and Wilkes (2006) and Bayer, McMillan and Rueben (2004) discuss the extent to which economic inequality can explain segregation of Black households from non-Hispanic White households and compare this to the experience of Hispanic and Asian households. In particular, as racial groups stratify themselves, higher-income households in racial minority groups will seek to create racially and economically homogeneous communities, leading to an increase in residential segregation. The distinctions between the income/race nexus by Bayer, Fang and McMillan (2014) and Cutler and Glaeser (1997) hinge primarily on income growth among the Black middle class, particularly in large urban areas with large numbers of Black professionals, which allow for the formation of Black middle class neighborhoods and the conditions under which segregation increases as racial income inequality decreases. In sociology, this has been explored in the frame of distinctions between racial segregation, poverty-status segregation within race, and segregation from high- and middle-income members of other social groups in Quillian (2012). The housing boom and bust of the early 2000s itself was predicated on segregated neighborhoods and mortgage products marketed specifically in high-poverty, racial minority neighborhoods (Rugh and Massey, 2010).

5.4 Blended Causes of Racial Segregation

Falling somewhere between collective action and decentralized racism, the sorting of households by race into different communities is mediated through the real estate process, including appraisers, realtors, banks, and other institutions. This includes the steering of real estate agents and the mortgage industry.³⁸ Both have been found to have racially discriminatory practices historically. For example, credit discrimination has been documented extensively in both survey data and in audit studies: from Olney (1998) on early-twentieth-century discrimination in credit markets to modern studies such as Lamb et al. (2016), who use HMDA data to demonstrate discrimination in mortgage

 $^{^{38}}$ Given significant differences in the wealth distribution by race, the increasing likelihood of all-cash housing purchases in some cities (in the fourth quarter of 2023 more than 2/3 of all home sales in Manhattan were all-cash sales) would imply racial homogeneity as well.

lending, to those like Bayer et al. (2017) using repeat-sales data to show minorities pay more for equivalent housing, to several studies that employ field experiment/audit study approaches (Ross and Turner, 2005; Carpusor and Loges, 2006; Gaddis and Ghoshal, 2015, 2019; Hall, Timberlake and Johns-Wolfe, 2023). The boundaries between racism as individual behavior and as collective action, again, have features which are similar to stratification. The market for housing can reify the preferences of White households for racial homogeneity by disqualifying Black households for mortgages in White communities, by a real estate process which discourages purchases in such areas, and by qualifying Black households for mortgages in a predatory fashion (Taylor, 2019).

Ultimately, we cannot rely solely on models of sorting, school preferences, and so on that do not acknowledge the severe constraints Black households faced in residential location in the past and still face in the present. The dynamics of sorting models, particularly in isolation, do not appropriately account for the large asymmetries in wealth, income, social, political and economic power that exist between racial groups. Furthermore, existing economic models do not account for the historical process of racialization, which is more akin to an Ellisonian process where "one-drop" of Black paint is used to make White paint, White. That is, the process which creates White people (or, more precisely, allows people to identify with and reciprocally align with the White racial category) is usually predicated on some phenotype-based Black exclusion and a willingness to change the racial landscape in one dimension in order to maintain the hierarchy in another. The White paint is made White through the presence of something other, in this case, Black. The port of entry story contains just this phenomena– eventually groups thought to be distinct from White people (Italian, Polish, Irish, etc.) become White over time and display similar racially homogeneous preferences. However, mono-causal models are inherently poorly suited to the question of causes of segregation given the historical trends and the dynamic processes involved.

While ports of entry served as a stopping point for White ethnic households in the past and White collective action served to create specific policies to keep neighborhoods racially homogeneous, these processes would have little role to play in the increase in historical segregation in rural areas. At the same time, racial formation processes were similar in these areas, suggesting that the racial formation

process was quite general in the United States.³⁹ Our models of segregation's causes are predicated on the most widely used measures of segregation, which have primarily dealt with the urban nature of the process. Even the empirical analysis of tipping points would be difficult to apply to sparsely populated areas. Accounting for the rise in rural segregation over time will need to extend these models to less densely populated areas with different scope for collection action and institutional barriers to racial integration. Ultimately, the drivers of racial segregation are multifaceted, but hinge on segregation's ability to function as a technology. Given the illegal nature of deliberate racial exclusion after the 14th Amendment, spatial exclusion becomes a second best option.

6 Consequences of Residential Segregation

Irrespective of how it is measured, segregation is a technology that allows for geospatial allocations to be racialized in an efficient manner. In the American context of decentralized taxes and services, segregation can act as a second-best (from the hoarder's perspective) solution to public good hoarding. "First best" is *de jure* exclusion from the public good. For example, if one wanted to restrict large scale infrastructure to one part of an integrated city, the burden of eminent domain, construction hazards, and environmental degradation would be equally shared by each racial group. In a highly segregated city, however, one can ensure that the burden is borne disproportionately by race.⁴⁰ In these types of settings segregation works as a technology which results in racially-specific differences in material outcomes.

Since segregation may arise for a number of reasons, it can be difficult to understand the specific mechanisms behind the relationship segregation has with a number of outcomes. Monocausal relationships, where segregation has one directed effect on a specified outcome, would need to confront the theoretical and empirical challenges in identifying such a relationship. For example, two areas

³⁹While Bazzi et al. (2023) argue that White descendants of former Confederates alter racial and political attitudes in the Western areas they migrated to after the Civil War, such a framework would need to account for a racial formation process which incorporated White ethnics into this White identity, which did not exist in the immediate post-bellum period.

⁴⁰McGhee (2021) documents how Progressive Era public works, programs, and infrastructure in the first half of the 20th Century US were financed by taxes on Black people, but inaccessible to them. Later in the century, White voters chose to destroy that infrastructure (drained pools, bisected parks, etc.) once the Civil Rights Act was passed in favor of more localized/privatized versions, even though they were lower quality, in order to maintain racial exclusion.

may be equally segregated according to a particular measure but for very different reasons (leaving aside the weights one may attach to a range of causes) and the question becomes whether segregation itself has the effect on outcomes or whether the causes of segregation have the direct or indirect effect on outcomes. The attempts made to find plausible instruments for segregation have made significant progress, such as Ananat (2011), but they have limited ability to speak to segregation nationally or in non-urban areas. Moreover, instruments such as Ananat's Railroad Division Index (RDI) are themselves related to the way that segregation is measured– the RDI has a natural overlap with the census-tract and -block level methods of measuring residential segregation, which capture one dimension of residential segregation. Recognizing these issues are at the forefront of current research, we concentrate here on a limited number of consequences of segregation through the lens of what a segregated environment allows and enhances theoretically, and discussing the mechanisms commonly noted for the correlation segregation, usually estimated by MSA-level dissimilarity or isolation, has with outcomes.⁴¹

6.1 Economic Consequences

The consequence with the most direct impact on economic outcomes is the fact that residential segregation can limit employment opportunities, particularly through the isolation of minorities in urban cores from jobs that are located outside of the city center.⁴² This has been noted in a long literature as the spatial mismatch between firms and employees. As suburbanization began to take shape, economists as early as Kain (1968) noted that the places of employment outside of center cities uniquely disadvantaged Black job seekers, and that these disadvantages were geographic in origin.

⁴¹We also concentrate on what we consider the primary consequences of segregation. In certain cases, particularly historically, researchers have also identified secondary effects that work in the opposite direction. Consider the benefits to lower income Black households of having exposure to Black middle class households in urban communities (Wilson, 2012), the increased ability for Black individuals to buy houses in cities due to White flight to the suburbs (Boustan and Margo, 2013) and even the increased likelihood of city planners to build water and sewer systems when cities were more segregated (Beach, Parman and Saavedra, 2022). In all of these cases, the secondary benefits of segregation in the form of access to higher income peers, housing and sanitation systems came as the result of large, negative primary consequences: restricting the neighborhood choices of the Black middle class in the cases of Wilson, Boustan and Margo and, in the case of Beach, Parman and Saavedra, accepting higher mortality for cities as a whole due to limiting access to sanitation by race.

⁴²While the spatial mismatch literature is primarily focused on mismatch within a metropolitan area, the geographic distribution imposed on the Black population during slavery led to tremendous spatial mismatch across states, with Black workers isolated from the higher-paying jobs of the North prior to the Great Migration (Margo, 2016).

Not only were Black people further away from new employment opportunities, but limited income and public transportation options made such employment cost prohibitive (Holzer, 1991; Ihlanfeldt and Sjoquist, 1998; Kain, 2004). In census data from 2000, Black households were still significantly more geographically isolated from jobs in metropolitan areas relative to White and, to a lesser extent, Hispanic households (Stoll, 2005). Furthermore, that spatial mismatch increased the duration of joblessness after layoffs (Andersson et al., 2018). There is evidence that spatial mismatch is declining. bunten et al. (2023) document a decline in the Black-White commute time gap from 49 minutes per week in 1980 down to 22 minutes per week in 2019, though the commute time gap remains persistent for individuals in large cities. Increasing Black suburbanization and declining segregation can help to ameliorate this trend, though Stoll and Covington (2012) estimate that if recent trends in declining segregation continue, it would still take another half century for Black-White differences in spatial mismatch conditions to disappear. More recently, Card, Rothstein and Yi (2024) have questioned this relationship, using longitudinal data finding that proximity to high-wage jobs explains relatively little of the racial wage gap. In fact, they find that Black residents of cities are closer to employment, high-wage employment, and have lower average commute times White households. This is not to say that segregation is unrelated to the ability to utilize this proximity to employment, but it does suggest that proximity to employment is not a key determinant of racial wage disparities at present.

Chetty et al. (2014) find that racial segregation is negatively related to intergenerational mobility. They focus on measurements at the commuting-zone level and therefore the discussion of segregation's consequences centers on cities. There is some new research analyzing more comprehensive measures and their consequences for outcomes which extend beyond urban places. Andrews et al. (2017) extend this relationship to the past and use the Logan and Parman (2017*a*) measure of segregation from 1880, as well as dissimilarity and isolation indices, to measure the effect of segregation on economic mobility. They find that segregation in 1880 is positively correlated with lower economic mobility. The persistence is noteworthy in that the cohorts where mobility is measured were born more than 100 years after the segregation measure, implying a strong and persistent relationship between historical (pre-Great Migration) segregation patterns and contemporary economic mobility.⁴³

 $^{^{43}}$ This historical correlation is robust to controls for contemporaneous segregation. Further, they find that changes in neighbor-based segregation between 1880 and 1940 was negatively related to mobility.

Logan and Parman (2017b) find that rural and urban areas with higher levels of historical segregation had lower homeownership rates for both Black and White Americans, and surmise that segregation significantly reduced the impact of GI Bill benefits on homeownership generally.

Sociologists such as Wilson (2012) have argued that those in deeply segregated communities face a variety of economic penalties due to their location, and that concentrated joblessness in highly segregated communities within cities alters social ties and networks. Ananat (2011) finds a causal relationship between MSA-levels of segregation and economic inequality and Black/White differences in education. Theoretical work on spacial mismatch, such as as Gobillon, Selod and Zenou (2007) and Coulson, Laing and Wang (2001) has increasingly stressed the relationship between agglomeration economies and inequality. There are two competing facts. First, as cities attract highly-educated workforces, they can act to increase wages overall. Second, the increases can lead to cities facing increasing costs of living (Hsieh and Moretti, 2019; Moretti, 2013). The spatial misallocation of workers between cities could be another function of segregation (Miller, 2022). At the same time, the relationship between inequality within and between cities and segregation (both its level and change), which is related to real estate prices and racial residential segregation, has yet to be fully incorporated into the agglomeration economics literature.

6.2 Borders and the Segregation of Public Goods

In addition to employment, segregation has been shown to have a strong correlation with the provision of public and private goods, particularly education and health. Segregation allows for public resources to be directed to specific groups through institutions that are geographic in nature, such as school districts and municipal governments (Monarrez and Schonholzer, 2023). Politically, Ananat and Washington (2009) find that segregation lowers Black political efficacy. Segregated communities have more conservative policy positions, even though the political views of Black people are more progressive in more segregated cities (Chyn, Haggag and Stuart, 2022). Recent work by Cox et al. (2022) shows that segregation is related to lower city revenues and lower expenditures on public goods, consistent with the policy positions being matched with public goods provision.⁴⁴ For example,

⁴⁴Xu (2023) argues that class segregation mitigates these racial segregation effects, using evidence from Brazil.

Hamel and Holliday (2024) find that response times to calls for city services (311) calls do not differ by neighborhood racial makeup, but that residents in poorer and racial minority neighborhoods have requests for more time-intensive services, which could be related to higher levels of deferred maintenance and lax enforcement in minority neighborhoods.

An important element of the consequence of segregation is the convergence between neighborhood borders and municipal borders in defining who benefits and decides on the allocation of resources. Monarrez and Schonholzer (2023) find that racial segregation across municipal boundaries is a large part of the segregation observed, and that the trends have not shown significant desegregation in the past thirty years. Researchers have noted the link between MSA segregation, highly decentralized school financing, and Black-White gaps in school quality (Card and Krueger, 1992; Grogger, 1996; Clotfelter, 1999; Nechyba, 2003; Monarrez and Schonholzer, 2023). To the extent that competition between schools may be related to academic achievement (Hoxby, 2000), areas with high levels of segregation may have, on average, higher achievement outcomes partly due to the ability of White families to sort between several racially segregated communities within a segregated metropolitan area. These trends could reflect the transition from Black-White differences in school quality created by institutionalized segregation prior to Brown v. Board of Education, based on legal separation between the races in education, to Black-White differences in school quality created by residential segregation patterns after the decision. Despite a move to desegregate education, extensive residential segregation patterns have limited the narrowing of the school quality gap after schools were officially desegregated.

Original plans to desegregate education typically depended upon moving children from one racially segregated community to another in order to achieve racial balance in schools commensurate with the district or metropolitan area. In essence, these plans were designed to achieve a school-level measure of dissimilarity of zero. In fact, the case of *Swann v. Charlotte-Mecklenburg Board of Education* (1971) involved the process of selecting students to be bused based on geography and not race as a method to achieve racial balance. Such policies, however, were short-lived. In 1974, *Milliken v. Bradley* held that unless segregation was the *explicit* policy of the school districts in question, a desegregation plan did not require children to cross school district boundaries. The case was filed on the Detroit,

Michigan desegregation plan, which involved over 50 school districts. As showing the intent of school district boundaries were intentionally derived for the purposes of segregation is difficult, and given that the outlying areas had (at the time) relatively few Black students, the decision allowed for entrenched residential segregation to reinforce school segregation, although individual districts had to have desegregation policies. This was further weakened in the Parents Involved in Community Schools v. Seattle School District No. 1 decision of 2007, which ruled that voluntary plans using race for assignment within school districts were unconstitutional unless the district had been found to be currently engaged in *de jure* segregation.⁴⁵ Even within-district policies, then, have limited means to counteract the impacts of residential segregation when it comes to public education. Consistent with this, Monarrez (Forthcoming) finds that residential segregation explains all of the school segregation in the United States. In rural areas, Graves (2024) shows that desegregation led to the creation of private, racially exclusive schools that blunted the intended effect of segregation by as much as 70%. These in turn led to decreased support for public education and expenditures. Even today, these "segregation academies" educate more than 12% of private school students in the United States. In both urban and rural settings, then, segregation has been a tool to limit support for public nondiscriminatory education systems.

Given the literature on peer effects which focuses on intergroup contact (Card and Rothstein, 2007; Carrell, Hoekstra and West, 2015), one open question in the literature is the way that segregation influences the social network, and how to disentangle segregation's effect versus peer effects given the endogenous nature between the two. To the extent that neighborhoods matter, the scale at which they are measured is important. For example, the work on economic mobility has shown that areas with high levels of segregation have lower economic mobility than others (Chetty et al., 2014) and also that features of local neighborhoods such as the likelihood of father co-residence have an effect on intergenerational mobility by race and gender (Chetty et al., 2020). Given the different impacts of segregation on these outcomes, the channels that segregation works through lead us back directly to the issue of how to measure segregation, and instances in which granular measures may be able to identify or proxy for social processes that cannot be estimated at the commuting zone or metropolitan

 $^{^{45}}$ The *de facto* and *de jure* distinction is important as one defendant in the case had been under court-ordered desegregation only a few years before this case for *de jure* segregation.

statistical area. One missing dimension to the economic research agenda is how place, and how the segregation of that place, influences the expectations, perceptions, and other behavioral processes economists take as given in developing preferences.

6.3 Policing and Crime

One area where this becomes acute is the literature linking segregation and crime. The correlation between MSA segregation and metropolitan-area rates of crime has been well established, but the direction of the effect is unclear. Areas may experience segregation as a result of crime being located in specific areas of the metro, or the areas may experience high crime rates due to its segregation along several dimensions that are correlated with race, such as income. Historical scholarship also highlights the fact that crime has been intensively racialized in American cities long before the Great Migration (see Flowe (2020)), and that investment in policing increased with the Great Migration (Derenoncourt, 2022) even as areas became more segregated. More recently, Cox et al. (2022) argue that segregation is causally related to non-White homicide rates, using the same identification strategy of Ananat (2011), suggesting that segregation plays a causal role in intraracial violence.

Related to this are the mechanisms regarding other relationships with segregation. If segregation also divides public goods and lowers community health, those factors have a relationship with crime as well. Sociologists have noted the mutually reinforcing relationships with crime, public policy, schooling, health, policing, and segregation (Peterson and Krivo, 2010; Kang, 2016; Hipp, 2011; Sharkey et al., 2014). Economists, however, tend to focus on economic segregation and Becker-style models of crime, which focus on the expected utility from criminal activity. These models highlight the role of costs as the likelihood of being caught and benefits being the pecuniary benefits of the crime (Becker, 1968). These models do not feature nuanced discussion of how crime has been racialized, and that policing itself differs in Black and non-Black communities (see Hoekstra and Sloan (2022) for a recent exception).

Furthermore the racialization of crime has an effect on the labor market outcomes of Black people, especially Black men, irrespective of their conviction history. In Pager's pathbreaking work, White men with a criminal history received higher call-back rates than Black men with no criminal history (Pager, 2003; Pager, Bonikowski and Western, 2009), further reinforcing the relationship between the racialization of crime, assumptions about human capital and sociability, and exacerbating racial economic inequality. As such, concentrating on the costs and benefits of crime ignores the racial dimensions of economic development, policing, and the criminal legal system. Models and empirical approaches that reduce racial segregation to its correlation with economic segregation will be insufficient in explaining this relationship.

6.4 Consequences Beyond Cities

While much of the literature on the consequences of segregation highlighted above is focused on cities, new research analyzing more comprehensive measures of segregation is extending our understanding of its consequences beyond urban places. Part of the difficulty in separating rural from urban is the incorporation of rural communities into the urban areas where segregation is defined. Lichter and Johnson (2023) find that White rural areas are significantly more likely to be incorporated into urban communities than more minority rural areas. That is, White rural areas are more likely to become suburbanized over time. This has implications both for the understanding of rural America, which becomes increasingly racially diverse as a result, and for urban America, as it incorporates areas nearest to the urban border that were disproportionately White as metropolitan areas grow. Added to this, the trend in reclassification is most pronounced in the US South, which has both more rural communities and more primarily-Black rural communities than other regions of the country. Similarly, while all rural areas are increasing in their ethnic and racial diversity (Lichter, Parisi and Taquino, 2018), White rural areas experience lower levels of increasing diversification than others. This makes understanding and leveraging the changes in rural areas difficult to separate from larger economic and demographic changes along the borders of rural and urban communities in addition to the changes within them.

Another branch of scholarship focuses on the correlates of historical rural segregation patterns. Racialized violence in the form of lynchings was positively related to segregation at the county level (Cook, Logan and Parman, 2018). Notably, segregation was associated with lynchings of Black victims but not White victims. Mortality more generally, both for White and Black males, in earlytwentieth-century rural areas varied with segregation as well (Logan and Parman, 2018). Schooling and homeownership, two of the economic aspects of segregation central to much of the discussion above, also varied with rural segregation historically (see Logan and Parman (2017b) on homeownership and, as discussed earlier, Graves (2024) on rural public schools). These historical relationships in rural areas can have persistent impacts, as demonstrated by Andrews et al. (2017), that historical local segregation is well correlated with measures of intergenerational mobility measured more than a century later. In general, future research on segregation should incorporate more than urban areas to answer questions about the causes and consequences of segregation. This is not only due to theoretical consistency, but also because racial composition of rural areas is far from stagnant, and variation over rural areas can be as useful as the variation commonly exploited for urban areas.

As with the causes of segregation, the consequences of segregation could be expanded as we incorporate additional measures of segregation and extend those measures to different types of communities. The differences for the consequences of segregation in rural versus urban areas is only one example. Additional research could consider the differences within cities with more granular measures of segregation, particularly ones that compute comparable granular measures over time. Investigating the changes in sorting at small scales over time would be an important innovation in our ability to identify the consequences of changes in population composition and distribution.

7 Conclusion

On May 14, 2022, an eighteen year old White man drove several hours, more than 200 miles, to a supermarket in the heart of Buffalo, New York's Black community for the purpose of killing Black people. Of the thirteen people shot that day, eleven were Black. The manifesto the killer wrote cited fear of White Americans becoming a minority in the United States, and the solution to this threat was to incite deadly violence. The killer, in seeking out Black victims, chose a location on the northern part of the highly segregated city. Northern Buffalo has the traditional correlates of a segregated area. It is predominantly Black, there are fewer services, and the area has residents poorer than those in other neighborhoods of the city. The location of the killings, the Tops Friendly Market, is the only

full service grocery in the neighborhood. That such entrenched residential segregation enabled the deliberate killing of victims by race, from someone outside of the city, speaks to the persistence and depth of racial residential segregation in the United States.

On August 26, 2023, a 21 year old White man drove over 15 miles to a Dollar General store in northern Jacksonville, Florida, the heart of the city's Black community, for the purpose of killing Black people. Outside of the store he opened fire and killed three people, all of whom were Black. The manifesto the killer wrote contained a "disgusting ideology of hate" according to the Jacksonville Sheriff. The killer, in seeking out Black victims, chose a location on the northern part of the segregated city. North Jacksonville has the traditional correlates of a segregated area. It is predominantly Black, there are fewer services, and the area has residents poorer than those in other neighborhoods of the city. The killer lived south of Jacksonville, in Orange Park, FL, and drove to northern Jacksonville to carry out the massacre. That such entrenched residential segregation enabled the deliberate killing of victims by race, from someone outside of the city, speaks to the persistence and depth of racial residential segregation in the United States.

The repetitive text of the preceding two paragraphs is deliberate.

In this article we have reviewed the measurement, causes, and consequences of this racial residential segregation. Starting with the classification of segregation measures, we showed that the discussion of segregation is many times complicated by its measurement– the implications of skews from evenness versus exposure, for example, are quite distinct and require theoretical nuance to interpret. Similarly, the scale at which segregation is measured is important for interpretation. Sorting across large spaces has evolved differently than sorting across small spaces over time and choosing a scale that highlights one over the other will change our perception of segregation patterns, causes and consequences. Traditional measures of segregation are also sensitive to the ways that geographic boundaries are constructed. Empirical work on segregation should include sensitivity analysis which takes the endogeneity of borders into account and continues to pursue new measures that use more granular data on residence location and evolving GIS techniques for defining relevant neighborhoods. At the same time, the existing measures of segregation do display a striking persistence with historical patterns of enslavement, irrespective of the measure used. While these measures have proved useful, revealing a great deal about specific causes and consequences of residential segregation, we still have much work to do to develop a more comprehensive understanding of segregation, both in terms of measuring and modeling segregation in ways that can extend beyond urban areas and/or discrete racial groups. Recent empirical work in this direction alters the received narrative of segregation in the United States. Residential segregation in the United States is both broader than previously known and deeper than previously thought. It is not a phenomenon isolated to a set of areas or type of area. It also has not progressed solely for the reasons previously thought to explain the process, such as Black migration and the rise of suburbanization in the twentieth century. Those are only partial explanations to what is a more general process. Future work will need to extend beyond the urban focus and confront the new facts about segregation, folding the received narrative about cities into a larger story which encompasses the whole of the country.

Moreover, to fully uncover the theoretical causes and consequences of segregation will require us to understand the potential promise and limitations of the ways we not only measure but also model segregation. At this stage of the literature, measurement has outpaced theory. The advantages of that work have moved us forward in identifying some potential causal effects of segregation, but the current theoretical work can now begin with individual (micro) foundations and proceed to aggregation. Similarly, estimating and modeling segregation of different types (employment, income, and other types of stratification) and between different groups should accelerate with new data and precisely geolocated data.

In reviewing the causes of segregation, the existing theory is insufficient to explain what we now know so far of the facts of segregation. Atomistic models fail to capture the inherent racialization and stratification process that forms the basis of segregation. Point of entry and collective action are certainly at play in defining the neighborhoods and some mechanisms that allow segregation to take hold and calcify, but they are insufficient as comprehensive explanations. The remaining cause, decentralized racism, is viable but very difficult to operationalize empirically in the most commonly used measures of segregation. This shows the intellectual limits of our approach to segregation have been guided to some extent by our limited measures of segregation. More work will need to draw on how institutional and structural mechanisms are motivated by individual preferences and inequities in political and economic power which allow segregation to intensify and persist over time. We also stress that a stratification approach has unique potential to move economists away from atomistic approaches to what is collective behavior.

We know a great deal about the consequences, more precisely correlates, of segregation in urban areas. Standard economic measures such as employment, inequality, schooling, and public goods are all well-correlated with traditional segregation measures in ways that suggest segregation is negatively related to outcomes for minority groups. In addition, health outcomes, environmental outcomes, and political outcomes are also negatively correlated with segregation. The correlates of segregation are so numerous that it is typical in many applied literatures to include segregation as a control variable in empirical analysis. While the consequences of segregation have been well-studied for urban areas, the literature awaits more work on the implications for areas not well described by the traditional measures, and for more on the specific channels and mechanisms that segregation facilitates. At the theoretical level, there is little to distinguish the "building blocks" of segregation between rural and urban areas, and we now have data which can expand our ability to analyze and test the consequences of racial segregation in these different areas. Our focus on segregation as a technology of inequality would be enhanced by more work seeking to implement this framework.

Lastly, we close on a polemic note. In a literature inherently concerned with racial disparities, the authorship of that literature has historically reflected those same disparities; the economics literature on segregation is remarkably White.⁴⁶ Given the facts of American segregation we have reviewed here, and the critical nexus around Black/White segregation as a calcifying precedent, the authorship pattern implies that the literature is nearly exclusively written by people who, on average, have very little residential exposure to Black people.⁴⁷ Earlier, we noted segregation is a technology allowing for material differences between racial groups, but the literature does not include those on one side of the asymmetric distribution segregation facilitates. We therefore close with a call for economics research to meaningfully and purposefully include and be informed by those who are *segregated* by the

⁴⁶Francis, Hardy and Jones (2022) describe the differences in policy analysis among Black economists.

⁴⁷Given that the authors are also economists, they would certainly also have very little exposure to Black people in their employment and professional settings more generally. Less than 5% of economics PhDs produced in the last several years are Black. This is compounded by the socioeconomic insularity of the economics profession, which increasingly draws from those educated in elite institutions (Stansbury and Schultz, 2023).

processes we have described here. This promises to expand the theoretical and empirical approaches to our analysis of racial residential segregation in the United States.

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