LINKING RACIAL COMPOSITION AND BLACK-WHITE INEQUALITY: THE IMPACT OF MIGRATION

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ABSTRACT

The percent black association is a prominent feature of the racial inequality literature. However, there is considerable debate regarding what drives this association. For instance, scholars have argued that the relationship is a result of selective migration rather than greater discrimination within high relative to low percent black places. Despite such claims, research has yet to provide empirical support for the role of migration. I develop a new and innovative methodological approach to isolate the impact of migration on this relationship. Using the 2000 US Census race by education cross-tabulation of county migration data and other 2000 county data, I compare the observed percent black relationship with what would have been had there been no adult migration in the previous 5 years. This work extends racial inequality theory by advancing our understanding of the processes underlying the percent black relationship.

INTRODUCTION

Blacks continue to disproportionately suffer from negative economic outcomes despite sustained efforts to promote racial equality. In 2012, the black poverty rate was a staggering 15 percentage-points higher than the corresponding white rate (28 percent versus 13 percent, respectively; US Census Bureau 2012). I provide insight into the local processes generating this persistent inequality by explaining differences in the level of inequality across counties (for a discussion of the importance of incorporating differences across place into our understandings of inequality see Rosigno 1995). In this project, I do so by examining how selective migration affects population composition and the subsequent distribution of black-white educational inequality across counties.

Research has established a strong, positive relationship between black population concentration (i.e., the percentage of the total population that identifies as black and/or African American) and the level of black economic disadvantage relative to non-Hispanic whites within a place (i.e., a city or county) (Albrecht et al 2005; Beggs, Villemez, and Arnold 1997; Blalock 1957; Cohen 1998, 2001; Fossett 1988; Jiobu and Marshall 1971; Kornrich 2009; McCreary, England, and Farkas 1989; O'Connell 2012; Tigges and Tootle 1993; Wilcox and Roof 1978). The primary explanation for the percent black-inequality relationship is that greater inequality is a result of higher levels of anti-black discrimination in relation to percent black. Blalock (1967) proposes that the relative size of the black population is associated with a sense of threat to the social position of non-Hispanic whites, and that discrimination is used as a means to reduce that threat. However, scholars have suggested that this relationship is not necessarily indicative of discrimination processes, and is instead a result of selective migration patterns (Blalock 1957;

Johnson et al 2012). They suggest that, dependent on their level of educational attainment, blacks choose to live in places with differing concentrations of blacks, and thus drive the differential concentration of inequality across places. Despite discussions of the contribution of migration to this prominent relationship (also see Beggs et al. 1997), research has yet to directly assess its contribution and articulate how this affects our understanding of the (re)production of black-white inequality. I use an innovative methodological approach to empirically assess what the spatial distribution of inequality and subsequent relationship with percent black would have been without compositional changes that are a result of migration.

Understanding the role of migration is a critical step towards identifying the processes linking percent black to black-white inequality. A substantial contribution of migration would suggest that the composition of the population explains why there is greater black disadvantage in high compared to low percent black places. However, this does not mean that discrimination is uninvolved entirely. To the extent to which perceived discrimination affects migration decisions, it may be that discrimination affects the concentration of inequality through shifts population composition rather than through the production of inequality within the non-migrant population. In this case, scholars would need to reconsider how we view discrimination's role in concentrating racial inequality. Alternatively, little impact of migration would raise doubt regarding the validity of the migration critique of the racial threat hypothesis. This would suggest further examination of discrimination-related processes.

Attention to how migration affects the percent black-inequality relationship is warranted because migration may affect levels of inequality through its selectivity on individual characteristics.

Individuals who stay are not the same as those who migrate; and migrants end up in different kinds of places depending on their personal characteristics (see e.g., Frey and Liaw 2005). Migration could explain the positive percent black-inequality relationship, as suggested in the extant literature (e.g. Blalock 1957; Johnson et al 2012), to the extent to which migration exacerbates black-white inequality in high percent black places and/or reduces it in low percent black places. For example, black net migration could increase the proportion of high school graduates in low percent black places while reducing that segment of the population in high percent black counties.

Through this work I aim to address explanations of black-white economic inequality despite my focus on adult disparities in high school educational attainment. Focusing on education is ideal for two reasons. First, adult educational attainment is a relatively stable characteristic compared to poverty status, income, employment, and occupation, which makes it preferable when studying migration since those economic characteristics are often directly affected by migration decisions (for a similar rationale see e.g. Adelman, Morett, and Tolnay 2000). Second, educational attainment is closely linked to economic outcomes, and differences in migration related to educational attainment were specifically raised in recent discussions of why percent black is related to black-white income inequality (Johnson et al 2012). Thus, my research on selective migration by educational attainment speaks to the plausibility of migration contributing to the percent black-economic inequality relationship more generally and not just to the educational inequality literature.

In this paper, I develop the theoretical background for how differential selective migration can affect the level of inequality in a place; and then I link this argument to discussions within the literature on black population concentration and racial inequality. The data for this project come from the 2000 census, which is the most recent data source with information on the number of migrants moving from one county to another that are broken down by racial categories and educational attainment.[1] The results of my analysis contribute to a longstanding conversation regarding the sources of black-white economic inequality, particularly factors related to black population concentration. Given the centrality of the racial threat hypothesis during the past several decades, this study promises to have a profound impact on the literature regardless of the results.

SELECTIVE MIGRATION AND PLACE

Concerns regarding the role of migration in contributing to the percent black-inequality relationship draws from the selective nature of the migration process. Selective migration refers to instances where migrants are distinguished from non-migrants based on personal characteristics. For example, we would say that migration is selective on education because individuals with higher levels of educational attainment are more likely to migrate than are individuals with less education (see e.g. Flippen 2013; Frey and Liaw 2005; Gurak and Kritz 2000; Kritz and Nogle 1994; Nord and Cromartie 2000). Selective migration has the potential to change the composition of the population across places through who leaves and who stays.

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[1] The American Community Survey migration flow data are currently only available by race and education separately, rather than jointly as would be necessary for my analysis.

Migration is often presented as being uniformly selective (e.g. Lee 1966), meaning that selectivity is viewed as the same across different contexts. However, recent research has demonstrated variation in selectivity. Tong and Piotrowski (2012) show that internal migrants within China are less selected on health over time across the 1997-2009 period. They argue that the decline in selectivity over time is related to changes in the larger social and economic context. I extend their observation of how context affects selectivity to think about how selectivity may differ across places. Drawing from research that suggests that migrants choose different types of places based on personal characteristics (e.g. Burr et al 1992; White et al 2005; Falk, Hunt, and Hunt 2004; Frey and Liaw 2005) I argue that the direction and extent of selectivity is dependent on racial composition. This theoretical extension provides insight into how migration could affect the spatial distribution of inequality across places, and subsequently, our understanding of the processes generating that inequality.[2]

Connecting Selective Migration, Local Black Population Concentration, and Inequality

A central contribution of this work is to theorize about how educational selectivity may differ depending on place characteristics. Given my attention to how differential migration patterns affect the percent black-inequality relationship, the following discussion of variation in selectivity focuses on racial composition (i.e. black population concentration). However, the

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[2] A brief note on language: throughout this paper I use "inequality", "disparities", and "black disadvantage" interchangeably despite their nuanced connotations. Although I aim to speak to issues of inequality, my data more accurately reflect disparities. And disparities could refer to either a white or black disadvantage, but given that disparities are more often to the disadvantage of blacks I use "disparities" and "inequality" to refer to black disadvantage unless otherwise specified.

core concept can be applied to other place characteristics, such as industrial composition, rurality, and local inequality.

How migration contributes to local black-white inequality depends on the direction of educational selectivity. Selectivity could be positive, negative, or neutral; and can be applied to both in- and out-migration flows. Critically, previous research on how the level of black population concentration affects the character of a place suggests that the direction of selectivity may differ in relation to percent black. Migration scholars have suggested that black population concentration could serve as a positive resource for blacks because they could rely on the "co-ethnic" support of the group, including assistance with housing and jobs (Frey and Liaw 2005; Vigdor 2002; also see Gurak and Kritz 2000; and Kritz and Nogle 1994). Alternatively, within the inequality literature black concentration has been associated with an anti-black or "black disadvantage" atmosphere (Blalock 1967; also see e.g. Giles 1977; Sharp and Joslyn 2008; Taylor 1998). Finally, black population concentration has been related to "white flight" within the neighborhood segregation literature (e.g. Crowder 2000), and therefore may also affect the migration decisions of whites. I discuss how each of these perspectives relates to migration selectivity; however, I emphasis that my current goal is to examine how migration affects the spatial distribution of inequality rather than to distinguish among these guiding perspectives.

[Table 1. Expected Direction of Migrant Selectivity, by Level of Percent Black]

The co-ethnic support thesis suggests that high concentrations of co-ethnics confer benefits to new migrants and residents, thus encouraging in-migration and deterring out-migration. The

support provided by a large co-ethnic network (e.g. assistance locating housing or employment) is most attractive to individuals with less education because they have fewer personal resources on which to rely than do higher education counterparts (Frey and Liaw 2005; Vigdor 2002). Relating this perspective to black population concentration, it suggests that low-education blacks will be disproportionately attracted to high percent black areas compared to high-education blacks (i.e. high percent black places would display negative educational selectivity for black in-migration). In contrast, places with smaller black population concentrations would show the more traditional positive selection for black in-migration.

The black disadvantage perspective suggests a similar contrast in black and white educational selectivity in relation to percent black as described above for the co-ethnic thesis. However, this perspective suggests that a high concentration of blacks is associated with negative or less desirable place characteristics for black migrants. The inequality literature suggests that blacks are at a greater economic disadvantage relative to whites in high percent black localities than they are in lower percent black places (see Blalock 1957; Cassirer 1996; Cohen 2001; Glenn 1966).[3] Of particular interest is that the economic returns to education are lower for blacks in high proportion black localities than in lower concentration areas (Cassirer 1996). The economic incentives implied by this perspective suggest that black migrants with a high level of educational attainment would avoid places with higher concentrations of blacks to a greater extent than low-education blacks (i.e. high percent black places would display positive selectivity among black out-migrants).[4]

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[3] Blacks may also be deterred from living in places that already have a high concentration of blacks due to the greater level of anti-black attitudes among non-black residents (Fossett and Kiecolt 1989; Giles 1977; Taylor 1998).
[4] There is also reason to expect non-Hispanic whites would have the opposite economic preferences relative to blacks: after controlling for local economic opportunities, high-education whites have a greater economic advantage

White migration may also be a driving factor in how migration patterns affect the spatial distribution of black-white inequality. The residential segregation literature has demonstrated a white preference for places with lower black population concentrations (e.g. Crowder 2000; also see Burr et al 1992). Although the desire for residence in low percent black places crosses class lines (e.g. Lewis, Emerson, and Klineberg 2011), this may be more attainable for high-education whites who have access to more economic and social resources on average (see e.g. Swisher, Kuhl, and Chavez 2013). A white flight perspective would suggest that there would greater out migration of high-education whites relative to low-education whites in high percent black places (i.e. high percent black places would display positive educational selectivity among non-Hispanic white out migrants).[5]

Implications of Selective Migration for the Percent Black-Inequality Relationship

Drawing from the three perspectives described above (co-ethnic, black disadvantage, and white flight), I develop how each migration scenario would contribute to the level of inequality in relation to percent black, and subsequently the contribution of migration to the percent black-inequality relationship. Depending on the expected direction of selectivity in relation to percent black, the contribution of migration could be positive, negative, or neutral. A positive contribution would suggest that the percent black-inequality relationship is at least partially

over blacks and low education whites in high percent black areas than they do in low percent black areas (Cohen 2001). However, the attraction of economic benefits associated with inequality may be canceled out by white preferences to avoid places with a large number of blacks (see Burr, Potter, Galle, and Fossett 1992). Therefore, white migration patterns may be the same across levels of percent black overall.

[5] However, the preference to avoid places with a large number of blacks may be counterbalanced by the attraction of economic benefits for whites that are associated with greater black-white inequality, which is closely related to black population concentration (see Burr, Potter, Galle, and Fossett 1992). Therefore, as mentioned in footnote 4, white migration patterns may be the same across levels of percent black overall and have little effect on black-white educational disparities once both of these motivations are taken into consideration.

explained by selective migration. A negative contribution would suggest that migration suppresses the percent black-inequality relationship by redistributing inequality in the opposite direction suggested by a positive association (i.e. exacerbating disparities in low percent black counties, and/or reducing disparities in high percent black counties). A neutral contribution would suggest that the role of migration is minimal, and that the percent black-inequality relationship is unbiased by selective migration.

[Table 2. Expected Direction of the Impact of Migration on Black-White Educational Disparities, by Level of Percent Black, and the Contribution to the Percent Black-Inequality Relationship]

The co-ethnic and black disadvantage perspectives suggest a positive contribution to the percent black inequality relationship (see Table 2). The distinction is that the co-ethnic thesis brings our attention to the in-migration of low-education blacks, whereas the black disadvantage perspective focuses on the out-migration of high-education blacks.[6] Either through the greater in-migration of low-education blacks or the greater out-migration of high-education blacks in relation to percent black, the proportion of low-education blacks would increase in high percent black places, yet decrease in low percent black places. As indicated in Table 2, this change in black educational composition would suggest that black educational, and subsequent economic, disadvantage would be higher in high compared to low percent black places. This distribution of inequality in relation to percent black would suggest a positive contribution to the relationship.

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[6] I do not pursue this nuance further in this analysis given my aim to understand the role of migration more broadly, but this may be an important theoretical extension for future work to address.

The white flight perspective suggests the opposite - migration could reduce inequality in high percent black places and exacerbate it in low percent black places (see Table 2). In this case, we would expect a negative correlation between percent black and black-white inequality as a result of migration. This would suggest that white migration patterns are masking the full extent to which inequality is exacerbated by processes related to black population concentration because migration would be working in the opposite direction of the positive association that has been observed in the extant literature (e.g. Blalock 1956, 1967; Cohen 2001; O'Connell 2012).

Finally, a complex migration scenario could result in little overall change in the level of inequality and subsequently a neutral contribution to the percent black-inequality relationship. I have focused on the implications of the above migration processes separately for simplicity, but it is possible that a more complex system of migration is at work. Some combination of the above perspectives could be a better representation of reality. Migration processes could combine to result in a minimal contribution in two ways. First, they may simultaneously contribute to the migration flows to one place such that they cancel one another out. To the extent to which out-migrants are replaced by similar in-migrants, and there is thus very little change in the educational composition of both racialized groups, local black-white disparities may be unchanged by migration (see Table 2). This would suggest that migration does not play a significant role in explaining the percent black-inequality relationship. Second, the described migration processes may operate in distinct regions of the country such that one is more prominent in one region compared to in the rest of the United States. In this case, we may need to further distinguish the migration context (e.g. distinguishing by region) before fully

understanding how migration is involved in the percent black-inequality relationship. I elaborate on the latter possibility below.

Regional Context: The South/non-South Divide

How migration affects the level of inequality in a place and the percent black-inequality relationship may differ depending on the regional context because the meaning of percent black may differ by region. A regional distinction, particularly between the South and non-South, is most common within the racial threat/black disadvantage literature (e.g. Blalock 1956, 1957; Fossett and Kiecolt 1989; Giles 1977; Giles and Evans 1985; Wilcox and Roof 1978), but could be applied to the co-ethnic and white flight perspectives as well. I build on this insight to think about how the regional context may result in different migratory responses to percent black. Distinct migration patterns could lead to opposing impacts of migration on the percent black-inequality relationship. I discuss five possible scenarios for regional differences.

First, we may expect that the positive contribution of migration is larger in the non-South compared to the South. This possibility is most consistent with a co-ethnic perspective (see Table 3). Given the lower overall concentration of blacks in the non-South, co-ethnic support within the focal area may be particularly important to black migrants in the non-South. Therefore, black migration would positively contribute to the percent black-inequality relationship more so in the non-South than in the South.

[Table 3. Expected Regional Differences in the Contribution of Migration to the Percent Black-Inequality Relationship]

Second, the black disadvantage literature suggests the opposite regional pattern. Research suggests that the relationship between percent black and black disadvantage is stronger in the South compared to the non-South (e.g. Blalock 1956, 1957; Wilcox and Roof 1978). Based on this regional distinction we would expect disincentives to live in high percent black places and the subsequent impact on migration to be more pronounced in the South. Therefore, the positive contribution of migration to the percent black-inequality relationship would be greater in the South compared to the non-South.

Third, the negative contribution of white flight may be a larger factor in the non-South compared to the South. Drawing from the lower levels of residential segregation in the South (see e.g. Farley and Frey 1994; Iceland and Sharp 2013), we might expect that white flight responses are less pronounced in the South compared to the non-South. Therefore, the strength of the percent black-inequality relationship could be suppressed by migration to a greater extent in the non-South compared to the South.

Fourth, migration may suppress the magnitude of the percent black-inequality relationship to a greater extent in the South compared to the non-South. Migration streams have reversed in recent decades such that the South is gaining population through migration (for a review see Tolnay 2003). Often referred to as the Great Return Migration, this migration trend is related to widespread migration to the South. Economic growth, and return migration that has been

associated with a "call to home" (Stack 1996) has been attracting migrants to a range of places within the region (e.g. Hunt, Hunt, Falk 2008). In this migration context percent black and the factors associated with it may play a smaller role in migration decisions. The resulting migration may mask pre-existing variation in inequality associated with percent black by introducing noise, and therefore suppress the percent black-inequality relationship in the South.

Finally, there could be no difference in the overall contribution of migration to the percent black-inequality relationship. A complex perspective might suggest that all of the above regional differences co-exist, and ultimately cancel one another out to result in no overall regional difference.[7] This would suggest that migration is differentially responsive to percent black depending on the regional context, but that the overall difference in the contribution of migration to the percent black-inequality relationship is minimal. Although my analyses cannot make definitive distinctions among these possible explanations for regional differences, I use these perspectives to guide my investigation and to provide insight for future analyses.

DATA AND METHODS

The objective of this project is to understand the contribution of migration to the positive association between black population concentration and the level of inequality in a place. My focus is on how migration shapes the population composition of a place, and the subsequent

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[7] There are other possible ways that these processes could combine that would result in regional distinctions. For example, the white flight perspective could be most applicable to the non-South while the black disadvantage perspective dominates in the South. This sort of co-existence would suggest migration suppresses the strength of the relationship in the non-South, yet is a significant part of the explanation for the observed relationship in the South.

racial disparities. Therefore, I rely on county-level population data from the US Census.[8] The county is an appropriate unit of analysis for this project because I am assessing how migration affects the spatial distribution of inequality across places. Counties represent geographic areas that embody multiple relevant spheres, including economic, social, educational, and political institutions (Irwin 2007). In addition, counties are the smallest geography for which migration flow data are available.

The primary data for my analysis are county-to-county migration flow data that are broken down by race and education for the adult population (25 years of age or older; US Census Bureau, Population Division). Despite the recent release of migration flow data from the American Community Survey, migration data cross-tabulated by race and education are only available from the 2000 Census. Flow data files are set up so that each county pair that is linked through migration appears as a separate observation. These flows can be further disaggregated by the characteristics of the migrants that comprise the flow from one county to another, such as by race (non-Hispanic white, non-Hispanic black, other) and educational attainment (less than high school, high school degree or some college, bachelors degree or higher). In the data there is a code that identifies the previous, or origin, county for each flow. In the case of the 2000 flow data, the origin county corresponds with where migrants lived in 1995 since the migration question referred to where respondents lived 5 years ago.[9] Similarly, each flow includes an

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[8] The final analysis only includes counties in the contiguous United States (i.e. I exclude counties in Alaska and Hawaii). This is common practice in the black-white inequality literature and may be particularly relevant for this analysis given my focus on migration and the potentially unique nature of migration to and from such extreme states.

[9] One limitation of these data for studying migration is that the 5-year window undercounts short-term migrants (i.e. people who move to a new county but return in less than five years to their origin county). This may mean that my analysis will underestimate the impact of migration since I do not observe it in its entirety. However, overall, this should not affect my results because my focus is on how migration changes the composition of a place. Short-term, return migration would not directly affect the current composition of a county.

identifier for the current, or destination, county, which corresponds with where migrants live at the time of the Census (i.e. 2000). Intra-county moves and stable residents are not included in these data since the data are only meant to reflect moves across county boundaries.

As an example of how migration flow data are set-up, imagine that 100 people who lived in Autauga County, AL in 1995 lived in Forsyth County, GA in 2000 (see Table 4). Of those 100 migrants, 50 identified as non-Hispanic white, 25 identified as non-Hispanic black, and 25 were categorized as other. In my analysis I will only include the white and black migrants since my focus is on how migration affects black-white educational disparities. As shown in Table 4, these flows would be further broken down by the three educational attainment categories (less than high school, high school degree or some college, bachelors degree or higher). Each unique type of flow (e.g. non-Hispanic black, bachelors degree or higher) appears as a separate line in the data.[10]

[Table 4. Migration Flow Data Example]

I use other information from the 2000 US Census to establish baseline estimates of county educational attainment disparities and black population concentration (US Census Bureau, 2000 Census). In order to estimate how migration affects a county I need to have a baseline, both for comparison purposes and to act as a starting point for the hypothetical no-migration data set (details provided below). I use the 2000 SF3 race-specific estimates of the adult population that has less than a high school degree to estimate the baseline level of black-white educational disparities in a county. Educational inequality is represented by the percentage of black adults

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[10] Flows with less than 3 migrants were not included in the file as a unique observation.

(25 years-old or older) with less than a high school education minus the same percentage for

non-Hispanic whites. The SF3 county estimates are an appropriate comparison because the

county migration flow data are also from the SF3 estimates. Similarly, I estimate the baseline

percent black in a county using the total and black resident populations from the SF3 estimates.

I use the natural log of percent black in the regression analysis (described below) to allow for the

decreasingly positive nature of its relationship with inequality (Blalock 1967; also see Figure

1).[11] In Figure 1, I provide a depiction of the percent black-educational inequality relationship

using a scatterplot. The Lowess line displays the best-fitting line without assumptions of

linearity, and was estimated in Stata (StataCorp 2013). This figure demonstrates three points.

First, it supports the use of the natural log to capture how black population concentration is

related to black disadvantage. The concentration of blacks is positively related to black-white

educational disparities such that the increase in inequality associated with percent black declines

at higher levels of percent black (i.e. the relationship is decreasingly positive). Second, despite

similarities, there are differences in the relationship between the South and non-South.

Correlation coefficients for the relationship between the natural log of percent black and black-

white inequality suggest that the relationship is stronger in the South ($r = .28$) compared to in the

non-South ($r = .10$).[12] Third, this figure helps establish that there is a relationship to be

explained, and supports examining the association separately for the South and non-South. In

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[11] Approximately 150 counties are coded as missing when using the natural log because the natural log of zero is undefined. However, this does not result in as many additional missing observations from the final analysis since counties with no black population are also missing an estimate of black-white inequality, the dependent variable. I have conducted sensitivity analyses, and the results are consistent when using percent black and percent black squared instead of the natural log of percent black.

[12] Both the non-linearity and regional distinction are consistent with previous research (e.g. Blalock 1957, 1967; Curtis and O'Connell 2012; McCreary, England, and Farkas 1989).

my subsequent analysis, I examine how migration affects this association and assess the extent to which it could be a result of selective migration.

[Figure 1. Bivariate Relationship between Black-White Educational Inequality and Percent Black, 2000 US Census]

Isolating the Contribution of Migration

The underlying idea of my methodological approach is that we can isolate the impact of a given period of migration by comparing the relationship from two different data sets: a baseline or observed data set that includes the most recent period of migration (i.e. the 2000 Census); and a hypothetical data set that excludes migration. Previous research has used an approach that is similar to what I describe below to understand how migration affects the economic base in central cities (Frey 1980). I build on that research by extending this approach to think about how migration affects relationships via its impact on population composition. This approach draws on counterfactual logic by considering what would have been in an alternate scenario to understand causal relationships (for a discussion of the use of counterfactuals see Tetlock and Belkin 1996).

I simulate the hypothetical "no-migration" population by moving observed migrants back to their origin county using the raw county-to-county migration flow data and the observed 2000 county census data. I demonstrate this process in Figure 2 using two imaginary counties, County A and County B. In this demonstration, two solid gray and four hollow gray adults have moved from

County B to County A; and three solid black adults have moved in the opposite direction – from County A to County B (see Figure 2, Panel A). In order to observe what the level of inequality would have looked like without this migration I reverse these migration flows – the gray migrants are removed from County A and returned to County B; and the black migrants are removed from County B and returned to County A (see Figure 2, Panel B). This process results in new population compositions for County A and County B that are unaffected by migration, which I refer to as the hypothetical or no-migration data.[13] By moving migrants back to where they were 5-years prior to the 2000 census, the hypothetical population reflects the 1995 race-education-specific population distribution plus local residents who aged into the 25 year-old or older category between 1995 and 2000.[14]

[Figure 2. Data Demonstration: Removing the Compositional Contribution of Migration]

Imagine that the spatial concentration of black-white educational inequality can be explained by the following stylized formula:

Black-White Educational Inequality = Locally Generated Inequality + Selective Migration.

My approach essentially removes the "Selective Migration" component from the hypothetical population. The 2000 data, on the other hand, contains both components of the inequality

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[13] During the construction of the hypothetical no-migration data set, I incorporated how migration affected the educational composition of the black and white adult populations, as well as how it affected the size of the total and black populations. As a result, both inequality and percent black differ between the data sets.

[14] One limitation of my analysis is that it cannot account for migrants under the age of 25, including children of migrants and independent migrants who are under 25 years of age. This means that my results do not reflect the full potential impact of migration, and therefore represent a lower-bound estimate of migration's contribution. However, I do capture the most relevant population for understanding economic inequality (i.e. adults) – the guiding motivation of this research.

process – local factors (e.g. schools, employment opportunities, and differences in family composition, etc) and migration. Any difference between the 2000 data and the hypothetical data can be attributed to migration because the concentration of inequality due to other factors is necessarily the same in both data sets. The focus of this research is on isolating the impact of migration on the spatial concentration of black disadvantage, so I do not distinguish among the "other" factors in this project. Focusing exclusively on migration is necessary because it allows me to more thoroughly assess the impact of migration and the related theoretical consequences than has been possible in previous work.

There are a couple of key assumptions involved in using this approach. First, it assumes that the level of inequality at the end of the period (i.e. 2000) was only affected by migration through changes to the population composition of a place. To the extent to which migration indirectly affects inequality (i.e. through school or job development programs), this approach will underestimate the full contribution of migration. Second, this approach assumes that deaths to migrants would have happened even in the absence of migration. Deaths do not pose a major complication to my analysis since they are excluded from both the baseline and the migration flow data. However, deaths may cause underestimates of inequality to the extent to which mortality is higher for blacks compared to whites among those with less education. In turn, this could lead to an underestimation of the impact of migration.[15]

Analysis Plan

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[15] Births and aging are not a concern in this analysis since the focus is on the adult population and all residents who aged into the 25 years old or older category during the migration period are captured in the 2000 baseline estimates of educational attainment and therefore also in the hypothetical data since the no-migration estimates are derived from the 2000 data.

The objective of this chapter is to assess the contribution of migration to the percent black-inequality relationship. In order to address this objective I compare the observed 2000 data and the hypothetical data through three steps. First, I estimate the direction of migration's contribution to the relationship by comparing the standardized percent black coefficient estimates from two models: one from the 2000 data and one from the hypothetical data.[16] The model accounts for inequality covariates that have been included in previous research, including industrial composition, metropolitan status, the unemployment rate, and the proportion of families headed by a single mom (e.g. see Albrecht et al 2005; Blalock 1956, 1957; O'Connell 2012). The control variables for both models (baseline and hypothetical) come from the 2000 Census county estimates (US Census Bureau, 2000 Census) and the Economic Research Service 2003 Rural-Urban Continuum Codes. Using the same control variables in each model helps ensure that migration is the only factor that differs between the two scenarios. Given my use of spatially contiguous units of analysis (i.e. counties), I analyze both models' residuals for spatial autocorrelation and conduct sensitivity analyses using spatial regression.

Based on this approach there are three possible outcomes (see Figure 3). One possibility is that migration will concentrate inequality in counties with higher levels of percent black. This expectation is consistent with the co-ethnic and black disadvantage perspectives, and would suggest that selective migration partially explains why percent black is related to local inequality (also see Blalock 1956; Johnson et al 2012). Supporting evidence for this scenario is represented in the first column of Figure 3 – the percent black coefficient from the 2000 baseline data would

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[16] Comparing the standardized coefficients from models with two different dependent variables is justified by the near equality of the variables' standard deviations (19.5 and 20.3, observed/baseline and hypothetical, respectively). In addition, there is no alternative statistical approach for comparing coefficients from separate models.

be larger than that from the hypothetical data. A second scenario suggests that migration

disperses inequality away from places with high black concentrations, and thus masks the true

contribution of local processes related to percent black to the generation of black-white

inequality. This is consistent with the white flight perspective, and is represented graphically in

the second column of Figure 3. Under this scenario, the coefficient from the baseline data would

be smaller than the coefficient observed when the compositional contribution of migration is

removed. Finally, migration may not be involved in the distribution of black-white inequality

across places. This could be the result of a complex migration process, whereby in- and out-

migration streams for a given county cancel one another out and there is little to no change in the

level of inequality. The no-contribution scenario is represented in the third column of Figure 3,

and is represented by identical coefficients from the two datasets. A minimal difference would

suggest that the overall contribution of migration to the percent black-inequality relationship is

limited.

[Figure 3. Coefficient Comparison Scenarios: How Migration Distributes Black-White Inequality

in Relation to Percent Black]

I next gauge the extent to which any relationship differences observed in the first step are

meaningful. To do so, I compare the confidence intervals for the unstandardized coefficients.

Any overlap in the range of the confidence intervals would suggest that the average relationship

for the study area is not distinguishable across the datasets.

Finally, I aim to assess the extent to which there are regional differences in the contribution of migration to the percent black-inequality relationship. Therefore, I conduct the above analyses separately for counties in the South and non-South. Following previous research on regional differences in the how percent black is related to inequality and racial attitudes (e.g. Blalock 1957; Fossett and Kiecolt 1989; Giles 1977; Giles and Evans 1985; Wilcox and Roof 1978), southern counties include all counties in the census-defined South (Alabama; Arkansas; Delaware; Florida; Georgia; Kentucky; Louisiana; Maryland; Mississippi; North Carolina; Oklahoma; South Carolina; Tennessee; Texas; Virginia; Washington, DC; West Virginia).

RESULTS

Migration has little to no overall impact on the percent black-inequality relationship (see Figure 4). When examining all counties in the contiguous United States, the standardized coefficient estimates for percent black are strikingly similar across the two data sets.[17] To the extent to which migration were a significant driver as suggested in the extant literature (see e.g. Blalock 1956; Johnson et al 2012), we would expect that the relationship would be weaker in the data set where the contribution of migration has been removed. However, removing migration does not reduce the magnitude of the percent black coefficient – the hypothetical bar is equal in height to the baseline bar, if not taller (see Figure 4). In addition, percent black remains positively and significantly related to educational attainment disparities even when recent migration has been removed from the equation ($\beta = 2.14$, $p < .001$).

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[17] My results are consistent when adjusting for spatial processes and the estimates are nearly identical, so I have chosen to present the standard OLS coefficients for simplicity.

[Figure 4. Standardized Coefficient Comparison for Black-White Educational Inequality

Regressed on Percent Black]

Furthermore, my results suggest that there is only a .004 difference between the two coefficients

(baseline = .202; hypothetical = .206). Based on the statistical evidence, this difference is

unlikely to be meaningful (see Figure 5). The solid lines in Figure 5 represent the upper- and

lower-bounds of the confidence interval for each estimate. The dashed lines provide guidelines

to show where the two intervals overlap. The true magnitude of the relationship could fall

anywhere within the interval, or even outside of it; but we cannot say with confidence that the

estimates are statistically different from one another given the nearly identical range in likely

values. Therefore, my results are most consistent with the "no contribution" expectation (see

Figure 3), suggesting that the underlying migration processes are complex.

[Figure 5. 95-Percent Confidence Interval Comparison]

A complex migration system is consistent with two possible migration scenarios. First,

migration could be having little impact on the relationship because it is not changing the level of

inequality in a county. In- and out-migration could be canceling one another out and resulting in

little to no change in the level of local inequality. Second, the underlying migration system

could involve multiple migration processes that operate in distinct regions of the United States.

Competing processes could cancel each other out and result in the overall limited contribution of

migration observed for all US counties. Before turning to my analysis of regional differences, I

assess the extent to which inequality is unchanged by migration by examining a map of the difference in educational inequality that is attributable to migration.

[Figure 6. Difference in Black-White Educational Inequality Attributable to Migration Distinguished by Region, 1995-2000]

Despite the minimal impact of migration on the percent black-inequality relationship there is evidence that migration is still contributing to the distribution of inequality across counties (see Figure 6). In contrast to expectations that inequality levels were unaffected by migration, this analysis suggests that inequality changed substantially in both negative and positive directions.[18] Although few, some counties had substantially lower levels of inequality after migration compared to what inequality would have been without it (i.e. the darkest gray shading in Figure 6). For example, in Richland County, Wisconsin, where there is a very small black population (24 black residents in 2000), the gap in the percentage of adults with less than a high school degree was 82 percentage-points without migration. But once we accounted for black and white migration the gap was reduced to a 15 percentage-point difference – a reduction of 67 percentage-points in the extent of black disadvantage. At the other extreme, some counties experienced large increases in the pre-existing level of inequality in a county (i.e. medium-dark gray shading). For example, in Houston County, Texas (28 percent black in 2000) the level of inequality estimated in the hypothetical data set that excludes migration was only an 8 percentage-point black-white difference in having less than a high school degree. Yet, in the observed data set the same difference was 18 percentage-points – an increase of 10 percentage-

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[18] Higher values on the inequality measure reflect greater black disadvantage in educational attainment; therefore, negative values in Figure 6 indicate a reduction in black disadvantage, whereas positive values suggest that the gap in educational attainment between local blacks and whites increased.

points when compared to the hypothetical data. The range and magnitude of the changes

suggests that migration does contribute to the level of black disadvantage in a county, and

differentially so across the United States. Little change in the level of inequality does not

explain why there is an overall small contribution of migration to the percent black-inequality

relationship.

However, the null results may be a result of distinct regional processes. This figure suggests that

how migration shifts local levels of inequality is different in the South (outlined by a black

boarder in Figure 6) compared to the non-South. There is a relatively consistent impact of

migration on inequality within the South – the majority of the region is shaded light gray,

suggesting that counties are experiencing a similar increase in black-white inequality regardless

of black population concentration. This stands in stark contrast to the non-South where there is

greater variation in how migration changes the level of inequality. I argue that this distinction is

related to the Great Return Migration and its connection to region. I provide additional

justification for this point in the following section where I assess regional differentiation in how

migration contributes to this relationship.

**Regional Differentiation: Distinct Contributions to the Percent Black-Inequality
Relationship**

Regional context plays an important role in understanding how percent black is related to black-

white inequality. The impact of migration on this relationship is distinct between the South and

non-South such that the association is stronger without migration in the South, yet the opposite is

true in the non-South (see Figure 7). I argue that these opposing patterns result in little to no observed impact of migration when counties are not disaggregated by regional context (see Figure 4). In addition, examining this regional distinction sheds additional light on the underlying migration processes and provides a clearer picture of how migration contributes to the percent black-inequality relationship.

[Figure 7. Standardized Coefficient Comparison for Black-White Educational Inequality Regressed on Percent Black, by Region]

In Figure 7, I present a comparison of the standardized coefficients for the natural log of percent black in relation to black-white educational inequality. The dark gray bars represent the baseline scenario that includes the impact of migration. The light gray bars represent the hypothetical scenario that excludes the impact of migration. The magnitude of the standardized percent black coefficient is larger in the hypothetical data set compared to in the baseline data set when examining southern counties (see Figure 7). This is consistent with the scenario where migration disperses inequality and thus suppresses the percent black-inequality relationship. Essentially, migration is suppressing the percent black-inequality relationship in the South by obscuring the original distribution of inequality and making its connection to percent black less clear. In contrast, migration positively contributes to the percent black-inequality relationship in the non-South, as indicated by the larger coefficient in the baseline model that includes migration. This suggests that migration is reinforcing the concentration of black disadvantage in places with larger black populations within the non-South.

[Figure 8. 95-Percent Confidence Interval Comparison, by Region]

However, caution may be warranted when interpreting the significance of migration even when considering the South and non-South separately. The magnitude of the difference in the baseline and hypothetical coefficients is greater when examining the impact of migration separately by region rather than for the United States as a whole – the absolute difference in the standardized coefficients is .004 for all counties compared to .027 for the South and .057 in the non-South. Yet, there is still substantial overlap between the 95-percent confidence intervals for the unstandardized coefficient estimates (see Figure 8). This suggests that any difference in the relationship introduced by migration is not traditionally significant and that migration plays a limited role in this relationship even after accounting for regional differences. Alternatively, the lack of significance may be a reflection of the short time period observed for migration (i.e. 5 years). Approaches that could disentangle the contribution of a longer period of migration from local processes may be better able to detect its influence on the percent black-inequality relationship.

These results suggest that two distinct migration processes are operating in the South and non-South. The suppressing contribution of migration in the South could be the result of white flight or of Great Return Migration processes. However, I argue that the observed regional differences in changes in inequality related to migration are most consistent with a Return Migration perspective (see Figure 6). Rather than shifting inequality such that it increases in low percent black places yet decreases in high percent black places, migration is predominately related to increases in inequality throughout the South. This uniformity of change may be the result of the

distinct streams of migration involved in the Great Return Migration, namely those taking advance of new economic opportunities, and those returning to places with family ties (see e.g. Hunt et al 2008).

In contrast, the positive contribution in the non-South could reflect either a co-ethnic or black disadvantage perspective. Although I cannot definitively arbitrate between the two processes in this analysis, there is some suggestion that a co-ethnic explanation is a better fit for the non-South. It is possible that co-ethnic support is more important to blacks when making migration decisions in the non-South where there is an overall smaller concentration of blacks. This greater need for co-ethnic support could explain why there is a positive impact in the non-South instead of in the South.

DISCUSSION

The selectivity of migration and its connection to place are critical components of social life that have yet to be exploited within the social sciences. I argue that the direction of selectivity varies across types of places. In so doing I extend the dominant conception of migrant selectivity as universal across place, and I provide a foundation for understanding the contribution of migration to spatial inequalities (i.e. differences across places).

I draw on this theoretical development to assess how migration affects the spatial distribution of black-white educational disparities in relation to local black population concentration. This analysis speaks to discussions of the role of migration in generating the percent black-inequality relationship (see Blalock 1956; Johnson et al 2012), and is a critical step toward understanding why percent black is related to black-white inequality. Understanding the role of migration helps distinguish between two broad explanations for this relationship: population composition, and local inequality-generating factors. My results suggest that there is room for both perspectives. Migration between 1995 and 2000 helped to concentrate black disadvantage in higher percent black counties in the non-South, but may have masked the extent to which inequality is associated with percent black in the South. Additional research on the underlying migration processes is necessary to clarify what it is about percent black that affects migration decisions in the non-South. My results are consistent with the co-ethnic thesis (e.g. Frey and Liaw 2005; Vigdor 2002), but they may also be explained by different responses to or knowledge of perceived discrimination in a place, as suggested by the black disadvantage perspective (e.g. Cassirer 1996; Cohen 2001). Understanding the migration process will provide additional insight into what drives the concentration of black disadvantage. However, future research should first revisit the significance of migration's contribution. My results suggest the role of migration may be minimal, as indicated by the lack of traditional significance. Extensions need to consider alternative approaches to estimating the impact of migration that capture a longer period of migration. One possibility is to examine how percent black is related to black-white disparities within the migrant population compared to within the population that resides in the same county where they received their high school education.

My results challenge recent research that suggests migration explains why percent black is related to black-white economic inequality (Johnson et al 2012; also see Blalock 1957). Johnson et al's (2012) analysis relies on individuals linked to counties and metropolitan areas over time from the National Longitudinal Study of Youth. They used fixed effects analyses and found that percent black is not significantly related to income inequality once unobserved individual characteristics were controlled. They argue that their results indicate selective migration explains why percent black is related to black economic disadvantage. I find some support for this conclusion, but my results suggest a more limited role of migration than what is suggested by Johnson et al (2012). This difference could be related to several factors. First, their conclusion is inferred from a fixed effects analysis whereas I incorporate migration directly into my analysis. Other explanations that they were unable to examine may underlie their results. Second, their data cover a longer time period (1982-2004), and may therefore capture more of migration's impact. Finally, they do not account for regional differences. It is possible that their results are driven by observations in the non-South. Discussions regarding the direction and size of the impact of migration on the percent black-inequality relationship are far from settled.

Although I have framed my discussion as if my results speak to the impact of migration unconditionally, I have focused on migration that occurred between 1995 and 2000. This migration is unfolding within a broader migration context, namely the Great Return Migration (e.g. Cromartie and Stack 1989; Falk, Hunt, and Hunt 2004; Hunt et al 2008; Long and Hansen 1975; Stack 1996; also see Tolnay 2003), that may have important implications for my results. The Great Return Migration refers to the net-gain of migrants for the South starting roughly in the 1960s. The motivation for moving to the South is varied, and seems to be resulting in the

movement of blacks to a range of types of places within the South (Falk et al 2004). This migration trend may explain why migration masks the percent black-inequality relationship in the South. In addition, this may suggest that results on the impact of migration, including the direction of regional differences, are specific to that particular migration context. Future research could assess this possibility by examining how migration contributes to the percent black-inequality relationship in earlier time periods. This endeavor will be complicated by the availability of race-education-specific migration data, but would extend our understanding of the role of migration. Such an analysis could assess my claim that the regional differences found in this study are related to the Return Migration context, and could thus provide further insight into the migration processes contributing to the percent black-inequality relationship.

Studies related to the racial threat hypothesis have been a dominant part of research on how anti-black contexts develop and result in social and economic racial inequalities. This line of inquiry is critical for advancing our understanding of black disadvantage within the United States, and contributes to a larger conversation on the role of discrimination. I advance this body of work by suggesting that although migration is involved in the redistribution of black-white inequality, it and the subsequent population composition changes are not the primary factor linking percent black to black disadvantage. Differences in educational attainment between black and white populations may still be a critical part of the story of racial inequality in the United States. However, I argue that we need to focus on understanding the generation of those educational inequalities before suggesting that composition is the root of economic inequalities.

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    Southern versus Nonsouthern Patterns." *Social Science Quarterly* 59(3):421-34.

TABLES

Table 1. Expected Direction of Migrant Selectivity, by Level of Percent Black

		Level of Percent Black		
		Low	Medium	High
Co-Ethnic	Black In-Migration	+	0	-
	Black Out-Migration	-	0	+
Black Disadvantage	Black In-Migration	-	0	+
	Black Out-Migration	+	0	-
White Flight	White In-Migration	+	0	-
	White Out-Migration	-	0	+

Table 2. Expected Direction of the Impact of Migration on Black-White Educational Disparities, by Level of Percent Black, and the Contribution to the Percent Black-Inequality Relationship

	Level of Percent Black			Contribution of Migration to the Relationship
	Low	Medium	High	
Co-Ethnic	-	0	+	+
Black Disadvantage	-	0	+	+
White Flight	+	0	-	-
Complex	0	0	0	0

Table 3. Expected Regional Differences in the Contribution of Migration to the Percent Black-Inequality Relationship

	South	Non-South
Co-Ethnic	0	+
Black Disadvantage	+	0
White Flight	-	--
Great Migration	-	0
Complex	0	0

Table 4. Migration Flow Data Example

Current County	Previous County	Flow	Race Category	Education[a]
Forsyth	Autauga	25	Non-Hispanic White	Bachelors
Forsyth	Autauga	10	Non-Hispanic White	HS or Some College
Forsyth	Autauga	15	Non-Hispanic White	Less than HS
Forsyth	Autauga	20	Non-Hispanic Black	Bachelors
Forsyth	Autauga	5	Non-Hispanic Black	Less than HS
Forsyth	Autauga	15	Other	Bachelors
Forsyth	Autauga	10	Other	HS or Some College

[a] The education categories have been abbreviated such that "Bachelors" refers to flows of migrants with a bachelors degree or higher; "HS or Some College" refers to flows of migrants with a high school degree/GED equivalent or some college; and "Less than HS" refers to flows of migrants with less than a high school degree.

FIGURES

Figure 1. Bivariate Relationship between Black-White Educational Inequality and Percent Black, 2000 US Census
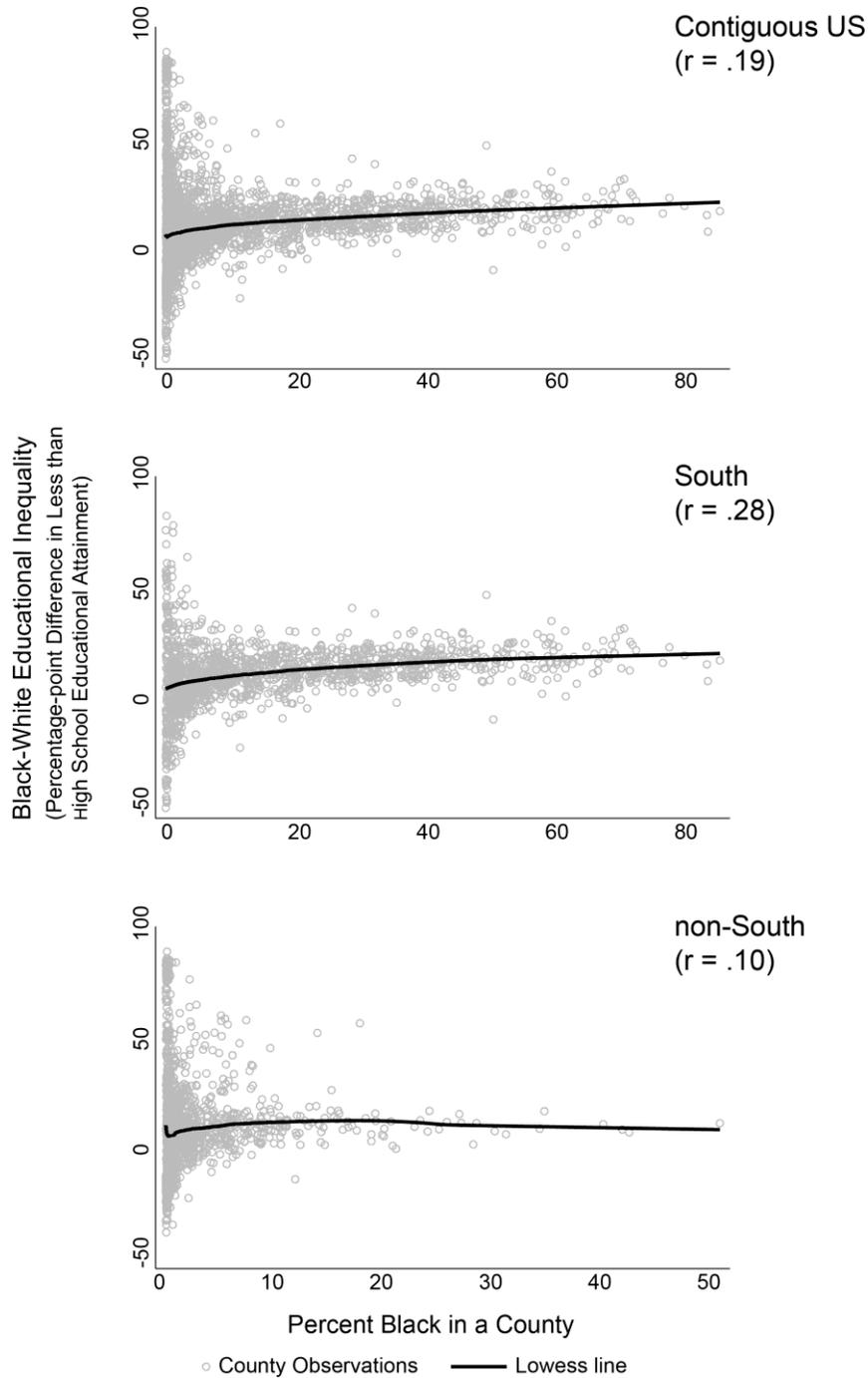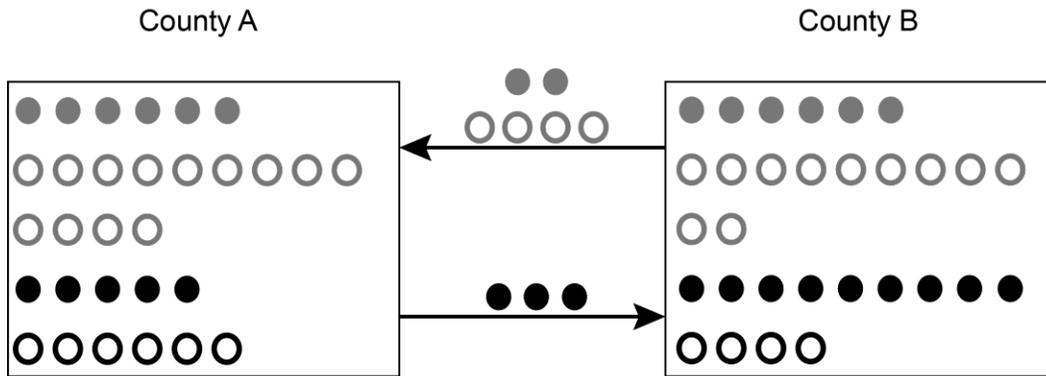

Note: The reported correlations are for black-white educational inequality and the natural log of the percent black in a county.
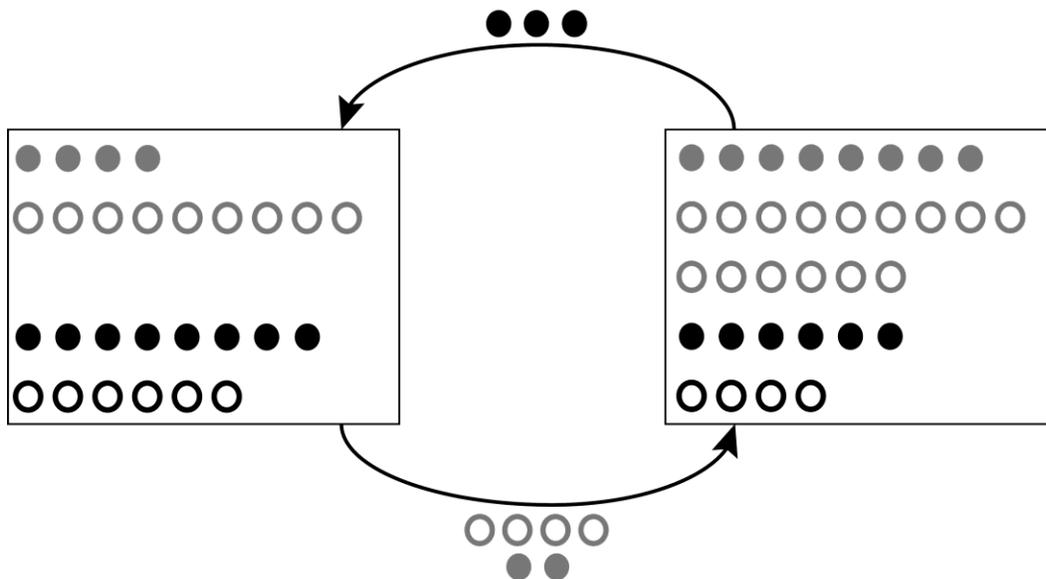
Figure 2. Data Demonstration

Panel A

2000 population composition and the recent migration flows
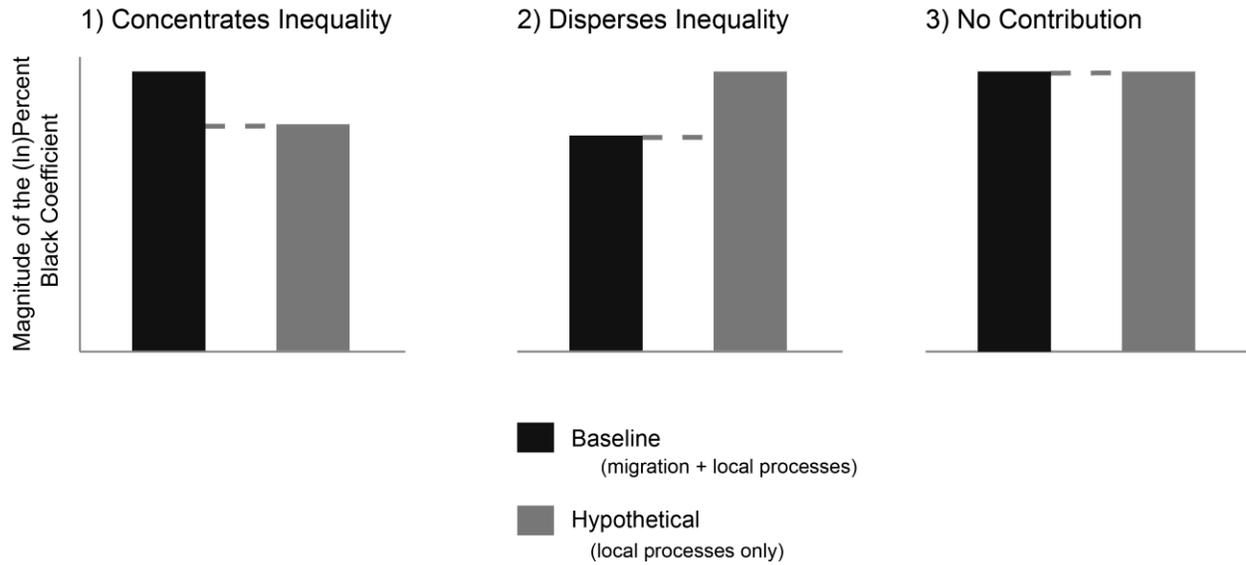(i.e. 3 black migrants from County A to County B)

County A   County B
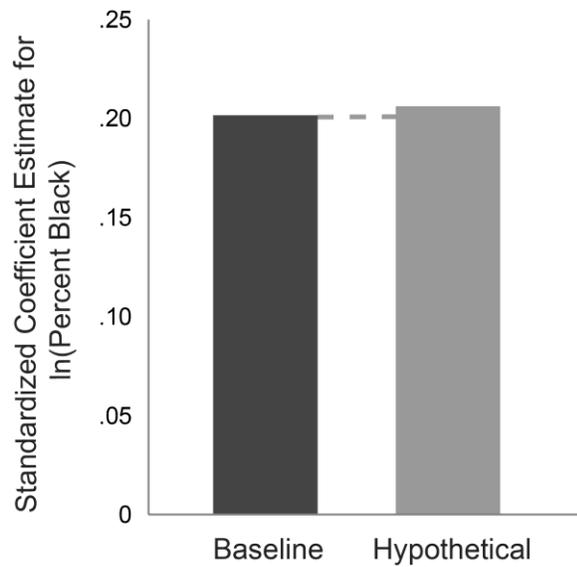
Panel B

Population composition after reversing the migration flows
(i.e. the hypothetical "no migration" population)

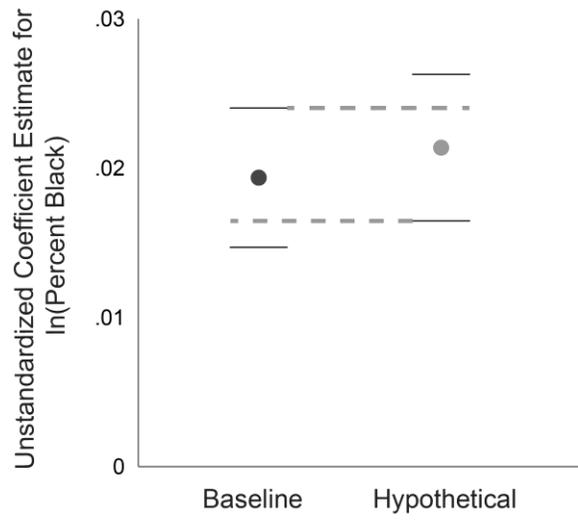**Figure 3.** Coefficient Comparison Scenarios

Figure 4. Standardized Coefficient Comparison for Black-White Educational Inequality Regressed on Percent Black
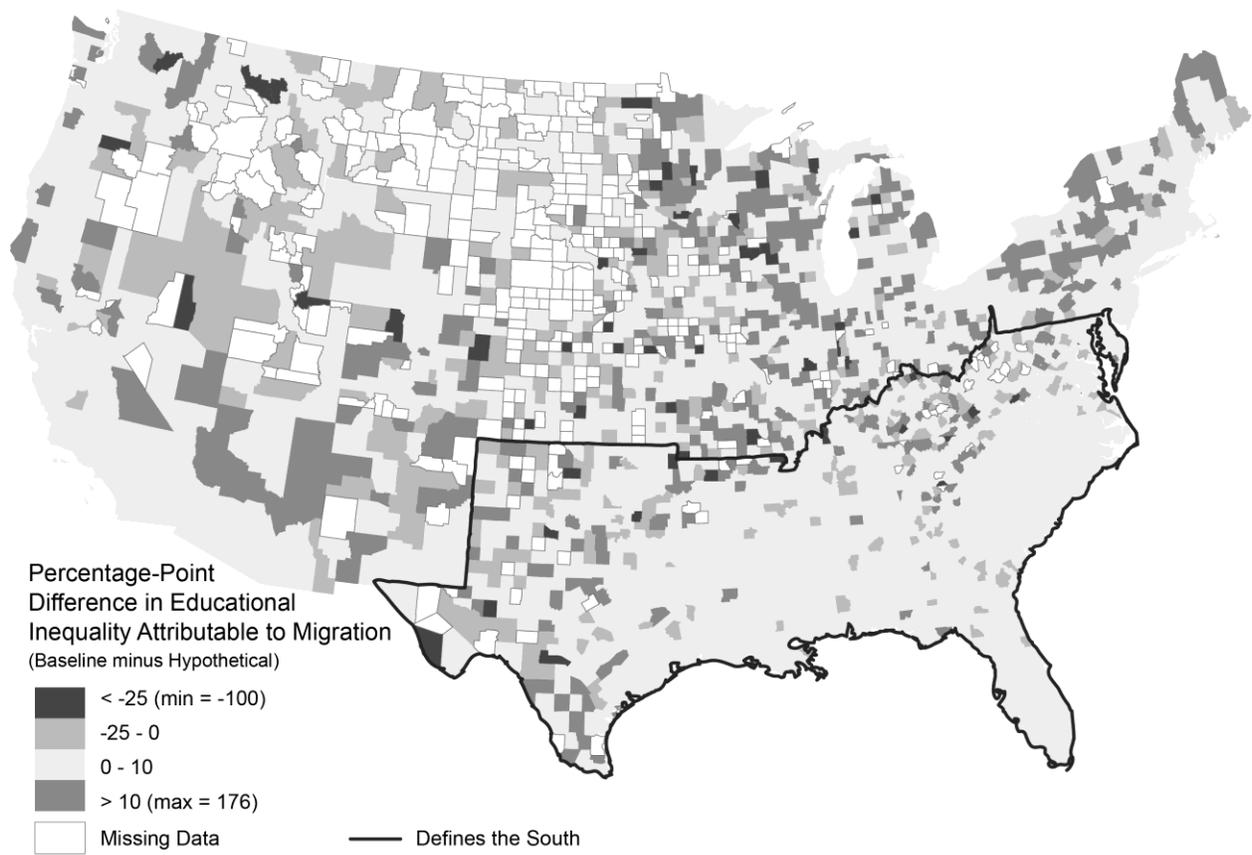

Note: The coefficient estimates are for the natural log of percent black in relation to black-white educational disparities. They are taken from a model that includes metropolitan status, industrial composition (the percent of the labor force employed in manufacturing; finance, insurance, and real estate; other professional, e.g. education; service; and agriculture), family composition (the percent of families headed by a single mom), and the unemployment rate.
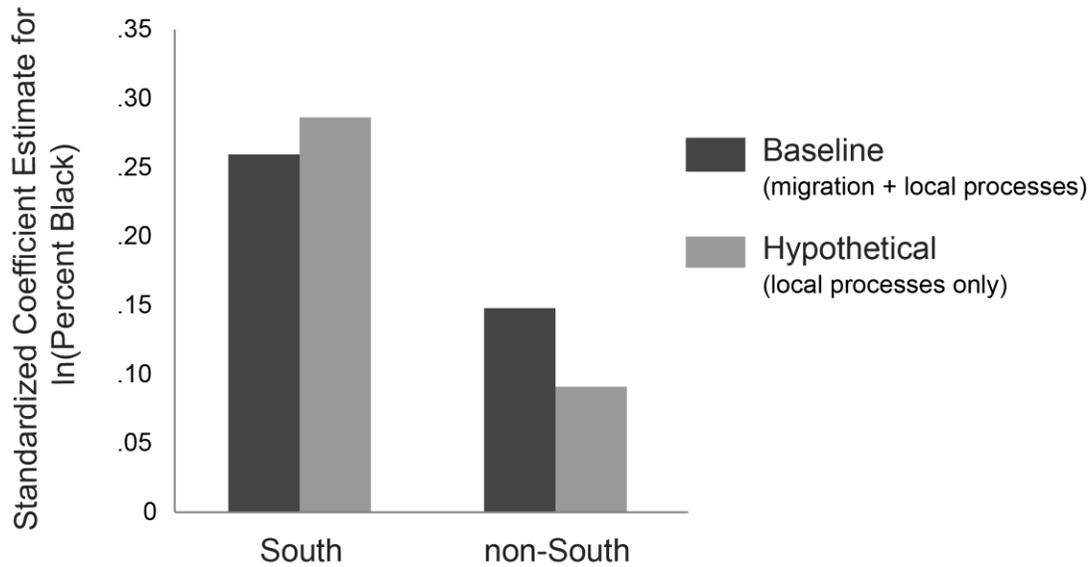
Figure 5. 95-Percent Confidence Interval Comparison

Figure 6. Difference in Black-White Educational Inequality Attributable to Migration, 1995-2000

Percentage-Point
Difference in Educational
Inequality Attributable to Migration
(Baseline minus Hypothetical)

- ■ < -25 (min = -100)
- ▨ -25 - 0
- ░ 0 - 10
- ▨ > 10 (max = 176)
- □ Missing Data
- —— Defines the South

Figure 7. Standardized Coefficient Comparison for Black-White Educational Inequality Regressed on Percent Black, by Region

Note: The coefficient estimates are for the natural log of percent black in relation to black-white educational disparities. They are taken from a model that includes metropolitan status, industrial composition (the percent of the labor force employed in manufacturing; finance, insurance, and real estate; other professional, e.g. education; service; and agriculture), family composition (the percent of families headed by a single mom), and the unemployment rate.

Figure 8. 95-Percent Confidence Interval Comparison, by Region