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HISTORICAL RACIAL CONTEXTS AND CONTEMPORARY SPATIAL DIFFERENCES IN RACIAL INEQUALITY

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Abstract

Research examining regional variation in the impact of racial concentration on black-white economic inequality assumes that the American South is distinct from the non-South because of its slavery history. However, slavery's influence on the relationship has not been directly examined nor has it been adequately theorized within the economic inequality literature. We assess whether the link between contemporary black concentration and poverty disparities is structured by historical racial context. We find that while there is contemporary racial inequality throughout the United States, inequality-generating processes vary spatially and in ways that are tied to the local historical racial context.

Population composition is strongly related to the social structure of a place. Of particular interest to racial inequality scholars has been the role of Black population concentration (see especially Blalock 1967). Despite its widespread use in explaining population dynamics, evidence suggests that the association between Black population concentration and inequality is not the same in all areas of the United States. Pioneering work on racial inequality and Black concentration in the United States identified a distinct association in the South as compared to the non-South (Blalock 1956, 1957) and, moreover, in the core southern states relative to the rest of the South (Glenn 1966). Interest in this foundational spatial distinction persists (see Fossett and Kiecolt 1989; Giles 1977; Giles and Evans 1985; Wilcox and Roof 1978), yet, the details of the regional differentiation and the theoretical reason for the American South's uniqueness have not been adequately developed or rigorously investigated.

We contend that the historical context of place is central to understanding how Black concentration is related to contemporary economic racial inequality in the United States. In our pursuit of an explanation for regional differentiation in the relationship between Black concentration and inequality, we focus our attention on what prior research and theory suggests is a deeply significant historical institution: slavery. The legacy of slavery literature asserts that strong ties to slavery have left an imprint on the contemporary inequality structure of a local area, meaning that the contemporary structure of racial disparity

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systematically differs across space in a way that is tied to historical racialized conditions (Acharya et al. 2015; Duncan 1999; Falk et al. 1993; Hyland and Timberlake 1993; Levernier and White 1998; O'Connell 2012; Reece and O'Connell 2016; Ruef and Fletcher 2003; Snipp 1996; Vandiver et al. 2006). Drawing from this literature, related research on social disorganization (e.g., Jacobs et al. 2005; Messner et al. 2005) as well as classic theories on relative group size (Blalock 1956, 1957; Glenn 1966), we develop a nuanced argument for why regional differentiation in the relationship exists, including details on the type of relationship differences that we should expect. Critically, by combining these literatures we propose new hypotheses about how the shape of the concentration-inequality relationship will systematically differ across regions in predictable ways. We are concerned with whether the shape of the concentration-inequality relationship is distinct among places with a strong slavery history as compared to places with weak or no direct ties to slavery such that the association in the strong slavery context is consistent with theories of racial exploitation rather than racial threat. We do not examine the precise mechanisms through which the legacy of slavery persists over time (see Acharya et al. 2015 for a recent exploration into such pathways). Instead, we use the well-established historical, institutional and geographically-rooted social context of slavery to illuminate contemporary regional differences in the way that Black population concentration is related to racial inequality. Our effort deepens our understanding of the population dimension of inequality-generating processes and the related regional differences.

Contemporary Black-White inequality in poverty in the United States provides a compelling site to explore the extent to which the historical racial context shapes contemporary regional differences in how Black population concentration relates to Black disadvantage. The heyday of slavery in the United States corresponded with the development of the nation; thus making it a particularly salient historical institution. Furthermore, we can exploit the strong spatial patterning of dependence on and support of slavery to understand the potential influence of history on contemporary racial inequality. Poverty represents an extreme form of economic disadvantage, and racial disparities in poverty can be viewed as the culmination of racialized processes across multiple social, economic, and political spheres, including the labor market, educational institutions, the criminal justice system, and land and tax policy. Ultimately, our focus on poverty encompasses these distinct yet related sites of racial inequality and provides a fundamental assessment of whether the regionally distinct economic structure rooted in slavery informs how Black population concentration is related to inequality. Through this work, we refine the understanding of how historical and contemporary structures work in concert to shape racial inequality in different ways, in different places.

BLACK POPULATION CONCENTRATION AND RACIAL ECONOMIC INEQUALITY IN PLACE

Research has documented comparatively higher levels of racial disadvantage in areas with large or growing racial minority populations since the 1950s and generally draws on one of two theses: the racial threat thesis or the exploitation thesis (e.g., Beggs et al. 1997; Cohen 1998, 2001; DeFina and Hannon 2009; Glenn 1963, 1966; King and Wheelock 2007;

Kornrich 2009; McCreary et al. 1989; O'Connell 2012; Stolzenberg et al. 2004; Tigges and Tootle 1993; Tolnay and Beck 1995). Our study does not aim to empirically distinguish between the mechanisms underlying these or possible alternative explanations for why Black population concentration is related to Black-White inequality. Rather, we take as our starting point the vast literature finding evidence of a relationship between Black concentration and various socioeconomic outcomes to ask how the relationship might differ spatially, especially with regard to the specific shape (i.e., the functional form) of the relationship. Understanding the general thrust of the racial threat and exploitation hypotheses is necessary for developing an argument about why we can reasonably anticipate regional variation in the association between Black concentration and Black-White inequality, and precisely how regional differences might manifest.

Blalock (1967) posits that, in response to a group-based perceived threat related to relative group size, the more powerful race group discriminates against the less powerful group to maintain its dominant position. In the United States, the particular form of the discriminatory action can and has varied over time as the resources available to and expended by Whites have shifted. Despite being a response to group dynamics or boundaries, discriminatory action need not be collective, nor even intentionally in service of reinforcing the power and status of one's group. Regardless of the specific action or conscious intentions, an oppressive threat response would result in greater racial inequality in places where the oppressed group comprises a larger proportion of the population. Blalock further hypothesized that the positive relationship between racial concentration and economic disadvantage will diminish at higher concentrations; discrimination will peak at some level of minority concentration and then stabilize at higher concentrations because the minority economic threat has been neutralized by the already high level of discrimination.¹ As a result, the racial threat thesis asserts a positive but decreasing relationship between Black concentration and economic inequality.

A second, less dominant explanation for the link between Black concentration and economic inequality is the exploitation thesis (also referred to as the White gains or Black subordination thesis), which asserts a linear positive relationship (Glenn 1963, 1966). Glenn argues that racial prejudice is partially motivated by economic gains that the White American collective receives by "subordinating" Blacks. White gains could result from restricting Blacks to menial jobs (Glenn 1963, 1966), or by paying lower wages to Blacks for the same job (e.g., McCreary et al. 1989; Wilcox and Roof 1978). The returns on either form of economic exploitation are larger at higher concentrations of Blacks than they are at lower concentrations because exploitation is more profitable when the exploited group is larger (McCreary et al. 1989).² In effect, there is no diminishing return to exploitation and,

¹It is possible that the decline in the slope could be due to increased political power that might accompany a numerically larger oppressed population. However, this explanation for the declining slope is inconsistent with the observed relationship between Black population concentration and economic disadvantage; we observe a decline in the slope well before the black population reaches a majority, roughly around 5 and 10 percent (see Figure 3). Related, we note that Blalock (1967) proposed a political threat model, which suggests that black disadvantage would be increasingly positively related to black population concentration. Based on this specification, we would expect discrimination to be increasingly present precisely because of the larger relative size of the oppressed group and the political threat that their size represents to the dominant group. Although political threat and power are theoretically important, we maintain focus on the economic threat hypothesis given our interest in economic inequality and in the structure of economic institutions.

consequently, the exploitation hypothesis asserts a positive linear relationship between Black concentration and inequality – a clear contrast to the decreasingly positive relationship associated with racial threat.

At their inception, the racial threat and exploitation hypotheses were developed to address relative group position and not individual outcomes. More specifically, the arguments adopt a structural perspective to explain the social processes underlying the spatial patterning of economic racial inequality – particularly those related to Whites' action.³ In this study, we draw from our theoretical understanding of these processes to test the extent to which the association between Black population concentration and inequality differs spatially and according to distinct regional and racial economic histories.

SPATIAL DIFFERENTIATION IN THE CONCENTRATION-INEQUALITY RELATIONSHIP

Both the racial threat and exploitation theses have been used to explain the association between Black concentration and Black-White economic inequality uniformly across the United States, yet Blalock's (1956, 1957) and Glenn's (1963, 1966) foundational work show spatial differences in the relationship (also see e.g., Cassirer 1996; Reece and O'Connell 2016; Wilcox and Roof 1978). Researchers have justified regional differences in the structure of Black-White economic inequality by claiming that there is a distinct southern culture of racism rooted in slavery (e.g., Giles 1977; Wilcox and Roof 1978; also see Emerson 1994; Taylor 1998). Some research suggests that places previously dependent on slavery are distinct from places that were less dependent on slave labor (Falk et al. 1993; Levernier and White 1998; O'Connell 2012; Reece and O'Connell 2016; Ruef and Fletcher 2003; Vandiver et al. 2006). Referring to it as the "legacy of slavery," scholars argue that slavery has left an imprint on the social and economic structure in places previously dependent on slavery (also see Duncan 1999; Hyland and Timberlake 1993). Although held up as a possible explanation for regional differences in the Black concentration association, the legacy of slavery hypothesis has been inadequately theorized and measured, particularly in research on economic outcomes. We address these shortcomings by drawing on the social disorganization literature and theories on systems of racial inequality. As a result, we contribute to the theoretical development of how historical context shapes contemporary racial inequality.

Refining Theory to Inform How Historical Context Shapes the Structure of Contemporary Racial Inequality

Within the social disorganization literature, culture and structure are identified as possible means through which historical racialized conditions affect contemporary racialized criminal justice outcomes (e.g., Jacobs et al. 2005; Keen and Jacobs 2009; King et al. 2009; see also

²Unlike queuing theory (Hodge 1973), the subordination thesis does not anticipate larger concentrations result in Black "spillover" into high-ranked occupations to an extent that would reduce inequality because Whites are pushed still further up the occupational hierarchy (Glenn 1963, 1966).

³While Black action is not the focus of the racial threat or exploitation thesis, the Black population is not without agency. There is structural inequality in the particular set of choices and the power to pursue preferences, however, which informs the role of Black agency.

Messner et al. 2005). For example, Jacobs et al. (2005) argue that without a precedent of mass violence directed towards Blacks, contemporary Black concentration would not be associated with a larger number of death sentences. They argue that “the vigilantism used primarily to control ex-slaves created an enduring repressive tradition that continues to produce additional death sentences where lynchings had been most common” (Jacobs et al. 2005:657). With similar sentiment, others have asserted that slavery created “institutions, systems, procedures and actors with the ‘stomach’ for carrying out real violence” (Cohen 1996:976). Rather than developing an argument around vigilantes with a “stomach” for racialized economic violence, we emphasize the structural aspects of slavery and the potential imprint on contemporary economic institutions.

Extending theoretical articulations rooted in discussions of the criminal justice system, we employ the notion of “racialized social systems” (Bonilla-Silva 1997) to further develop the linkage between historical and contemporary contexts and to emphasize the conceptual centrality of local institutions. Within this perspective, Bonilla-Silva argues that the abolition of slavery did not lead to the emergence of a race-free society; instead, it led to the establishment of social systems with a different kind of racialization because the non-slave groups (White Americans) had the capacity to preserve their racial privilege (1997:470). Although there is some debate around how a society becomes racialized (Bonilla-Silva 1999; Loveman 1999), once established, racialization becomes “embedded in normal operations of institutions” and develops a life of its own (Bonilla-Silva 1997:476). Consequently, racial inequities exist even though the goals of the system or the behavior of individuals within the system might not be overtly racist. In the case of Black-White economic disparity, a number of institutions are implicated — including the education, labor market, criminal justice, and tax systems — which culminate in the overall relative economic disadvantage of Black Americans (i.e., poverty). The key point that we take from this perspective is that systems adapt but remain rooted in a racialized history. Therefore, contemporary institutions that make up social, political, and economic systems are shaped by the particular racial history of place.

We make room for theorizing regional variation in racial inequality systems by building on Park’s (1950) notion of “situations of race relations” and Hall’s (1980) “historically-specific racisms.” In the perspective that we develop, racism and the resultant disparities are not conceived of as universal or uniform. Instead, they can differ across geographic units within which the situations of race relations and historically-specific racisms emerge. By combining the insights from Bonilla-Silva (1997), and Park (1950) and Hall (1980), we assert that contemporary systems of racial inequality are shaped by historical racial context and, therefore, systematically differ across space according to historical racial context. This has consequences for how and if Black population concentration is related to the level of racial inequality in a place because percent Black could have a different meaning (e.g., one associated with threat or exploitation) depending on the established institutions.

The legacy of slavery literature informs this argument by suggesting that slavery shapes place development,⁴ and the concentration of slave-dependent places within the South further suggests that this legacy could play a role in regional differentiation in at least two ways. First, prior research argues that local areas dependent on slavery cultivated distinct

beliefs regarding Black-White interactions relative to other local areas (Acharya et al. 2015; Reece and O'Connell 2016; Ruef and Fletcher 2003; Vandiver et al. 2006). Alternatively, or additionally, labor histories may have affected the economic development of local areas to the extent that historical dependence on slavery engendered a reliance on economic systems based on racialized labor exploitation (for a similar argument, see Roscigno and Tomaskovic-Devey 1994; Tomaskovic-Devey and Roscigno 1996; also see Royce 1985). We do not aim to discern between these or alternative pathways through which historical slavery might impact contemporary inequality. Instead, we work from previous theory and evidence that demonstrates a contemporary legacy to test whether there are spatial differences in the shape of inequality that are consistent with local ties to slavery, regardless of precisely how a legacy effect might emerge.

Hypotheses on Spatial Differentiation

Building from a perspective informed by place-based historical racial context, we investigate whether Black concentration generates racialized economic disparities in regionally distinct ways. The testable hypotheses concern whether and how the relationship between Black concentration and economic disparity will differ across spaces with distinctive historical slavery contexts. Previous literature examining non-economic outcomes primarily focuses on the strength of the relationship between concentration and inequality (Keen and Jacobs 2009; King et al. 2009; Jacobs et al. 2005; Reece and O'Connell 2016). In contrast, we are centrally concerned with the shape of the relationship in our investigation of economic outcomes because this focus (i.e., the functional form of the concentration-inequality relationship) provides the foundation for addressing our question about regional differences in the underlying inequality-generating process: racial threat versus exploitation.

The majority of research examining group size effects (i.e., population concentration) assumes or selects a non-linear functional form. However, given the asserted relative severity of exploitation in places with institutions rooted in slavery, we hypothesize that the concentration-inequality relationship will be linear and positive among places in the South with strong historical slave-dependence. Further, we hypothesize that the linear and positive relationship will be exclusive to the high-slave South. In the non-South, and even in the historically low slave-dependent South, we hypothesize a non-linear decreasingly positive relationship between concentration and inequality that is consistent with the racial threat thesis.

Black concentration has a possible influence on the inequality-generating process in places with either a strong or a weak tie to slavery. The central distinction between strong and weaker slavery contexts is that exploitation and the resultant inequality are hypothesized to increase at the highest Black concentrations among places with a historically strong

⁴An alternative view of the legacy of slavery is from an individual-level perspective. This conceptualization suggests legacy resides within individuals and can spread across regions via the individual through migration. Given internal migration patterns within the South and from the South to the North and West, one could expect no spatial differentiation in the concentration-inequality relationship since not all individuals are geographically rooted. The migration of southerners, both Black and White, to the non-South may have contributed to the reduction of cultural differences across US regions (Gregory 2005). However, the ultimate impact of migration on northern racial attitudes in particular was limited because a backlash reduced the initial impact of southern dispersion on anti-Black attitudes outside of the South.

dependence on slavery. In contrast, discrimination and the resultant inequality are hypothesized to diminish at the highest Black concentrations among places with weaker ties to slavery.

The null hypothesis is no regional differences in the relationship between racial concentration and racial inequality; the relationship between Black concentration and inequality might be the same in places with stronger historical ties to slavery as it is in other parts of the United States. Lieberman (1980) argues that the difference between southern and non-southern Whites' attitudes and behaviors, and the resultant inequality, is primarily explained by the regional difference in the concentration of Blacks. Therefore, the association between Black concentration and inequality would be the same in places with comparable concentrations regardless of the local historical context. This perspective is consistent with some work on percent Black's association with racial attitudes across regions (Fossett and Kiecolt 1989) and previous research that treats the impact of Black concentration on racial inequality as uniform across regions (e.g., Cohen 1998, 2001).

DATA AND ANALYTICAL APPROACH

Our study focus is on the extent to which the historical racial context informs regional differences in the relationship between Black population concentration and Black-White inequality. Our attention is centered on differences in the shape of this relationship (i.e., nonlinear versus linear). Differences in the magnitude of the relationship might also emerge, but are secondary to our focus on the theorized differences in the nature of the association. We examine inequality because theories on the meaning of racial concentration (i.e., the racial threat and exploitation theses) focus on the relative position of local racialized collectives and not the absolute status. Finally, we have chosen to focus on racial disparities in poverty because it can be viewed as the culmination of disadvantage across multiple social, economic, and political spheres. However, findings from supplemental analysis (not reported) of alternative measures of inequality (i.e., education, unemployment, and median income) are consistent with our analysis of poverty.

Measuring Poverty Inequality in Place

Consistent with previous work on inequality in place and aggregate-level poverty, we analyze counties (e.g., Beggs et al. 1997; Friedman and Lichter 1998; Levernier and White 1998; Voss et al. 2006). The county is appropriate for this analysis because it most closely resembles the social space relevant to our hypotheses – counties encompass aspects of the social, economic, and political structure of a place (Irwin 2007). Furthermore, county dynamics (i.e., local politics, commerce, and the distribution of community resources) foster interrelationships among groups that make issues of relative group position salient.⁵

⁵Our methodological strategy is conceptually similar to multilevel approaches that model variation in the average individual-level racial gap (i.e., inequality) at the second level in relation to aggregate characteristics (see Bryk and Raudenbush 1992). We have chosen to exclusively examine county-level factors given the limited benefits of the more complex and data-intensive multilevel approach for our research question, and the persistence of the Black concentration relationship in multilevel models (e.g., Cohen 1998).

The contemporary data for our analysis are taken from the decennial Census Summary File 3 (SF3) (US Census Bureau 2002) and the American Community Survey (ACS) five-year estimates (US Census Bureau 2010, 2013).⁶ The SF3 and ACS samples are conceptually comparable with one another yet there are differences. For instance, the ACS estimates are based on smaller sample sizes and reflect a period estimate whereas the SF3 estimates are derived from a larger sample and reflect the population at a point-in-time. Our focus is strictly on the difference in the concentration-inequality relationship across historical contexts. However, we draw on data from the 2000 (SF3), 2005-2009 (ACS), and 2008-2012 (ACS) to assess the consistency of our findings since the smaller, rolling sample used in the ACS data could result in unstable estimates for small populations.⁷

To estimate Black-White poverty inequality we difference Black and non-Hispanic White county poverty rates. Positive values of our inequality measure indicate Black disadvantage relative to non-Hispanic Whites. We use this measure to draw conclusions about place-level associations, and stress that our results cannot be interpreted at the individual-level. To derive the county poverty rates for Blacks and Whites, we use the number of individuals living below the official poverty threshold relative to the total number of people for whom poverty status is determined, separately for Black and White populations. We focus on all individuals living below poverty, but the poverty threshold already has been adjusted for the number of people living in the household. Although the national poverty threshold has limitations (e.g., not accounting for geographic variation in the cost of living), it is ideal for our study given our focus on extreme economic disadvantage and racial differences within a particular geography (e.g., the cost of living for a specific county is the same for the resident Black and White populations).

Our focus on local Black-White poverty inequality naturally restricts our analysis to counties with a Black population and with poverty information for the Black population.^{8,9} However, some counties with a Black population still have populations small enough to raise concerns about the reliability of the poverty rate estimates. Therefore, we further restrict our analysis in each period to counties with at least 50 Black residents for whom poverty status is determined.¹⁰

The distribution of poverty inequality across the analyzed counties is illustrated in Figure 1. As borne out in the figure for the most recent period analyzed (2008-2012), racial inequality

⁶Elimination of the SF3 in the decennial census after 2000 requires us to use the ACS. 3-year and 1-year ACS estimates are available for select geographies (i.e., those with populations of 20,000 or more and 65,000 or more, respectively). However, given the population thresholds, users must rely on the 5-year estimates to analyze all counties.

⁷Users are cautioned against comparing ACS multi-year estimates that have three or more overlapping years. We present multiple years for which ACS data are available to examine stability in the linear or non-linear nature of the relationship given errors around small area estimates. However, we focus on 2000 and 2008-12 in the central portion of our analysis to avoid erroneous comparisons.

⁸These are separate requirements because of the difference between the total population and the population for whom poverty status is determined. As described in the ACS subjects definitions documentation for 2012, "[p]overty status was determined for all people except institutionalized people, people in military group quarters, people in college dormitories, and unrelated individuals under 15 years old" (p. 103). Retrieved December 12, 2014: http://www.census.gov/acs/www/Downloads/data_documentation/SubjectDefinitions/2012_ACSSubjectDefinitions.pdf

⁹We also exclude counties in Alaska and Hawaii (20 additional counties) because these states have unique racialized histories. In addition, we combine 33 independent cities in Virginia with their parent county. Similarly, Broomfield County, CO, is combined with Boulder County, CO, to maintain consistency across units (for studies using the same approach see Curtis et al. 2012 and O'Connell 2012).

¹⁰There were no additional counties with a White population small enough to necessitate exclusion.

exists in all regions comprising the contiguous United States, with clear regional and subregional patterning in the South. The pattern for the non-South is less discernable, including some notable hotspots of extreme inequality where the Black population is small (see also Figure 4). Rather than attempting to explain the distribution of inequality, we investigate whether Black population concentration is related to inequality in the same way across historical slavery contexts.

The literature suggests two potential manifestations of the positive relationship between Black population concentration and Black disadvantage – linear, according to the exploitation thesis, (Glenn 1963, 1966) and non-linear, according to the racial threat thesis (Blalock 1967). Consequently, in our assessment of whether the concentration-inequality relationship spatially differs, we include and compare two measures of Black concentration. First, to represent the exploitation hypothesis, we measure the concentration of the Black population as the proportion Black (i.e., Black population size relative to the total population). Second, consistent with Blalock's (1967) early specification of the non-linear form of the racial threat relationship, we use the natural log of the proportion Black.¹¹ Both Hispanic and non-Hispanic Blacks are included in our measures since research suggests little superficial differentiation among individuals with black skin by non-Hispanic Whites (Waters 1999).

We do not aim to explain poverty or racial inequality. However, we include select correlates of Black-White inequality in poverty that are potential confounders of Black concentration and regional variation in its relationship with inequality (for a similar approach see e.g., Blalock 1957; Cohen 1998). Recent research suggests that the concentration of manufacturing and agriculture is significantly associated with Black-White poverty disparities (O'Connell 2012). Given the differential regional concentration of these industries, their omission could affect our assessment of regional differences in the concentration-inequality relationship. Therefore, we control for the proportion of the civilian labor force employed in agriculture and manufacturing. We also control for county metropolitan status because previous research suggests that regional differences in the level of urbanization drive differences in anti-Black attitudes and, consequently, explain spatial differentiation in the relationship between racial concentration and inequality (Fossett and Kiecolt 1989; Lieberman 1980).¹² These factors are not exhaustive, but they are identified as the key confounders in previous research that are most relevant for our interest in regional differences. The addition of other factors (e.g., residential segregation, Hispanic concentration) did not affect our results and would require their own, separate theoretical development that would detract from our current objective. Consequently, we do not include them in reported results.

Although not part of our substantive focus, inequality might vary across states due to differences in social and economic policies. To account for possible state effects and buttress

¹¹Our conclusions are consistent with analyses using proportion Black squared, a common alternative measure in the racial threat literature. However, the form of the relationship represented by a squared approach has theoretical implications that are incongruent with the racial threat hypothesis and, therefore, is less ideal than what we present here.

¹²For the metropolitan status data see Economic Research Services. 2004. Rural-Urban Continuum Codes. Retrieved on April 28, 2012: <http://www.ers.usda.gov/Data/RuralUrbanContinuumCodes/>

confidence in our results we include a series of binary indicators.¹³ The reference state for the non-South is Washington; and for the South, including the low- and high-slave sub-region analyses, the reference state is North Carolina. While included in the models, regression estimates are not presented or interpreted for the state or other control variables since they are not part of the conceptual focus of our study and, ultimately, are inconsequential for our central results.

Measuring the Historical Slavery Context

We identify four regions that represent varying historical slavery contexts to test our hypotheses regarding spatial variation in the Black concentration-inequality relationship. The four regions are presented in Figure 2 and include: the non-South (counties outside of the census-defined South),¹⁴ the South (counties within the census-defined South), the low-slave South (southern counties with an 1860 slave concentration below 30 percent), and the high-slave South (southern counties with an 1860 slave concentration at or above 30 percent).¹⁵

The high-slave and low-slave contexts are defined using data on slave concentration from the 1860 Population Census (US Census Bureau 1864). Historical research suggests that counties with a concentration of slaves below 30 percent were less committed to defending the institution of slavery during the Civil War than were counties with more than 30 percent (Bailey 1957). This threshold is also consistent with the Plantation Belt sub-region, which is an alternative dichotomous measure used in the legacy of slavery literature (Bartley 1990; Levernier and White 1998).¹⁶ Based on previous research and sensitivity analyses, we use 30 percent as the threshold to distinguish low-slave counties from high-slave counties (results are consistent when using less conservative thresholds, i.e., 20 and 25 percent).

The historical population data are attached to contemporary counties using a two-step process. The process involves aggregating data for counties that experienced a boundary change into a “county cluster” (for information on the program used to identify boundary changes see Slez, O'Connell, and Curtis 2015) and then allocating the historical population to each contemporary county within the cluster. The historical data were initially allocated using contemporary population proportions (for a more detailed description see O'Connell 2012).¹⁷ However, we take additional steps to incorporate more spatial information

¹³Sensitivity analyses (not reported) suggest that including state controls improves model specification by reducing heteroskedasticity and spatial autocorrelation in our residuals (see below for further discussion of these and other modeling issues).

¹⁴One concern about treating the non-South as a single region is masking the variation of slavery history among places outside of the South. However, the reported results hold when dividing the non-South into several possible sub-regions based on historical exposure to slavery (e.g., Illinois eastward compared to west of Illinois; including West Virginia in the non-South; including Missouri in the South). Ultimately, we selected the census-defined boundaries because they permit us to speak directly to a large body of previous work using the same divisions.

¹⁵Four counties in Missouri (non-southern) had slave concentrations greater than 30 percent: Howard County, Lafayette County, New Madrid County, and Saline County (see Figure 1). We treat them as part of the non-South, and results are consistent with alternative specifications that include Missouri in the South and Missouri's high-slave counties in the high-slave sub-region.

¹⁶Our substantive conclusions are consistent when using the Plantation Belt to define the high-slave South. We prefer the slave threshold because it is a more proximate measure of slavery and it more closely reflects the types of places that we expect would have a lingering effect of slavery, namely those that were most dependent on slave labor.

¹⁷We considered alternative methods of attaching the historical data to contemporary boundaries, including those that would involve assuming an even distribution within the historical units (Goodchild and Lam 1980), and determined that alternatives would be more problematic for our purposes since the slave population was highly unevenly distributed within counties (i.e., large numbers of slaves were concentrated on plantations).

regarding the historical population distribution (see also Reece and O'Connell 2016). This offers a significant improvement over the original data because, although not generally problematic, there are some instances when relying strictly on contemporary population to allocate historical data could breakdown, particularly for large county clusters that include a wide range in values among sub-areas. In our refinement of the data we confirmed all slave concentration estimates for counties within a county cluster and corrected instances when counties had been miscoded by the population re-allocation process described above (i.e., we confirmed historical estimates if the county existed in 1860; interpolated values based on adjacent counties in instances of missing data; and assigned a county high-slave status when in doubt to make our results more conservative).

Assessing Spatial Differentiation in the Concentration-Inequality Relationship

To test our hypotheses about spatial variation rooted in historical racial context, we draw on a spatial regime framework. This framework emphasizes how processes such as those generating Black-White economic inequality differ across “regimes” or types of places, whether spatial or social (for illustrative applications see Baller et al. 2001; Curtis et al. 2012; O'Loughlin et al. 1994). For the purposes of this project, the primary implication of the spatial regime framework is that we conduct the analyses separately for each historical context because multiple aspects of the inequality process, not just the concentration-inequality relationship, might reasonably differ across the regions. This approach is ideal for our study because it enables us to test the argument that counties with high historical slave concentrations act as distinct regimes of Black-White inequality. Our use of separate models is further justified by our data and specific research question. First, consistent with a regime argument, the models suggest that relationships other than Black population concentration differ across the regions — e.g., manufacturing is associated with inequality differently across the historical contexts. Second, alternative approaches that are more common, such as the inclusion of an interaction term for Black concentration, only assess differences in the magnitude in the relationship and, therefore, would not capture differences in the shape of the relationship (i.e., linear versus non-linear), which are the study focus.

The use of separate models for each region accommodates heterogeneity in the structure of inequality across contexts, but does not address potential heteroskedasticity in the residuals. Standard OLS regression assumes evenly distributed error variances across all observations and, as a result, tests for statistical significance are biased when the homoskedasticity assumption is violated. In response to this concern, we conduct tests for heteroskedasticity in the preferred Black concentration specification of the models for each region (see Table 1). Results from Breusch-Pagan tests suggest that robust standard errors are necessary for the non-South and low-slave South in all time periods and for the South in most periods.¹⁸ In contrast, heteroskedasticity is negligible in the high-slave South.

Because we are analyzing spatially-contiguous units, we also calculate Moran's I statistics to measure the extent of spatial autocorrelation in our model residuals. Spatial autocorrelation in the residuals violates the OLS assumption of independent observations; thus, failure to

¹⁸As a precaution, we use robust standard errors even in instances when the χ^2 statistic is marginally significant at the $p < .10$ level.

account for autocorrelation threatens to produce biased parameter estimates and artificially reduced standard errors, thereby compromising the integrity of any theoretical or substantive conclusions drawn from the analysis (Cliff and Ord 1973, 1981). We used a spatial weights matrix of the 5-nearest neighbors to accommodate the structure of the data, and estimated the Moran's I statistic in GeoDa (Anselin et al. 2006).¹⁹ Despite some indication of statistically significant residual spatial autocorrelation, the magnitude of the estimates is negligible, and is substantially reduced from what is observed for the dependent variable (see Table 2). Given the value of the Moran's I , there is inadequate reason to use more complicated spatial regression techniques instead of a spatial regime OLS regression. Further, sensitivity analysis using spatial regression models (not reported) yield consistent results. Therefore, we report results from the region-specific OLS models using robust standard errors to address heteroskedasticity as necessary.

We rely on model fit statistics to identify preference for a linear versus non-linear Black concentration specification within each region. It is standard practice to use the Akaike Information Criterion (AIC) for model selection, but it is unclear to what extent AIC is appropriate for the comparison of non-nested models. Nested models are the same with the exception of the addition of one or more variables. Instead, our competing models use alternative specifications of Black concentration (i.e., proportion Black (linear) and the natural log of proportion Black (non-linear)). Therefore, we use the adjusted R-squared, which is an estimate of the proportion of variation explained by the model.²⁰ We report the preferred model – linear versus non-linear (log) – as the model with the higher R-squared value. We tested for influential cases for each model specification to confirm that the preferred functional form was not driven by outliers. From this matrix of model preference, we are then able to assess regional differences in the shape of the concentration-inequality relationship.

We report model fit across three time periods – 2000, 2005-2009, and 2008-2012 – as a test of robustness in the temporal consistency of our results given errors around small population estimates in the ACS. We then present the regression coefficients and graphs derived from the preferred models for 2000 and 2008-12 to further investigate the relationship differences across historical slavery context. We do not test specific hypotheses regarding change over time and, therefore, do not include statistical tests of such change. However, our results can provide temporal insights since the 2000 and 2008-12 data do not overlap. With potential temporal dynamics in mind, we caution readers to consider dramatic economic shifts during the study period, most notably the economic downturn associated with the Great Recession occurring around the year 2008.

¹⁹Our choice of spatial weights matrix is informed by the structure of our data. After excluding counties with Black populations below 50, the number of counties without a geographically contiguous neighbor (i.e., there were “islands”) precluded our use of alternative spatial weights matrices (i.e., contiguity matrices, e.g., first order queen contiguity). However, in previous iterations of this analysis, the results were consistent when using alternative software (e.g., R) and spatial weights matrices (e.g., queen contiguity). Therefore, our results are unaffected by either our choice of spatial weights matrix or software.

²⁰Our model comparison results are consistent when using the AIC and Root Mean Square Error (MSE) as the means of comparing fit between the models.

RESULTS

Regional Differences in Racial Inequality-Generating Processes

We find regional differences that suggest distinct inequality-generating processes are operating within the United States, and in a way that is consistent with historical ties to slavery. Regression results indicate that the concentration-inequality relationship is consistently positive (see table note), but regional differences emerge when examining the linearity of this relationship (see Table 3). Consistently across the time periods, the linear model best represents the South as a whole, and also best characterizes the high-slave South. However, obscured by this single-region approach is a preference for the non-linear, log model in the low-slave South. The nonlinear preference in the low-slave sub-region is more consistent with what is observed in the non-South than in the South as a whole.

The regional differences show evidence of an exploitation inequality-generating process in places with the strongest history of slavery and a threat process in places with weaker ties to slavery (i.e., the non-South and the low-slave South). Within the low-slave South, there is some indication of inconsistency in this finding between the early and late time periods, further marking differences between regions. The log functional form, posited by the racial threat thesis, best characterizes the concentration-inequality relationship in low-slave southern places early in the contemporary period. In contrast, the linear specification, hypothesized by the exploitation thesis, best fits the sub-region in the later period.

In addition, our argument for a regional distinction based on historical slavery context is further supported by the weak concentration-inequality relationship found among the regions with weaker connections to historical slavery, a pattern that starkly contrasts with the significant association in the high-slave South. The specific regression estimates summarizing the concentration-inequality relationship are reported separately for each region for 2000 and 2008-12 (see Table 4). Results show that Black concentration is a consistently significant force for poverty inequality in the high-slave South (and, consequently, the South as a whole), but it is not a statistically (or substantively) significant factor in the non-South or the low-slave South during the most recent period (also see the R-squared values presented in Table 4). The absence of an association in the regions with weaker historical ties to slavery is not due to industrial structure, metropolitan status, or state effects. Indeed, analysis of the bivariate association shows there is no concentration-inequality relationship to explain in the non-South or the low-slave South (non-South $\beta = .003$, low-slave $\beta = .10$, p-values > 0.05).

We illustrate the regional distinctions in the concentration-inequality relationship by plotting the predicted values of the racial differences in poverty rates for various values of Black concentration, holding all control variables at the mean value (see Figure 3). Among areas with a strong slave past (i.e., the high-slave South), Black concentration is linearly associated with poverty inequality, suggesting an inequality structure based on exploitation. Racial inequality steadily increases with higher Black concentration in the high-slave South, on the order of approximately .14 to .16 percentage-point increase in poverty inequality for each percentage increase in Black population concentration in 2000 and 2008-12, respectively. In contrast, among areas with a weak slave past (i.e., the low-slave South and

the non-South), Black concentration is only modestly non-linearly or unrelated to poverty inequality. Weak or no concentration-inequality relationship does not imply that there is no racial inequality within regions with weaker ties to slavery (see Figure 1). Instead, results suggest that contemporary racial inequality in these places is due to factors other than those related to Black population concentration.

Our results suggest that a stronger historical attachment to slavery is related to a different role of Black concentration in promoting contemporary Black-White poverty inequality. This finding is consistent with previous work that relied solely on a South/non-South division (e.g., Blalock 1956, 1957; Giles 1977; Wilcox and Roof 1978). However, our results demonstrate that the broad regional distinction is overly-simplistic and that a more nuanced treatment of the South is necessary to understand how Black concentration relates to inequality. Relatedly, our approach to measuring the context affected by slavery allows us to more confidently make claims regarding the persistent impact of historical racial contexts on regional variation in the concentration-inequality relationship.

Legacy or Concentration?

The central finding of our analysis is the distinct concentration-inequality relationship rooted in the high-slave South as compared to other regions with weaker ties to slavery. We examine the robustness of this result by exploring whether regional differences in the relationship are a product of regional variation in the intensity of Black population concentration. A review of the current distribution of the Black population shows a strong concentration in areas with strong historical ties to slavery (see Figure 4). According to the “concentration as confounder” argument, regional differences in the capacity to exploit or discriminate against Blacks are due to differences in the distribution of Black concentration (Lieberson 1980), and not institutional forces shaped by a legacy of slavery. This perspective implies that if all places had the same level of Black concentration, then all places would have the same degree of racial inequality regardless of historical ties to slavery. This alternative argument addresses how the presence of the highest concentrations might affect the shape of the concentration-inequality relationship in the high-slave South.²¹

To determine whether our results showing regional differences that align with historical racial contexts are driven by the distribution of black concentration, we replicate the analysis presented in Table 4 for four scenarios of the proportion black within the high-slave sub-region of the South (see Table 5). Presented from least to most conservative, the thresholds are defined by the 95th percentile (maximum percent black = 64 percent), the mean value plus one standard deviation (max = 49 percent), one and a half times the median value (max = 43 percent), and the 75th percentile (max = 41 percent). Analyses using the identified thresholds are compared to the full sample (max = 86 percent) (see Table 6).

Results from the analysis of the concentration scenarios further corroborate our argument that regional differences in the concentration-inequality relationship can be understood in terms of the historical racial context. The relationship between concentration and inequality

²¹Additional sensitivity analyses suggest a preference for the non-linear association in the low-slave and non-South regimes even when excluding outliers and counties with the highest Black concentrations.

is positive, linear, and statistically significant in each scenario for the high-slave South, even when the maximum value of concentration is restricted to a level that is lower than the observed value for the non-South (max = 49 percent). Findings show the distinct relationship indicative of exploitation between Black concentration and poverty inequality in the high-slave South is not driven by counties with the highest proportion Black. Places with strong ties to slavery exhibit a relationship that is consistent with the exploitation thesis regardless of the intensity of racial concentration.

DISCUSSION

The consequences of racial concentration for economic disparities are central to the study of racial inequality. Yet, important gaps remain in our understanding of this relationship. While firmly rooted in existing theories on racial inequality, the potential influence of historical dependence on slavery has been underdeveloped or entirely neglected in prior research on the link between Black population concentration and economic disparities in the United States (e.g., Lieberman 1980; Fossett and Kiecolt 1989; Cohen 1998, 2001). Our study addresses the dearth of research on racial concentration and economic inequality within an historical context. We find that historical slave dependence has an enduring impact on racial inequality through its influence on the concentration-inequality relationship (for similar evidence within the social disorganization literature see e.g., Jacobs et al. 2005; Keen and Jacobs 2009; King et al. 2009). Critically, we bring this perspective to research on economic disparities along with new theoretical insights regarding how slavery could shape this relationship within an economic context. Our efforts illuminate why places with similar concentrations of Blacks could have different levels of Black economic disadvantage, namely through different underlying inequality-generating processes that are tied to different historical racial contexts.

Evidence presented in this study demonstrates that a contextual framework is crucial for understanding the link between racial concentration and inequality. Our results show that places with a strong history of slavery confront a different pattern of contemporary poverty inequality. For places in the high-slave sub-region of the South, high Black concentration coincides with an increasingly high level of Black-White inequality, a pattern consistent with an inequality structure based on exploitation. In contrast, places that do not have a strong history of slavery show a weak relationship between concentration and poverty inequality that is, when observed, consistent with a racial threat-based inequality structure. These findings resonate with our argument that distinct structural systems across historical racial contexts affect the role of Black concentration in promoting contemporary economic disparities; racialized structural systems might be at play in all contexts, but the specific way in which the structures relate to inequality varies according to historical context. Our results demonstrate that a relatively large Black population has implications for poverty inequality in contexts where slavery had the strongest grip, but its role is less robust in places where slavery had a weaker hold.

This research informs and improves on previous work in at least two ways. First, our approach draws on an analytical framework that focuses on variation across regions and, consequently, presents a strong case against the standard global modeling strategy prevalent

in research on racial inequality. Second, our study incorporates a nuanced measure of the historical slavery context. Research considering regional differences has typically relied on broad geographic divisions as proxies for structural and cultural factors associated with slavery (e.g., Giles 1977; Wilcox and Roof 1978; Taylor 1998; Emerson 1994). Although we are not the first to take issue with the homogenous treatment of the South (e.g., Jacobs et al. 2005; Keen and Jacobs 2009; Reece and O'Connell 2016), our innovation is to leverage historical data to directly assess the moderating impact of the concentration of slavery, thereby bringing new evidence to bear on debates regarding regional relationship differences between Black population concentration and the spatial patterning of economic disparities. We have drawn on the social disorganization literature and married it to arguments about the persistence of racial inequality through racialized social structures. Our effort has yielded an empirically-supported theoretical argument for systematic regional variation in racial economic inequality. We focus on Black Americans and the historical racial context most relevant to this historically disenfranchised population, but we suggest that our historically informed framework could be applied to studies of the social and economic position of other marginalized groups within the United States, including Hispanics, American Indians, and Asians.

Our research demonstrates that regional distinctions in inequality production exist, they are not explained by disproportionate population concentrations of Blacks, and they vary according to historical slavery context. Our findings provide additional impetus to investigate the details comprising the legacy of slavery argument, particularly as it relates to regional differences in contemporary America. An important task for future research is to further formulate and test theoretical explanations for precisely how the structural processes underlying economic inequality differ across historical contexts. By critically comparing how inequality is produced in different contexts, future research could work to identify the sources that prompt exploitation versus racial threat responses in particular regions, perhaps through legal frameworks and practice, the absence of organized or institutional social buffers (e.g., unions), or distinctions in the rhetoric that surrounds race and inequality.

Further investigation of the underlying mechanisms should be directed towards understanding alternative explanations, including ones related to migration and age structure. Spatially differentiated patterns of inequality might result from the systematic out-migration of positively selected Black migrants from places with racially oppressive conditions and movement into places with greater promise for social mobility. Age structure might also be relevant since there is good reason to suspect that older cohorts of the Black population might have experienced more oppressive racial discrimination across multiple systems – including, for example, access to quality education, voter participation, criminal justice and employment practices, and worker conditions – with life-long consequences, including depressed present-day income levels.

Additionally, future work should examine the temporal dynamics of the spatial differentiation in the concentration-inequality relationship that we evidence here. This task applies to the legacy literature more broadly (see Acharya et al. 2015 for a recent effort in this direction), but specifically in reference to arguments regarding regional relationship differentiation. We need an empirical assessment of the extent to which the concentration-

inequality relationship is changing in the low-slave sub-region. Although we do not empirically assess temporal change, we provide insight on possible trends to support future research in this vein. We suspect that effects of the Great Recession on racial inequality (e.g., Couch and Fairlie 2010) are likely at play in generating the shift from non-linear to linear in our analysis of the low-slave South in the 2008-12 period as compared to the 2000 and 2005-09 periods. Therefore, we posit that analyses using data for periods after the Great Recession may resemble those reported for the early 2000s. This would suggest little change in the relationship over time. However, it is also plausible that the inequality-generating distinctions between the low- and high-slave South are eroding over time. For example, recent migration to the South may be substantial enough to disrupt established local dynamics. Alternatively, changes in the southern economy may be contributing to a new labor system that more closely resembles an exploitation system, thus bringing the low-slave South in closer alignment with the high-slave South rather than the non-South. These arguments would suggest that the linear preference in the low-slave South would persist, and possibly strengthen, even after the effects of the recession diminished. Although an important extension of our work, we stress that results supporting the emergence of a linear association in the low-slave South would not challenge the core of our argument – historical racial context matters for understanding contemporary inequality-generating processes. However, such a result would suggest altering discussions regarding the temporal persistence of spatial distinctions related to historical ties to slavery.

Racial inequality exists in each region comprising the whole of the United States, including places that are not saddled with a local legacy of slavery. Yet the consequences of a local history burdened by slavery documented in this study suggest that acknowledging a place's racialized past is essential to understanding its current racialized inequality. Black population concentration matters more for poverty inequality in regions with stronger historical ties to slavery than for regions with weaker ties. Although our study does not speak to specific antipoverty and inequality policy interventions, which deserve evaluation in their own terms, it does demonstrate that policy and theory alike must consider the role of historical and local context in shaping racial inequality.

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Figure 1.
County-level Black-White poverty inequality in the contiguous United States, ACS 2008-12

Figure 2. Historical slavery contexts: non-South, South, and southern counties with high-slave and low-slave concentrations

Figure 3.
Black concentration relationship by historical slavery context, 2000 and 2008-2012

Figure 4.
The distribution of Black concentration by county in the contiguous United States, ACS
2008-2012

Table 1Test for remaining heteroskedasticity for preferred model, Breusch-Pagan (χ^2)

	<u>2000</u>	<u>2005-09</u>	<u>2008-12</u>
High-Slave	.26	.94	.82
Low-Slave	3.27 [†]	7.74 ^{**}	21.45 ^{***}
South	5.02 [*]	76.65 ^{***}	.62
Non-South	31.77 ^{***}	25.11 ^{***}	24.12 ^{***}

Note: The Breusch-Pagan test was conducted in Stata 13.1 using the “hettest” command.

[†]
p < .10^{*}
p < .05^{**}
p < .01^{***}
p < .001

Table 2

Moran's *I* estimates for Black-White inequality and preferred model residuals, 2000, 2005-09 and 2008-12

	2000		2005-09		2008-12	
	Inequality	Residuals	Inequality	Residuals	Inequality	Residuals
High-Slave	.56 ***	.05 *	.32 ***	-.002	.37 ***	.03 *
Low-Slave	.16 ***	.01	.03 †	.03 †	.06 **	.01
South	.31 ***	.02 *	.10 ***	.02 †	.12 ***	.04 **
Non-South	.11 ***	.01 †	.02 †	-.04	.13 ***	.06 ***

Note: Estimated in GeoDa using a 5-nearest neighbors spatial weights matrix. Additional diagnostic tools (i.e., Lagrange Multiplier estimates) further suggest that spatial regression is not necessary for most years. However, using a spatial regression does not substantively alter our results.

† $p < .10$
 * $p < .05$
 ** $p < .01$
 *** $p < .001$

Table 3

Model comparison results, 2000 to 2008-12

	<u>2000</u>	<u>2005-09</u>	<u>2008-12</u>
High-Slave	linear	linear	linear
Low-Slave	log	log	linear
South	linear	linear	linear
Non-South	log	log	log

Note: Positive coefficients are reported in all years for linear and non-linear model specifications.

Black population concentration coefficient estimates from preferred model, 2000 and 2008–12

Table 4

	2000			2008–12		
	β	SE	R ²	β	SE	R ²
High-Slave	.14***	.015	.59	.16***	.021	.38
Low-Slave ^a	.01** ^b	.005	.13	.07	.062	.04
South ^a	.15***	.016	.28	.10***	.027	.09
Non-South ^a	.02*** ^b	.004	.12	.01 ^b	.006	.09

Note: The full model includes controls for county metropolitan status, the concentration of agricultural and manufacturing industry employment, in addition to indicator variables for the states within each region.

^aRobust standard errors are reported except for in 2008–12 for the South.

^bCoefficients are derived by the log of the proportion of Blacks in the total population. The remaining coefficients are derived by the linear specifications. The log transformation is related to a different scale than that for the linear model; therefore, the magnitude of the coefficients yielded by the different models is not directly comparable.

**
p < .01

p < .001

Table 5

Summary of the proportion Black in a county by historical slavery context, 2000 and 2008-12

	Mean	Standard Deviation	Median	75 th Percentile	95 th Percentile	Minimum	Maximum
Census 2000							
High-Slave	.303	.177	.289	.413	.621	.0078	.861
Low-Slave	.079	.096	.041	.104	.275	.0006	.666
South	.186	.180	.124	.298	.562	.0006	.861
Non-South	.035	.060	.013	.041	.145	.0006	.566
ACS 2008-12							
High-Slave	.305	.181	.286	.416	.644	.0125	.862
Low-Slave	.087	.108	.044	.109	.296	.0016	.795
South	.187	.182	.121	.294	.566	.0016	.862
Non-South	.035	.054	.014	.038	.133	.0013	.489

Table 6

Black population concentration coefficient estimates for the high-slave South by scenarios of the proportion Black, 2000 and 2008-12

	2000				2008-12			
	β	SE	Maximum	N	β	SE	Maximum	N
Full Sample	.14***	.02	.861	587	.16***	.02	.862	587
95 th Percentile	.13***	.02	.621	557	.15***	.02	.644	557
Mean + 1 SD	.16***	.02	.480	488	.16***	.03	.486	487
Median x 1.5	.17***	.03	.434	463	.16***	.04	.429	455
75 th Percentile	.16***	.03	.413	440	.18***	.04	.416	441

Note: Robust standard errors and spatial regression models were not necessary.

p < .001