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# Northward Migration and the Rise of Racial Disparity in American Incarceration, 1880–1950<sup>1</sup>

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Of all facets of American racial inequality studied by social scientists, racial disparity in incarceration has proved one of the most difficult to explain. This article traces a portion of the rise of racial inequality in incarceration in northern and southern states to increasing rates of African-American migration to the North between 1880 and 1950. It employs three analytical strategies. First, it introduces a decomposition to assess the relative contributions of geographic shifts in the population and regional changes in the incarceration rate to the increase in racial disparity. Second, it estimates the effect of the rate of white and nonwhite migration on the change in the white and nonwhite incarceration rates of the North. Finally, it uses macro- and microdata to evaluate the mechanisms proposed to explain this effect.

## INTRODUCTION

Two noteworthy features distinguish the practice of incarceration in America. The first is its sheer scale. Today the United States incarcerates its residents at a historically and comparatively unprecedented rate. After 100 years of relative stability, between 1970 and 2000 the American in-

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carceration rate rose from 158 to 635 people per 100,000. Other nations, democratic or not, pale in comparison.

Second, but equally notable, is the racial distribution of American prisoners. In 2009, African-Americans were nearly six times more likely to be imprisoned than whites (West, Sabol, and Greenman 2010). The black-to-white ratio in imprisonment exceeds disparities in unemployment, nonmarital childbearing, infant mortality, and wealth (Western 2006).

Since rapid growth and vast inequality in American incarceration are so often mentioned in the same breath, scholars commonly focus on the increases in African-American incarceration that have occurred since 1970. One prominent theorist, for example, notes that “the predominance of blacks behind bars is not a long-standing pattern but a novel and recent phenomenon” (Wacquant 2002, p. 43). Another considers the United States’ high rate and dense social concentration of incarceration to be two sides of the same coin, adopting the term “mass imprisonment” to describe the nation’s unusually pervasive and unequally administered criminal justice system (Garland 2001).

Both the African-American incarceration rate and the African-American proportion of prisoners have, as these authors suggest, risen dramatically since 1970. But the greatest and most durable increases in racial disparity took place before the national incarceration rate began its rapid ascent. Because this fact has been largely neglected, scholars searching for the sources of rising racial inequality in incarceration have begun their search too near to the present.

Of all the facets of American racial inequality studied by social scientists, racial disparity in incarceration has proved one of the most difficult to explain. According to Wright and Rodgers (2011, p. 283), “it is easy enough to demonstrate that African Americans are arrested for criminal activity, convicted, and sent to prison at much higher rates than are whites; but it is more difficult to demonstrate that racial discrimination inside of

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the criminal justice system is directly implicated in each of these disparities.” Theories tracing disparity in incarceration to disparity in crime (Blumstein 1982, 1993; Langan 1985) are hindered by the fact that criminal offending cannot be measured directly. Theories tying disparity to explicit, implicit, or institutional bias in criminal justice enforcement likewise suffer from barriers to causal inference and contradictory findings (see Klepper, Nagin, and Tierney [1983] and Spohn [2000] for reviews).

In this article, I propose that a major reason the sources of rising racial disparity in incarceration have eluded us is that we have looked for them in the wrong time and place. Rather than an outgrowth of the run-up in the national incarceration rate since 1970, I show that the increase of racial disparity is the product of a much longer historical trajectory. Previous literature on disparity therefore can explain the durability, but not the rise, of racial imbalance in incarceration. Although what initiates disparity and what sustains it could be unrelated (Patterson 2004), for reasons I discuss in the final section of the article, uncovering one of the sources of rising disparity in the first half of the 20th century might lend insight into its persistence in the second.

In the analysis to follow, I trace a portion of the rise of racial inequality in incarceration in northern and southern states to increasing rates of African-American migration to the North between 1880 and 1950. The northward migration of African-Americans could have contributed to the aggregate increase in racial disparity in northern and southern states in two ways. First, since the nonwhite incarceration rate of the North was higher than that of the South as early as the end of Reconstruction, aggregate racial disparity could have risen simply because migrants left a region with a comparatively low, and entered a region with a comparatively high, nonwhite incarceration rate. This explanation, indeed, accounts for 29% of the increase in disparity in the North and South, as I show in a decomposition below.

Compositional shifts in the population, however, constitute just one of the possible connections between migration and incarceration. Further decomposing racial disparity in northern and southern states shows that, absent the change in the white and nonwhite incarceration rates of the North between 1880 and 1950, the rise in disparity would have been 41% smaller than it was. Giving a fuller account of the link between northward migration and racial disparity in incarceration therefore necessitates explaining how accelerating rates of nonwhite migration to the North might have led the region’s nonwhite incarceration rate to increase.

Why would an accelerating rate of African-American migration increase the nonwhite incarceration rate of the North? In 1967, Hubert Blalock developed a series of models predicting that groups composing a numerical minority of a population—until they cross a population threshold—will

face increasing discrimination as their share of the population increases. Blalock's (1967) models have been widely applied across the social sciences, but they have met limited success in studies of racial disparity in imprisonment. Whereas a substantial literature supports the claim that the larger the proportion of African-Americans in a region's population, the higher will be its total rates of arrest (Liska, Chamlin, and Reed 1985), imprisonment (Beckett and Western 2001; Greenberg and West 2001; Jacobs and Carmichael 2001), and correctional spending (Jacobs and Helms 1999), studies come to the opposite conclusion regarding racial disparity (Bridges and Crutchfield 1988). Keen and Jacobs (2009) provide evidence that these results stem from a failure to account for the nonlinearity of the relationship between a group's population share and its relative rate of imprisonment. Largely unconsidered by this literature, however, is the historical observation that a challenge to a group's dominance signaled by increases in another group's population share should be more threatening in some times and places than in others.

The likelihood that an influx of African-American migrants would be construed as a threat was especially pronounced in the northern United States between 1880 and 1950 because in the latter half of the 19th century those states had been populated by European immigrants who struggled to distinguish themselves from the descendants of slaves. As the work of numerous social historians has shown, the arrival of masses of African-Americans in the North enabled European immigrants to put aside their internal differences and direct their efforts instead toward deflecting the residential, economic, and status competition of the southern newcomers (Roediger 1991; Ignatiev 1995; Jacobson 1999; Guterl 2001). "The postwar Great Migration of African Americans into the urban North," writes Guterl (2001, p. 6), "shook nativism to its ideological foundations, supporting the emergence of the New Negro Movement and engendering the first truly mass culture obsessed with 'the Negro' as the foremost social threat." European immigrants' struggle for the full rights of citizenship associated with the "white race," moreover, not only supplied them with a motive for their antagonism toward African-Americans; it also gave them a means by which to act on it. This is because a central way European immigrants advanced politically in the years preceding the first Great Migration was by securing patronage positions in municipal services such as law enforcement (Erie 1988).

In the second part of the analysis, I use state-level macrodata to estimate the effect of the rate of migration to 11 northern states on the change in the incarceration rate of those states over six periods between 1880 and 1950. I use additional data from 1880 to 1920 to estimate how the size of this effect changed as the proportion of foreign whites in a state's police force increased. I then use a microdata sample of respondents to the 1940

census to compare migrants' and nonmigrants' conditional probabilities of incarceration.

Conditional fixed effects estimates indicate that each 100 per 100,000 person intercensal increase in a northern state's nonwhite migration rate raised its nonwhite incarceration rate by an average of 1.1 people per 100,000. These estimates, which are robust to an instrumental variables estimation strategy described in appendix A, imply that without the northward migration's effect on northern incarceration rates, the increase in racial disparity in northern and southern states between 1880 and 1950 would have been 33% smaller than it was—a difference comparable in magnitude to that induced by compositional shifts in the population. The size of the partial effect of the nonwhite migration rate on the change in the nonwhite incarceration rate, moreover, increased as the proportion of police composed of foreign whites grew. Finally, combined evidence from the macro- and microdata suggests that increases in the rate of nonwhite migration to the North raised the probability of incarceration for migrants and nonmigrants both. Although the mechanisms linking northward migration to racial disparity in incarceration proposed here differ from those proposed by Wacquant (2000, p. 378), the evidence supports his contention that racial disparity in incarceration must be understood “against the backdrop of the full historical trajectory of racial domination in the United States.”

The article proceeds as follows. I first define racial disparity in incarceration and present data documenting its increase in northern and southern states between 1880 and 1950. Next I use a decomposition to assess the relative contribution of population shifts and region-specific incarceration rates to this increase. I then review theories linking the nonwhite migration rate to increases in the nonwhite incarceration rate. In the following two sections I introduce the macrodata and estimation strategy and I summarize the results of the analysis. After estimating the effect of the rate of migration on the change in the incarceration rate of 11 northern states, I turn to an evaluation of the mechanisms underlying this effect. The article ends with a discussion of how disparity in the past might influence disparity in the present.

### WHAT IS RACIAL DISPARITY?

The social concentration of incarceration can be measured in both absolute and relative terms. A group's incarceration rate—simply its correctional population (inmates in state and federal prisons, jails, reformatories, workhouses, and chain gangs) divided by its total population—provides the

most common measure of absolute concentration. By convention, this quotient is multiplied by 100,000.

Racial disparity furnishes a relative measure. It is typically calculated by dividing the African-American incarceration rate by the white incarceration rate. The historical data used in the present analysis limit the comparison to whites and nonwhites. For the time period I analyze (1880–1950), this distinction makes little difference.<sup>2</sup> If groups are represented in prison in equal proportion to their representation in the population, racial disparity will equal one.

Figure 1 depicts the white and nonwhite incarceration rate of northern and southern states that lost or gained at least 50,000 nonwhite residents between 1870 and 1970 (hereafter “Great Migration states”).<sup>3</sup> Driven primarily by increases in the nonwhite incarceration rate, racial disparity in these states rose steadily from 2.4:1 in 1880 to 5:1 in 1950.

A different pattern characterizes racial disparity since 1970. Western (2006) finds no strong evidence that racial disparity grew as incarceration increased. Oliver (2008) shows that disparity in prison admissions spiked briefly in the late 1980s and early 1990s before returning to its previous levels. Both studies support the claim that the largest and most durable increases in racial disparity reside in an earlier period of American history.

In the analysis to follow, I use three strategies to analyze the rise of racial disparity in Great Migration states between 1880 and 1950. First, I decompose the increase in disparity into its constituent parts: compositional shifts in the population and region-specific changes in the white and nonwhite incarceration rate. Second, I estimate the effect of the rate of white and nonwhite migration, instrumented by restrictions on foreign immigration, on the change in the white and nonwhite incarceration rates

<sup>2</sup> See table B1 in app. B for details. Data on Latino incarceration and migration rates between 1880 and 1950 are unavailable. Gibson and Jung (2002) estimate that the white population of Spanish mother tongue in 1940 made up .3% of the total population of northern Great Migration states.

<sup>3</sup> Northern states include Connecticut, Illinois, Indiana, Maryland, Massachusetts, Michigan, Missouri, New Jersey, New York, Ohio, Pennsylvania, and Wisconsin. Southern states include Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, and Virginia. See table B1 for details. For the remainder of the article, I examine the rise of racial disparity in these states. Analyzing states that lost or gained at least 50,000 nonwhite residents has two virtues: first, it eliminates “the capricious effects of volatile rates based on data from jurisdictions with extremely small African-American populations” (Keen and Jacobs 2009, p. 212). Second, it makes it possible to adjust the regression estimates reported below for measures of homicide arrests that are unavailable for states with small African-American populations. Keen and Jacobs (2009) and Harding and Winship (2010) place similar restrictions on their samples. Northern and southern Great Migration states contained 75% of the total population and 87% of the nonwhite population of the United States between 1880 and 1950.

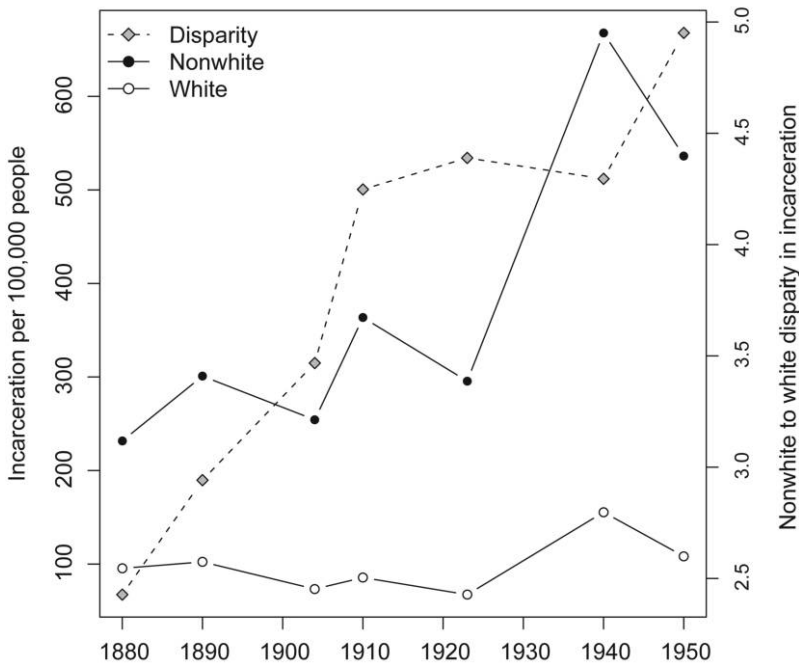


FIG. 1.—Incarceration rate and racial disparity in incarceration in northern and southern states, 1880–1950. Racial disparity is measured as the quotient of the nonwhite and white incarceration rates. The nonwhite incarceration rate of northern and southern states rose relative to a stagnant white incarceration rate, leading racial disparity to increase steadily over the period. Years include 1880, 1890, 1904, 1910, 1923, 1940, and 1950. Northern states include Connecticut, Illinois, Indiana, Maryland, Massachusetts, Michigan, Missouri, New Jersey, New York, Ohio, Pennsylvania, and Wisconsin. Southern states include Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, and Virginia. SOURCES: U.S. Department of the Interior (1895, table 4), U.S. Department of Commerce and Labor (1907, table 2), U.S. Department of Commerce (1914*b*, table 3; 1926, table 139; 1943, table 12; 1955, table 36), and Gibson and Jung (2002).

of the North. Finally, I use macro- and microdata to evaluate the mechanisms proposed to explain this effect.

### DECOMPOSING RACIAL DISPARITY IN THE NORTH AND THE SOUTH

Between 1870 and 1950 the U.S. South lost an estimated 3.2 million nonwhite residents, most to cities in the North. Table 1 shows the estimated net migration of native nonwhites (hereafter “nonwhites”), native whites, and foreign whites in northern and southern Great Migration states. Non-



TABLE 1  
ESTIMATED NET MIGRATION OF NATIVE WHITES, NATIVE NONWHITES,  
AND FOREIGN WHITES (Hundreds)

	NATIVE NONWHITES		NATIVE WHITES		FOREIGN WHITES	
	North	South	North	South	North	South
1870–80 .....	321	-744	-7,733	-1,338	10,198	255
1880–90 ... ..	494	-812	-6,824	-2,608	22,778	602
1890–1900 ....	1,364	-1,738	-817	439	20,448	634
1900–1910 ....	1,288	-1,638	-9,612	-267	34,648	1,048
1910–20 .....	4,669	-4,615	-398	-3,484	19,169	591
1920–40 .....	10,224	-11,383	-2,436	-9,840	16,323	613
1940–50 .....	9,598	-11,931	-9,862	-6,229	3,106	1,263

SOURCE.—Lee et al. (1957, table P1).

NOTE.—Author’s tabulations. North = Connecticut, Illinois, Indiana, Maryland, Massachusetts, Michigan, Missouri, New Jersey, New York, Ohio, Pennsylvania, and Wisconsin. South = Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, and Virginia.

white migration out of the South and into the North began as early as 1870 and increased most rapidly after the onset of World War I.

Figure 2 plots the incarceration rate of whites and nonwhites in Great Migration states alongside racial disparity in incarceration. The incarceration rate of whites and nonwhites alike increased in the South between 1880 and 1950, but the small increase in the nonwhite incarceration rate relative to the white incarceration rate led racial disparity to fall over the period. In the North, by contrast, the nonwhite incarceration rate rose sharply relative to a flat white incarceration rate, leading racial disparity to increase.

The series displayed in figure 2 suggest that northward migration could have contributed to the aggregate increase in racial disparity in Great Migration states in two ways. First, since the nonwhite incarceration rate of the North was higher than that of the South as early as 1880, aggregate increases in racial disparity in incarceration could have resulted from the fact that nonwhites left a region with a comparatively low, and entered a region with comparatively high, nonwhite incarceration rate. Second, a quickening rate of northward migration might itself have increased the nonwhite, but not the white, incarceration rate of the North and thereby accelerated the aggregate increase in racial disparity. A decomposition helps assess relative importance of these explanations of the link between migration and incarceration.<sup>4</sup>

<sup>4</sup> I thank an *AJS* reviewer for recommending this decomposition. Harding and Winship (2010) undertake a similar decomposition using selected data from 1940 to 1980.

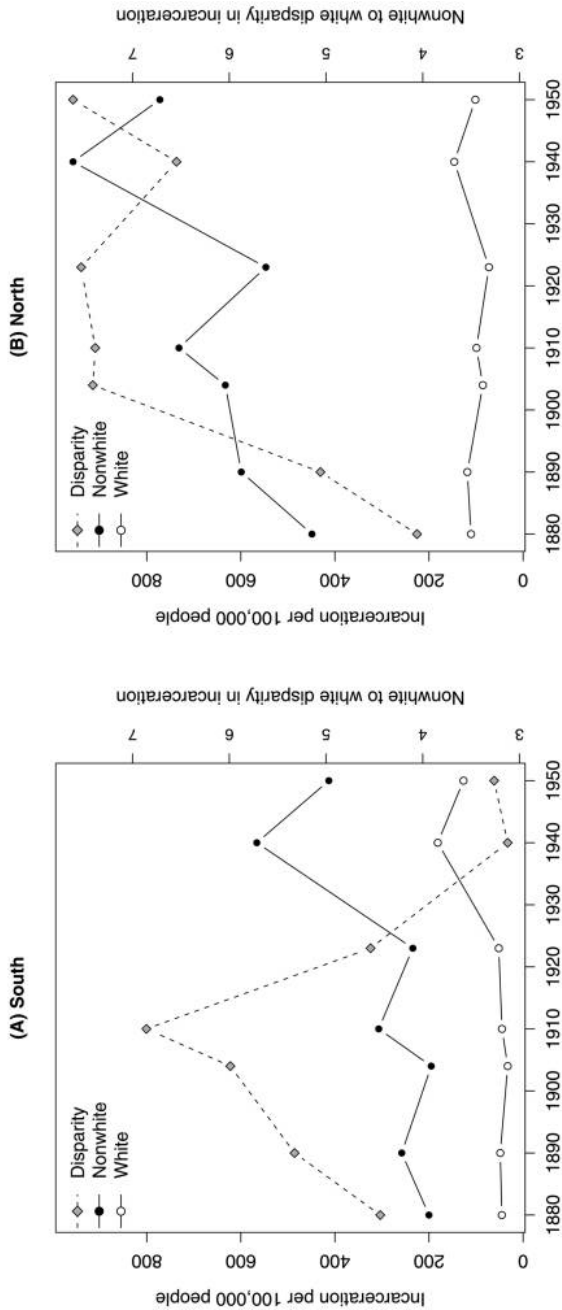


FIG. 2.—Incarceration rate and racial disparity in incarceration by region, 1880–1950. Racial disparity is measured as the quotient of the nonwhite and white incarceration rates. In the South, the incarceration rates of both whites and nonwhites increased, but the small increase in the nonwhite incarceration rate relative to the white incarceration rate led racial disparity to decline over the period. In the North, the nonwhite incarceration rate rose sharply relative to a stagnant white incarceration rate, leading racial disparity to increase over the period. Years include 1880, 1890, 1904, 1910, 1923, 1940, and 1950. Northern states include Connecticut, Illinois, Indiana, Maryland, Massachusetts, Michigan, Missouri, New Jersey, New York, Ohio, Pennsylvania, and Wisconsin. Southern states include Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, and Virginia. SOURCES: U.S. Department of the Interior (1895, table 4), U.S. Department of Commerce and Labor (1907, table 2), U.S. Department of Commerce (1914*b*, table 3; 1926, table 139; 1943, table 12; 1955, table 36), and Gibson and Jung (2002).

Racial disparity,  $d$ , over years  $t = \{1880, 1890, 1904, 1910, 1923, 1940, 1950\}$  in Great Migration states  $i$  can be decomposed into the quotient of the weighted sum of nonwhite,  $B$ , and white,  $W$ , incarceration rates,  $I$ ,

$$d_t = \frac{\sum_i \pi_{it}^B I_{it}^B}{\sum_i \pi_{it}^W I_{it}^W}, \tag{1}$$

where the weights,  $\pi$ , are simply the proportion of the population in state  $i$  in year  $t$  by race. We can assess the relative importance of changes in the population versus shifts in the incarceration rate by alternately fixing the weights,  $d_t(\pi_{1880})$ , and the rates,  $d_t(I_{1880})$ , at their 1880 levels. Fixing the weights tells us what racial disparity would have been if the white and nonwhite populations had not transitioned between states after 1880 but the incarceration rates of both groups had continued to increase. Fixing the rates tells us what racial disparity would have been if the incarceration rates of whites and nonwhites did not change after 1880 but the population had still moved between states.

Holding the weights at their 1880 level shows that population shifts contributed considerably to the increase in racial disparity in Great Migration states between 1880 and 1950. Rather than 5:1, racial disparity would have been 4.2:1 in 1950 if the white and nonwhite populations had stayed distributed about states as they were in 1880. This represents a 29% reduction in the increase in disparity between 1880 and 1950. Population shifts alone, however, provide only a partial account of the rise in racial disparity. Setting instead the white and nonwhite incarceration rates at their 1880 level reduces racial disparity to 3.3:1, cutting the increase by 64%.

Equation (1) can be further decomposed to examine the contribution to disparity of changes in only the white and nonwhite incarceration rates of the North. It can be rewritten:

$$d_t = \frac{\sum_i \pi_{it}^{BN} I_{it}^{BN} + \sum_i \pi_{it}^{BS} I_{it}^{BS}}{\sum_i \pi_{it}^{WN} I_{it}^{WN} + \sum_i \pi_{it}^{WS} I_{it}^{WS}}, \tag{2}$$

for northern,  $N$ , and southern,  $S$ , states. Fixing the white and nonwhite incarceration rates of just northern states at their 1880 level,  $d_t(I_{1880}^N)$ , reduces the aggregate increase in racial disparity between 1880 and 1950 by 41%. Since the rise in northern incarceration rates accounts for nearly 50% more of the growth in disparity than compositional shifts in the population, providing a more complete account of the link between migration and racial disparity requires explaining how increasing rates of northward migration might have led the region's nonwhite incarceration rate to increase.

In the following section, I review theories relating increases in the rate of African-American migration to the rise in the North's African-American incarceration rate. Why the exodus of many of the South's most capable citizens from a region with contracting economic opportunities to a region with expanding economic opportunities would result in this increase is the question this section takes up.

### MIGRATION AS THREAT

In 1967, Hubert Blalock developed a series of models predicting that increases in a numerical minority's share of a population will provoke greater discrimination until the share crosses a critical threshold.<sup>5</sup> Blalock's models, as their author acknowledged, rest on three important assumptions. First, they assume that incremental shifts in a subordinate group's share of the population can be detected by superordinate groups. Second, as noted by King and Wheelock (2007), they suppose that these shifts will be construed to be threatening. Finally, they take for granted that superordinate groups will have a means by which to act on a perceived challenge to their dominance. In studies using Blalock's models, these assumptions often go unstated and unexamined. But there is ample evidence that northern states from the end of Reconstruction through the first Great Migration satisfy all three.

A wealth of historical evidence confirms that northerners were exceedingly alert to the magnitude of African-American migration from the South. Antebellum Irish laborers, according to Finch (1844, p. 60, quoted in Ignatiev 1995, p. 99), pursued the following line of logic: "If the blacks were to be emancipated, probably hundreds of thousands of them would migrate into these northern States, and the competition for employment would consequently be so much increased, that wages would speedily be as low, or lower here, than they are in England; better, therefore, for us that they remain slaves as they are." Ignatiev (1995) chronicles how, long before the first Great Migration, Irish immigrants residing in the North refused to work in occupations where employment was extended to African-Americans. "The Draft Riots of 1863 were only one manifestation, the most destructive of course, of a long history of

<sup>5</sup> Blalock (1967, p. 181) did not, it should be noted, expect the effect of demographic shifts to be symmetrical: "Migration from a community with a very high minority percentage," he wrote, "might not produce much of a change in discrimination unless the community were almost emptied of its minority population." This is consistent with the fact that the nonwhite incarceration rate of the South rose modestly as rates of northward migration increased. As I discuss in the next section, rising white and nonwhite incarceration rates in the South may reflect the increasing formalization of the South's penal system between 1880 and 1950.

racial antagonism," notes Osofsky (1963*b*, pp. 18–19). "Small but regular clashes between Negroes and the Irish were recorded in the New York press in the 1890's."

As the first major waves of southern migrants reached northern states in the late years of World War I, labor leaders issued calls to action. Weeks before the nation's first major racial pogrom in East St. Louis in July 1917, the secretary of the city's Central Trades and Labor Union sent a letter to his delegation: "The immigration of the Southern Negro into our city for the past eight months has reached the point where drastic action must be taken if we intend to work and live peaceably in this community. Since this influx of undesirable Negroes has started no less than ten thousand have come into this locality" (DuBois and Gruening 1917, p. 221). Unions and residential associations in Chicago (Drake and Cayton 1945), Pittsburgh (Epstein 1918), Cleveland (Johnson 1930), Boston (Lukas 1985), and Detroit (Sugrue 1996) carefully monitored fluctuations in the population of African-Americans and similarly exhorted their constituents to defend their jobs and neighborhoods.

No group, however, is inherently threatening. Despite bearing the weight of dishonor associated with southern slavery (Patterson 1982), after the First World War African-Americans were actively recruited by northern industrialists (Trotter 2007). What made their arrival in the North especially forbidding was not any intrinsic group characteristic but rather their economic, residential, and status proximity to the European immigrants who had settled in the region in the decades preceding the first waves of northward migration.

In his treatise on the causes of social conflict, Gould (2003, p. 66) provides abundant comparative evidence to support the claim that "conflict, including violent conflict, is particularly likely to occur in relations that are explicitly symmetrical." The northward migration of African-Americans came at a time when the region's imagined racial order had not fully solidified. Where in the status hierarchy foreign whites and African-Americans would ultimately fall was a question far from settled.

A rich literature in social history documents how, until the close of World War I, many European immigrants to the northern United States were denied the full privileges of citizenship associated with the "white race" (Roediger 1991; Ignatiev 1995; Jacobson 1999; Guterl 2001). "The racially inflected caricatures of the Irish at mid-century are well known," writes Jacobson (1999, p. 4), "as when *Harper's* depicted the 'Celt' and the 'Negro' weighing in identically on the scales of civic merit, but in the 1890s even the Irish novelist John Brennan could write that the Irishness of the emigrants' children showed in their 'physiognomy, or the color of their countenances.'" Rather than form a basis of solidarity, foreign whites' status proximity to African-Americans cast the influx of southern migrants in a

foreboding light. There was, to use Gould's (2003) terms, sufficient ambiguity in the relative rank of European and African-Americans to breed severe conflict as the migration intensified.

Internecine conflict among European immigrants meanwhile fell inversely with upsurges in African-American migration. "Immigration restriction, along with internal black migrations," continues Jacobson (1999, p. 14), "altered the nation's racial alchemy and redrew the dominant racial configuration along the strict, binary line of white and black, creating Caucasians where before had been so many Celts, Hebrews, Teutons, Mediterraneans, and Slavs." The threat of economic, residential, and status competition from southern newcomers both insulated European immigrants from nativist resentment and unified them in their opposition to the arrival of African-Americans.

Hostility reached a crescendo during the migration's first major push following World War I. "The arrival of hundreds of thousands of black southerners in urban areas in the North and West during the world wars, when housing was desperately short," Roediger explains (2005, p. 176), "conditioned new immigrants' receptivity to the idea that African Americans were 'invaders.'" Spear (1967, p. 201) describes rising tensions in Chicago's black belt, culminating in the city's 1919 race riot: "As the black belt grew, Negroes began competing for jobs and homes and exercised an often decisive influence in politics . . . many whites—especially the Irish and Poles who lived to the south and east—felt threatened by Negroes." Fueled by growing antagonism between European and African Americans, major race riots erupted in Detroit (Sugrue 1996) and Philadelphia (Muhammad 2010) as well.

The social history of migration to the northern United States from the late 19th through the first half of the 20th century provides a firm basis for the claim that northerners both detected incoming streams of migrants and understood them to be a threat. But it also furnishes an explanation of how status conflicts between European and African-Americans might have tipped the racial balance of the North's correctional population. As European immigrants overcame nativist barriers to political influence in the years preceding the first Great Migration, they made inroads into municipal employment, attaining sought-after patronage jobs, especially in law enforcement (Erie 1988). "The police who patrolled northern and western cities to maintain order reflected the immigration of a previous generation," notes Richardson (1974, p. 53). "First- and second-generation Irish-Americans made up a disproportionately heavy percentage of policemen by the 1890s." Table 2 shows that, from 1880 through 1920, foreign whites made up a majority of police in northern, but not southern, states.

Prior to the first Great Migration, the Irish themselves had been no strangers to the penitentiary. So tight was the perceived connection between Irishness and disorder that "rowdy, undisciplined behavior in the 1830s was

TABLE 2  
FOREIGN WHITE PROPORTION OF POLICE, 1880–1920

	SOUTH			NORTH		
	Weighted Mean	SD	<i>N</i>	Weighted Mean	SD	<i>N</i>
1880 ...	.40	.17	11	.66	.12	12
1890 ...	.22	.15	12	.63	.10	11
1900 ...	.21	.14	12	.65	.13	12
1910 ...	.21	.16	7	.67	.14	12
1920 ...	.11	.10	10	.62	.15	12

SOURCES.—U.S. Department of the Interior (1897, table 116); U.S. Department of Commerce (1904, table 41; 1914*a*, table 7; 1923, table 1) and Ruggles et al. (2010).

NOTE.—Author's tabulations. Foreign whites include foreign-born whites and whites with at least one foreign-born parent. North = Connecticut, Illinois, Indiana, Maryland, Massachusetts, Michigan, Missouri, New Jersey, New York, Ohio, Pennsylvania, and Wisconsin. South = Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, and Virginia.

sometimes called ‘acting Irish’” (Roediger 1991, p. 107). But the sequential order of Irish immigration from abroad and African-American migration from the South helped ensure that only one of the groups initially deprived full citizenship rights on the basis of race would come to predominate the nation's correctional population (Abbott 2001; Muhammad 2010). As the incarceration rate of Irish immigrants and their children in Great Migration states declined from 245 to 158 people per 100,000 between 1880 and 1950, the nonwhite incarceration rate leapt from 203 to 594 (Ruggles et al. 2010, author's tabulations). Johnson (2003, pp. 59–60) describes the case of New York:

As record numbers of southern blacks and new immigrants streamed into New York's old ethnic neighborhoods, the Irish, Germans, and other older immigrant groups came to resent the newcomers who competed with them for jobs, housing, public space, and political power. Perhaps equally important, however, was the old-stock immigrants' desire for social acceptability as “white” Americans. As historians have shown, European working-class immigrants embraced whiteness as a means of distinguishing themselves from African Americans, whom they associated with slavery and dependency, and from newer immigrants, whom they perceived as strange and inferior races. This was particularly true for the Irish, a group that had long occupied the bottom ranks of the social hierarchy and whose own whiteness was often called into question. . . . Because the Irish were so well represented in the police department, many officers were sympathetic to or at least tolerant of the racial offensives led by their countrymen.

Ignatiev (1995, p. 163) draws a similar conclusion about Progressive Era Philadelphia: “The Irish cop is more than a quaint symbol. His appearance on the city police marked a turning point in Philadelphia in the

struggle of the Irish to gain the rights of white men. It meant that thereafter the Irish would be officially empowered (armed) to defend themselves from the nativist mobs, and at the same time to carry out their agenda against black people.”

The transposition of status competition between European immigrants and African-Americans into the criminal justice system was not lost on its primary targets. Editorials in the African-American newspaper *The New York Age* maintained that city police were recruited from the “coarsest and most ignorant individuals of the Irish race” (Scheiner 1965, p. 129). In her 1926 “Survey of Crime among Negroes in Philadelphia,” Thompson (1926, p. 254, quoted in Muhammad 2010, p. 248) noted that “the antagonism of the Irish policeman to the Negro in general is the basis of many jokes around City Hall.” Commenting on police inefficacy in the wake of the 1919 race riots, the *Chicago Defender* protested: “Police activity has been so deliberate and brazenly neglectful that one might construe that they are working in harmony with the bomb throwers” (Tuttle 1970, p. 181). A cartoon appearing in the *New York Tribune* a week after the city’s race riot in August of 1900, depicts a Tammany Tiger in police uniform brandishing a club before an injured African-American man (see fig. 3).

Records of law enforcement during the migration, where they exist, are compatible with the claim that racial disparity in incarceration stemmed more from inequality in arrests than inequality in the length of prison sentences (Sellin 1928; Bowler 1931). In its 1922 report *The Negro in Chicago*, the Chicago Commission on Race Relations (1922, p. 345, quoted in Sellin 1928, p. 55) concluded: “The testimony is practically unanimous that Negroes are much more liable to arrest than whites, since police officers share in the general public opinion that Negroes ‘are more criminal than whites,’ and also feel that there is little risk of trouble in arresting Negroes, while greater care must be exercised in arresting whites.” Woofter (1925), culling evidence from northern newspapers, ties indiscriminate police raids on African-American communities to increases in their rate of migration. Trotter (2007) describes how Milwaukee police similarly used vagrancy laws to deter incoming migrants.

The use of discretionary arrests for minor infractions, moreover, was not limited to vagrancy. Table 3, adapted from Epstein (1918, p. 47), compares data on arrests by offense type among African-Americans in Pittsburgh between 1914 and 1915—“the time of the initial war prosperity before the migration had begun”—to data from the period between 1916 and 1917, when “Negro migration was at its highest point.” Arrests for petty offenses rose by 78% between the periods, while arrests for major offenses saw only a 1% increase. Tyson (1919, p. 141) tabulates commitments to the Cleveland correction farm, where the percentage of African-American inmates leapt from 13% to 87% between 1916 and 1917. The





HE'S ON THE POLICE FORCE NOW.

FIG. 3.—Editorial cartoon, *New York Tribune*, August 19, 1900. An editorial cartoon appearing a week after the New York race riot of 1900 depicts a Tammany Tiger in police uniform brandishing a club before an injured African-American man. The caption quotes from the traditional Irish song “He’s on the Police Force Now.”

## Racial Disparity in Incarceration

TABLE 3  
ARRESTS OF AFRICAN-AMERICANS IN PITTSBURGH  
DISTRICTS 1 AND 2 BY OFFENSE TYPE

Charges	1914-15	1916-17
Petty offenses:		
Suspicious persons .....	467	779
Disorderly conduct .....	427	599
Drunkenness .....	282	909
Keeping disorderly houses .....	38	91
Visiting disorderly houses .....	121	293
Common prostitute .....	58	54
Violating city ordinances .....	85	143
Keeping gambling houses .....	5	0
Visiting gambling houses .....	31	0
Vagrancy .....	84	93
Other noncourt charges .....	83	37
Total .....	1,681	2,998
Major offenses:		
Larceny .....	21	23
Assault and battery .....	12	13
Highway robbery .....	3	4
Entering building .....	20	7
Felonious cutting and felonious shooting .....	8	19
Murder, turned over to coroner .....	12	6
Assault and battery with attempt to commit rape .....	5	3
Concealed weapons and pointing firearms .....	3	12
Other court charges .....	9	7
Total .....	93	94

SOURCE.—Adapted from Epstein (1918, p. 48).

superintendent who supplied the figures testified “that these men were not of the criminal type, but had been sent to the jail for such minor offenses as loafing on street corners, drunkenness, and for being ‘suspicious characters.’”

Historical evidence, finally, suggests that police failed to draw a sharp line between migrants and longstanding residents. “Well-heeled ‘aristocrats of color’ might scoff at the prospects of the mass of uneducated African Americans pouring into the cities of the North,” writes Guterl (2001, p. 122), “but for better or worse, they found that few whites in the Northeast were willing to privilege class, or to distinguish them from new arrivals.” Northern-born African-Americans were known to claim that they had not felt the burden of discrimination before the arrival of southern newcomers (Scott 1920; Lukas 1985).

The history of the sequential migration of Europeans and African-Americans into the northern United States yields three predictions regarding racial disparity in incarceration. First, increasing rates of northward migration should have led the North's nonwhite, but not its white, incarceration rate to increase. Second, the size of this effect should have been larger in states whose police force was composed predominantly of foreign whites. Third, the effect of northward migration should have increased the likelihood of incarceration for African-American migrants and nonmigrants alike. To test the first prediction, I use state macrodata to estimate the effect of the rate of white and nonwhite migration on the change in the incarceration rate of whites and nonwhites in the North. I use macrodata on the nativity of police and microdata on migrants and nonmigrants in 1940 to assess the second and third predictions. The analysis to follow also provides evidence against the contending theories that migration's effect on incarceration stemmed from simultaneous increases in crime or unemployment or regional differences in penal regimes. Before moving to the analysis, I review these alternative explanations.

#### ALTERNATIVE EXPLANATIONS

One alternative explanation for the increase in the North's nonwhite incarceration rate is that migrants committed crime at a greater rate than native northerners. Given well-established negative relationships between crime and education, employment, and marriage (Sampson and Laub 1990; Western 2006), however, this explanation appears unlikely. African-American migrants were among the South's best educated (Hamilton 1959; Margo 1990; Tolnay 1998; Vigdor 2002), and they moved North primarily to take advantage of expanding economic opportunities there (Epstein 1918). Southern-born African-Americans in the North had greater chances of being employed and earning higher income and lesser chances of requiring public assistance than northern-born African-Americans (Long 1974; Long and Heltman 1975). Migrants were more likely to be married and to reside with their spouse than native northerners (Lieberson and Wilkinson 1976), and they had lower rates of nonmarital childbearing and single parenthood than both native northerners (Tolnay 1997) and native southerners (Wilson 2001). Surveying literature on the Great Migration, Tilly (1967, p. 149) concludes: "As for the crime and delinquency so regularly attributed to the newcomers, what evidence there is points the other way: it takes some time in the city for the migrants to catch up with the old residents."

Although what we know about the characteristics of migrants suggests that they themselves were unlikely to commit crime at a greater rate than their stationary counterparts, migration could have affected the crime rate

in other ways. A rush of migrants to an unfamiliar locale, especially if they were shunted into neighborhoods with other newcomers, could have created an environment more criminogenic than one occupied by long-standing residents. Tilly (1967, p. 149), for instance, notes that studies of migration and crime “establish that crime, delinquency, and family instability concentrate in *areas* of high mobility, but fail to show that mobile *persons* in those areas create disorder.” Lemann (1991) chronicles how the Great Migration prompted the construction of public housing projects in Chicago, which concentrated African-Americans and separated them from the rest of the city. This theory forms the complement of the notion of “collective efficacy” proposed by Sampson, Raudenbush, and Earls (1997), wherein the residential stability of a neighborhood reduces its crime rate because longstanding residents forge stronger bonds of informal control than recent arrivals. To account for the potential effect of changes in crime on changes in the incarceration rate during the migration, I adjust the estimates below for the lagged change in the homicide arrest rate of each state’s largest city.

Shifts in employment between 1880 and 1950 might also have raised the African-American incarceration rate in the North. At first blush, it should seem unnecessary to adjust an estimate of the relationship between migration and incarceration for changes in employment since we expect a positive relationship between migration and employment and a negative relationship between employment and crime. Migrants, after all, had favorable work prospects and moved, in part, because of the North’s superior job opportunities. But employment and expectations about employment do not always align. Migrants moving to a state where their employment prospects were encouraging at the time of their departure might have saturated the labor market. Theorists writing as early as Marx offered just such an explanation of urban crime. Describing the urban migration of the peasantry following England’s industrial revolution, wherein “a mass of ‘free’ and unattached proletarians was hurled onto the labour-market,” Marx ([1867] 1990, pp. 878, 896) claims it “could not possibly be absorbed by the nascent manufactures as fast as it was thrown upon the world” and therefore was “turned into beggars, robbers and vagabonds, partly from inclination, in most cases under the force of circumstances.” Irrespective of whether widespread unemployment forces people “tempted to crime by their poverty” to steal (Thompson 1963, p. 61), dulls the normative sanction against illicit economies in communities where formal employment is scarce (Venkatesh 2006), or biases criminal justice officials against the jobless (Spohn and Holleran 2000), the importance of conditioning the estimates below on changes in employment should be apparent. Accordingly, I include a measure of changes in state employment rates in the statistical models to follow.

A final confounding explanation suggests that southern migrants came from environments where crime was less likely to be punished through formal channels. A large historical literature documents the prevalence in the South of informal means of punishment, such as the convict-lease system, directed primarily against African-Americans (Ayers 1984; Lichtenstein 1996; Mancini 1996; Oshinsky 1996; Blackmon 2008; McLennan 2008). If African-Americans so punished were not recorded in official statistics, racial disparity in southern states could be understated. The fact that counts of "prisoners" prior to 1940 include leased convicts and inmates on chain gangs should partially allay the concern that this explanation drives the results. Still, in the analysis described in the following section, I restrict the sample to northern states to ensure that regional differences in penal regimes are not responsible for any observed relationship between the rate of migration and the change the incarceration rate.

#### ESTIMATING THE EFFECT OF MIGRATION

In 1957 the economist Simon Kuznets and the sociologist Dorothy Thomas published the first of a three-volume set of estimates of internal migration, labor force participation, and income in the United States between 1870 and 1950. The first Kuznets-Thomas report (Lee et al. 1957, table P1) estimates the net intercensal migration of nonwhites, native whites, and foreign whites at the state level using census survival ratios. I divide these estimates by the average population over the period using census data (Gibson and Jung 2002) and multiply the resulting quotient by 100,000.<sup>6</sup> This yields the causal variable, *Mig*, a state's estimated net intercensal migration rate per 100,000 people. I limit the analysis to the period between 1880 and 1950 because comparable estimates of migration between 1950 and 1970 are unavailable (see app. table B1).<sup>7</sup>

I draw the dependent variable from six U.S. government and census reports (U.S. Department of the Interior 1895, table 4; U.S. Department of Commerce and Labor 1907, table 2; U.S. Department of Commerce 1914*b*, table 3; 1926, table 139; 1943, table 12; 1955, table 36; see also

<sup>6</sup> The average population is calculated using the state population of each race at the beginning and end of the period.

<sup>7</sup> Although Bowles et al. (1990) does not distinguish foreign from native white migration and so cannot be used for the comparative analysis of native white and nonwhite migration rates, it does provide estimates of nonwhite migration between 1950 and 1970. To show that the results are robust to the inclusion of these data, I incorporate them in model 4, reported in table 4. I thank an *AJS* reviewer for alerting me to the existence of these data.

app. B, table B1 below). I subtract the correctional population at the beginning of the period from the correctional population at the end of the period, divide this by the average population, and multiply the quotient by 100,000. This yields  $Y$ , an intercensal change in incarceration per 100,000 people. I linearly interpolate the total population in 1904 and 1923 and compare the migration rates of 1890–1900, 1900–10, 1910–20, and 1920–40 to changes in the incarceration rates of 1890–1904, 1904–10, 1910–23, and 1923–40, respectively. This assumes that changes in the incarceration rate over the latter periods were not markedly different from changes in the incarceration rate over the former periods.

With the exception of 1923–40, the units of the analysis are roughly state-decades. Using state variation in incarceration is substantively appropriate, as the majority of criminal justice policy in the United States is made at the state level. The United States did not build a federal prison system until 1930 (Gottschalk 2006). Today more than 87% of its prisoners are housed in state institutions (West et al. 2010).

As discussed in the preceding section, an observed relationship between the migration rate and the change in the incarceration rate could reflect simultaneous changes in crime or employment or other unobserved characteristics of states or periods. To account for these explanations, I write the change in the incarceration rate,  $Y$ , of state  $i$  over period  $t$  as a function of the state's migration rate,  $Mig$ ; the lagged change in the homicide arrest rate of its largest city,  $Hom$ ; the change in the percentage of males ages 10 and over gainfully occupied,  $Emp$ ; a vector of state fixed effects,  $\delta$ ; a vector of period fixed effects,  $\lambda$ ; and an error term,  $\varepsilon$ :

$$Y_{it} = \beta_1 Mig_{it} + \beta_2 Hom_{it-1} + \beta_3 Emp_{it} + \delta_i + \lambda_t + \varepsilon_{it}. \quad (3)$$

I limit the analysis to northern Great Migration states for three reasons.<sup>8</sup> First, comparable homicide arrest data for southern states and northern states with small African-American populations are unavailable.<sup>9</sup> Second, in an analysis described in appendix A, I introduce an instrument that is valid only for northern states. Third, limiting the analysis to the North rules out the possibility that the results are driven by differences in the enumeration of northern and southern prisoners by government officials. The sole drawback of this approach is that estimates of the effect of the migration rate on racial disparity in incarceration can account only for the effect of migration into the North and not out of the South, although, as Blalock (1967) suggests, the latter effect should be small.

<sup>8</sup> Northern Great Migration states contained 93% of the nonwhite population of all northern states between 1880 and 1950.

<sup>9</sup> They are also unavailable for Indiana and all observations between 1860 and 1870. The following analysis consequently excludes Indiana and covers the period between 1880 and 1950.

Since state-level crime rates are unavailable prior to 1930, I obtain from Monkkonen (2005) race-invariant data on homicide arrests in the largest city of northern Great Migration states between 1880 and 1920 (see table B1). I supplement these with city homicide data from the 1940 and 1950 Uniform Crime Reports (Federal Bureau of Investigation 1940, table 83; 1950, table 35). Monkkonen (2005) does not contain the number of homicide arrests in every city in every year. Consequently, I take the average of homicide arrests over five years, centered on the year of interest, for all years where data are available. I subtract the resulting number of homicide arrests at the beginning of the period from the number of homicide arrests at the end of the period, divide by the average city population using census data (Gibson 1998), and multiply the quotient by 100,000. This generates *Hom*, an estimate of the intercensal change in homicides per 100,000 people in the state's largest city. I use changes in the homicide arrest rate because homicides are the best-reported measure of crime and the only measure available in a complete series between 1880 and 1950. Criminologists agree that total arrests provide at best a crude approximation of actual crime.

I lag the variable to address concerns about simultaneity. Just as the homicide arrest rate might inspire increases in the incarceration rate, so increases in incarceration might suppress homicide (Levitt 1996). Although the lagged specification will circumvent simultaneity bias only if changes in the homicide rate are not autocorrelated, it is preferable to conditioning on contemporaneous changes in the homicide rate.

Making an ecological adjustment for the aggregate homicide rate cannot definitively rule out the possibility that crime is responsible for the relationship between rates of migration and changes in incarceration. Migrants might push the homicide rate up at the same time that nonmigrants pull it down. Homicides committed by whites might drown out any signal sent by homicides committed by nonwhites. Distortions such as these cannot be detected in state-level statistical correlations. Still, our confidence that a change in the violent crime rate is not the sole explanation of the association between the migration rate and changes in the incarceration rate of northern states should increase if the relationship persists in state-decades with similar homicide arrest rates.

To account for the potential effect of changes in the employment rate on changes in the incarceration rate, I use race-invariant data from Lee et al. (1957, table L-3) to adjust the estimates for *Emp*, the change in the percentage of males ages 10 and older gainfully employed over the period. I include state and period fixed effects to reduce the probability that the relationship between the migration rate and the change in the incarceration rate is due to time-invariant unobserved characteristics of states or national time trends. A Wooldridge test fails to reject the null hypothesis

of no first-order autocorrelation in the most parameterized model (Wooldrige 2002; Drukker 2003).

## RESULTS

Table 4 presents the results of the ordinary least squares (OLS) regressions for whites and nonwhites. In none of the three models does a statistically significant relationship obtain between the rate of native white migration and the change in the white incarceration rate. The coefficients estimated on changes in the homicide rate and the percentage of males gainfully occupied display the expected signs, although neither is statistically significant in the fixed effects model.

All four models for nonwhites, in contrast, reveal a large and robust relationship between the rate of nonwhite migration and the change in the nonwhite incarceration rate. The point estimate and standard error change very little across the four specifications. All else equal, a 100 per 100,000 person increase in the rate of nonwhite migration produced, on average, a 1.1 per 100,000 person increase in the rate of nonwhite incarceration. A state like Illinois, which experienced a nonwhite migration rate of 54,086 people per 100,000 between 1920 and 1940 could expect a 582 per 100,000 person increase—68% of the actual 854 per 100,000 person increase—in its nonwhite incarceration rate due to migration alone. Model 4 estimates the most parameterized model on a larger data set including observations for the periods 1950–60 and 1960–70. The point estimates on the migration rate in models 3 and 4 are identical. The last column reports differences in the estimates of model 3 for whites and nonwhites.

In appendix A, I introduce an instrumental variables (IV) estimation strategy as a robustness check on the OLS estimates presented in table 4. Table A1 shows that the estimates for nonwhites are very similar to the OLS estimates, although the standard errors, since the IV estimator uses only a portion of the covariation between migration and incarceration, are larger. Hausman tests fail to reject the null hypothesis that the difference between the OLS and IV coefficients is sufficiently small to indicate that the OLS estimates are unbiased.

Was the effect of the migration rate on the change in the incarceration rate large enough to increase racial disparity by an extent comparable to that induced by compositional shifts in the population? To answer this question, I generate fitted values,  $\hat{Y}$ , from model 3 for whites and nonwhites. I create two sets of predictions: one based on the observed values and one based on the observed values with the coefficient on the migration rate set to zero. I then transform the fitted values into fitted incarceration rates,  $\hat{I}^N$ , for the 11 northern Great Migration states between 1890 and 1950.



TABLE 4  
 OLS REGRESSION OF INTERCENSAL CHANGE IN INCARCERATION PER 100,000 PEOPLE  
 IN 11 NORTHERN STATES, 1880-1950

	WHITES			NONWHITES			DIFFERENCE	
	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3	Model 4	Model 3
Estimated net intercensal rate of migration per 100,000 people .....	.001 (.002)	.000 (.001)	.002 (.001)	.010*** (.002)	.008*** (.002)	.011** (.003)	.011*** (.002)	.009*** (.003)
Lagged intercensal change in homicides in largest city per 100,000 people .....		1.73** (.48)	.07 (.42)		4.80* (2.12)	-3.39 (3.21)	-3.00 (2.92)	-3.46 (4.28)
Intercensal change in % of males gainfully occupied .....		-7.23*** (1.42)	-2.59 (3.52)		-31.04** (9.43)	17.36 (22.24)	20.65 (19.07)	19.95 (16.31)
Intercept .....	16.81** (5.83)	9.23 (4.72)		37.01 (43.25)	66.14 (43.29)			
State fixed effects .....		Yes	Yes			Yes	Yes	Yes
Period fixed effects .....		Yes	Yes			Yes	Yes	Yes
1950-70 data included .....							Yes	
Adjusted $R^2$ .....	.001	.440	.685	.388	.505	.671	.675	.756
$df$ .....	64	62	47	64	62	47	67	94
$N$ .....	66	66	66	66	66	66	88	132

NOTE.—Numbers in parentheses are robust SEs (Stock and Watson 2008). Units are state-decades. No intercept is reported for the fixed effects models. States include Connecticut, Illinois, Maryland, Massachusetts, Michigan, Missouri, New Jersey, New York, Ohio, Pennsylvania, and Wisconsin.

\*  $P < .05$ .  
 \*\*  $P < .01$ .  
 \*\*\*  $P < .001$ .

Panel A of figure 4 compares the fitted series of white and nonwhite incarceration rates in the North to the predicted series in the counterfactual absence of northward migration. The fitted series is very similar to the observed series depicted in panel B of figure 2. But the predicted series reveals that without increases in the nonwhite migration rate, the trend in the North's nonwhite incarceration rate would have been nearly flat.

In panel B, I return to the decomposition introduced in equation (2) above. This time I substitute the fitted incarceration rates,  $\hat{I}^N$ , of northern states for the observed incarceration rates,  $I^N$ , and recalculate the fitted disparity in 1950,  $d_{1950}(\hat{I}^N)$ , with and without northward migration. The fitted and predicted disparities are represented by the densities shown in the figure. Dotted lines representing the observed disparity and the adjusted disparity when the population weights are fixed at their 1880 level are overlaid for comparison.

Panel B of figure 4 demonstrates that the expected value of the fitted disparity (5 : 1) closely approximates the observed disparity (5 : 1), reflecting the good fit of the fixed effects models. The panel also shows that nullifying the effect of the migration rate on the northern incarceration rate reduces the expected value of disparity to 4.1 : 1, as compared to 4.2 : 1 when the population weights are set at their 1880 level. Setting the coefficient on the migration rate to zero cuts the observed increase in disparity by 33% in expectation, a magnitude similar to the 29% reduction induced by fixing the population weights.<sup>10</sup>

## MECHANISMS

The evidence presented in the previous section provides strong support for the prediction that increasing rates of northward migration led the nonwhite, but not the white, incarceration rate of the North to increase. This generated an upsurge in racial disparity in Great Migration states comparable to that produced by compositional shifts in the population.

In the following sections, I use additional evidence to evaluate the explanation of this effect advanced above. I first use macrodata on the nativity of northern police forces between 1880 and 1920 to estimate how the size of the effect of migration varied with the proportion of police composed of foreign whites. Then I use a microdata sample of the 1940 census to compare the conditional probabilities of incarceration among southerners and migrants and nonmigrants in the North.

<sup>10</sup> Because calculating the quantities depicted in fig. 4 involves taking the ratio of transformed random variables, I use simulation to construct the 95% confidence bounds in panel A and the densities in panel B.

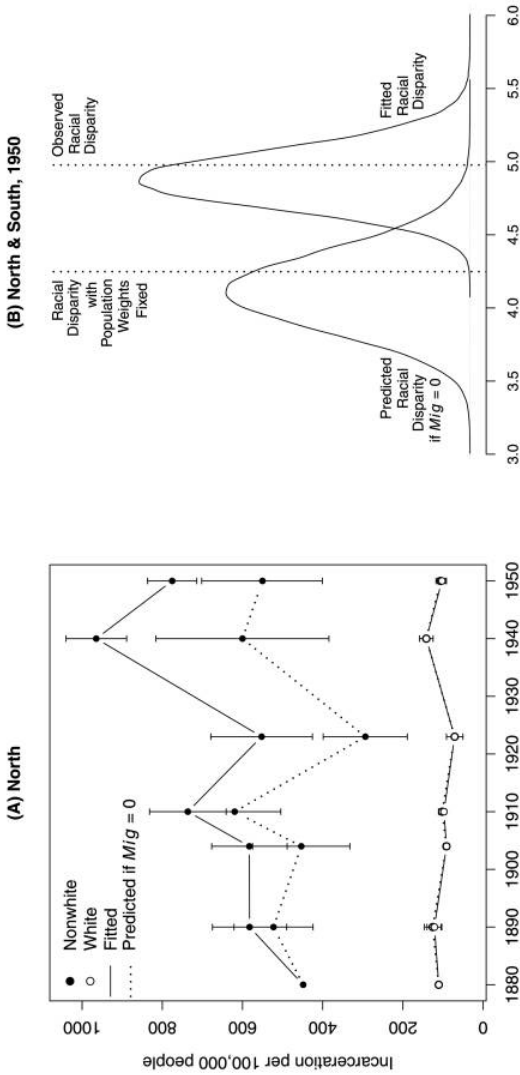


FIG. 4.—Counterfactual incarceration rate and racial disparity in incarceration, 1880–1950. Panel A depicts the fitted white and nonwhite incarceration rates in northern states generated from model 3. This panel should be compared to panel B of figure 2. The dotted lines show the predicted trend in incarceration rate, but it nearly flattens the nonwhite incarceration rate. Panel B compares the magnitude of the change in disparity in 1950 due to compositional shifts in the population to the magnitude of the change due to the effect of the migration rate on the northern incarceration rate. The expected value of the fitted disparity from model 3 (5:1) closely approximates the observed disparity (5:1). Setting the coefficient on the migration rate to zero reduces the observed increase in disparity between 1880 and 1950 by 33% in expectation. The expected value of the predicted disparity when the effect of the migration rate on the Northern incarceration rate is nullified (4:1:1) is of similar magnitude to the adjusted disparity when the population weights are fixed at their 1880 level (4.2:1). Densities and 95% confidence bounds are generated using simulation.

## MACRODATA

The discussion in the historical section above predicted that the size of the effect of the nonwhite migration rate on the change in the nonwhite incarceration rate of northern Great Migration states would be larger in states whose police force was composed predominantly of foreign whites. To test this prediction, I draw data on the number of white police who were foreign born or had at least one foreign-born parent from Ruggles et al. (2010), the U.S. Department of the Interior (1897), and the U.S. Department of Commerce (1904, 1914*a*, 1923). Using these data, I construct  $Pol$ , the proportion of a state's police force composed of foreign whites at the beginning of the decade.<sup>11</sup> I rewrite equation (3) to specify the interaction between the migration rate and the proportion of foreign white police:

$$Y_{it} = \beta_1 Mig_{it} + \beta_2 Pol_{it} + \beta_3 Hom_{it-1} + \beta_4 Emp_{it} + \beta_5 (Mig_{it} \times Pol_{it}) + \delta_i + \lambda_t + \varepsilon_{it}. \quad (4)$$

Using equation (4), I estimate the partial effect of the nonwhite migration rate on the change in the nonwhite incarceration rate by defining a new parameter,  $\theta = \beta_1 + \beta_5 Pol$  (Wooldridge 2009). Rearranging terms and plugging the new parameter into equation (4) yields:

$$Y_{it} = \theta Mig_{it} + \beta_2 Pol_{it} + \beta_3 Hom_{it-1} + \beta_4 Emp_{it} + \beta_5 [Mig_{it} \times (Pol_{it} - Pol)] + \delta_i + \lambda_t + \varepsilon_{it}. \quad (5)$$

Between 1880 and 1920, the proportion of foreign whites on northern police forces ranged from .38 to .83. Figure 5 plots the partial effect,  $\theta$ , in the interval  $Pol = [.38, .83]$  for whites and nonwhites. The figure makes two things apparent. First, the partial effect for whites is not statistically distinguishable from zero at any point in the interval. Second, as predicted, the magnitude of the effect for nonwhites increases as foreign whites compose a greater share of the police force. Not until foreign whites made up approximately a majority of a state's police force did the nonwhite migration rate have a statistically significant effect on the change in the nonwhite incarceration rate.

## MICRODATA

The historical section above yielded one additional prediction: since migrants themselves were unlikely to commit crimes at a greater rate than

<sup>11</sup> Because data on the nativity of police in 1940 are unavailable, I restrict the sample to the period between 1880 and 1940.

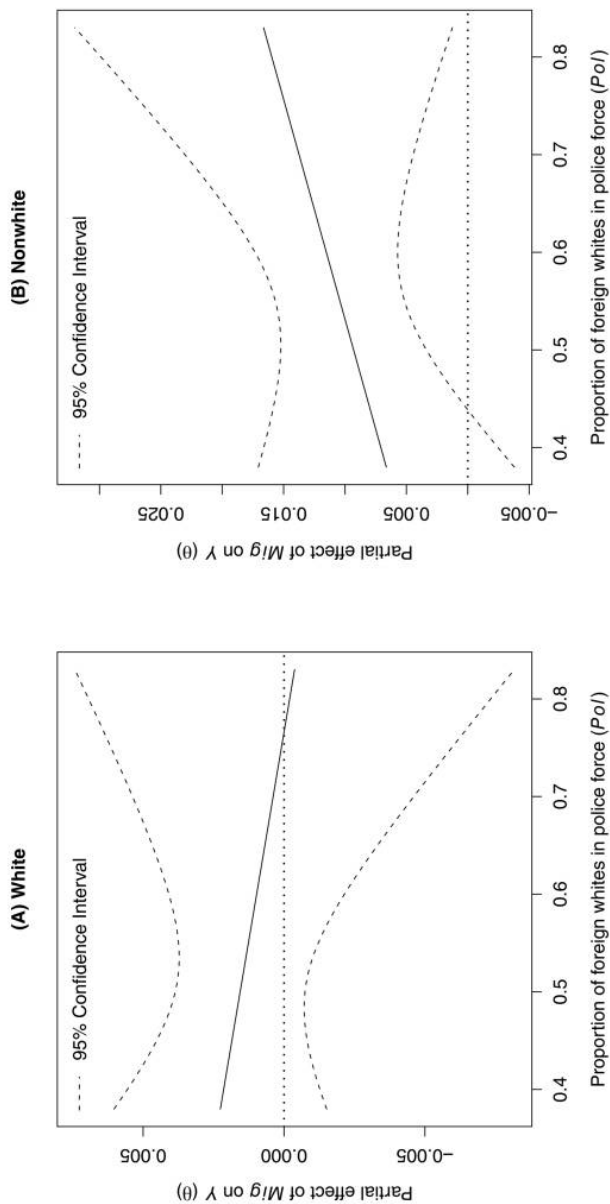


FIG. 5.—Partial effect of the migration rate on the average change in the nonwhite incarceration rate. The partial effect ( $\theta$ ) for whites is not statistically distinguishable from zero at any point in the interval. The partial effect ( $\theta$ ) for nonwhites, in contrast, increases as the proportion of foreign whites in the police force ( $P_{ol}$ ) grows. The 95% confidence intervals indicate that the effect for nonwhites is not significant until foreign whites constitute roughly a majority of the police force.

their stationary counterparts and since police failed to distinguish sharply between the groups, migrants' and nonmigrants' respective conditional probabilities of incarceration in the North should not significantly differ. To evaluate this claim, I draw on a 1% sample of the 1940 census compiled by Ruggles et al. (2010). In 1940, the census asked respondents to list characteristics of their residence in 1935. This allows me to identify migrants who moved over the five-year period preceding the 1940 census. The 1940 census was the only census between 1880 and 1950 to ask respondents to identify their residence five years prior to census day.

I limit the sample to respondents born and residing in Great Migration states in 1935 and 1940 and construct six categories of individuals: stationary southerners and northerners, southerners and northerners who moved to a different state within their respective regions, southerners who moved North, and northerners who moved South. This categorization scheme is similar to that used in Eichenlaub, Tolnay, and Alexander (2010). Out of a group quarters variable reporting whether respondents resided in a federal, state, or local correctional facility, I construct the dependent variable,  $Y$ , scoring 1 if the respondent was incarcerated in 1940 and 0 otherwise. I create covariates measuring respondents' age, age squared, and education, measured as years of schooling completed. I also construct indicator variables for marriage and residence in a metropolitan region.

To estimate the conditional probability of incarceration among migrants and nonmigrants, I use a method developed by Imai, King, and Lau (2007). In data where a binary outcome, such as incarceration in the U.S. population, is rare, logistic regression can underestimate its probability (King and Zeng 2001). Rare events logistic regression generates approximately unbiased and lower-variance estimates of logit coefficients and their variance-covariance matrix. As in standard logistic regression, the stochastic component is

$$Y_i \sim \text{Bernoulli}(\pi_i), \quad (6)$$

and the systematic component is

$$\pi_i = \frac{1}{1 + e^{-\beta x_i}}, \quad (7)$$

where  $Y$  is an indicator of incarceration scoring one with probability  $\pi$  and zero with probability  $1 - \pi$ . As usual,  $\pi$  varies as a function of the explanatory variables,  $x$ , which is a column vector including the six migrant categories listed above by race (with white stationary southerners in the reference category), age, age squared, education, marriage, and metropolitan status in 1940. A row vector,  $\beta$ , summarizes the approximately unbiased logit coefficients. The weighting scheme used to calculate

approximately unbiased estimates in rare events data is given in King and Zeng (2001, pp. 146–48).

Using estimates from the rare events model, figure 6 depicts the predicted probability of incarceration for unmarried residents of metropolitan areas of median age and education among three groups: stationary southerners and northerners and migrants to the North. The figure also shows differences in the predicted probability of incarceration for northerners born in the North and in the South. As in figure 2, regional differences in racial disparity are clear: racial inequality in the probability of incarceration among all stationary northerners in 1940 was more than twice what it was among all stationary southerners.

Figure 6 demonstrates that stationary and migrant nonwhites' risks of incarceration in the North were statistically indistinguishable. Unlike whites, nonwhites were more likely to be incarcerated in the North irrespective of their migrant status.<sup>12</sup> Together with the macroestimates presented in table 4 and table A1, the predicted conditional probabilities of incarceration generated from the microdata suggest that nonwhite migrants' arrival in the North increased the risk of incarceration for nonwhite migrants and nonmigrants alike.

## CONCLUSION

The analysis presented above points to four primary conclusions. First, the American rate of incarceration and racial disparity in it are two distinct phenomena, each following its own historical path and subject to its own historical influences. If we are to make empirical connections between them, the two must be conceptually severed. The United States' exceptionally high incarceration rate is new; large racial disparity in it is not.

Second, northward migration increased racial disparity in northern and southern Great Migration states between 1880 and 1950 in two ways. First, compositional shifts in the population contributed to the aggregate rise of racial disparity because migrants left a region with a comparatively low, and entered a region with a comparatively high, nonwhite incarceration rate. A decomposition indicates that in the absence of this compositional shift, racial disparity would have risen 29% less than it did. Second, increasing rates of migration to 11 northern states between 1880 and 1950 led the nonwhite, but not the white, incarceration rate of those states to increase. The magnitude of this increase suggests that if the migration rate had no bearing on the change in the incarceration rate of

<sup>12</sup> For possible explanations of southern white migrants' relatively high incarceration rate, see Kinman and Lee (1966), Fischer (1989), and Nisbett and Cohen (1996).

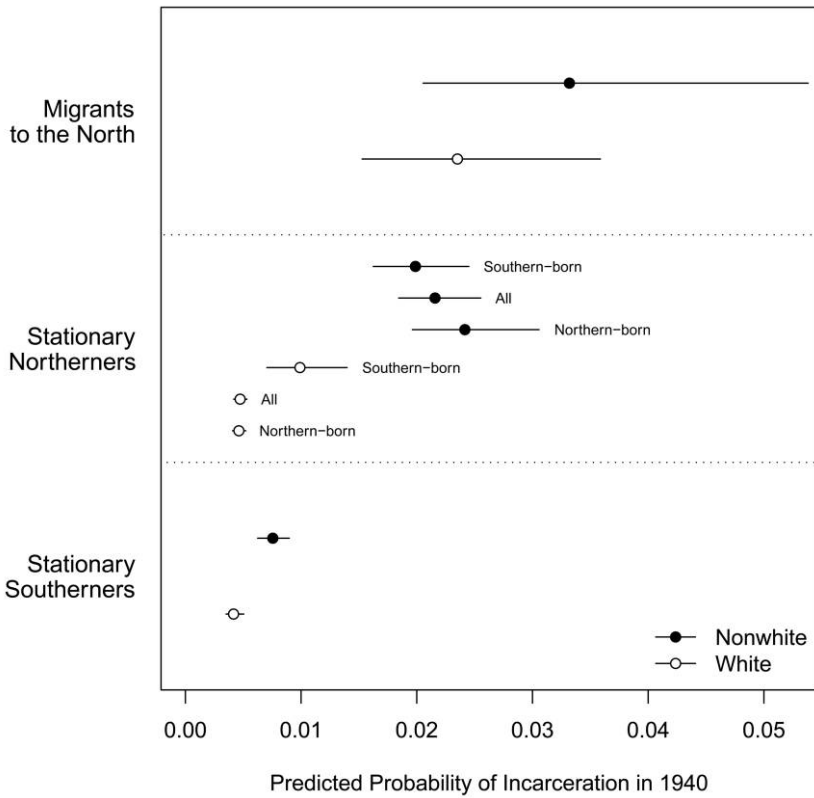


FIG. 6.—Major differences in the probability of incarceration among whites were driven by their migration status. Major differences in the probability of incarceration among nonwhites, in contrast, were regional. Stationary and migrant nonwhites' risks of incarceration in the North were not statistically distinguishable. "Migrants" refers to individuals who moved between 1935 and 1940. Bars around the estimates represent 95% confidence intervals.

northern states, the rise of racial disparity would have been 33% smaller than it was.

Third, the size of the effect of the nonwhite migration rate on the change in the North's nonwhite incarceration rate increased with the proportion of police composed of foreign whites. Not until foreign whites constituted roughly a majority of a state's police force was the effect statistically significant. There is no evidence that changes in the homicide or employment rates of northern states, negative migrant selection, time-invariant unobserved characteristics of states, or national time trends were responsible for the observed relationship. Although these results cannot



confirm the claim that rapid influxes of African American migrants provoked a punitive response in a region primed for conflict by the preexisting status proximity of European immigrants and African-Americans, they are consistent with it. This cannot be said of the competing explanations.

Finally, combined evidence from the macro- and microdata suggests that increases in the rate of nonwhite migration to the North raised the probability of incarceration for migrants and nonmigrants alike. For the effect of the rate of nonwhite migration into 11 northern states to be large enough to alter the course of racial disparity in Great Migration states, it would have to implicate African-Americans already settled there.

Should the mechanisms linking northward migration to the rise of racial disparity in incarceration advanced here withstand further qualitative interrogation, it would demonstrate the continued relevance of Blalock's (1967) threat models, albeit with historical, methodological, and theoretical modifications. First, a superordinate group's likelihood of perceiving incremental increases in a subordinate group's population share, construing those increases as a threat, and responding punitively, should be assessed rather than assumed (King and Wheelock 2007). Second, migration rates, since they index the rapidity of a subordinate group's entrance, may better predict the intensity of a superordinate group's reaction than point-in-time measures of the subordinate group's population share. Finally, in accordance with Gould (2003), we might expect that the narrower the status gap between superordinate and subordinate groups, the likelier it will be that the former construes the arrival of the latter as a threat.

The mechanisms discussed above also extend Gould's (2003) theory of social conflict to cases where one side of the conflict wields the coercive power of the state. Scholars using Blalock's (1967) models to predict state action should bear in mind Mann's (1993, p. 51) observation that "state actors normally are also 'civilians' with social identities." Knowing who administers a state's operations—penal or otherwise—in a given place and time may elucidate why it sometimes produces divergent outcomes for different segments of its population (Donohue and Levitt 2001; King, Johnson, and McGeever 2010).

To uncover one of the sources of rising racial disparity in incarceration in the first half of the 20th century, however, is by no means to explain racial disparity's persistence in the second. As the shock of rapid northward migration dissipated, incidents of collective violence directed against African-Americans in the North began to taper off. Racial disparity in incarceration, meanwhile, remains high. To understand the connection between northward migration between 1880 and 1950 and present rates of racial disparity, therefore, we need a theory linking the past to the present.

African-Americans' first encounter with police in the North, as the history of northern race riots makes clear, provided an initiating grievance

on which a history of distrustful relations could be founded. "If East St. Louis shattered the trust of black men and women in the state's capacity to protect them," observes Tuttle (1970, p. 232), "the behavior of Chicago's police only intensified their insecurity and readiness to furnish their own protection." More than simply a remnant of the southern environment they left behind, African-Americans' distrust of the criminal justice system sprang from early evidence that they could not rely on police—even in the promised land—to protect or process them impartially.

Recent research demonstrates that this legacy extends into the present. In interviews conducted with African-American youths in high-crime neighborhoods in Philadelphia, for example, Carr, Napolitano, and Keating (2007) find that most respondents were negatively disposed toward the police—so much so that nearly as many said they would not call the police in an emergency as said they would. Unnever (2008) reports that 71% of African-Americans compared to 37% of whites consider police bias a "big reason" for racial disparity in imprisonment.

If, owing to a history of racially motivated police misconduct, law-abiding African-Americans avoid contact with police to a greater extent than other groups, police will encounter a biased sample in their routine efforts to enforce the law. They will observe a larger fraction of criminally engaged individuals among African-Americans than among other groups (Loury 2002). This will be particularly likely if, as the research of Beckett, Nyrop, and Pfingst (2006) suggests, comparatively more criminal transactions involving African-Americans transpire in public and if the normative sanction against "snitching" is especially pronounced in African-American communities (Natapoff 2004). Police entering the field entirely free of bias would come to inherit their beliefs about the racial distribution of offending, in part, from the consequences of decisions made long ago by people they never met.

Self-confirming interactions between the police and the populace, of course, can at best account for a small portion of the wide disparities in incarceration that extend into the present. Only a naive observer could claim that we have eliminated racial gaps in offending or racial bias in enforcement. As long as these endure, racial disparity will persist. Tracing the history of the relationship between northward migration and racial disparity in incarceration, however, should render these gaps more intelligible. If Wacquant (2001, p. 117) is correct to connect today's high rates of African-American incarceration, in part, to "the centuries-old association of blackness with criminality," the analysis presented here helps explain how that association came to be and how with a different sequence of migration it might have been otherwise.

APPENDIX A

Instrumental Variables Estimation

In this appendix, I introduce an instrumental variables identification strategy to provide a robustness check on the fixed effects estimates reported in the results section of the article. Even in a fixed effects specification, omitted variables might bias the estimates. One solution to this problem is to identify an exogenous source of variation that affects the nonwhite incarceration rate only through its effect on the nonwhite migration rate. This is known as instrumental variables (IV) estimation; the variables indexing the portion of variation in migration due only to the exogenous shock are called instrumental variables.

To be valid, instrumental variables must satisfy two conditions: the exclusion restriction and the relevance assumption. The exclusion restriction holds that an instrument must be correlated with the causal variable, *Mig*, but uncorrelated with any other determinant of the dependent variable, *Y* (see Morgan and Winship 2007, fig. 7.1). When an instrument only weakly predicts the causal variable, it violates the relevance assumption. After describing the instrument I construct, I discuss both requirements in greater detail below.

Historians and social scientists have long recognized that migration is subject to “push” and “pull” factors influencing its timing and intensity (Lee 1966; Higgs 1976; Fligstein 1981; Margo 1990; Tolnay and Beck 1992). In cases where spurs to migration are related to an outcome only by way of migration itself, these spurs can be used to identify migration’s causal effects (see, e.g., Boustan 2010). I use a shock to the migration rate of southern nonwhites due only to exogenous “pull” factors at the destination of migration. Since theories of migration predict that “migrants responding primarily to plus factors at destination tend to be positively selected” (Lee 1966, p. 56), examining the effect of the nonwhite migration rate due solely to northern “pull” factors strengthens the case that the positive relationship between the migration rate and the change in the incarceration rate of nonwhites is not due to underlying differences between migrants and nonmigrants. Most important, building an instrument from positive spurs to migration will free the estimates of bias due to omitted variables if the instrument’s assignment of nonwhite migration rates to states is exogenous with respect to those states’ nonwhite incarceration rates.

To identify the effect of the nonwhite migration rate on the change in the nonwhite incarceration rate in northern states, I take advantage of the United States’ divergence from European models of industrialization. Whereas most European nations drew their industrial labor force from peasants residing in their peripheries, the United States drew a sizable

share of its urban proletariat from overseas (Hobsbawm 1975). Scholars alternatively attribute this to the unique racial dishonor distinguishing the southern peasantry after the demise of slavery (Patterson 1982), to European immigrants' unwillingness to work alongside African-Americans (Ignatiev 1995), and to the political influence of southern landowners. Loury (2002, p. 78) explains: "At the turn of the twentieth century, with millions of (black) American peasants waiting in the wings, there occurred a rapid expansion of the industrial economy in the North. Due to a complex set of social and economic relations between the peasants and Southern landowners, and to the disproportionate political influence of the latter in the U.S. Congress, we ended up with peasants from Eastern and Southern Europe being drawn in the tens of millions to people the burgeoning capitalist economy of the North even as the American peasants were kept to the margin."

Not until federal immigration restrictions introduced in the midst of World War I stemmed the flow of European migration did northern industrialists begin actively to seek out African-American laborers from the South (Florant 1941; Marks 1989). Strict limitations on foreign immigration began with the introduction of literacy tests in 1917 and escalated with the Emergency Quota Act of 1921, the Immigration Act of 1924, and the National Origins Act of 1929. Immigration's downward pressure on wages, argues Goldin (1994), had been active at least since the turn of the century, so the push past the legislative tipping point had to come from without. "From the early 1900s to 1917 it was just a matter of waiting for some exogenous force—an economic downturn, a war, a rash of labor unrest—to close the door" (Goldin 1994, p. 256). Timmer and Williamson (1998) supply evidence to support Goldin's (1994) conclusion that foreign immigration restrictions had nonmarket sources. The evidence these studies adduce, furthermore, echoes the sentiment of contemporary observers. As early as 1918, George E. Haynes (1918, pp. 6–7), director of Negro economics at the Department of Labor, concluded: "About the time that these unfavorable economic conditions in the southern districts were most powerful, there came an unusual demand for labor in northern industrial centers. Prior to this, these industrial districts had been largely supplied by semi-skilled emigrant workers from Europe. The Great War stopped this labor supply." Table 1 shows that between 1910 and 1920 nonwhite migration into the North waxed just as foreign white migration waned. Collins (1997) finds a strong negative relationship between the rate of foreign white migration and nonwhite migration into northern states (see also Tolnay 2001).

The history of sequential migration into the North points to a shock to nonwhite migration that is plausibly unrelated to changes in the nonwhite incarceration rates of northern states: federal restrictions on foreign

immigration. I construct an instrument using an index of federal immigration liberality developed by Timmer and Williamson (1998). The index ranges from  $-5$  to  $5$ , with a positive score denoting pro-immigration policy and a negative score denoting anti-immigration policy. The index is described in detail in table B1. I assign state-invariant immigration liberality scores to each period based on the mean score between census years. Since shocks to the North's labor supply stemming from federal immigration legislation should have been severest in states with the greatest initial proportions of foreign residents, I multiply each period's liberality score by the proportion of each state's metropolitan population that was foreign in 1880.<sup>13</sup> This generates *Ind*, a state-varying index of foreign immigration liberality. In the first stage, I regress the rate of nonwhite migration on the liberality index. The most parameterized version of the first-stage model is

$$Mig_{it} = \gamma_1 Ind_{it} + \gamma_2 Hom_{it-1} + \gamma_3 Emp_{it} + \alpha_i + \eta_t + v_{it}, \quad (A1)$$

where *Mig* is the estimated net nonwhite migration rate, *Ind* is the instrument, *v* is an error term, and all other exogenous covariates are defined as above. A Wooldridge test fails to reject the null hypothesis of no first-order autocorrelation in the most parameterized first-stage model (Wooldridge 2002; Drukker 2003).

In the second stage, I substitute the fitted values,  $\hat{Mig}$ , from the first-stage regression for the actual rate of nonwhite migration. The most parameterized version of the second-stage model is

$$Y_{it} = \beta_1 \hat{Mig}_{it} + \beta_2 Hom_{it-1} + \beta_3 Emp_{it} + \delta_i + \lambda_t + \varepsilon_{it}. \quad (A2)$$

Collins (1997) uses a similar instrument, including a state-varying version of the Timmer-Williamson liberality index, to predict rates of foreign white immigration.

The exclusion restriction is violated if federal immigration policy affected rates of nonwhite incarceration other than through its effect on rates of nonwhite migration. This is unlikely: more stringent restrictions on foreign immigration, if anything, should have undercut the ability of police departments to recruit foreign whites, although there is no evidence that the restrictions had any effect on the composition of Northern police forces (Watts 1981; Wilson 1964). The relevance assumption is violated if first-stage *F*-statistics testing the significance of the instrument are too

<sup>13</sup> I use a 100% sample of the 1880 census provided in Ruggles et al. (2010) to tabulate the foreign proportion of each state's metropolitan areas. That nonwhite migrants overwhelmingly moved to metropolitan regions is well established. By 1950, more than 68% of the entire African-American population of northern Great Migration states resided in the 26 central cities categorized as metropolitan in 1880 (U.S. Department of Commerce 1953, author's tabulations). A list of these cities is provided in table B1.

TABLE A1  
 INSTRUMENTAL VARIABLES REGRESSION OF INTERCENSAL CHANGE IN INCARCERATION  
 PER 100,000 PEOPLE IN 11 NORTHERN STATES, 1880–1950

	NONWHITES		
	Model 1	Model 2	Model 3
Estimated net intercensal rate of migration per 100,000 people .....	.012*** (.003)	.007* (.003)	.008* (.004)
Lagged intercensal change in homicides in largest city per 100,000 people .....		4.996* (2.277)	−2.157 (3.270)
Intercensal change in % of males gainfully occupied .....		−32.65*** (8.67)	18.76 (22.55)
Intercept .....	6.05 (55.92)	82.58 (53.25)	
State fixed effects .....			Yes
Period fixed effects .....			Yes
Adjusted $R^2$ .....	.381	.503	.658
$df$ .....	64	62	47
Hausman test $P$ -value .....	.486	.987	.962
FIRST-STAGE REGRESSION OF NET INTERCENSAL MIGRATION PER 100,000 PEOPLE IN 11 NORTHERN STATES, 1880–1950			
Immigration liberality index ....	−10,367.0*** (2,006.9)	−10,758.3*** (2,092.8)	−23,551.6** (7,736.5)
Lagged intercensal change in homicides in largest city per 100,000 people .....		547.4* (236.1)	472.0 (236.1)
Intercensal change in % of males gainfully occupied .....		191.7 (809.0)	51.2 (1,240.8)
Intercept .....	1,717.7 (3,536.4)	114.1 (4,123.6)	
State fixed effects .....			Yes
Period fixed effects .....			Yes
Adjusted $R^2$ .....	.367	.404	.601
$df$ .....	64	62	47
$F$ -statistic .....	26.68	26.43	9.27

NOTE.—Numbers in parentheses are robust SEs (Stock and Watson 2008). Units are state-decades. No intercept is reported for the fixed effects models. States include Connecticut, Illinois, Maryland, Massachusetts, Michigan, Missouri, New Jersey, New York, Ohio, Pennsylvania, and Wisconsin.  $N = 66$ .

- \*  $P < .05$ .
- \*\*  $P < .01$ .
- \*\*\*  $P < .001$ .

small. *F*-statistics around 10 or higher are considered acceptable (Stock, Wright, and Yogo 2002). Although weak instruments can create problems in samples of any size, they are especially threatening in small samples since the IV estimator, unlike the OLS estimator, is biased in finite samples (see Morgan and Winship 2007, pp. 197–200).

Table A1 reports the instrumental variables estimates for nonwhites.<sup>14</sup> It shows that the IV estimates are very similar to the OLS estimates. Hausman tests fail to reject the null hypothesis that the difference between the OLS and IV coefficients is sufficiently small to indicate that the OLS estimates are unbiased. As predicted, the stricter federal immigration policy, the greater the rate of nonwhite migration, and the larger the increase in the nonwhite incarceration rate of northern states. A 100 per 100,000 person increase in the nonwhite migration rate due only to shocks to the northern labor supply from federal immigration legislation generated, on average, a .8 per 100,000 person increase in the nonwhite incarceration rate of northern states.

<sup>14</sup> First-stage *F*-statistics for whites fall well below the acceptable threshold: .93, .66, and .09 for models 1, 2, and 3, respectively. An alternative specification of the first-stage regression, including separate terms for the state-invariant immigration liberality index and the proportion of each state's metropolitan population that was foreign in 1880, yielded coefficients on the migration rate of nearly identical size and significance in models 1 and 2. These terms are absorbed by the state and period fixed effects in model 3.

APPENDIX B  
Macrodata Summary

TABLE B1  
MACRODATA DESCRIPTION AND SOURCES

Variable	Description	Sources	Notes
<i>Y</i>	Intercensal change in incarceration per 100,000 people	U.S. Department of the Interior (1895, table 4), U.S. Department of Commerce and Labor (1907, table 2), U.S. Department of Commerce (1914 <i>b</i> , table 3; 1926, table 139; 1943, table 12; 1955, table 36; 1963, table 34; 1973 <i>a</i> , table 32)	Data for 1870, 1880, 1890, 1904, 1910, and 1923 compare white to "colored" prisoners. U.S. Department of Commerce (1926) indicates that "prisoners" refers to inmates in state prison, county and municipal jails, and county chain gangs. Data on prisoners by race and state in 1930 are unavailable. Data for 1940 compare white to nonwhite inmates over age 17 in prisons or reformatories, local jails, or workhouses. Data for 1950 compare white to nonwhite inmates over age 19 in correctional institutions (federal and state prisons, local jails, and workhouses). U.S. Department of the Interior (1895, table 4) and U.S. Department of Commerce (1955, table 36) do not distinguish native from foreign whites. The migration rate of native whites, therefore, is compared to changes in the incarceration rate of all whites.
<i>Mig</i>	Estimated net migration per 100,000 people	Lee et al. (1957, table P1), Bowles et al. (1990); Gibson and Jung (2002)	Rates of "nonwhite" migration reflect rates of "Negro" migration reported in Lee et al. (1957). Bowles et al. (1990) does not distinguish foreign from native white migration and so cannot be used for the comparative analysis of nonwhite and white incarceration rates.
<i>Hom</i>	Intercensal change in homicides in largest city per 100,000 people	Monkkonen (2005); Federal Bureau of Investigation (1940, table 83; 1950, table 35; 1961, table 38; 1971, table 60), Gibson (1998)	Cities include New Haven, Chicago, Baltimore, Boston, Detroit, St. Louis, Newark, New York, Philadelphia, and Milwaukee. For Ohio, a weighted average of the homicide rate in two cities—Cincinnati and Cleveland, both of which were important migrant destinations—is included.



TABLE B1 (Continued)

Variable	Description	Sources	Notes
<i>Emp</i>	Change in the percentage of males ages 10 and over gainfully occupied	Lee et al. (1957, table L-3), U.S. Department of Commerce (1973b, table 46)	Data for 1870–1930 measure the % of males 10 years old and over gainfully occupied. Data for 1940–50 measure the % of males 10 years old and over in the labor force. Data for 1960–70 measure the % of males ages 14 years and older in the labor force.
<i>Ind</i>	Immigration liberality index	Timmer and Williamson (1998); Ruggles et al. (2010)	“The index ranges over a scale of +5 to –5. A positive score denotes a pro-immigration policy, possibly including comprehensive subsidies for passage and support upon arrival. A negative score denotes anti-immigration policy, possibly including quotas, literacy tests, and legal discrimination after arrival. A zero denotes policy neutrality, or a neutral outcome between conflicting pro- and anti-immigration policies” (Timmer and Williamson 1998, pp. 740–41). The algorithm used to construct the index is detailed on page 741 of Timmer and Williamson (1998). The authors describe the policy and legislative changes built into the U.S. index on pages 763–68. Index scores for 1930–50 were provided by William J. Collins, who developed them with the help of Ashley Timmer. Metropolitan regions of northern Great Migration states comprised the following central cities in 1880: Albany, Baltimore, Boston, Buffalo, Chicago, Cincinnati, Cleveland, Columbus, Detroit, Jersey City, Kansas City, Lowell, Milwaukee, New Haven, New York, Newark, Paterson, Philadelphia, Pittsburgh, Rochester, St. Louis, Scranton, Syracuse, Toledo, Troy, and Worcester.
<i>Pol</i>	Foreign white proportion of police	Ruggles et al. (2010); U.S. Department of the Interior (1897, table 116), U.S. Department of Commerce (1904, table 41; 1914a, table 7; 1923, table 1)	Data for 1880 measure the foreign white proportion of watchmen in each state. Data for 1890 measure the foreign white proportion of watchmen, policemen, and detectives. Data for 1900 measure the foreign white proportion of watchmen, firemen, and policemen. Data for 1910 and 1920 measure the proportion of policemen who are white and either foreign born or have one foreign-born parent.

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