Discrimination and Economic Development*

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Abstract

Following the abolition of slavery, a new set of extractive institutions emerged in the US South collectively known as Jim Crow. This paper studies both the endogenous formation of these institutions and their consequences for economic development. We propose a unified empirical framework that traces the chain from growing Black populations to the adoption of restrictive institutions to their impact on long-run development. Using a shift-share IV design based on within-South Black migration, we show that places with faster Black population growth adopted harsher anti-Black institutions, and that those institutions slowed local economic development while benefiting white elites. Black migration shocks translated into both local anti-Black violence and statewide political responses that held back development across the South. The quantitative evidence aligns with the long-standing hypothesis that land-owning elites imposed anti-Black institutions on Southern society for their own gain, and it explains why the South only started to catch up with non-Southern economic development after the end of Jim Crow.

JEL Codes: J15, N31, N41, O43, P16

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1. Introduction

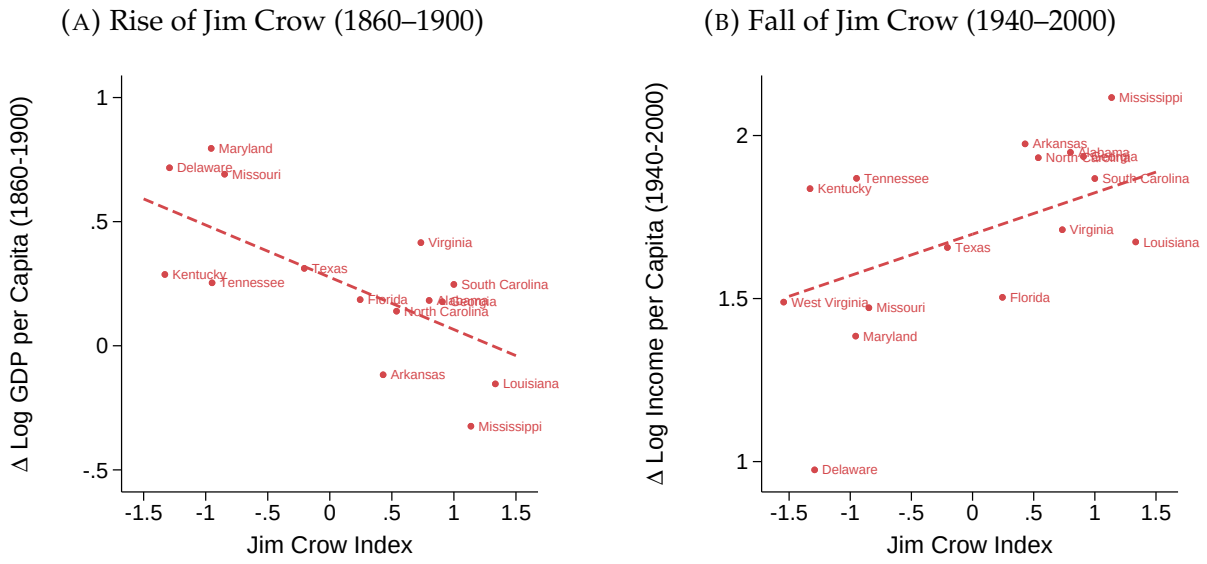
The American South has been poorer than the rest of the United States for more than 150 years. Different factors have contributed to the region's underdevelopment: specialization in agriculture (North, 1961), the destruction wrought by the Civil War (Engerman, 1966; Goldin and Lewis, 1975; Feigenbaum et al., 2022), and the lasting economic consequences of slavery (Dell, 2010; Fujiwara et al., 2023). The South was also the epicenter of Jim Crow—a set of anti-Black institutions of racial segregation, Black disenfranchisement, and restrictions to Black economic and geographic mobility (Du Bois, 1935; Key, 1949; Wright, 1986; Ransom and Sutch, 2001).

In this paper, we study the role of legal and extralegal racial discrimination in the South's long-run underdevelopment. We propose a unified empirical framework that traces the chain from growing Black populations to violence and the adoption of restrictive institutions to their impact on economic development. Using a shift-share IV design based on within-South Black migration, we show that places with faster Black population growth adopted harsher Jim Crow institutions—and that those institutions slowed economic development while benefiting white elites.

We begin by establishing a set of descriptive facts. First, the South's economic gap with the rest of the country widened after the Civil War and only began to close in the mid-twentieth century. Second, during the Jim Crow era, the gap grew most in states that adopted the harshest Jim Crow laws; in contrast, the gap shrank most in the same states when those laws were dismantled during the Civil Rights era (see Figure 1). The widening gap during Jim Crow and its reversal during Civil Rights establish a negative correlation between Jim Crow intensity and economic development. Third, states with large and growing Black populations were more likely to adopt restrictive legislation, and counties experiencing faster Black population growth were more likely to vote for the Democratic party—which led the Jim Crow agenda. Where Black populations grew, white-dominated legislatures responded with repressive institutions, and those institutions held back economic development.

The mechanism linking Black population growth to repression runs through both elite self-interest and a cross-class white coalition. White elites had a direct economic interest in preserving access to cheap Black labor, while many poorer whites faced labor-market competition from Black workers. The resulting institutional framework protected elite rents while securing broader white support through legally and socially enforced status distinctions—including what Du Bois (1935) calls a "psychological wage," the social and legal privileges that compensated poorer whites for lowered economic progress. Because state legislatures enacted the most consequential restrictions, local migration shocks translated into statewide political and institutional responses.

FIGURE 1: Jim Crow and Economic Development Over Time



Notes: Panel A plots the relationship between state Jim Crow intensity and the change in GDP per capita between 1860 and 1900, using GDP data from Francis (2025). Panel B plots the relationship between state Jim Crow intensity and the change in income per capita between 1940 and 2000, using state personal income data from the Bureau of Economic Analysis (U.S. Bureau of Economic Analysis, 2026). Each bubble is a state, with bubble size proportional to population.

To identify the effect of Black population growth on anti-Black institutions and economic development, we propose a new shift-share IV design based on within-South Black migration. Our empirical strategy uses historical county linkages and distant origin-specific push and pull factors to isolate plausibly exogenous changes in local Black population growth after 1870 and to trace their long-run consequences through 2000. Our strategy generalizes several aspects of the shift-share design of Boustan (2010) and Derenoncourt (2022) to a within-South setting in which counties are both origins and destinations and migration is ongoing rather than concentrated in a single episode.

Our first main result is that places exposed to larger increases in Black population growth became more supportive of anti-Black politics and saw stronger adoption of Jim Crow laws. A one-decile increase in Black population change raises Democratic vote share by roughly four percentage points in presidential elections and six percentage points in gubernatorial elections. The voting effect is robust to controlling for local economic conditions and region-level fixed effects. The same variation predicts significantly more Jim Crow laws targeting employment, migration, and suffrage—the categories most directly tied to labor control and political exclusion. All results are robust to controlling for white migration and to excluding adjacent states from the instrument; placebo regressions using pre-period (1855–1856) political outcomes show only a weak relationship with the later migration instrument.

Our second main result is that the primary channel runs through state-level institutions, not local demographic composition alone. Once we control for aggregate state-

level Black population growth, Jim Crow institutions, or state fixed effects, the local migration coefficients fall by more than half—consistent with the fact that state legislatures, not county governments, enacted the most consequential Jim Crow legislation.

Our third main result is that the resulting institutional regime slowed economic development while benefiting white elites. Counties with instrumented increases in Black population rank lower on a composite development index during the decades when states built Jim Crow. Mechanization lagged and educational inequality widened. Black Americans in high-migration counties experienced the largest economic losses. In contrast, farm values rose, consistent with a labor-intensive agricultural path that raised land values while constraining structural transformation. The pattern of broad development costs alongside concentrated elite gains complements Althoff and Reichardt (2024), who use a border-based research design following individual Black and white families from their 1870 origin location to show that Jim Crow reduced Black economic progress and raised white elite incomes.

This paper provides long-run causal evidence that racial discrimination slowed Southern economic development. The South's postbellum experience has long been understood as a low-wage, labor-repressive equilibrium (Wright, 1986, 2013), and recent work shows that dismantling Jim Crow through Civil-Rights-era enforcement increased Black political participation, redirected public resources, and generated broad economic gains (Cascio and Washington, 2014; Ang, 2019). Our results explain the other side of this pattern: the institutions that the Civil Rights Movement dismantled had depressed Southern development for decades, which helps explain both why the South fell further behind after emancipation and why sustained convergence began only after Jim Crow ended.

This paper identifies a unifying mechanism linking the endogenous adoption of discriminatory institutions to economic underdevelopment. A large literature documents the persistent effects of colonial extractive institutions on development (Acemoglu et al., 2001, 2002; Dell, 2010) and the power of elites to impede change even after formal regime transitions (Sokoloff and Engerman, 2000; Acemoglu and Robinson, 2008). Jim Crow illustrates this dynamic: abolition and Reconstruction changed the formal political order, but white elites retained enough de facto power to erect a new extractive regime. Our results show how Black population growth triggered this institutional response and how the resulting violence and laws depressed development while protecting elite rents.

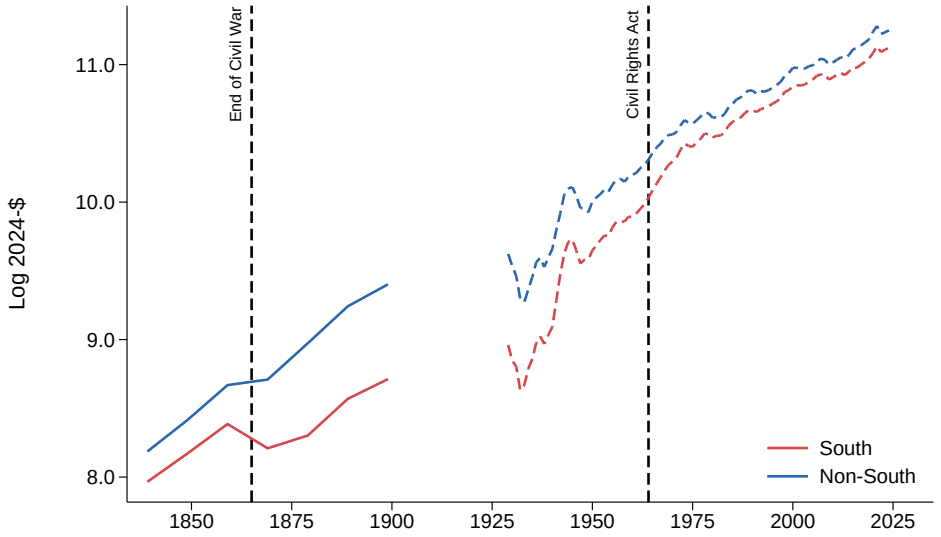
We broaden our understanding of how Jim Crow affected economic outcomes to the joint incidence on aggregate development and elite rents. Existing research shows that coercive postbellum institutions constrained Black mobility, wages, and long-run economic progress (Naidu, 2010; Althoff and Reichardt, 2024), and that Black demographic and political gains triggered white backlash (Logan, 2020, 2023; Chyn et al., 2024; Anderson et al., 2025). We study the political formation of these institutions and trace their consequences for the broader Southern economy. Jim Crow reduced local devel-

opment while concentrating gains among white elites—a pattern that helps explain why the regime endured for nearly a century despite its wider economic costs.

2. Historical Background

The US South's persistent underdevelopment has gone hand in hand with a changing set of racially discriminatory institutions. Slavery ended in 1865 but was followed by Jim Crow—an almost century-long period in which states disenfranchised Black voters, restricted Black geographic and economic mobility, segregated most aspects of daily life, provided public goods unequally, and tolerated extralegal violence against Black Americans. Jim Crow only ended with the Civil Rights Movement in the 1950s and 1960s.

FIGURE 2: The South's Persistent Economic Lag

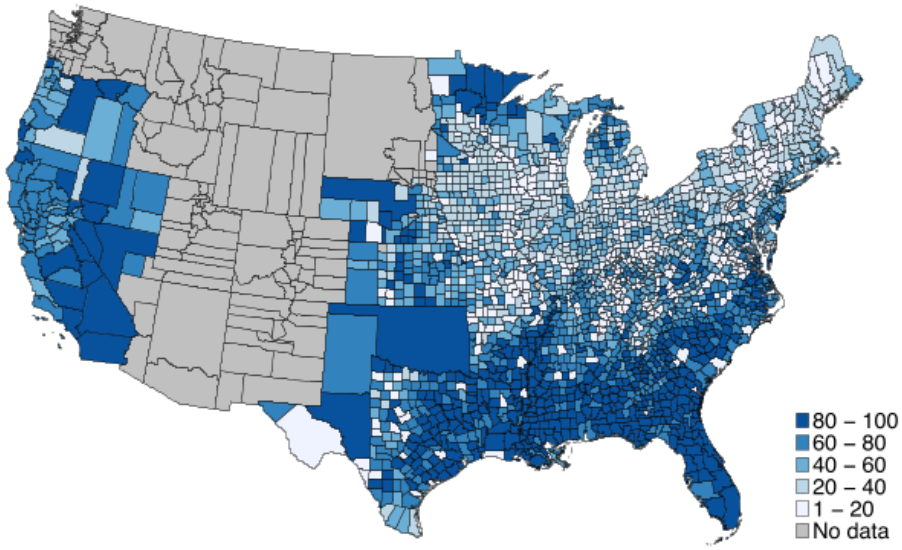


Notes: This figure shows GDP per capita for the South and non-South from 1840 to 2024. GDP per capita for 1840–1900 is from Francis (2025). State personal income per capita for 1929–2024 is from the Bureau of Economic Analysis (U.S. Bureau of Economic Analysis, 2026).

Each Southern state had its own Jim Crow regime, varying in intensity and scope, with the most severe restrictions emerging in states with the largest Black populations. The concentration of Black populations shifted after the end of slavery. Black Americans left plantations, reunited families, searched for safer communities, bargained over wages, and pursued land and autonomy.[1] Many moved westward toward Arkansas, Louisiana, and Mississippi, where labor demand and the prospect of economic independence were strongest before the rise of Jim Crow (Ransom and Sutch, 2001; Wright, 1986).

[1]Indeed, even some Black men from the North moved South during Reconstruction: "...numerous northern [Black Americans] who moved south after the end of slavery, one of the few times in American history when the region offered [B]lack men of talent and ambition greater opportunities than the North." (Foner, 2006).

FIGURE 3: Ranked Changes in Black Population (1870–1900)



Notes: This map shows county-level percentile ranks of the change in the Black population share between 1870 and 1900. Darker counties experienced larger increases in Black population share. Data are from linked full-count census records.

Large and growing Black populations threatened white elites' grip on Southern politics and the Southern economy. In counties where Black residents approached or exceeded a majority, unrestricted suffrage could overturn the planter class's hold on state legislatures and local government (Key, 1949). At the same time, emancipation gave workers the ability to leave, eroding landowners' bargaining power and making the plantation order harder to sustain. The early response included coercive and improvised measures like restrictive labor contracts, debt peonage, vagrancy statutes, limits on recruiters, and violence, which all raised the cost of exit (Ransom and Sutch, 2001; Naidu, 2010). Over time these coercive labor-market restrictions were codified into law. Jim Crow combined disenfranchisement, segregation, restrictions on economic and geographic mobility, and unequal provision of public goods (Du Bois, 1935; Key, 1949; Althoff and Reichardt, 2024). The result was often a reversal of fortunes: Black workers moved to high-productivity plantation areas immediately after emancipation, only to face increasingly oppressive institutions in those same places (Du Bois, 1935; Key, 1949; Wright, 1986). Because the key rules were written at the state level, migration shocks in one part of a state could reshape institutions far beyond the counties that directly received migrants.

Sustaining Jim Crow, however, required not only elite self-interest but also a cross-class white coalition. White elites wanted a dependable low-wage labor force; poorer whites, who faced direct labor-market competition from Black workers, wanted protection of a different kind. The regime served both by preserving elite access to cheap Black labor while granting ordinary whites legal privileges, electoral dominance, and the status

benefits that Du Bois calls a "psychological wage" (Du Bois, 1935).

White planter elites did not vanish after defeat; they adapted, retaining leverage over land and labor through sharecropping and related arrangements after Congress abandoned Radical promises of land redistribution (Wiener, 1978). Fragile Black political rights lacked a durable economic base, and Jim Crow emerged as an elite-led effort to re-anchor control over Black labor and votes. The substantial within-South reallocation of Black population during this period—driven by the search for land, wages, and autonomy—provides the source of variation we exploit in the next section to identify the causal effect of Black population growth on institutions and development.

3. Data

We combine county-level demographic, economic, and political data from 1850 to 2000. The identifying variation comes from county-to-county migration flows measured in linked full-count census records. We aggregate county-level outcome data from the Census of Agriculture and the Census of Manufacturing, full-count census microdata for individual-level socioeconomic outcomes, election returns from ICPSR, a Jim Crow law database, and records of lynchings and Ku Klux Klan activity.

Migration networks. We construct county-to-county migration shares from linked full-count IPUMS census records (Ruggles et al., 2024) using the crosswalk files from the Census Linking Project (Abramitzky et al., 2020). For each pair of consecutive census decades from 1850–1860 through 1930–1940 (excluding 1890, which was lost in a fire), we link individuals across censuses and compute the share of an origin county's population that moved to each destination county. These (lagged) shares form the basis of the shift-share instrument.

Population. County-level population counts for white and Black individuals from 1850 to 1940 come from the *Historical, Demographic, Economic and Social Data: The United States, 1790–2002* (ICPSR 2896) (Haines, 2010). The population counts provide the denominators for population-change measures and per-capita scaling.

County-level agricultural and economic outcomes. Agricultural outcomes—including farm values, acreage, crop production, machinery, tenure composition, and labor inputs—come from the NHGIS-harmonized county-level Census of Agriculture panel (Manson et al., 2021) (replacing the original ICPSR 35206 series), covering 1840–1950. Manufacturing outcomes—including establishments, capital, employment, wages, and output—come from ICPSR 37114 (1929–1935) and ICPSR 38834 (1946–1974). We harmonize all outcomes to consistent 1870 county boundaries using a population-weighted crosswalk.

Individual-level census outcomes. We use full-count IPUMS census microdata for 1850–1940 (Ruggles et al., 2024) to construct county-level measures of school attendance, liter-

acy, occupational income scores, wage income (available from 1940), manufacturing employment, and self-employment, separately by race. The individual-level measures are aggregated to 1870-boundary counties and used to study schooling gaps, income differences, and labor-market outcomes that are not available in published county aggregates.

Election data. County-level presidential and gubernatorial election returns come from ICPSR 00001 (Inter-university Consortium for Political and Social Research, 1999). We construct a balanced panel of Democratic vote shares by decade from 1870 to 1960 for 15 Southern states. Details on interpolation and state-specific adjustments are in Appendix C.

Jim Crow laws. We use the state-level Jim Crow law database and Jim Crow index from Althoff and Reichardt (2024). The database records discriminatory laws by state, year, and type (employment, migration, suffrage, education, transportation, marriage, and other). We construct counts of discriminatory laws enacted by 1900 and by type for the analysis of institutional responses.

Lynchings. County-level lynching counts come from two sources: the national lynching dataset of Seguin and Rigby (2019), covering 1883–1941, and the Equal Justice Initiative (EJI) county supplement (Equal Justice Initiative, 2024).

Ku Klux Klan. Data on the second Ku Klux Klan (1920s) come from the Virginia Commonwealth University Libraries' mapping project (Kneebone and Torres, 2015), which records individual klavern locations. We aggregate these to county-level counts and construct an indicator for any KKK presence, crosswalked to 1870 county boundaries.

State legislative voting. We are assembling a new dataset on state legislators to study who supported Jim Crow in practice. We are digitizing roll-call votes on Jim Crow bills from state legislative journals. Data collection is ongoing: the current sample covers Texas, Louisiana, and North Carolina, with Georgia currently being added, and includes suffrage restrictions, labor and employment laws, and segregation statutes. We link legislators to full-count census records using name, age, and state of residence, yielding legislators' counties of residence and linking legislative behavior to local migration exposure. These data are not yet used in the main-text results. Table 18 in Appendix C summarizes current state coverage.

4. Empirical Strategy

The key empirical challenge is selection into migration: Black migrants may have moved toward places with different economic or political conditions. Our strategy exploits the fact that Black migrants followed established settlement networks: we predict where they moved using historical migration patterns and agricultural push factors in their counties of origin. Because the predicted migration is driven by conditions in other counties rather

than in the destination, it isolates variation in local Black population growth that is plausibly unrelated to destination-specific conditions.

4.1. Shift-Share IV Design

The goal is to estimate the causal effect of Black in-migration on institutions and development, accounting for the fact that Black migrants may move toward places with better economic opportunities or different political conditions. We therefore adapt the Black migration shift-share design of Boustan (2010) and Derenoncourt (2022) to a within-South setting in which counties are both origins and destinations and migration is ongoing rather than concentrated in a single episode. The design uses historical migration-network shares to map shocks from origin counties into destination counties, so identification does not require classifying places in advance as fixed origins or destinations.

4.2. Instrument Construction

We define the treatment as the cumulative change in the Black population of destination county d between 1870 and end year T, normalized by the county's 1870 total population:

$$\Delta b_d^{1870\text{-}T} = \frac{\text{Black pop}_d^{T} - \text{Black pop}_d^{1870}}{\text{Total pop}_d^{1870}}. \tag{1}$$

The main specification uses $T = 1900$, which captures the migration shock during Jim Crow's formative period. We then use this migration exposure to study downstream political, institutional, and economic consequences over the long run, including outcomes through 2000.

The instrument predicts cumulative Black population change using two ingredients: historical cross-county migration shares and predicted outmigration from other counties based on lagged agricultural push factors. For each target decade $t \in \{1880, 1890, \ldots, T\}$, the decade-specific predicted change in county d is

$$\widehat{\Delta b}_{d,t} = \sum_{o \neq d} \text{share}_{o \to d}^{t-20,\, t-10} \cdot \widehat{\text{out-mig}}_o^{\,t-10,\, t}, \tag{2}$$

where $\text{share}_{o \to d}^{t-20,\, t-10}$ is the fraction of white migrants from origin o who settled in destination d, computed from linked census records in the decade ending ten years before the target; and $\widehat{\text{out-mig}}_o^{\,t-10,\, t}$ is predicted Black outmigration from county o during the decade from $t-10$ to t, estimated from lagged agricultural push factors using LASSO for variable selection and leave-one-state-out prediction. Shares are based on white linked flows rather than Black flows to avoid a mechanical correlation between the instrument

and the endogenous variable.

The cumulative instrument for the window 1870–T sums these decade-specific components:

$$\widehat{\Delta b}_d^{1870\text{-}T} = \sum_{t=1880}^{T} \widehat{\Delta b}_{d,t}. \tag{3}$$

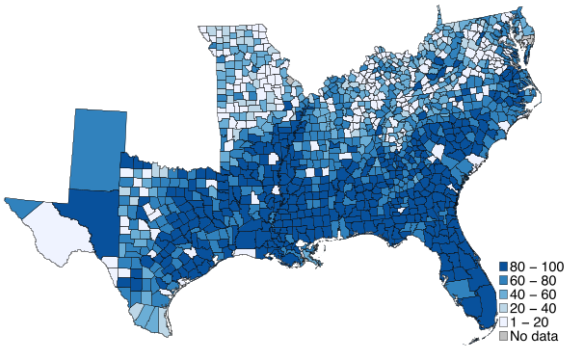
Both the treatment and the instrument are normalized by the county's 1870 total population. In our preferred specification, we convert the cumulative treatment and instrument to percentile ranks (rescaled to a 1–10 decile scale), so that

$$R(\Delta b_d) = \text{rank}\big(\Delta b_d^{1870\text{-}T}\big), \qquad R(\widehat{\Delta b}_d) = \text{rank}\big(\widehat{\Delta b}_d^{1870\text{-}T}\big). \tag{4}$$

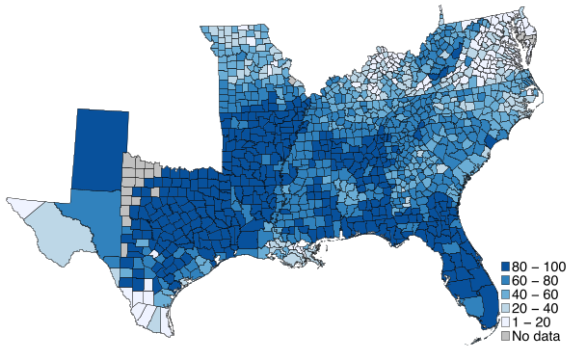
This ranked specification is robust to outliers and ensures that coefficients reflect the effect of moving one decile in the distribution of predicted Black population change, rather than depending on the scale of level changes.

FIGURE 4: Actual vs. Predicted Migration

(A) Actual migration

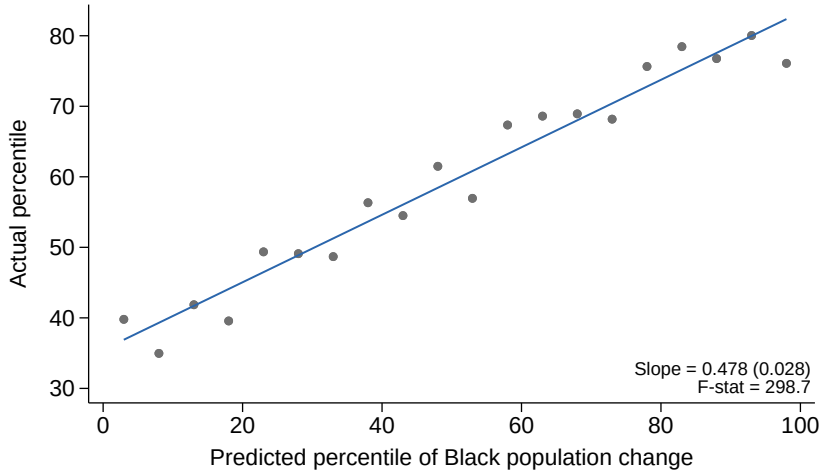


(B) Predicted migration



Notes: Panel A maps county-level percentile ranks of the actual change in the Black population share between 1870 and 1900. Panel B maps the corresponding predicted change from the shift-share instrument. Darker shading indicates larger increases. Data are from linked full-count census records.

FIGURE 5: First Stage: Predicted vs. Actual Black Population Change



Notes: This figure plots binned averages of actual Black population change against predicted Black population change across Southern counties between 1870 and 1900. Each marker represents a bin of counties, and the line shows the linear fit.

4.3. Identification and Validation

Identification requires that, conditional on destination-level controls, the instrument shifts local Black population growth because of shocks in other counties rather than because of omitted pull factors in destination county d. We construct predicted inflows into d from leave-one-state-out origin shocks and historical migration links, so the identifying variation comes from conditions outside the destination county.

The key assumption is that predicted migration to destination county d is driven by push factors in origin county $o \neq d$, not pull factors in destination county d:

$$\mathbb{E}[R(\widehat{\Delta b}_d) \times \varepsilon_d \mid \mathbf{X}'_d] = 0 \tag{5}$$

conditional on destination-level controls $\mathbf{X}'_d$.

We assess the exclusion-restriction assumption in several ways. First, placebo regressions show that the instrument does not predict pre-period political outcomes in 1855–1856. Second, we reconstruct the instrument while excluding adjacent states, which focuses attention on longer-distance migration flows. Third, we control for white migration to absorb broader population movements that could be correlated with local conditions. Finally, following Borusyak et al. (2022), we control for incomplete shares to separate variation from origin shocks from variation in the density of migration links at the destination.

5. Results: Political Outcomes

5.1. Voting Patterns

Counties that received larger Black inflows voted substantially more Democratic. In the specification with controls and region fixed effects, moving one decile higher in Black population change raises the Democratic presidential vote share by 3.8 percentage points and the gubernatorial vote share by 5.9 percentage points (Table 1). Relative to sample means of 62 and 68 percent, moving from the bottom to the top decile of Black in-migration would raise Democratic support by roughly 34 and 53 percentage points, respectively—large enough to shift a competitive county into a one-party stronghold. The raw correlation between Black population change and Democratic vote share is visible in Appendix Figure 6.

A natural concern is that the estimates reflect state-level confounds rather than local demographic pressure. When we control for aggregate state-level Black migration, the Jim Crow index, or state fixed effects, the coefficients attenuate substantially: for presidential elections, the coefficient falls to near zero with state-level migration controls and to about 1.7 with state fixed effects; for gubernatorial elections, the corresponding estimates are 1.5 and 2.3—less than half of the original effect. Rather than undermining the main finding, the attenuation confirms that the political response operated primarily through state-level channels: state legislatures, not county governments, enacted the most consequential Jim Crow legislation. The results are robust to controlling for white migration, excluding adjacent states from the instrument, and placebo tests using 1855–1856 political outcomes (Appendix A).

Table 1: Democratic Vote Share

	Democratic vote share in 1900 (%)									
	Presidential					Gubernatorial				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Decile of	3.691***	3.555***	3.779***	0.759	2.672***	4.961***	4.972***	5.555***	1.986***	4.312***
Black population change	(0.326)	(0.342)	(0.369)	(0.509)	(0.401)	(0.373)	(0.385)	(0.432)	(0.517)	(0.473)
Controls	No	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes
Region FE	No	No	Yes	Yes	Yes	No	No	Yes	Yes	Yes
State-level total Black migration	No	No	No	Yes	No	No	No	No	Yes	No
Jim Crow index	No	No	No	No	Yes	No	No	No	No	Yes
First-stage F-stat	149.15	174.95	163.10	62.29	117.91	149.49	174.99	163.03	62.23	117.80
Observations	1,146	1,146	1,146	1,146	1,146	1,148	1,148	1,148	1,148	1,148
Sample mean	60.727					65.950				

Notes: This table reports IV estimates of the effect of Black population change on Democratic vote share in presidential and gubernatorial elections in 1900. The instrument is the predicted Black population change from the shift-share design. Standard errors are shown in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

5.2. Jim Crow Laws

Black in-migration also predicts the adoption of formal anti-Black institutions. The strongest effects appear for the categories most directly tied to labor control and political exclusion: a one-decile increase in Black population change predicts 1.1 additional employment laws, 0.5 additional migration laws, and 0.25 additional suffrage restrictions (Table 2). The estimates for transportation and marriage laws are imprecise, while the education and residual "other" categories are negative. The pattern across categories points to a targeted institutional response rather than a uniform increase across every type of statute.

TABLE 2: Jim Crow Laws by Type

	Employment	Migration	Suffrage	Education	Transportation	Marriage	Other
Decile of	**1.090*** **	**0.530*** **	**0.251** **	-0.339	0.463	-0.023	-0.274
Black population change	(0.307)	(0.083)	(0.121)	(0.248)	(0.309)	(0.336)	(0.174)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Region FE	No	No	No	No	No	No	No
First-stage F-stat	170.32	170.32	170.32	170.32	170.32	170.32	170.32
State clusters	17	17	17	17	17	17	17

Notes: This table reports IV estimates of the effect of Black population change on the number of Jim Crow laws adopted by category. The instrument is the predicted Black population change from the shift-share design. Standard errors are clustered at the state level and are shown in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

5.3. Extralegal Violence

Counties with larger Black inflows were more likely to have a KKK presence: a one-decile increase in Black population change raises the probability of KKK presence by 7.7 percentage points in the specification with controls and region fixed effects (Table 3). In contrast to the voting results, the KKK estimates are not attenuated by state-level factors, suggesting that formal legislation and extralegal violence operated independently rather than as alternatives. The lynching estimates differ across the EJI and historical series and the coefficients change sign or lose significance once additional controls or state-level political variables are added.

TABLE 3: KKK Presence

	Any KKK clan present (p.p.)				
	(1)	(2)	(3)	(4)	(5)
Decile of	8.907***	7.740***	7.131***	9.750***	7.931***
Black population change	(1.085)	(1.072)	(1.116)	(1.904)	(1.335)
Controls	No	Yes	Yes	Yes	Yes
Region FE	No	No	Yes	Yes	Yes
State-level total Black migration	No	No	No	Yes	No
Jim Crow index	No	No	No	No	Yes
Cragg-Donald F-stat	149.24	170.32	158.66	58.82	114.79
Observations	1,154	1,154	1,154	1,154	1,153

Notes: This table reports IV estimates of the effect of Black population change on county-level KKK presence. The instrument is the predicted Black population change from the shift-share design. Standard errors are shown in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

TABLE 4: Historical Lynchings

	Number of lynchings 1882-1930 (per 1M Black residents in 1900)									
	EJI records					Historical records				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Decile of	28.094	71.991	67.226	-875.381	-558.151	398.902**	89.970	301.230**	513.113	373.800**
Black population change	(321.430)	(226.150)	(277.564)	(1117.237)	(811.331)	(171.350)	(163.183)	(122.139)	(342.880)	(179.491)
Controls	No	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes
Region FE	No	No	Yes	Yes	Yes	No	No	Yes	Yes	Yes
State-level total Black migration	No	No	No	Yes	No	No	No	No	Yes	No
Jim Crow index	No	No	No	No	Yes	No	No	No	No	Yes
First-stage F-stat	149.24	170.32	158.66	58.82	114.79	149.24	170.32	158.66	58.82	114.79
Observations	1,154	1,154	1,154	1,154	1,153	1,154	1,154	1,154	1,154	1,153

Notes: This table reports IV estimates of the effect of Black population change on county-level lynching rates, using both EJI and historical records. The instrument is the predicted Black population change from the shift-share design. Standard errors are shown in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

6. RESULTS: ECONOMIC DEVELOPMENT

Counties exposed to larger Black in-migration experienced weaker economic development during the decades when states built Jim Crow, with the penalty concentrated in the between-state institutional channel. In the specification with region fixed effects, high-migration counties rank lower on a composite development index, show slower mechanization, and have lower income in 1940. Farm values, however, rise—consistent with a labor-intensive agricultural path that raised land values while constraining structural transformation. Once state fixed effects absorb the institutional channel, the local migration coefficients attenuate or reverse, reinforcing the interpretation that state-level Jim Crow legislation drove the development penalty. We first examine a summary index of county-level economic development across decades, then turn to specific outcomes: agricultural structure, mechanization, and wage income in 1940.

6.1. Economic Development Index

To summarize the overall development trajectory, we construct a county-level economic development index for each decade from 1880 to 1950. The index is the first principal component of available agricultural, manufacturing, human capital, and income indicators in each decade, converted to a percentile rank (0–100). Because the set of available indicators varies across decades, the index is constructed separately for each decade and scope. We also construct a "white" variant that restricts human capital and income inputs to white residents.

Counties exposed to larger Black inflows rank significantly lower on the development index in 1880, 1890, and 1900—the decades during which states built Jim Crow—in the specification with controls and region fixed effects (Table 5). The effect fades by 1910–1920 and turns weakly positive by 1940. With state fixed effects, the early negative effects are attenuated, while counties with larger Black inflows rank significantly *higher* from 1930 onward. The sign change from negative to positive is consistent with the interpretation that the between-state institutional channel—captured by the region-FE specification—drove the early development penalty, while within-state variation in Black population growth had a weakly positive long-run association with local development.

TABLE 5: Economic Development Index by Decade

	1880	1890	1900	1910	1920	1930	1940	1950
Controls + Region FE	**-7.502*** **	**-7.746*** **	**-3.304*** **	**-1.601*** **	-0.803	**-4.882*** **	**-2.775*** **	-0.325
	(2.323)	(1.071)	(0.724)	(0.536)	(0.659)	(0.587)	(0.536)	(0.562)

Notes: This table reports IV estimates of the effect of Black population change (in deciles) on the county-level economic development index percentile rank, by decade. The index is the first principal component of available agricultural, manufacturing, human capital, and income indicators, converted to a 0–100 percentile rank. The regression includes controls and region fixed effects. Standard errors are shown in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

6.2. Income Effects

The 1940 income results point to a broad regional penalty associated with places exposed to larger Black inflows. In specifications with controls and region fixed effects, larger Black population change predicts lower overall income, lower white income, and especially lower Black income. Once state-level migration or the Jim Crow index is added, the overall and white coefficients move close to zero, while Black income remains negative. With state fixed effects, the overall and white coefficients turn positive and the Black coefficient becomes close to zero. The attenuation under state fixed effects again points to state-level institutions as the main margin through which Black in-migration affected later income outcomes.

TABLE 6: Income (1940)

	(1)	(2)	(3)	(4)
Decile of	-0.022***	-0.023***	0.007	-0.008
Black population change	(0.007)	(0.007)	(0.012)	(0.008)
Controls	Yes	Yes	Yes	Yes
Region FE	No	Yes	Yes	Yes
State migration aggregate	No	No	Yes	No
Jim Crow index	No	No	No	Yes
Cragg-Donald F-stat	125.71	124.62	39.50	84.84
Observations	1152	1152	1152	1151

Notes: This table reports IV estimates of the effect of Black population change on county-level log average income in 1940. The instrument is the predicted Black population change from the shift-share design. Standard errors are shown in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

TABLE 7: White Income (1940)

	(1)	(2)	(3)	(4)
Decile of	-0.017**	-0.014**	0.004	-0.004
Black population change	(0.007)	(0.007)	(0.011)	(0.008)
Controls	Yes	Yes	Yes	Yes
Region FE	No	Yes	Yes	Yes
State migration aggregate	No	No	Yes	No
Jim Crow index	No	No	No	Yes
Cragg-Donald F-stat	125.71	124.62	39.50	84.84
Observations	1152	1152	1152	1151

Notes: This table reports IV estimates of the effect of Black population change on county-level log white income in 1940. The instrument is the predicted Black population change from the shift-share design. Standard errors are shown in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

TABLE 8: Black Income (1940)

	(1)	(2)	(3)	(4)
Decile of	-0.058***	-0.050***	-0.034**	-0.049***
Black population change	(0.011)	(0.010)	(0.017)	(0.012)
Controls	Yes	Yes	Yes	Yes
Region FE	No	Yes	Yes	Yes
State migration aggregate	No	No	Yes	No
Jim Crow index	No	No	No	Yes
Cragg-Donald F-stat	100.96	106.92	35.95	73.51
Observations	1118	1118	1118	1117

Notes: This table reports IV estimates of the effect of Black population change on county-level log Black income in 1940. The instrument is the predicted Black population change from the shift-share design. Standard errors are shown in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Manufacturing activity grew in counties that received Black migrants: both manufacturing establishments per capita and especially manufacturing capital per capita increase.

This may point to the complementarity between cotton production and cotton processing, although we have not yet explicitly tested this hypothesis. With state fixed effects, the wage-income coefficients for the overall and white samples turn positive, while manufacturing capital remains positive.

TABLE 9: Income and Manufacturing (1870–1900)

	Controls + Region FE
Log average wage income, all	-0.023***
	(0.007)
Log average wage income, white	-0.014**
	(0.007)
Log average wage income, Black	-0.050***
	(0.010)
Manufacturing establishments per capita (log)	-0.000
	(0.000)
Manufacturing capital per capita (log)	0.219***
	(0.039)

Notes: This table reports IV estimates of the effect of Black population change on county-level wage income and manufacturing outcomes between 1870 and 1900. The instrument is the predicted Black population change from the shift-share design. Standard errors are shown in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

6.3. Farms and Agricultural Mechanization

Counties with larger Black inflows see higher agricultural output and farm values but no increase in mechanization, consistent with landowners extracting more value from labor rather than investing in capital (Table 10). Agricultural output per acre rises by 0.054 log points and total farm value per acre by 0.087 log points, both statistically significant. Farm machinery per acre is unchanged—the coefficient is close to zero and insignificant—and farm size does not respond. The pattern points to a labor-intensive agricultural path: additional Black workers raised land productivity and land values while giving landowners little incentive to mechanize.

TABLE 10: Agricultural Development (1870–1900)

	Controls + Region FE
Farm acreage per farm (log)	-0.010
	(0.017)
Agricultural output per acre (log)	0.054**
	(0.025)
Total farm value per acre (log)	0.087***
	(0.021)
Farm machinery per acre (log)	-0.006
	(0.013)
Horses and mules per acre (log)	0.003*
	(0.002)

Notes: This table reports IV estimates of the effect of Black population change on county-level agricultural development outcomes between 1870 and 1900. Outcomes include farm structure, output, asset values, and mechanization measures. The instrument is the predicted Black population change from the shift-share design. Standard errors are shown in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

6.4. Heterogeneity by Occupational Segregation

The political backlash is somewhat stronger in counties with low initial occupational segregation: Democratic vote shares rise by 4.0 and 5.9 percentage points below the median, compared with 3.3 and 5.3 above (Table 11). White workers responded more sharply to Black in-migration where the two groups competed in the same occupations. Farm values per capita also increase more in low-segregation counties—0.074 versus 0.045 log points—as do machinery values, which are marginally significant below the median but insignificant above. The 1940 income penalty, by contrast, is concentrated in high-segregation counties: a 2.3 percent decline, significant at the five percent level, versus a small and insignificant effect below the median.

TABLE 11: Heterogeneity by Initial Occupational Segregation

	Occupational segregation in 1870	
	Below median	Above median
Democratic presidential vote share in 1900 (%)	4.002***	3.301***
	(0.514)	(0.571)
Democratic gubernatorial vote share in 1900 (%)	5.894***	5.275***
	(0.625)	(0.641)
Total farm value per capita (1870–1900 log change)	0.074***	0.045*
	(0.028)	(0.026)
Machinery value per capita (1870–1900 log change)	0.059*	0.039
	(0.031)	(0.027)
Average wage income in 1940 (log)	-0.011	-0.023**
	(0.009)	(0.010)
Segregation mean (D-index)	0.018	0.193
N (median sample)	509	510

Notes: This table reports IV estimates of the effect of Black population change, split by below- and above-median initial occupational segregation (D-index) in 1870. Outcomes include voting, agricultural development, mechanization, and 1940 income. All specifications include baseline controls and region fixed effects. The instrument is the predicted Black population change from the shift-share design. Standard errors are shown in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

7. CONCLUSION

This paper links the South's long-run underdevelopment to the political response to Black mobility after emancipation. Counties exposed to larger Black in-migration shifted toward anti-Black voting and were located in states that adopted more restrictive Jim Crow laws. The estimates consistently point to state-level politics as the main channel through which local demographic change translated into durable institutions.

Jim Crow did not simply redistribute political rights. It also shaped economic development. The county-level evidence points to weaker development across a range of outcomes in the states where Jim Crow became strongest, even though some effects vary across specifications and outcomes. Together with prior evidence that Jim Crow benefited politically powerful whites, the results suggest a broader mechanism: discriminatory institutions can persist because they generate concentrated gains for powerful groups while reducing aggregate development. Institutions that served elites but slowed

growth help explain both the South's postbellum divergence and its later convergence after Jim Crow was dismantled.

An important limitation is that our measures of Jim Crow capture formal statutes but not the full apparatus of racial control. Informal enforcement—extralegal violence, social pressure, employer collusion, and selective application of vagrancy laws—likely reinforced and sometimes substituted for formal institutions, but informal enforcement is difficult to measure systematically. The KKK and lynching results provide partial evidence on extralegal enforcement, yet they almost certainly understate the scope of informal coercion. Future work linking the legislative voting data we are assembling to local migration exposure can identify how demographic pressure translated into specific Jim Crow statutes.

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Appendices

A. Robustness: Political Outcomes

TABLE 12: Effect of Black Population Change on Democratic Vote Share (White Migration Control)

	Democratic vote share in 1900 (%)									
	Presidential					Gubernatorial				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Decile of	3.691***	3.554***	3.774***	0.748	2.653***	4.961***	4.975***	5.542***	1.963***	4.280***
Black population change	(0.326)	(0.343)	(0.369)	(0.508)	(0.401)	(0.373)	(0.386)	(0.431)	(0.515)	(0.472)
White pop. change 1870-1900 (%)		-0.000	-0.000	0.000	0.000		-0.000	0.000	0.000	0.000
		(0.001)	(0.001)	(0.001)	(0.001)		(0.001)	(0.001)	(0.001)	(0.001)
Controls	No	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes
Region FE	No	No	Yes	Yes	Yes	No	No	Yes	Yes	Yes
State-level total Black migration	No	No	No	Yes	No	No	No	No	Yes	No
Jim Crow index	No	No	No	No	Yes	No	No	No	No	Yes
First-stage F-stat	149.15	115.59	108.39	41.52	78.24	149.49	115.61	108.33	41.48	78.16
Observations	1,146	1,146	1,146	1,146	1,146	1,148	1,148	1,148	1,148	1,148
Sample mean	60.727					65.950				

Notes: This table replicates Table 1 while additionally controlling for white population change between 1870 and 1900. Standard errors are shown in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

TABLE 13: Effect of Black Population Change on Democratic Vote Share (Dropping Adjacent States)

	Democratic vote share in 1900 (%)									
	Presidential					Gubernatorial				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Decile of	3.691***	3.555***	3.779***	0.759	2.672***	4.961***	4.972***	5.555***	1.986***	4.312***
Black population change	(0.326)	(0.342)	(0.369)	(0.509)	(0.401)	(0.373)	(0.385)	(0.432)	(0.517)	(0.473)
Controls	No	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes
Region FE	No	No	Yes	Yes	Yes	No	No	Yes	Yes	Yes
State-level total Black migration	No	No	No	Yes	No	No	No	No	Yes	No
Jim Crow index	No	No	No	No	Yes	No	No	No	No	Yes
First-stage F-stat	149.15	174.95	163.10	62.29	117.91	149.49	174.99	163.03	62.23	117.80
Observations	1,146	1,146	1,146	1,146	1,146	1,148	1,148	1,148	1,148	1,148
Sample mean	60.727					65.950				

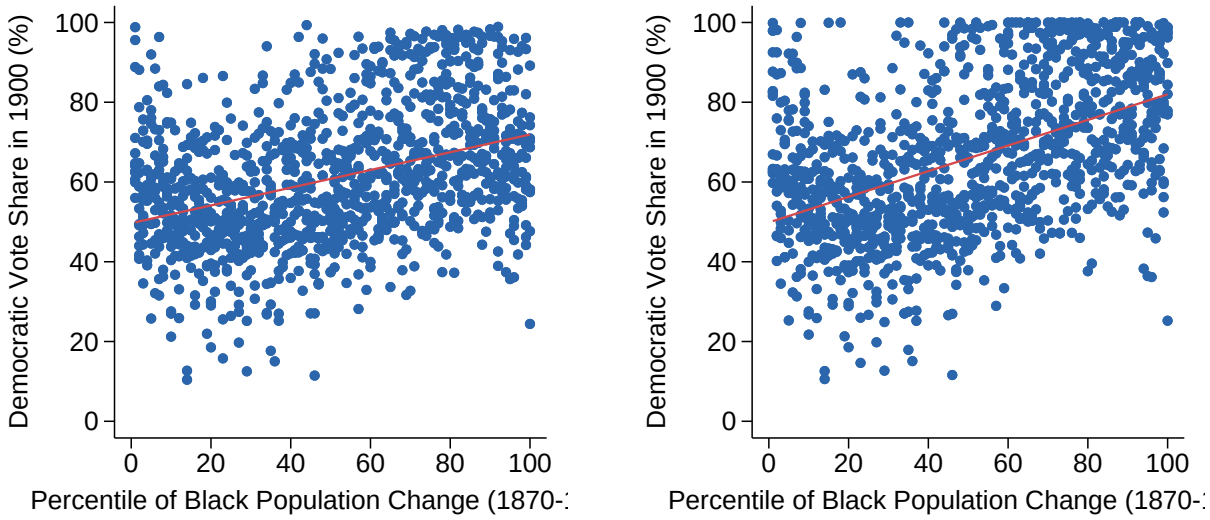
Notes: This table replicates Table 1 using an instrument that excludes adjacent states when constructing predicted Black migration. Standard errors are shown in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

B. Additional Figures

FIGURE 6: Black In-Migration and Political Outcomes

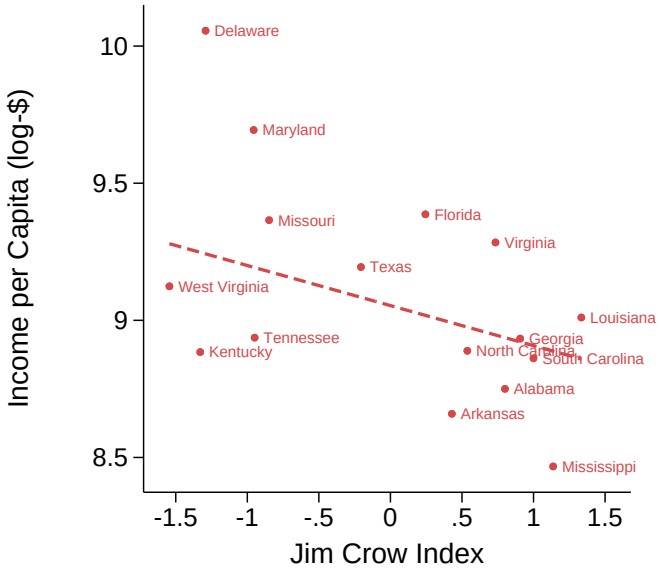
(A) Presidential elections

(B) Gubernatorial elections



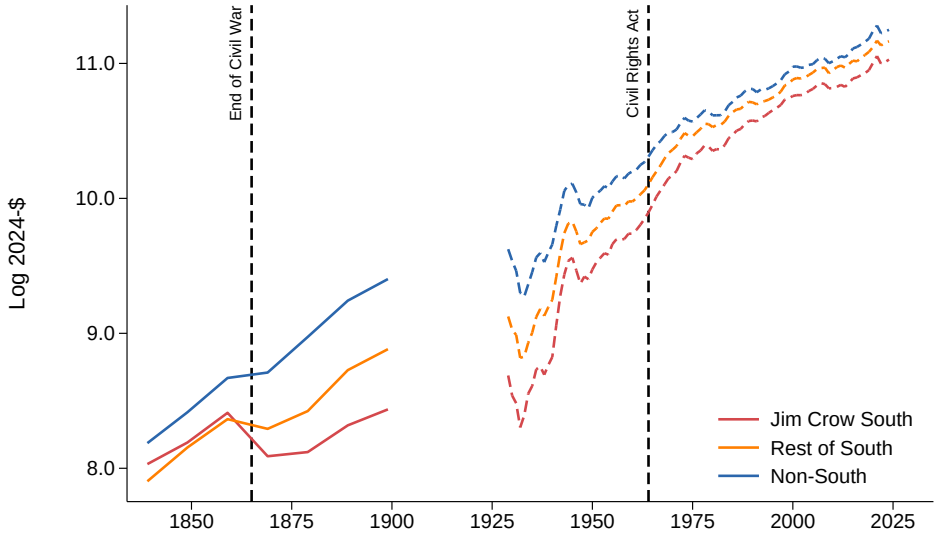
Notes: This figure shows the raw correlation between the change in Black population share between 1870 and 1900 and Democratic vote share in 1900 across Southern counties. Panel A uses presidential elections. Panel B uses gubernatorial elections.

FIGURE 7: Jim Crow and State Income Levels (1940)



Notes: Each bubble is a state, with bubble size proportional to population. The x-axis plots the Jim Crow index from Althoff and Reichardt (2024), and the y-axis plots state personal income per capita in 1940 from the Bureau of Economic Analysis (U.S. Bureau of Economic Analysis, 2026).

FIGURE 8: Jim Crow and Economic Development Over Time (By Sub-Region)



Notes: This figure plots GDP per capita for the Upper South, Lower South, and non-South from 1840 to 2024. GDP per capita for 1840–1900 is from Francis (2025). State personal income per capita for 1929–2024 is from the Bureau of Economic Analysis (U.S. Bureau of Economic Analysis, 2026).

C. DATA APPENDIX

We describe the construction of each variable used in the analysis.

C.1. Migration Shares

We use linked historical US census data (1850–1940) from full-count IPUMS records (Ruggles et al., 2024) to measure migration shares used in the shift-share instrument, together with the Census Linking Project crosswalk files (Abramitzky et al., 2020). These migration shares represent the fraction of individuals from an origin county who migrated to specific destination counties between census decades. We examine all census decade pairs (1850–1860, 1850–1870, . . . , 1930–1940), excluding the 1890 census (lost in a fire). We create historical migration shares for both white and Black Americans.

C.2. Population

We use detailed county- and state-level descriptive data from the *Historical, Demographic, Economic and Social Data: The United States, 1790–2002* (ICPSR 2896) (Haines, 2010). Based on county-level population counts for white and Black individuals from 1850 to 1940, we compute county- and state-level population changes by decade.

C.3. Predictors

We use data from ICPSR 2896 (Haines, 2010), specifically the agriculture, manufacturing, and population censuses for our set of predictors. Table 14 presents the different categories of variables we consider as predictors.

TABLE 14: LASSO Candidate Predictor Categories

Category	Variables	Decades
Agriculture	Farmland area (improved, woodland, tilled, meadow, unimproved), number of farms by size category (7–8 bins), farm values and equipment, farm labor costs, farm output, orchard products, livestock counts (horses, mules, cows, oxen, cattle, sheep, swine), crop production (corn, wheat, cotton, oats, rice, tobacco, barley), farm tenure (tenants, owners)	1870–1930
Manufacturing	Number of establishments, capital (total, buildings, equipment, land), employment (total; by gender and age from 1880), wages, raw materials, output value. Per-worker ratios (skilled wages, total wages, output, capital per worker) and operation schedules from ICPSR 09385 (1880 only). Derived ratios: steam/water horsepower shares, employment per establishment, wages per worker	1870–1880, 1890–1900, 1920–1930
Fiscal	Tax revenue by level (non-national, state, county, local), county and local debt	1870–1880
Irrigation	Irrigated establishments, irrigated acres	1890–1900
Δlog	Log-differenced per capita versions of agricultural, manufacturing, and fiscal variables across consecutive census decades (e.g., Δ log 1870–1860 for predicting 1880 migration)	All decades

Notes: This table summarizes the categories of candidate predictors from which the LASSO algorithm selects covariates for predicting county-level net migration rates. All level variables are measured in per capita terms. The number of candidates ranges from approximately 25 to 50 per decade, depending on data availability.

C.4. Shock Prediction

We create different versions of the shocks for the SSIV design: (i) baseline prediction, using LASSO (with both level and log-differenced candidates) and a leave-one-state-out method to predict migration for Black and white Americans; (ii) leave-adjacent-states-out prediction; (iii) decade-by-decade prediction; (iv) log-differenced predictors only.

C.4.1 LASSO

Under the assumption that county-level variation in Southern economic indicators from 1870–1890 is uncorrelated with Southern destination county characteristics for migrants from those counties, we view estimating Southern county net migration rates as a pure prediction problem. Following Belloni et al. (2010) and Derenoncourt (2022), we use a machine-learning-based estimation in a context where the number of potential predictors is large relative to the number of observations. We apply this approach to select predictors in the "zero" stage prediction of net migration from origin counties using push factors, based on the predictors mentioned above:

$$\text{mig rate}_{jt} = \beta_0 + \mathbf{Z}'_{jt-10}\beta + \varepsilon_{jt}, \tag{6}$$

for $t \in \{1880, 1890, \ldots, 1940\}$ where mig rate_{jt} is net migration for county j from the decade of $t-10$ to t and $\mathbf{Z}_{jt-10}$ is the set of candidate predictors measured in $t-10$, including both level and log-differenced variables. Using LASSO, we shrink the set of predictors to an optimal subset. Excluding a predictor from the subset corresponds to setting the respective element of β to zero. More explicitly, LASSO solves the following problem:

$$\min_{\beta_0,\beta} \left\{ \frac{1}{N} \sum_{j=1}^{N} \left(\text{mig rate}_{jt} - \beta_0 - \mathbf{Z}'_{jt-10}\beta \right)^2 \right\} \text{ subject to } \sum_{k=1}^{K} |\beta_k| \leq \lambda, \tag{7}$$

where N is the number of Southern counties and K is the total number of potential predictors, including agricultural, demographic, and manufacturing characteristics. λ is selected to minimize the Bayesian Information Criterion (BIC).

Table 14 summarizes the categories of candidate predictors available for LASSO selection (see above). Different decades have different selected variables because λ is chosen separately for each decade. In the baseline specification, the candidate pool includes both level and log-differenced predictors. Table 15 reports the covariates selected by the LASSO algorithm for each decade.

TABLE 15: LASSO-Selected Covariates for Black Migration Prediction (South)

Decade	Selected covariates
1880	Swine p.c., corn p.c., cotton p.c., mfg. capital p.c., mfg. employment per estab. (rank), Δlog cotton p.c., Δlog peas & beans p.c., Δlog 10–19 acre farms p.c., Δlog 25,000+ urban pop. p.c., Δlog mfg. estab. p.c., Δlog Baptist congregations p.c., Δlog Jewish congregations p.c., Δlog church property value p.c., Δlog male pop. p.c., Δlog mfg. emp. per estab.
1890	City/town taxes p.c., mfg. emp. per estab. (rank), Δlog tobacco p.c., Δlog 25,000+ urban pop. p.c., Δlog Chinese pop. p.c., Δlog born in AL p.c., Δlog born in GA p.c., Δlog born in MS p.c., Δlog born in SC p.c., Δlog born in France p.c., Δlog born in Ireland p.c., Δlog city/town taxes p.c.
1900	Wheat p.c., mfg. output p.c., Δlog rice p.c., Δlog tobacco p.c., Δlog cotton p.c., Δlog clover seed p.c., Δlog grass seed p.c., Δlog male mfg. workers 16+ p.c., Δlog Chinese pop. p.c., Δlog born in Russia p.c., Δlog born in Spain p.c., Δlog flax straw p.c., Δlog cane molasses p.c., Δlog rice acreage p.c., Δlog tobacco acreage p.c.
1910	Farms 3–9 acres p.c., farms 1,000+ acres p.c., mfg. establishments p.c., mfg. capital in buildings p.c., mfg. output p.c., Δlog farm values p.c., Δlog wheat p.c., Δlog 25,000+ urban pop. p.c., Δlog mfg. output p.c., Δlog female pop. p.c., Δlog male mfg. workers 16+ p.c., Δlog born in Poland p.c., Δlog born in Southeast Asia p.c., Δlog state Black pop. change since 1870 p.c., Δlog hemp acreage p.c., Δlog peanuts p.c., Δlog oranges p.c., Δlog born in Hungary p.c., Δlog born in Sweden p.c., Δlog born in Wales p.c., Δlog state Black pop. change since 1880 p.c.
1920	Livestock value p.c., rice p.c., farms 20–49 acres p.c., Δlog 25,000+ urban pop. p.c., Δlog state White pop. change since 1870 p.c., Δlog other grasses p.c., Δlog lemons p.c., Δlog olives p.c., Δlog raspberry acreage p.c.
1930	Farm value p.c., mfg. establishments p.c., mfg. raw materials p.c., mfg. output p.c., Δlog livestock value p.c., Δlog total pop. p.c., Δlog 25,000+ urban pop. p.c., Δlog White male pop. p.c., Δlog female pop. p.c., Δlog total pop. (alt.) p.c., Δlog state Black pop. p.c., Δlog state White pop. p.c., Δlog tenant farms p.c., Δlog farm area p.c., Δlog state Black pop. change since 1870 p.c., Δlog state White pop. change since 1870 p.c., Δlog owned farms (alt.) p.c., Δlog farm buildings value p.c., Δlog farm equipment value p.c., Δlog fruit value p.c., Δlog Black illiteracy 10+ p.c., Δlog farms by foreign-born whites p.c., Δlog farm acreage p.c., Δlog owned acres p.c., Δlog improved owned acres p.c., Δlog farm value owned p.c., Δlog tenanted acres p.c., Δlog improved tenanted acres p.c., Δlog farm value tenanted p.c., Δlog farm output tenanted p.c., Δlog crop value p.c., Δlog other grain value p.c., Δlog hay value p.c., Δlog vegetable value p.c., Δlog other crop value p.c., Δlog total pop. 10+ p.c., Δlog illiteracy 10+ p.c., Δlog total pop. 18–20 p.c., Δlog born in Belgium (white) p.c., Δlog born in French Canada (white) p.c., Δlog born in Central America (white) p.c., Δlog born in Cuba (white) p.c., Δlog born in England (white) p.c., Δlog born in Finland (white) p.c., Δlog born in Holland (white) p.c., Δlog born in Italy (white) p.c., Δlog born in Mexico (white) p.c., Δlog born in Spain (white) p.c., Δlog state Black pop. change since 1900 p.c.
1940	Farms p.c., swine p.c., farms 50–99 acres p.c., mfg. labor cost p.c., mfg. wages per worker, water HP share (rank), mfg. wages per worker (rank), Δlog woodland acres p.c., Δlog state White pop. p.c., Δlog farm acres p.c., Δlog state Black pop. change since 1870 p.c.

Notes: This table lists the covariates selected by the LASSO algorithm for predicting county-level net Black migration rates in the South specification. The candidate pool includes both level and Δlog predictors jointly. For decades with many selected variables (1910–1940), counts and category summaries are shown; full variable lists are available in the replication files. All level variables are per capita. Δlog denotes the log difference between consecutive census decades. λ is chosen separately for each decade to minimize the BIC.

C.5. Economic Development Index Inputs

TABLE 16: PCA Inputs for the Economic Development Index by Decade

Decade	Selected PCA inputs
1880	Total farm value per acre; Farm value per acre; Implements & machinery per acre; Livestock value per acre; Horses & mules per farm; Horses & mules per acre; Owner-operated farm share; Tenant farm share; Sharecropper farm share; School attendance share (6–16); Literacy rate (16+); Occ. income score (18–65); Occ. income score (25–64); Local taxes per capita (1870)
1890	Total farm value per acre; Farm value per acre; Implements & machinery per acre; Livestock value per acre; Horses & mules per farm; Horses & mules per acre; Owner-operated farm share; Tenant farm share; Sharecropper farm share; Common-school pupil share; Local taxes per capita (1880)
1900	Owner-operated farm share; Tenant farm share; Sharecropper farm share; Log mfg. establishments per capita; Log mfg. capital per capita; Log mfg. output per capita; Log mfg. wages per capita; Log mfg. output per worker; School attendance share (6–16); Literacy rate (16+); Occ. income score (18–65); Occ. income score (25–64)
1910	Horses & mules per farm; Improved land share; Owner-operated farm share; Tenant farm share; Sharecropper farm share; Literacy rate; School attendance share (6–16); Literacy rate (16+); Occ. income score (18–65); Occ. income score (25–64)
1920	Farm capital per acre; Total farm value per acre; Farm value per acre; Livestock value per acre; Improved land share; Owner-operated farm share; Tenant farm share; Sharecropper farm share; Owner-operated land share; Tenant land share; Hired labor expenditures per farm; Log mfg. horsepower per capita; Log mfg. establishments per capita; Log mfg. wages per capita; Log mfg. output per capita; Log mfg. value added per capita; Literacy rate; School attendance share (6–16); Literacy rate (16+); Occ. income score (18–65); Occ. income score (25–64)
1930	Farm capital per acre; Total farm value per acre; Farm value per acre; Implements & machinery per acre; Livestock value per acre; Tractors per farm; Owner-operated farm share; Tenant farm share; Owner-operated land share; Tenant land share; School attendance share (6–16); Literacy rate (16+); Occ. income score (18–65); Occ. income score (25–64)
1940	Farm capital per acre; Total farm value per acre; Farm value per acre; Implements & machinery per acre; Livestock value per acre; Tractors per farm; Horses & mules per farm; Horses & mules per acre; Owner-operated farm share; Tenant farm share; Sharecropper farm share; Owner-operated land share; Tenant land share; Hired laborers per farm; Log avg. wage income, all; School attendance share (6–16); Occ. income score (18–65); Occ. income score (25–64); Avg. years of schooling (25+); HS+ share (25+); Log avg. wage income (18–65); Log avg. wage income (25–64)
1950	Farm capital per acre; Total farm value per acre; Farm value per acre; Livestock value per acre; Tractors per farm; Horses & mules per farm; Horses & mules per acre; Owner-operated farm share; Tenant farm share; School attendance share (6–16); Occ. income score (18–65); Occ. income score (25–64); Avg. years of schooling (25+); HS+ share (25+); Log avg. wage income (18–65); Log avg. wage income (25–64)

Notes: This table lists the variables that actually enter the decade-specific principal component analysis used to construct the overall Economic Development Index. Each row reports the inputs selected after the PCA builder's coverage and nonzero-variance screens for that decade. The reported inputs come directly from the generated selection inventory in the replication pipeline.

TABLE 17: PCA Inputs for the White Economic Development Index by Decade

Decade	Selected PCA inputs
1880	Total farm value per acre; Farm value per acre; Implements & machinery per acre; Livestock value per acre; Horses & mules per farm; Horses & mules per acre; Owner-operated farm share; Tenant farm share; Sharecropper farm share; White school attendance share (6–16); White literacy rate (16+); White occ. income score (18–65); White occ. income score (25–64); Local taxes per capita (1870)
1890	Total farm value per acre; Farm value per acre; Implements & machinery per acre; Livestock value per acre; Horses & mules per farm; Horses & mules per acre; Owner-operated farm share; Tenant farm share; Sharecropper farm share; White common-school pupil share; Local taxes per capita (1880)
1900	Owner-operated farm share; Tenant farm share; Sharecropper farm share; Log mfg. establishments per capita; Log mfg. capital per capita; Log mfg. output per capita; Log mfg. wages per capita; Log mfg. output per worker; White school attendance share (6–16); White literacy rate (16+); White occ. income score (18–65); White occ. income score (25–64)
1910	Horses & mules per farm; Improved land share; Owner-operated farm share; Tenant farm share; Sharecropper farm share; White literacy rate; White school attendance share (6–16); White literacy rate (16+); White occ. income score (18–65); White occ. income score (25–64)
1920	Farm capital per acre; Total farm value per acre; Farm value per acre; Livestock value per acre; Improved land share; Owner-operated farm share; Tenant farm share; Sharecropper farm share; Owner-operated land share; Tenant land share; Hired labor expenditures per farm; Log mfg. horsepower per capita; Log mfg. establishments per capita; Log mfg. wages per capita; Log mfg. output per capita; Log mfg. value added per capita; White literacy rate; White school attendance share (6–16); White literacy rate (16+); White occ. income score (18–65); White occ. income score (25–64)
1930	Farm capital per acre; Total farm value per acre; Farm value per acre; Implements & machinery per acre; Livestock value per acre; Tractors per farm; Owner-operated farm share; Tenant farm share; Owner-operated land share; Tenant land share; White school attendance share (6–16); White literacy rate (16+); White occ. income score (18–65); White occ. income score (25–64)
1940	Farm capital per acre; Total farm value per acre; Farm value per acre; Implements & machinery per acre; Livestock value per acre; Tractors per farm; Horses & mules per farm; Horses & mules per acre; Owner-operated farm share; Tenant farm share; Sharecropper farm share; Owner-operated land share; Tenant land share; Hired laborers per farm; Log avg. wage income, white; White school attendance share (6–16); White occ. income score (18–65); White occ. income score (25–64); White avg. years of schooling (25+); White HS+ share (25+); White log avg. wage income (18–65); White log avg. wage income (25–64)
1950	Farm capital per acre; Total farm value per acre; Farm value per acre; Livestock value per acre; Tractors per farm; Horses & mules per farm; Horses & mules per acre; Owner-operated farm share; Tenant farm share; White school attendance share (6–16); White occ. income score (18–65); White occ. income score (25–64); White avg. years of schooling (25+); White HS+ share (25+); White log avg. wage income (18–65); White log avg. wage income (25–64)

Notes: This table lists the variables that actually enter the decade-specific principal component analysis used to construct the white-only Economic Development Index. Each row reports the inputs selected after the PCA builder's coverage and nonzero-variance screens for that decade. The reported inputs come directly from the generated selection inventory in the replication pipeline.

C.6. Instrument

The shift-share instrumental variable is created by combining historical migration shares with population shock data. After merging the two, we calculate predicted Black population increases for each destination county, as well as normalized predictions as percentages of 1870 population.

C.7. Controls

The controls we use come from IPUMS full-count census records (Ruggles et al., 2024), using the 1870 census for baseline controls.

C.8. Jim Crow Laws

We use Jim Crow laws and the Jim Crow index following Althoff and Reichardt (2024). The index is based on the following five factors: the anti-Black share of race-related laws a state passed until 1950, the state's number of disenfranchisement devices, the state's share of congressional delegates that signed the Southern Manifesto, the racial gap in states' school year lengths, and the year in which a state introduced legislation for minimum teacher pay. More details on its construction can be found in Althoff and Reichardt (2024).

C.9. State Legislative Voting Data

TABLE 18: State Coverage of Digitized Legislative Voting Data

State House	State Senate	Jim Crow Votes
Alabama	Alabama	Alabama
Arkansas	Arkansas	Arkansas
Florida	Florida	Florida
Georgia	Georgia	Georgia
Kentucky	Kentucky	Kentucky
Louisiana	Louisiana	Louisiana
Mississippi	Mississippi	Mississippi
Missouri	Missouri	Missouri
North Carolina	North Carolina	North Carolina
Oklahoma	Oklahoma	Oklahoma
South Carolina	South Carolina	South Carolina
Tennessee	Tennessee	Tennessee
Texas	Texas	Texas
Virginia	Virginia	Virginia

Notes: This table shows the current state coverage of our digitized legislative voting data. States in black indicate data availability for State House, State Senate, or Jim Crow roll-call votes; states in gray indicate no data yet digitized.

C.10. Election Data

Our election data collection, based on ICPSR 00001 (Inter-university Consortium for Political and Social Research, 1999), encompasses presidential and gubernatorial elections across 15 Southern states from 1870 to 1960 (covering Alabama, Arkansas, Florida, Georgia, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee, Texas, Virginia, Kentucky, West Virginia, Maryland, and Missouri). As our main outcome, we focus on counties' Democratic vote shares, defined as the number of Democratic votes divided by the total number of votes in the county. To create a balanced panel, we follow Bernini et al. (2023) in imputing some missing data for specific state-year combinations.

For presidential elections, we create an 1870 variable by combining 1868 data with 1876 values where 1868 data is missing, since no presidential election was held in 1870.

We also test an alternative 1870 predictor using 1856 data, imputing missing 1856 Democratic vote shares through linear regression based on the relationship between 1856 and 1868 vote shares in counties with data for both years. For all other decades (1880–1960), we construct decade-level presidential vote shares as follows: if a presidential election occurred in the decade year (e.g., 1920), we use that value directly; if not (e.g., 1910), we take the average of the two nearest presidential elections (e.g., 1908 and 1912) to proxy the missing decade-year value. We make two exceptions to this approach due to missing data. For Virginia, we use only the 1888 election to proxy the 1890 presidential vote share because data for 1892 are unavailable. Similarly, for Mississippi, we rely solely on the 1952 election to approximate the 1950 value, as data for 1948 are missing. Additionally, we create a pre-1865 variable, which is a combination of 1856, 1860, and 1864 data to minimize missing values. Based on these data, we also compute each county's change in Democratic vote shares.

For gubernatorial elections, we interpolate vote shares for decade years by averaging the closest preceding and following election results within each state, since gubernatorial election timing varies by state. When a decade year coincides with an actual election year for a given state, we use the observed values directly. We make several state-specific adjustments to this general approach: we use single election years rather than interpolation for Arkansas 1870 (using 1872), Georgia 1870 (using 1868), Georgia 1890 (using 1892), Georgia 1920 (using 1918), Virginia 1870 (using 1873), Virginia 1890 (using 1893), Virginia 1910 (using 1909), Tennessee 1880 (using 1878), and Texas 1870 (using 1869). For Louisiana 1920, we average 1916 and 1924 values due to missing election data. These adjustments address issues including data availability, absence of Democratic candidates in specific elections, and irregular election timing. As for presidential elections, we create a gubernatorial variable for the pre-1865 period by sequentially filling missing values with available election data from 1865 back to 1852, prioritizing the most recent available election result for each county.

The final dataset is composed of one value of Democratic vote shares for each decade from 1870 to 1960, for both presidential and gubernatorial elections.

C.11. Additional Outcomes

We consider different additional outcomes in our analysis. First, we have the number of lynchings that occurred in a county between 1883 and 1941, from Seguin and Rigby (2019). We also collect data on the second KKK from the Virginia Commonwealth University Libraries' mapping project (Kneebone and Torres, 2015).

C.12. Individual-Level Outcomes

We also run our SSIV specification at the individual level, instead of the county level. For this, we use four different outcomes, all based on IPUMS full-count census records (Ruggles et al., 2024): wealth (combined real and personal property), farm ownership, occupational income scores, and literacy rates.