

Jim Crow and Black Economic Progress After Slavery

Lukas Althoff (Princeton) Hugo Reichardt (LSE)

December 2, 2022

Motivation: Racial inequality is a persistent feature of US society

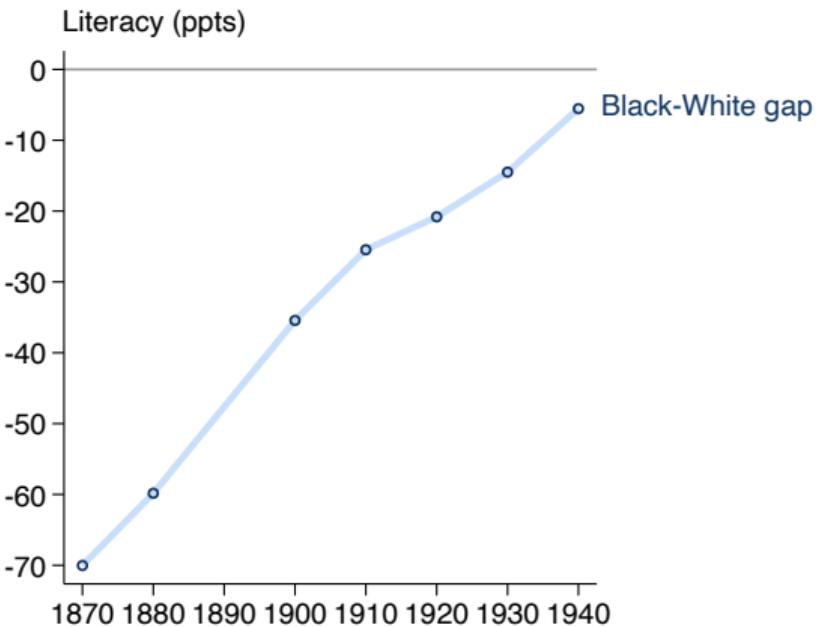
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- Slow narrowing over past 150 years
- Potential explanation: US's history of institutionalized racial oppression
 - Slavery (until 1865)
 - Jim Crow (1877–1964)

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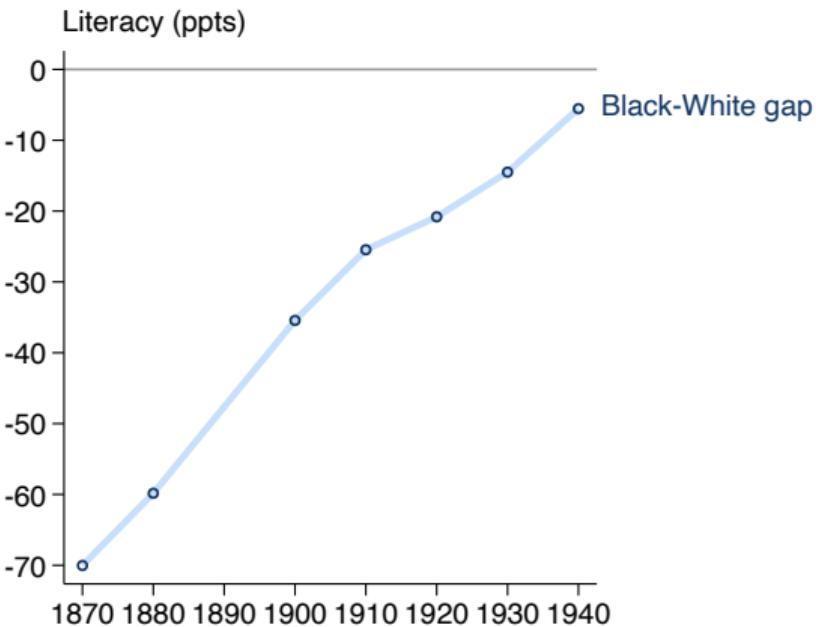
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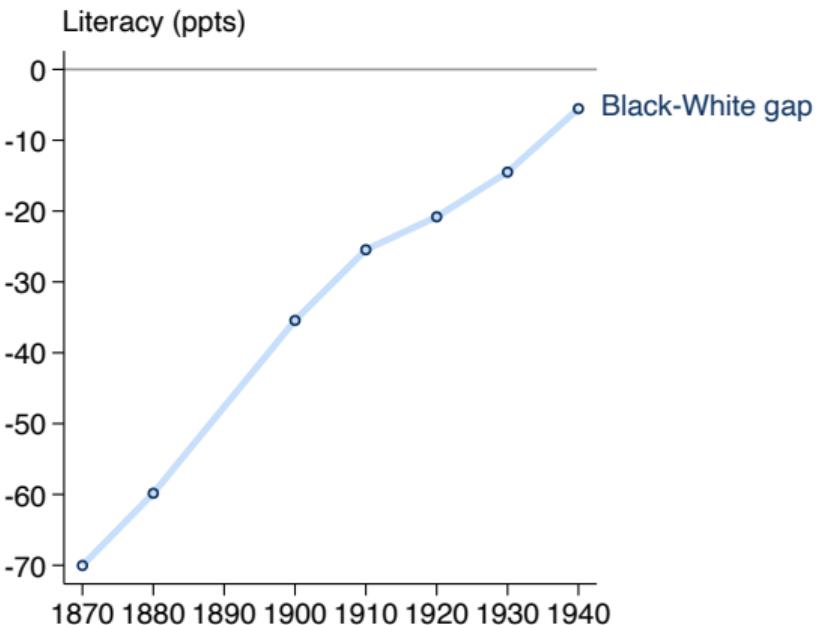
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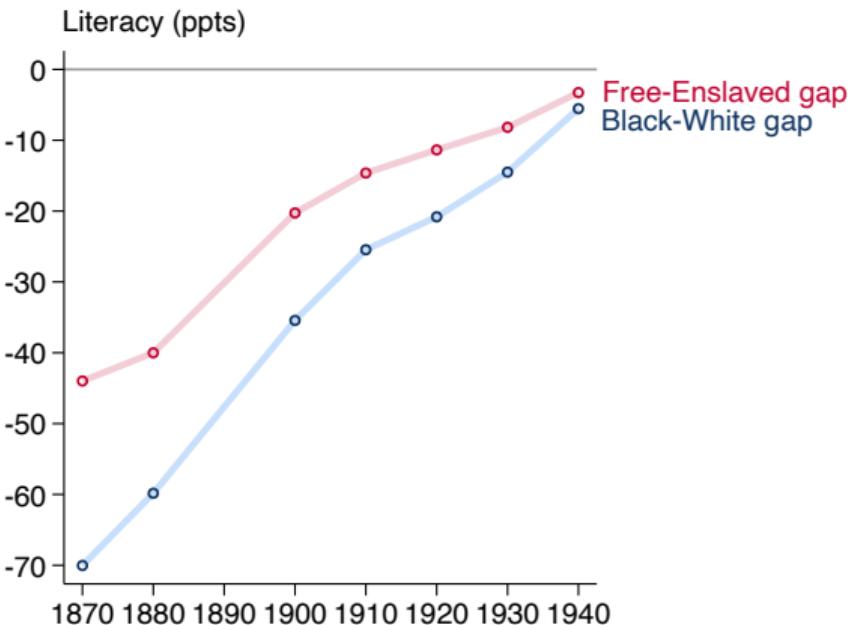
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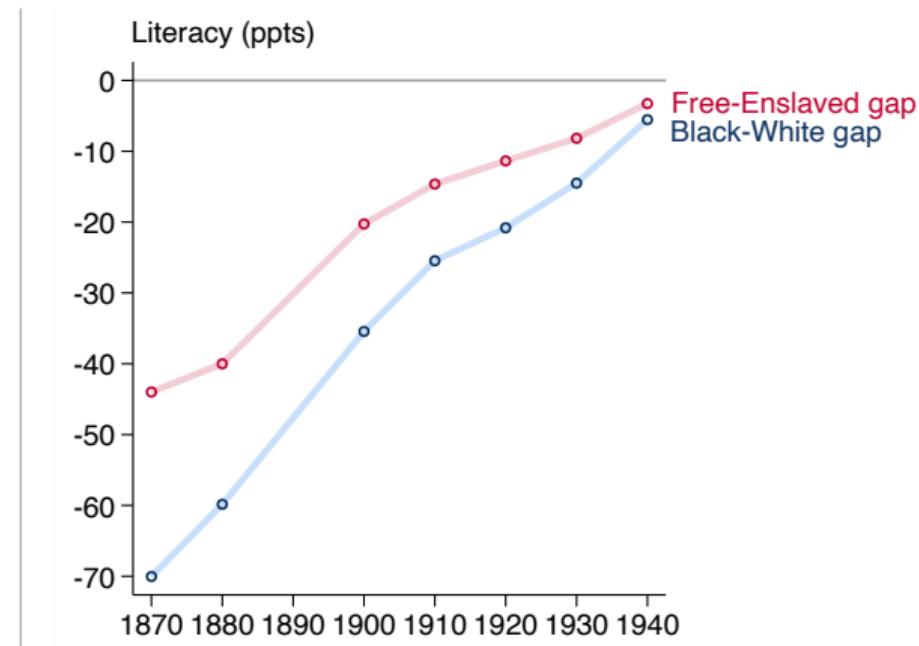
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Research questions

- ① Do Black families **enslaved until the Civil War** still have lower economic outcomes?
- ② If so: persisting effect of **slavery** vs. exposure to **Jim Crow** in former slave states

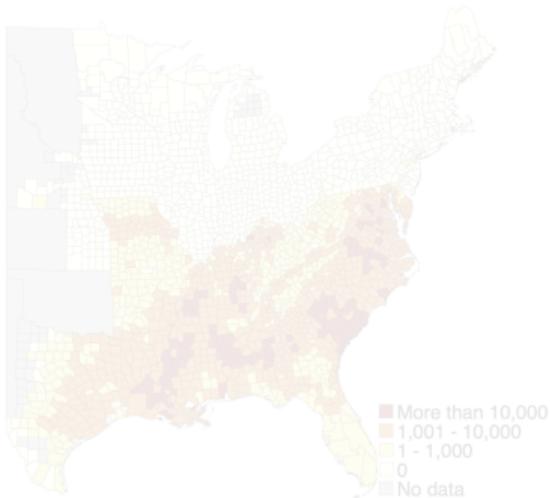
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Black families' differential exposure to institutionalized oppression

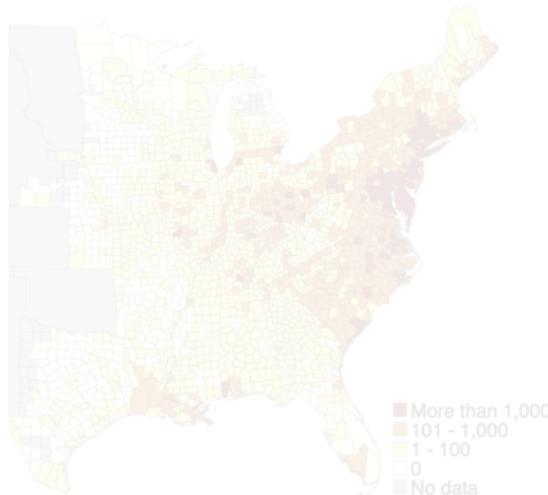
More exposure: “Enslaved”

- ① Enslaved until 1865
- ② Concentrated in Lower South



Less exposure: “Free”

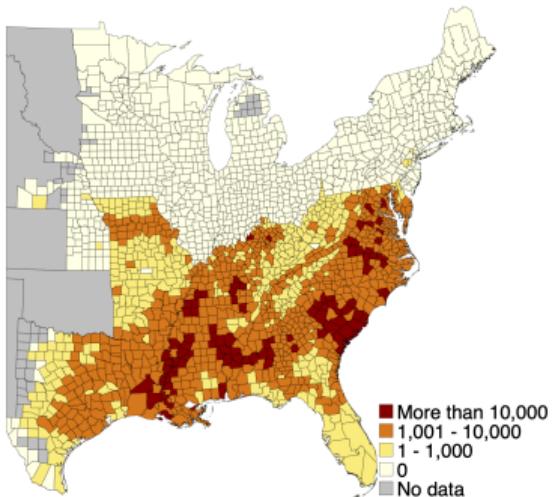
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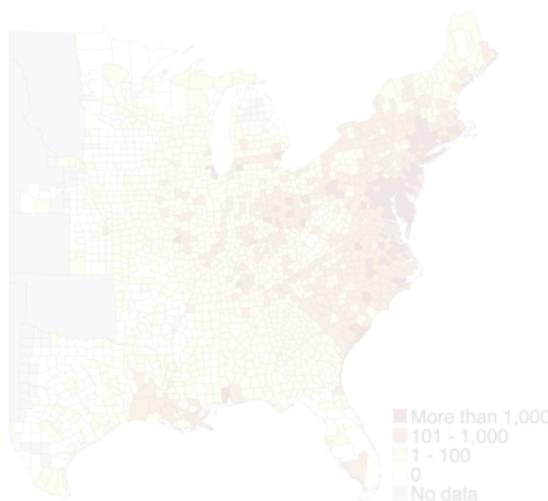
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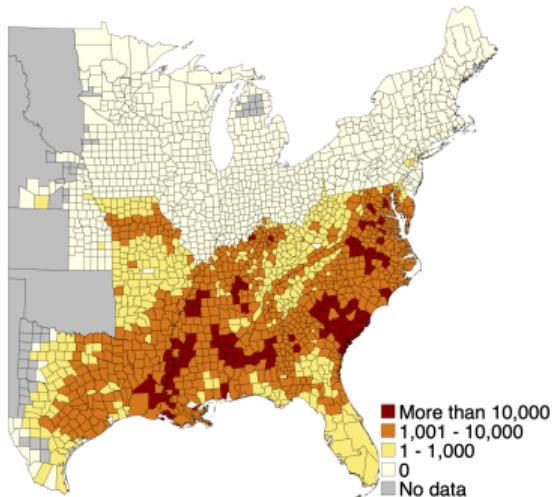
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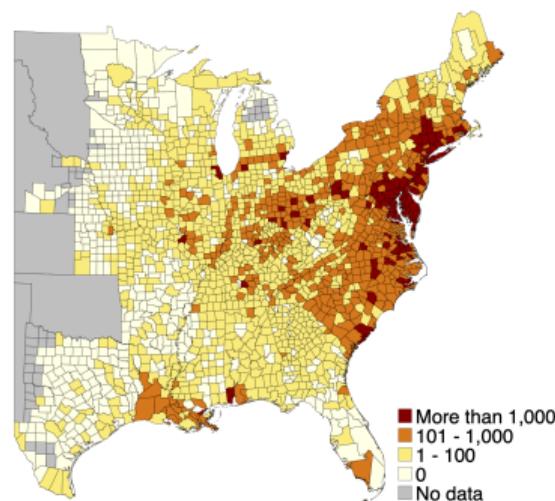
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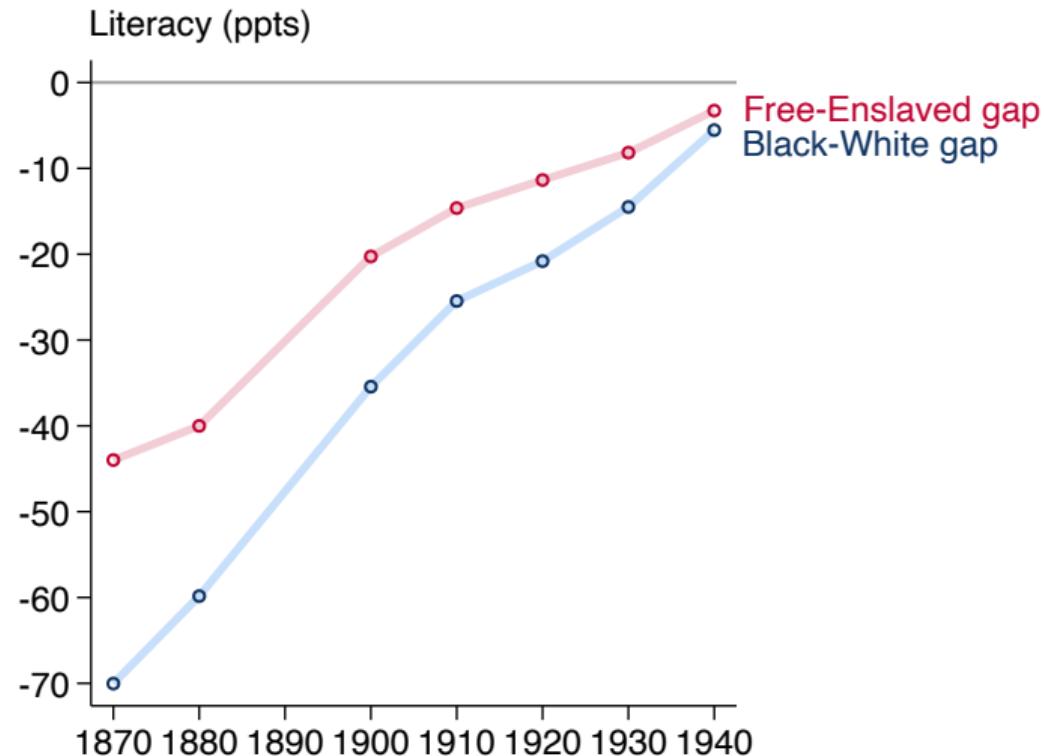


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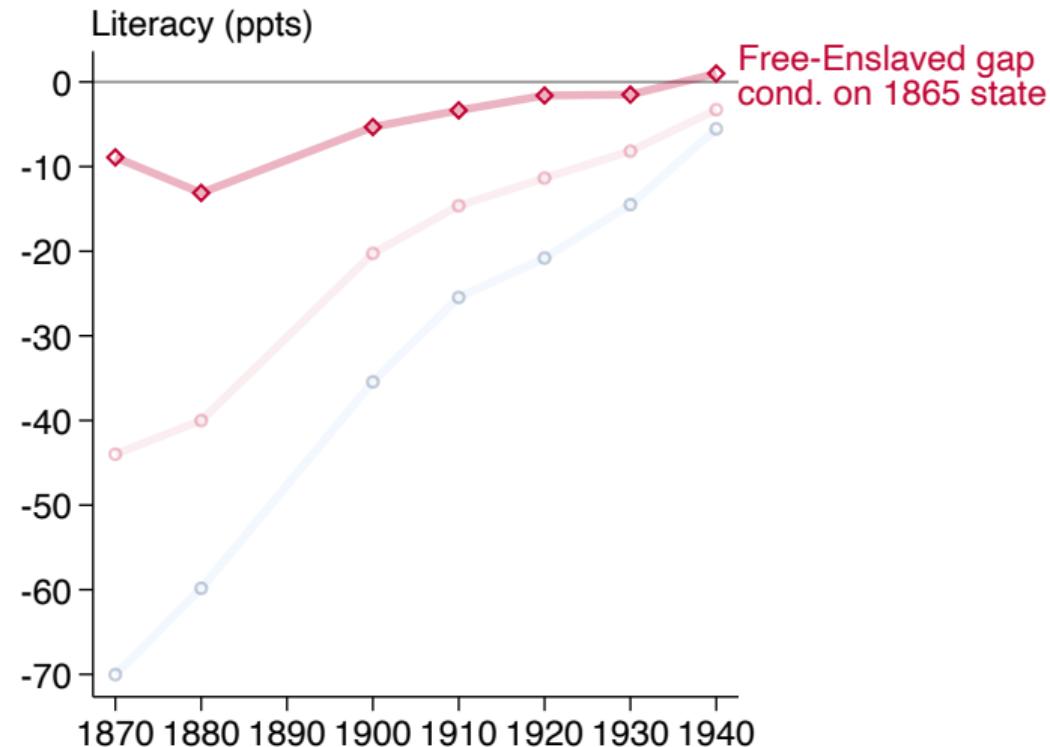
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Free-Enslaved gap closes conditional on 1865-ancestor state



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Outline

① Data

② Empirical analysis

Q1: Long-run effects of institutionalized oppression

Q2: Relative importance of slavery and Jim Crow

③ Mechanisms

④ Conclusion

New method to track family's exposure to slavery & Jim Crow

- Identify Black families freed before the Civil War (1861–1865)
 - Automated record linking for men (Abramitzky et al. 2019)
 - Census information on family relationships within household
 - Censuses of 1850 and 1860 only recorded free Black Americans
 - Variation in exposure to slavery
- Record linking also allows to observe where a family was freed
 - Variation in exposure to states' Jim Crow institutions

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Measures of states' Jim Crow intensity

① Number of Jim Crow laws

- *New database* on 800 Jim Crow laws*

② Composite index for states' racial oppression (Baker 2022)

- "Historical Racial Regime (HRR) score"
- Principal component of 4 proxies for institutionalized oppression (1860–1960) ▶ Details

*Sources: Murray 1951; Roback 1951 (employment laws); Walton, Puckett, Deskins 2012 (suffrage laws)

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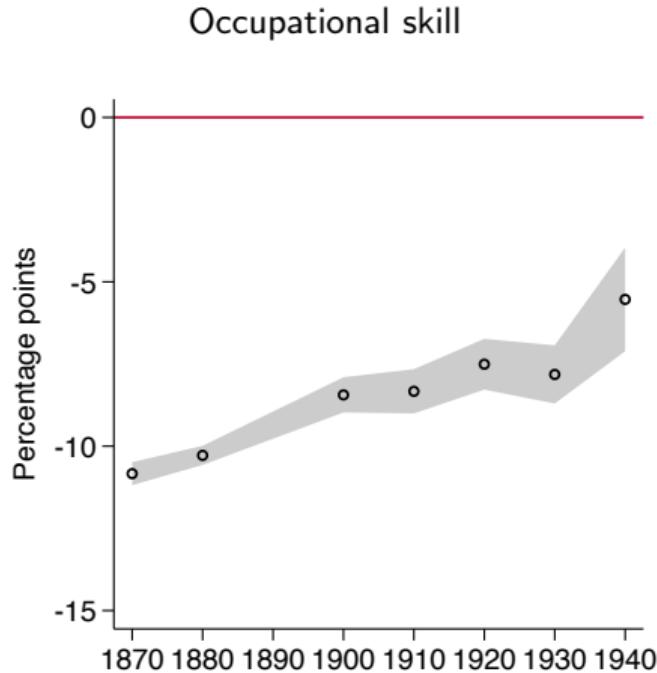
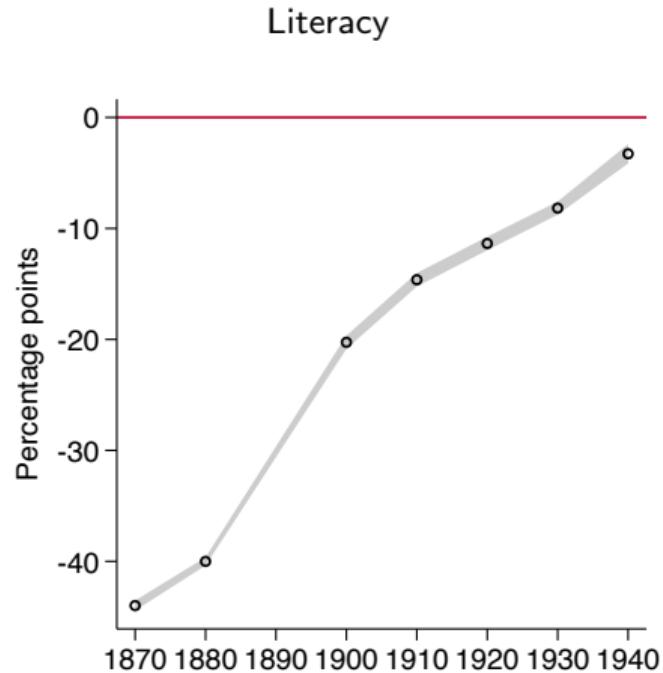
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Q: Is the socioeconomic status of Black families today associated with their historical exposure to institutionalized oppression?

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A: Yes.

Results: The Free-Enslaved gap (1870–1940)



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	Education (Years)	Wage Income (USD)	Homeownership (%)	House Value (USD)
	Mean: 5.99	Mean: 381.20	Mean: 29.25	Mean: 1,371.95
Ancestor Enslaved	-1.59*** (0.05)	-145.92*** (6.13)	-7.24*** (0.62)	-694.69*** (65.85)
Observations	163,549	154,463	164,357	46,971

Takeaway

Families who were more exposed to institutionalized oppression historically continue to have lower socioeconomic status today.

Free-Enslaved gap \approx 40% of Black-white gap

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Q: What factors explain the large Free-Enslaved gap?

Q: What factors explain the large Free-Enslaved gap?

A: Descendants of Enslaved's higher exposure to ongoing oppression in former slave states under Jim Crow.

Drivers of persistence

- ① Inherent disadvantage of being enslaved longer
- ② Exposure to different locations
- ③ Potential differences in ability

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 - 2.b) Other location factors (economic activity, climate, culture, ...)
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Strategy: Causal effects of exposure to state-specific factors

$$y_i = \eta_{\ell(i, 1865)} + \phi' X_i + \epsilon_i$$

if $s_i = 1$, with

- y_i : 1940 outcome
- $\eta_{\ell(i, 1865)}$: fixed effect for enslaved ancestor's state of birth ℓ

Strategy: Use enslaved ancestor's state of birth to estimate place effect

Assumption:

Where an enslaved person was born is unrelated to their “innate ability”

Justification:

- ① No free movement \Rightarrow no self-selection
- ② Forced migration implausible to have induced selection on inheritable traits

(Phillips 1918, Fogel & Engerman 1974, Pritchett 2001, 2019, Tadman 2008)

→ Strongly supported by RDD evidence

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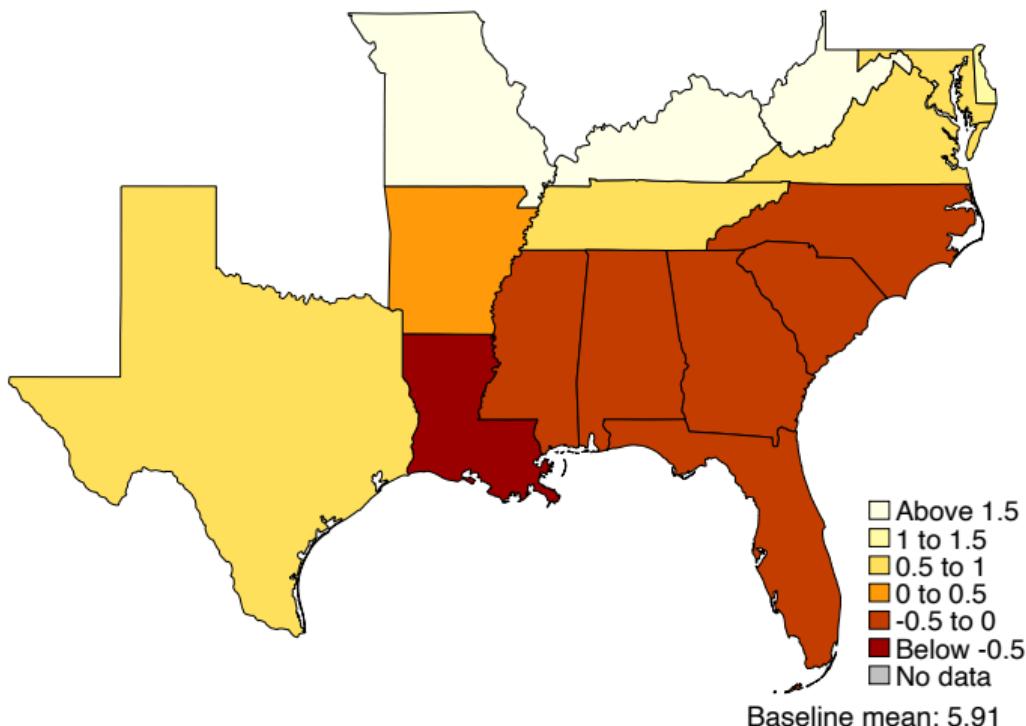
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Result: Geography of Black economic progress

Causal pre-1865 state effect on years of education in 1940



Takeaway

State-specific factors played a critical role in perpetuating the Free-Enslaved gap in the long run

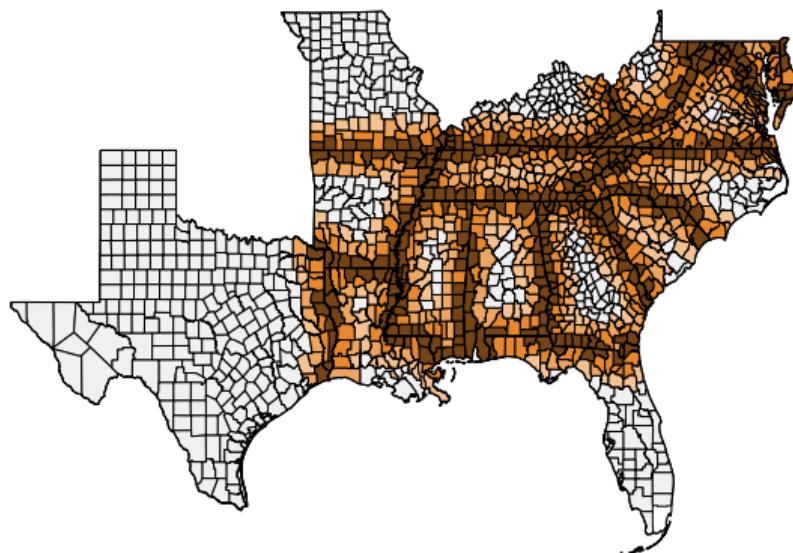
- ① Distinct geography of Black economic progress after slavery
- ② Enslaved's high exposure to negative state effects explains gap

Drivers of persistence

- ① Inherent disadvantage of being enslaved longer
- ② **Exposure to different locations** Step 1: State effects
 - 2.a) **Jim Crow regime** Step 2: RDD
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Strategy: RDD to isolate role of state institutions

County's distance to the closest border

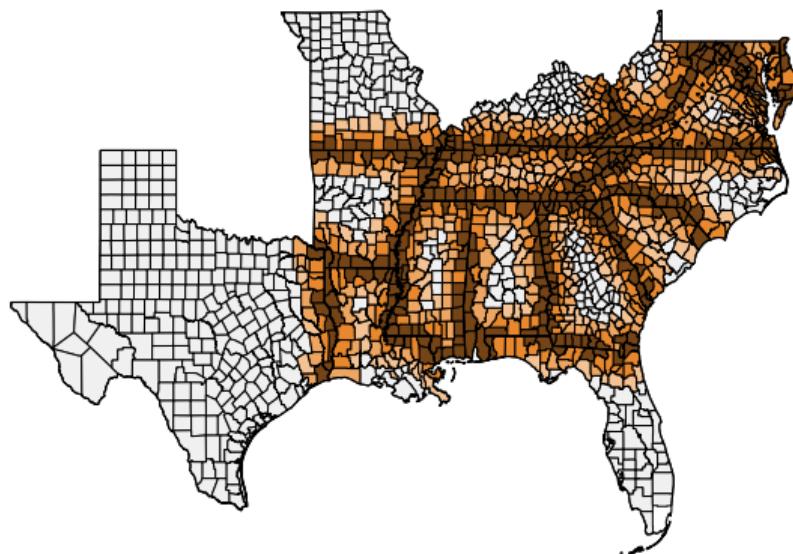


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- ② HRR score

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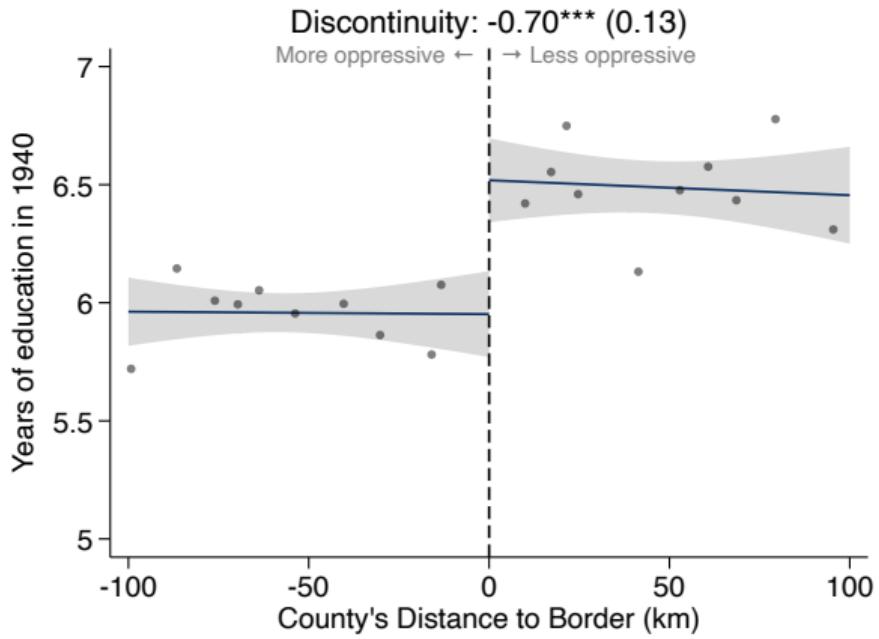
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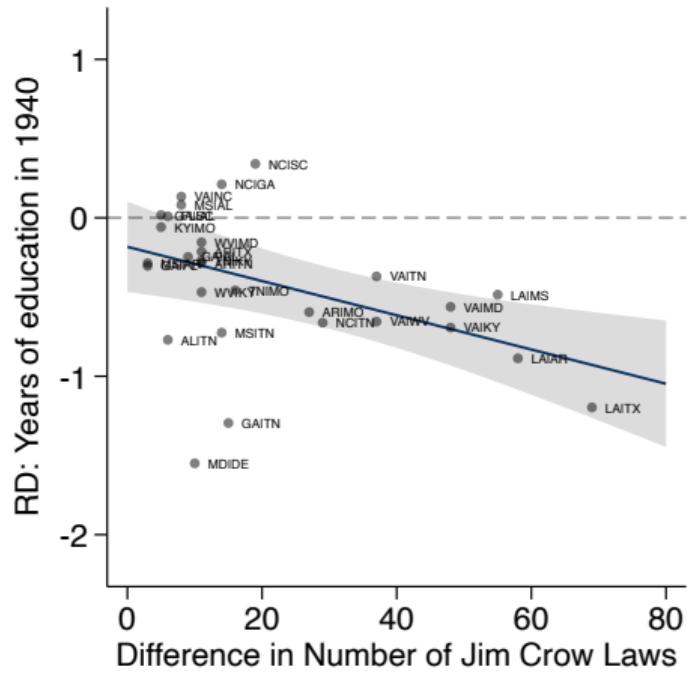
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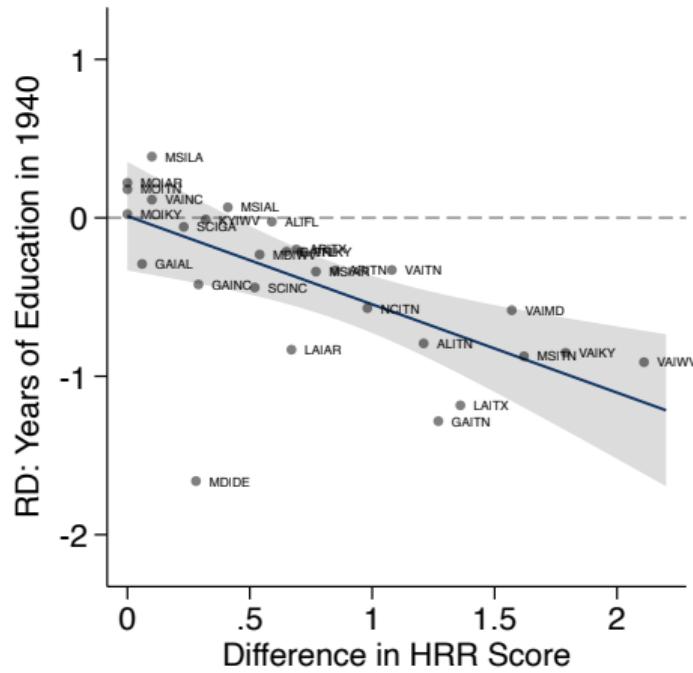
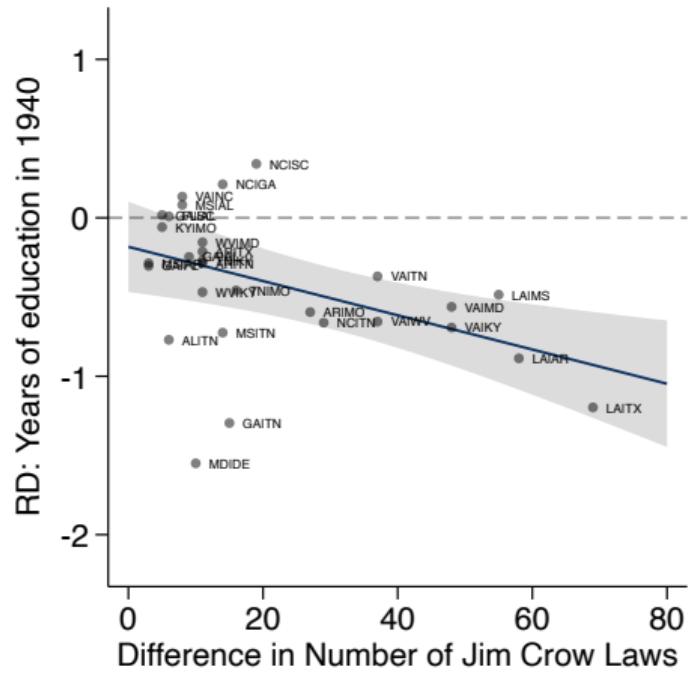
Result: RD estimates across “policy borders”



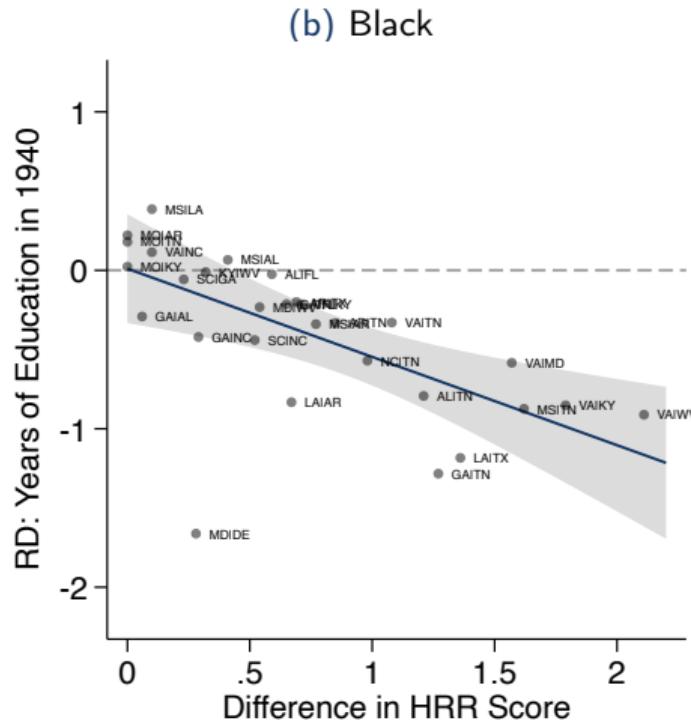
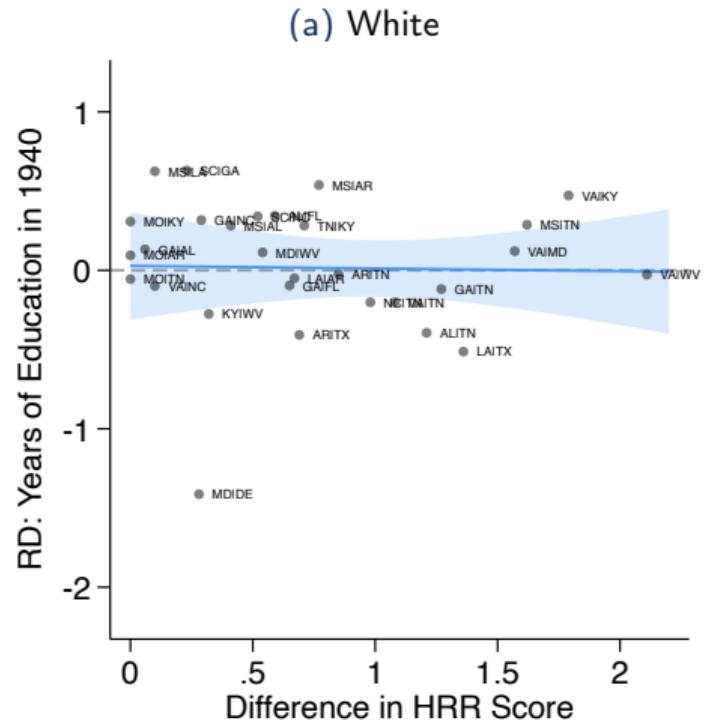
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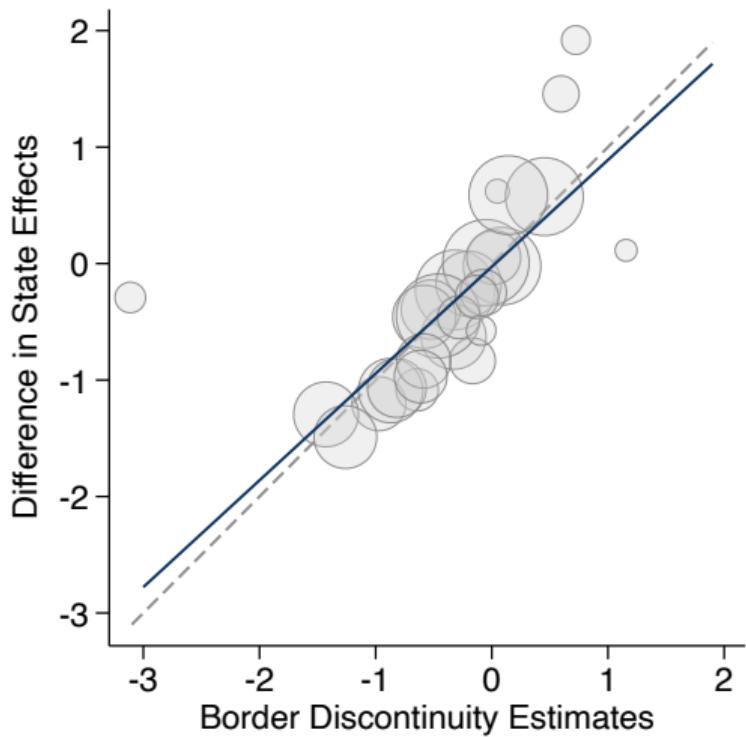
Result: Jim Crow had no effect on white Americans



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Result: Geography of Black economic progress = Geography of Jim Crow



Takeaway

Jim Crow single-handedly perpetuated Free-Enslaved gap

- ① Entire Free-Enslaved gap explained by Enslaved's concentration in states with most negative effects
- ② State's Jim Crow regime shaped state's long-run effects

Outline

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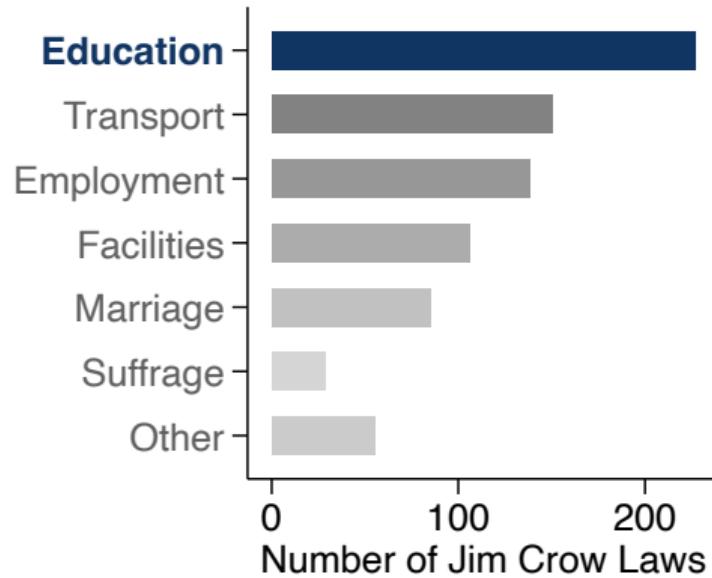
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③ Mechanisms

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Education was a key target of Jim Crow



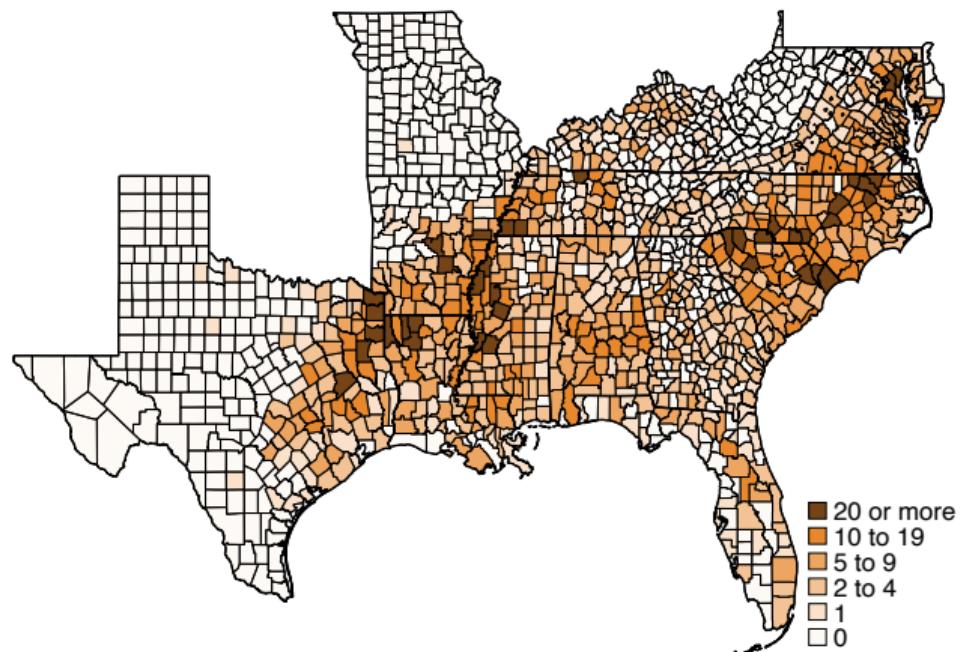
Q: Did access to education mediate Jim Crow's effect?

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A: Yes, large fractions of it.

Strategy: Quasi-experimental school access – Rosenwald program (1914–31)

Number of Rosenwald schools in 1931 (Aaronson & Mazumder 2011)



Result: School access mediated gap in education caused by Jim Crow

Effects of the Rosenwald schools

Years of Education in 1940							
Sample mean: 5.26							
	Baseline	Placebo		Heterogeneity			
		Movers	Stayers	Few Laws	Many Laws	Low HRR	High HRR
	Rosenwald exposure	0.30*** (0.11)	0.16 (0.13)	0.61*** (0.19)	0.24 (0.27)	0.53*** (0.20)	0.20 (0.15)
Observations	107,141	74,287	32,799	43,061	32,639	37,516	34,475

→ Rosenwald program closed 80% of gap caused by high Jim Crow exposure*

*Difference in years of education in High/Low HRR states is 0.80. Difference in Rosenwald effect is 0.65.

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Result: School access had large intergenerational effects

Intergenerational effects of the Rosenwald schools

Children's Neighborhood Level Outcomes in 2000				
	HS Degree (%)	College Degree (%)	Income (USD)	House Value (USD)
	Mean: 69.33	Mean: 12.15	Mean: 28,831.25	Mean: 95,986.10
Father's Rosenwald exposure	2.78 (3.06)	4.95** (2.10)	2,277.22** (1,120.35)	35,471.16** (16,917.63)
Observations	6,420	6,420	6,434	6,434

Takeaway

Limiting access to education was a key mechanism through which Jim Crow harmed Black economic progress.

Rosenwald schools

- ↓ 80% of education gap caused by Jim Crow in 1940
- ↑ 40% in 2nd generation's college completion in 2000

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- ① Today, descendants of Enslaved have vastly lower socioeconomic outcomes
 - Racial-disparities have deep roots to historical institutions of oppression
- ② Jim Crow single-handedly perpetuated the Free-Enslaved gap
 - Systemic discrimination is at the core of slavery's persisting legacy
- ③ School provision increased human capital and mediated Jim Crow's long-run effects
 - Targeted efforts can be effective in mediating harm of oppressive institutions

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Thank you.

New Method to Identify Descendants of Enslaved and Free

1860 Census

0.5m obs.
[+4.0m Enslaved]

1870 Census

4.8m obs.

Emancipation

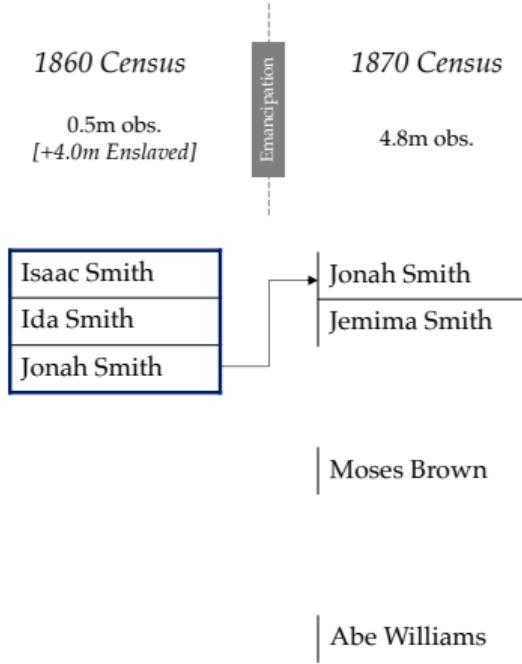
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Jonah Smith
Jemima Smith

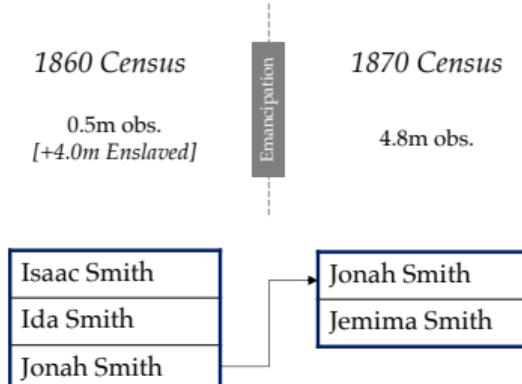
Moses Brown

Abe Williams

New Method to Identify Descendants of Enslaved and Free



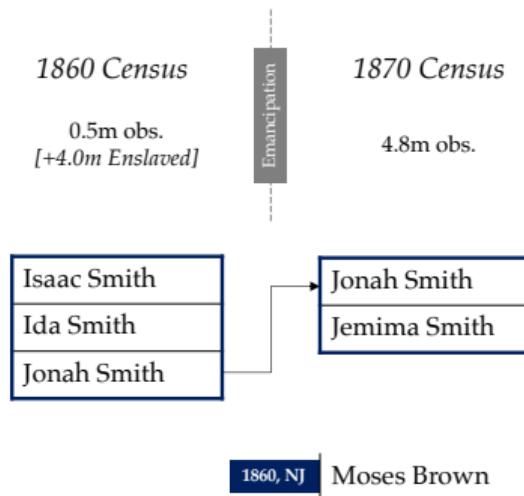
New Method to Identify Descendants of Enslaved and Free



Moses Brown

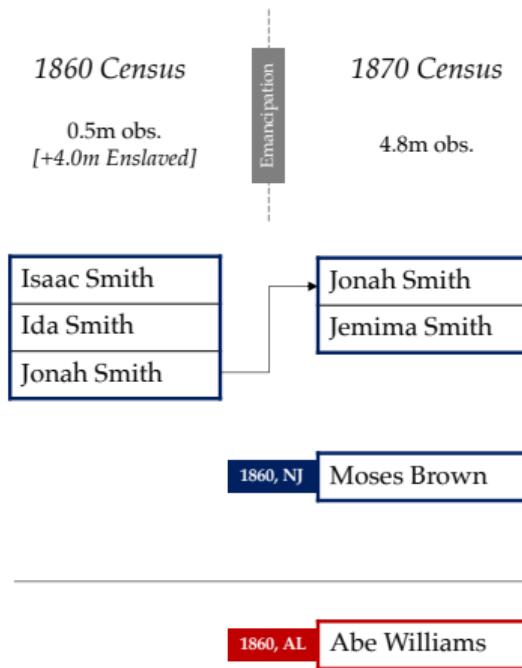
Abe Williams

New Method to Identify Descendants of Enslaved and Free

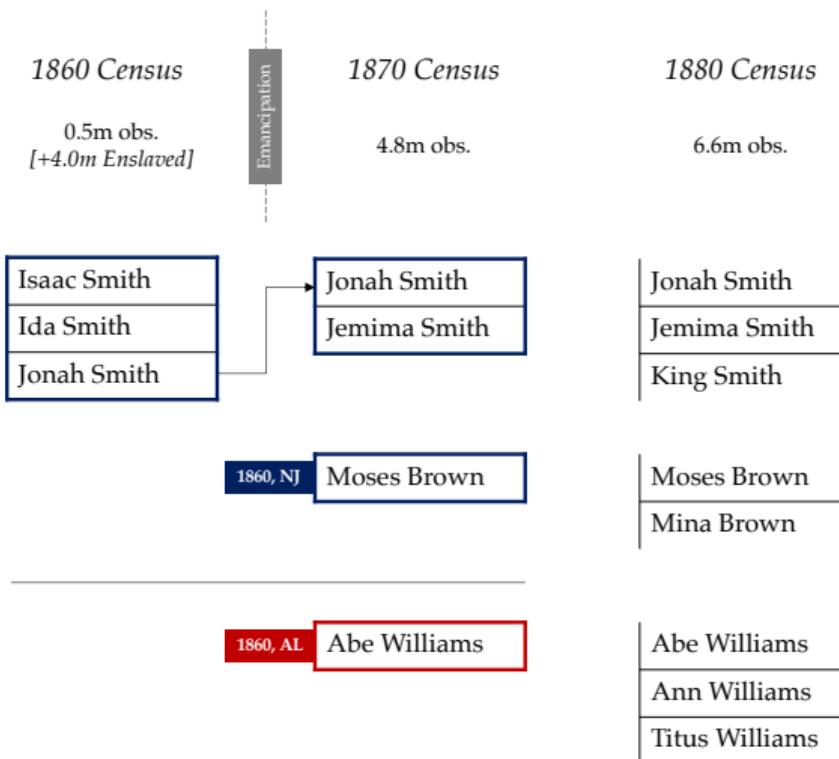


1860, AL | Abe Williams

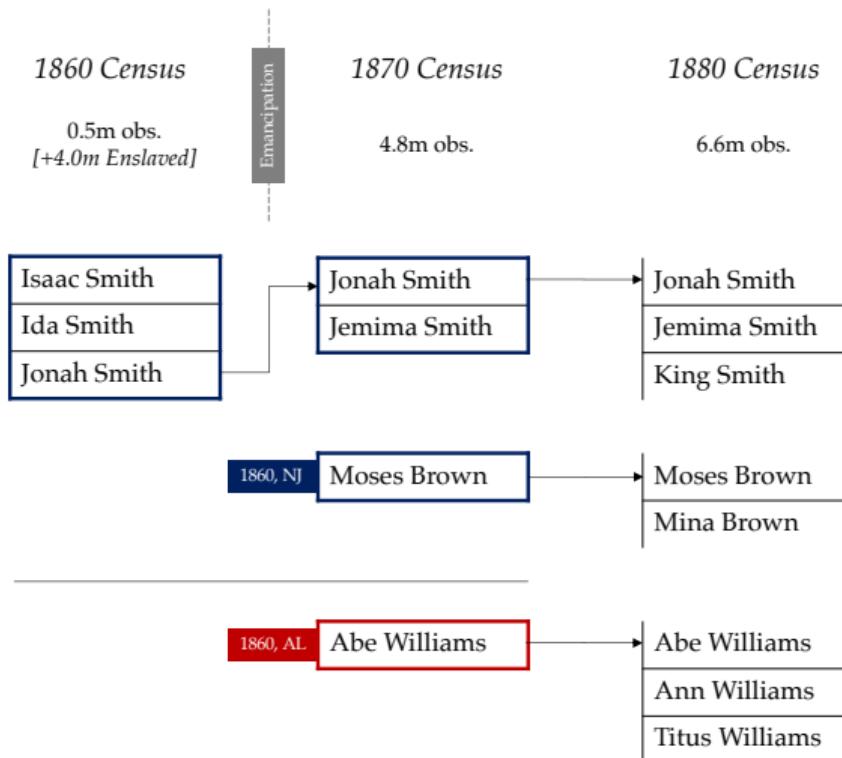
New Method to Identify Descendants of Enslaved and Free



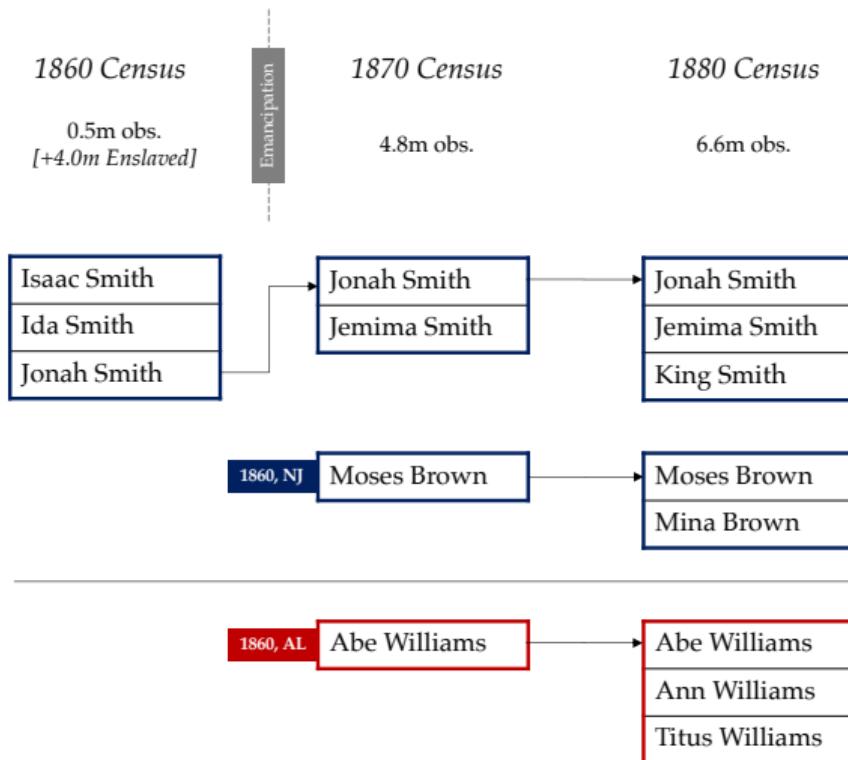
New Method to Identify Descendants of Enslaved and Free



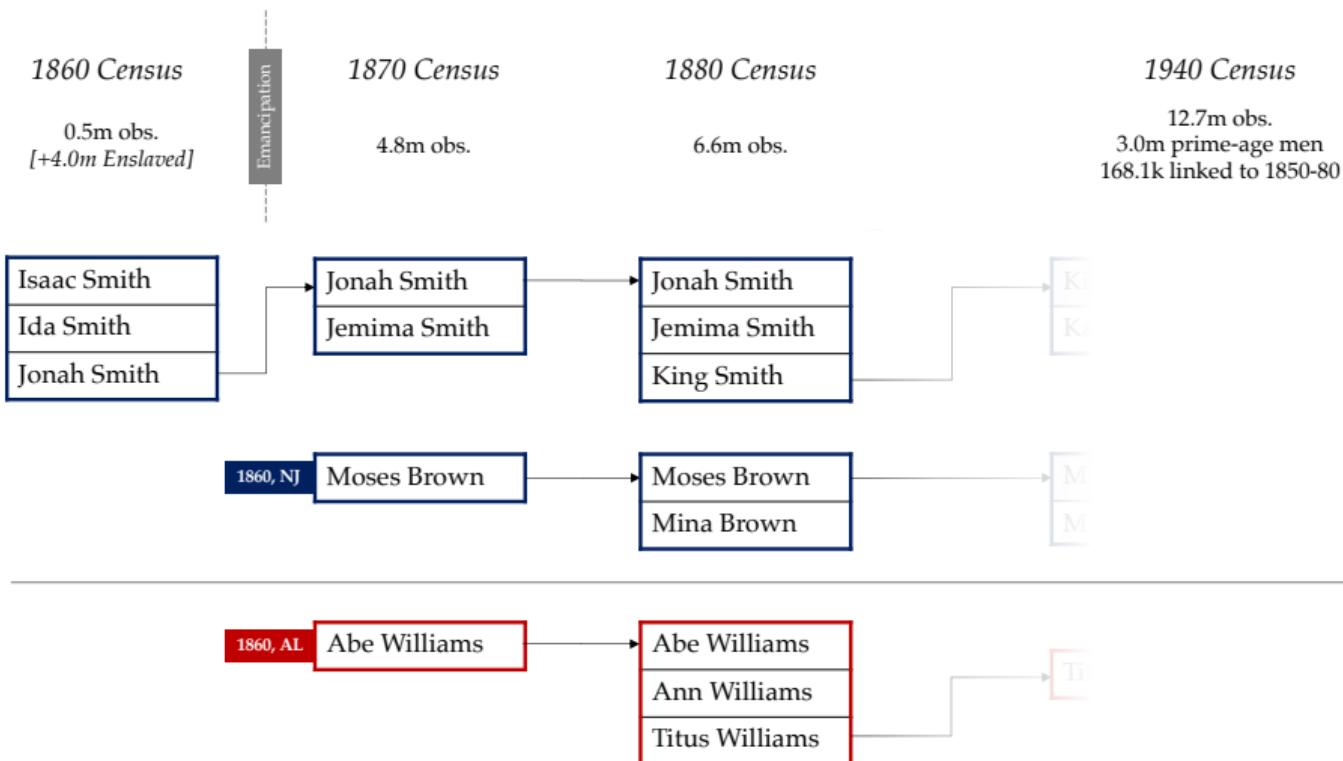
New Method to Identify Descendants of Enslaved and Free



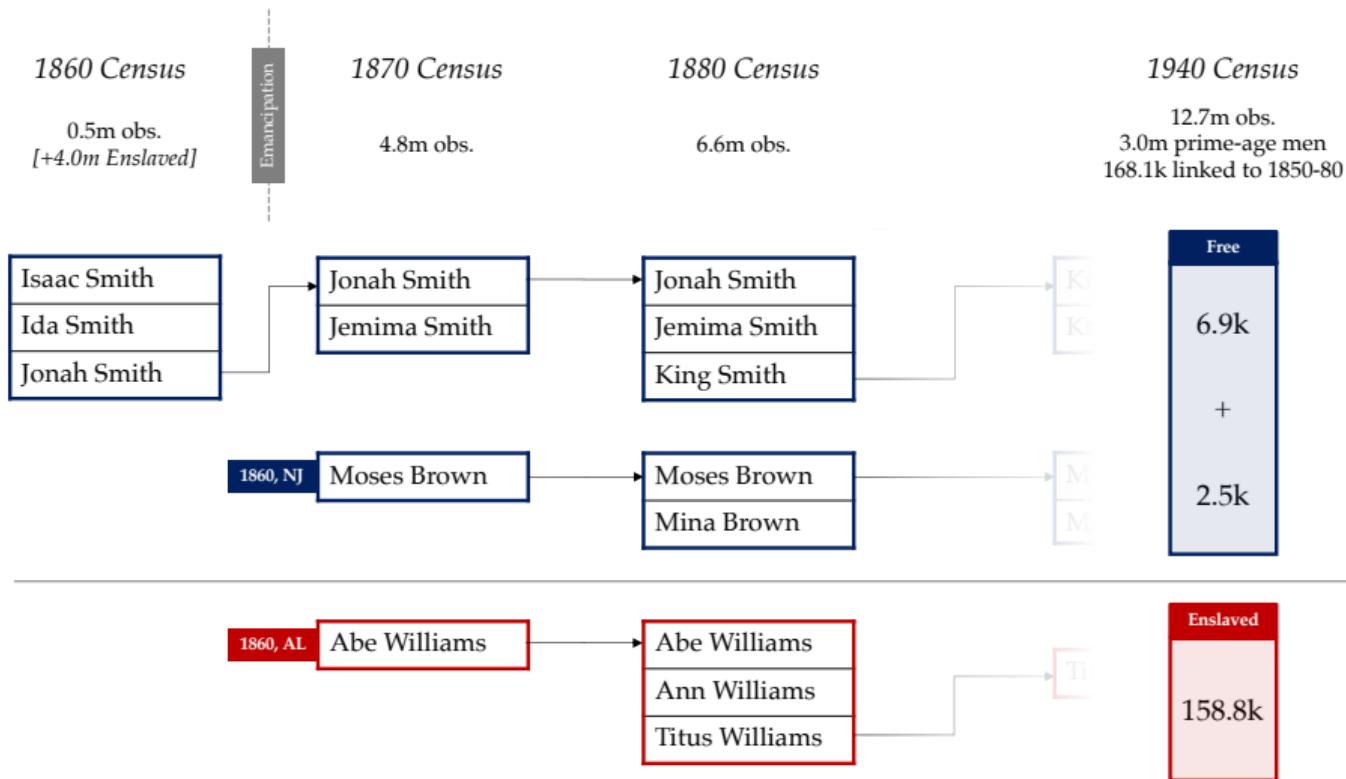
New Method to Identify Descendants of Enslaved and Free



New Method to Identify Descendants of Enslaved and Free



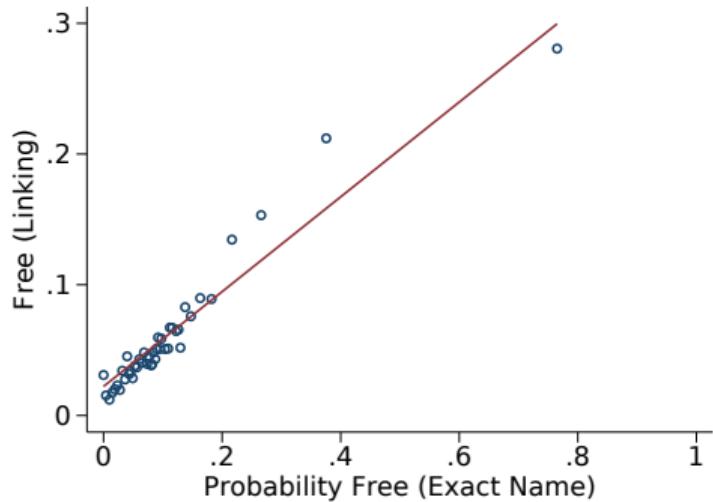
New Method to Identify Descendants of Enslaved and Free



Method Based on Last Names to Identify Descendants of Enslaved and Free

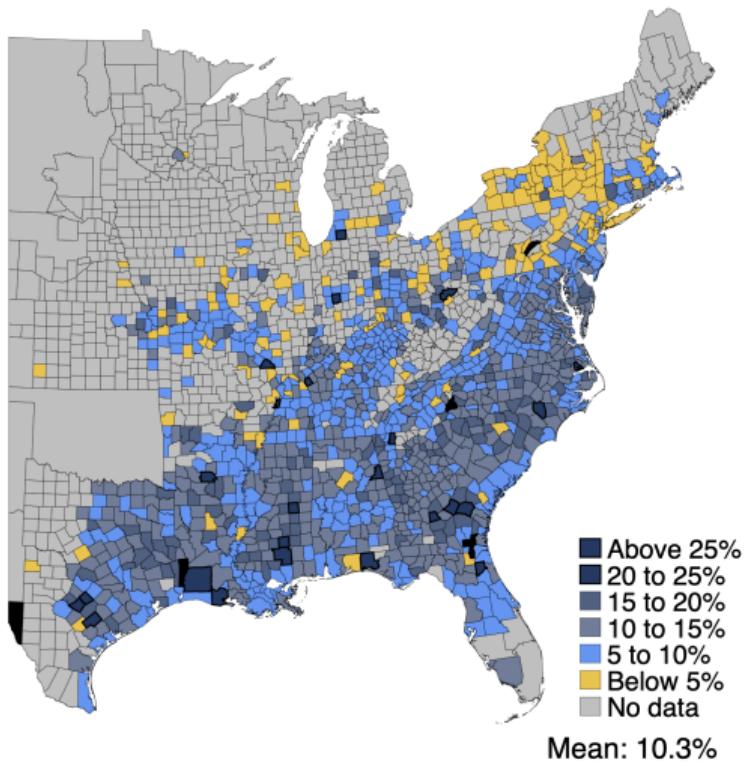
$$\begin{aligned} P(Free_{it} = 1 | Name_i = "Du Bois") \\ = \frac{P(Free_{it} = 1, Name_{it} = "Du Bois")}{P(Name_{it} = "Du Bois")} \\ = \frac{P(Free_{i,1860} = 1, Name_{i,1860} = "Du Bois")}{P(Name_{i,1870} = "Du Bois")} \\ = \frac{P(Name_{i,1860} = "Du Bois")}{P(Name_{i,1870} = "Du Bois")} \end{aligned}$$

$$\hat{P} = \frac{\#("Du Bois")_{1860} / BlackPop_{1860}}{\#("Du Bois")_{1870} / BlackPop_{1870}}$$



- Automated linking method designed to minimize false matches
 - Based on names (allowing for misspellings), year of birth, state of birth
 - Requires uniqueness of match by race within 5 years
- Adjacent and non-adjacent census decades
 - 12% linkable to adjacent decade
 - 20% linkable to any future decade
 - **10% linkable to from 1870 to 1940** ▶ By county

Linking Rate from 1870 to 1940 by Origin County



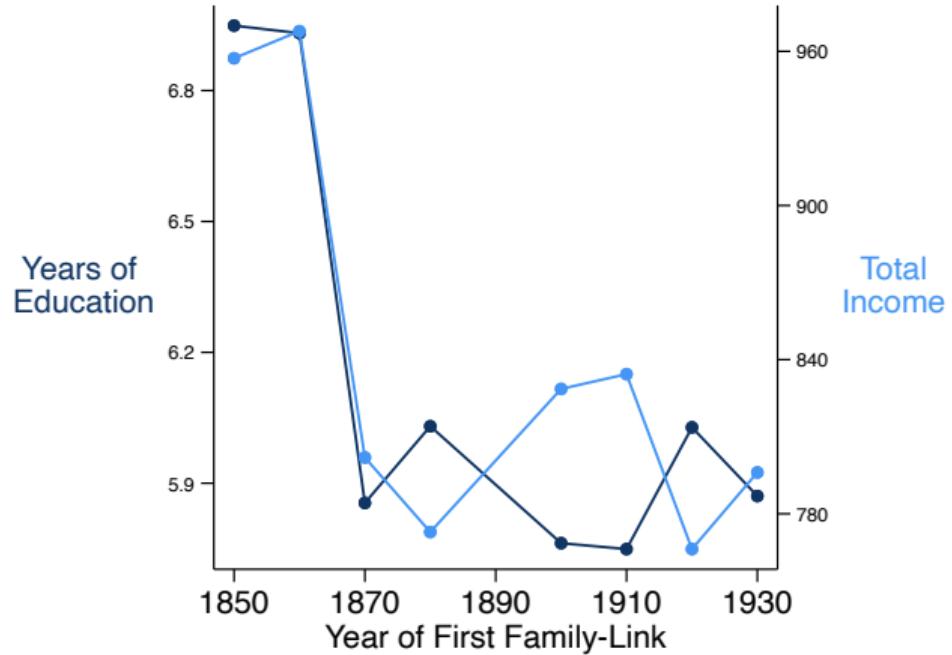
Sample Balance

Linked Sample vs. Population

	Free (1860)		Enslaved (1870)	
	Linked	Population	Linked	Population
Literacy (%)	65.1	66.8	20.4	20.4
Occupation Score	6.0	6.1	3.7	3.8
Real property (\$)	1,217	1,230	1,400	1,270
Personal property (\$)	312	316	312	293
Lives in North (%)	45.1	52.1	7.8	8.2
Lives on Farm (%)	21.2	18.2	23.8	23.2
Observations	20,994	79,374	190,676	726,667

Assessing Potential Linking Bias

Average Outcomes in 1940 by Year of Earliest Linked Ancestor



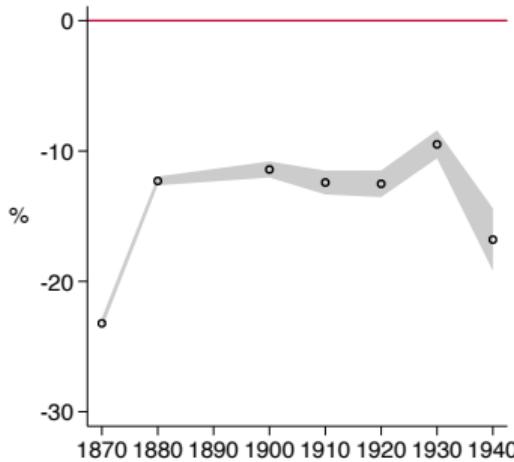
Historical Racial Regime (HRR) score (Baker 2022)

Principal component of 4 proxies for institutionalized oppression

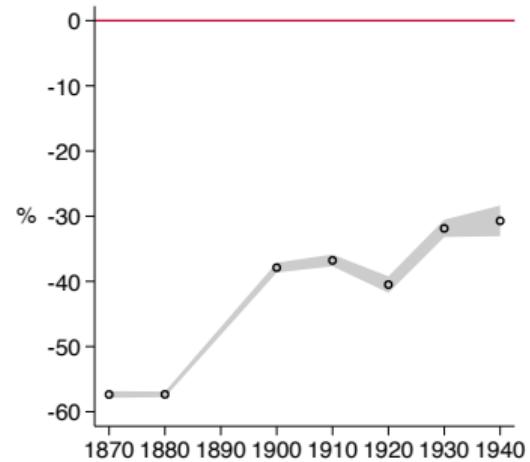
- ① Share of population enslaved (1860)
- ② Share of sharecroppers Black (1930)
- ③ Number of disenfranchisement devices enacted
- ④ Share of congressional delegates who signed Southern Manifesto opposing public school desegregation (1956)

Free-Enslaved Gap in Other Outcomes (1870–1940)

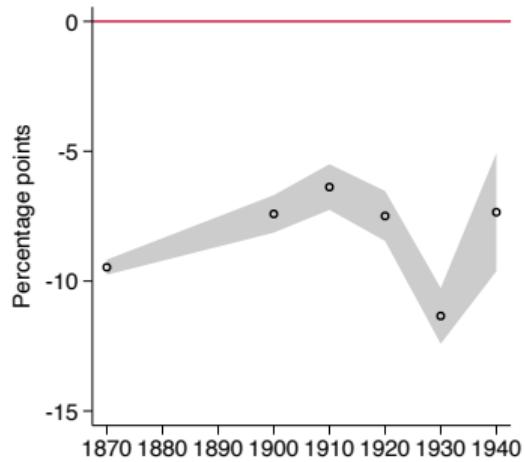
Income Score (OCCSCORE)



Income Score (LIDO)



Homeownership

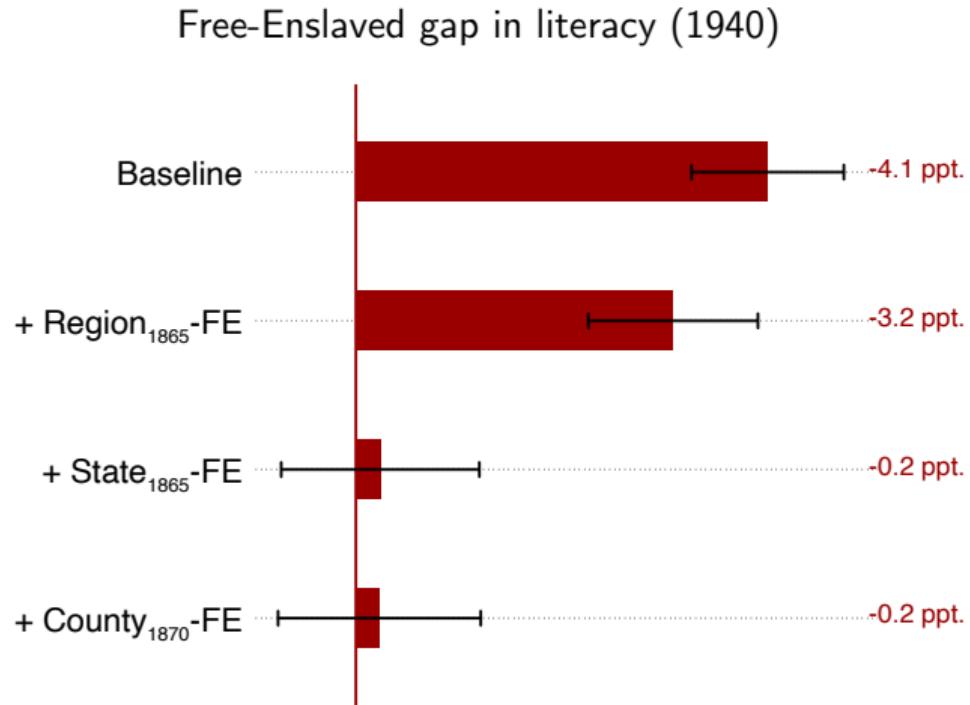


F-E Gap Accounted for by Ancestor Location

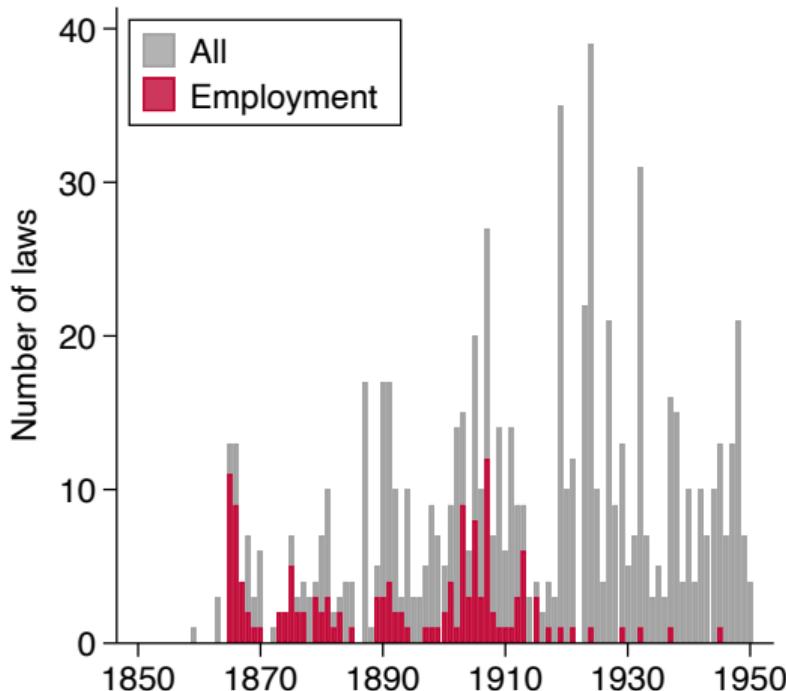
Table: Free-Enslaved Gap Conditional on Ancestor's State of Birth (1940)

	Education (Years)		Wage Income (USD)		Home Ownership (%)		House Value (USD)	
	Mean: 5.91		Mean: 388.01		Mean: 29.48		Mean: 1,412.17	
Ancestor Enslaved	-1.49*** (0.06)	-0.41*** (0.07)	-137.00*** (8.05)	-20.22** (9.41)	-6.76*** (0.72)	-1.61* (0.86)	-574.06*** (80.88)	8.40 (102.37)
1870 State of Birth-FE	N	Y	N	Y	N	Y	N	Y
Controls (age, age ²)	Y	Y	Y	Y	Y	Y	Y	Y
Adjusted R ²	0.04	0.08	0.04	0.07	0.01	0.03	0.01	0.03
Observations	75,583	75,583	71,474	71,474	76,048	76,048	21,873	21,873
<i>Ancestor Free</i>	4,617	4,617	4,371	4,371	4,640	4,640	1,624	1,624

Result: Free-Enslaved gap fully driven by Enslaved's geographic distribution

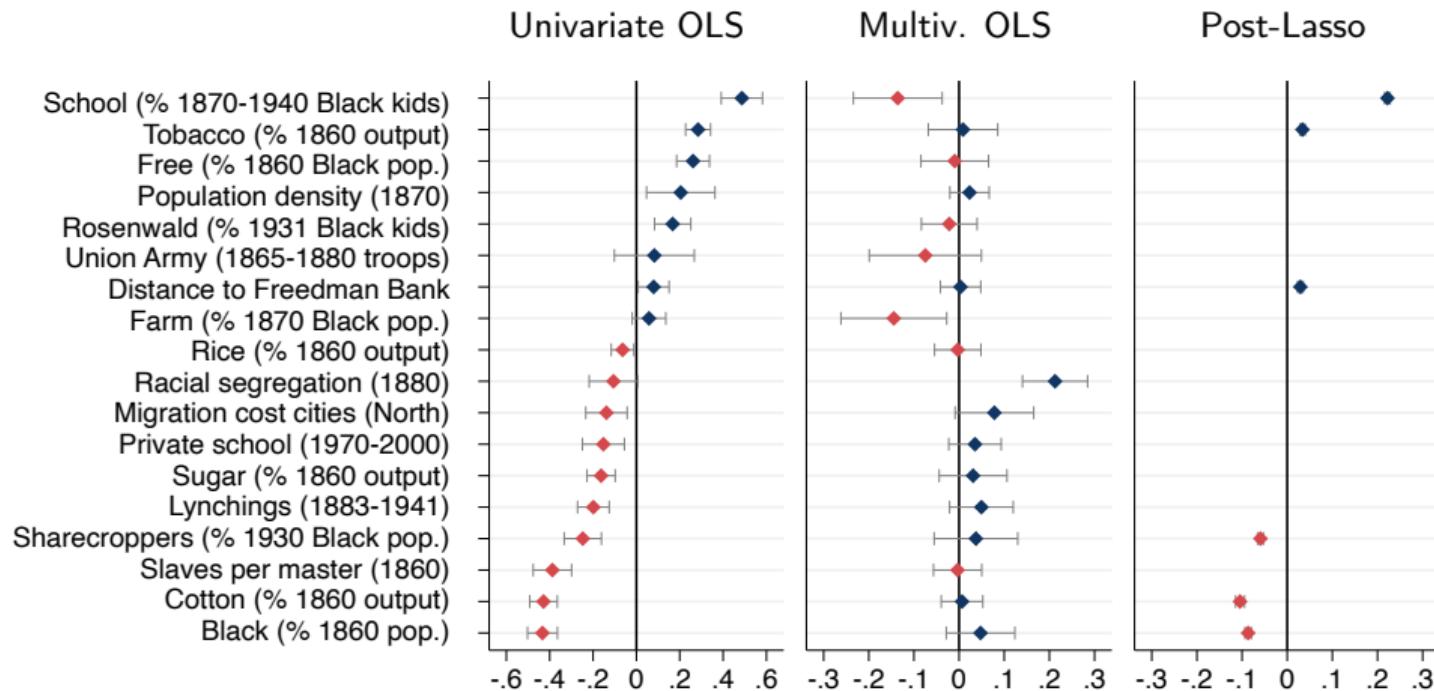


Jim Crow laws limiting the geographic mobility of Black Americans



- Enticement laws
- Contract enforcement laws
- Emigrant-agent
- Vagrancy laws

Horserace of Location-Specific Predictors of Place Effects



Rosenwald school exposure of child i

$$Rosenwald_{c(i,1870),y} = \frac{1}{10} \sum_{t=y+6}^{y+16} \frac{RosenwaldTeachers_{c(i,1870),t} \times 45}{BlackChildren_{c(i,1870),t}}$$

- $RosenwaldTeachers_{c,t}$: Rosenwald teachers in county c at time t
- $BlackChildren_{c,t}$: Black children in school ages (6–16) in county c at time t

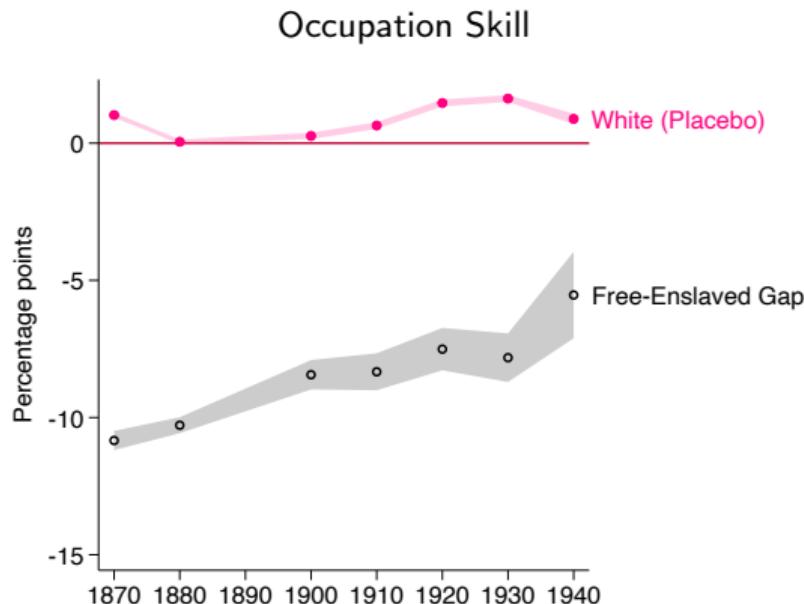
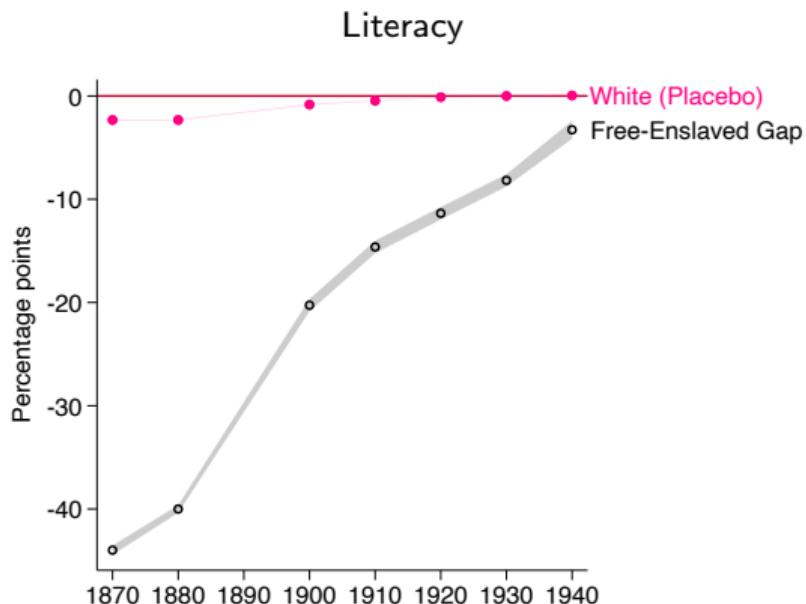
Free-Enslaved Gap in Alternative Income Measures (1940)

	OCCSCORE (1950-USD) Mean: 1,604.09	LIDO Score (1950-USD) Mean: 1,161.69	Wage Income (1940-USD) Mean: 381.20	Total Income (1940-USD) Mean: 793.47
Ancestor Enslaved	-148.39*** (10.31)	-279.00*** (7.51)	-145.92*** (5.75)	-204.29*** (9.59)
Controls (age, age ²)	Y	Y	Y	Y
Adjusted R ²	0.04	0.04	0.05	0.09
Observations	168,138	142,743	154,463	146,871
<i>Ancestor Free</i>	9,325	7,517	8,551	8,100

Free-Enslaved Gap (1940) Based on Last Name Based Method

	Education (Years) Mean: 5.74	Wage Income (USD) Mean: 384.95	Home Ownership (%) Mean: 21.81	House Value (USD) Mean: 1,630.05
Ancestor Enslaved	-0.72*** (0.02)	-91.25*** (2.98)	-1.88*** (0.27)	-1,140.60*** (417.72)
Controls (age, age ²)	Y	Y	Y	Y
Adjusted R ²	0.03	0.03	0.01	0.01
Observations	2,787,383	2,628,581	2,769,682	584,420

Placebo Gaps for White Americans (1870–1940)

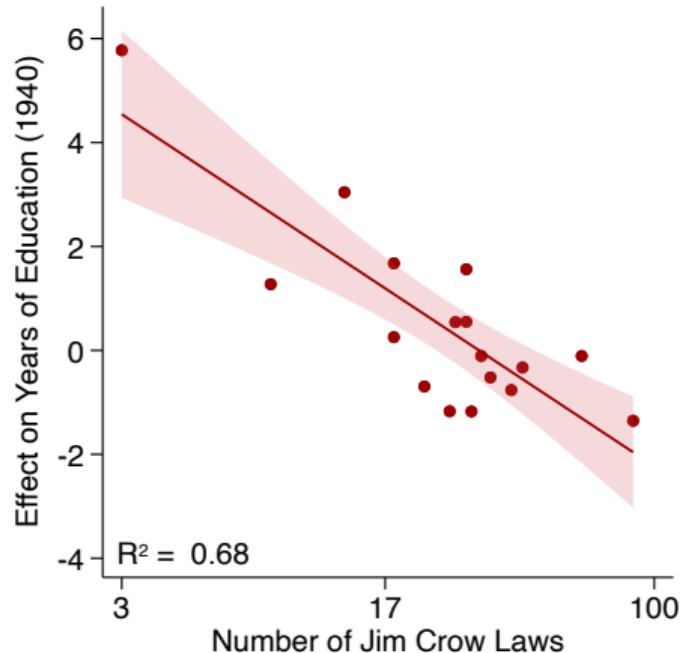
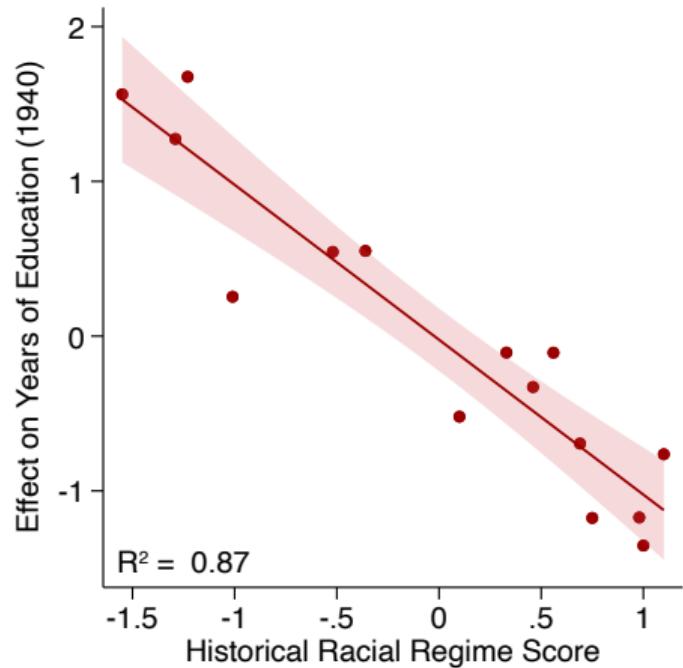


Intermarriage Between the Free and Enslaved

- Free-Enslaved gap measures socioeconomic differences between individuals whose **male ancestors** were free vs. enslaved before Civil War (s_i)
- Another object of interest: gap between individuals all of whose ancestors were free vs. enslaved before Civil War
 - s_i can be seen as a **noisy proxy**
 - Level of “noise” depends on rates of **intermarriage** between Free & Enslaved
 - We estimate that under plausible rates of intermarriage this gap is **1.5×**Free-Enslaved gap

Black Economic Progress Lower Under Intensive Jim Crow Regimes

1865-State Effects & Jim Crow Intensity



Strategy: Regression discontinuity specification

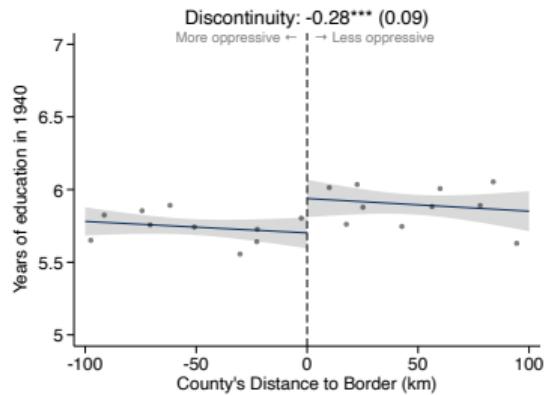
$$y_{i,b}^{1940} = \alpha_b + \beta_b \cdot \text{High}_{i,b}^{1870} + \nu_b \cdot \text{dist}_{i,b}^{1870} + \psi_b \cdot \text{dist}_{i,b}^{1870} \cdot \text{High}_{i,b}^{1870} + \varepsilon_{i,b}$$

for descendant i whose ancestors lived close to border b in 1870, where

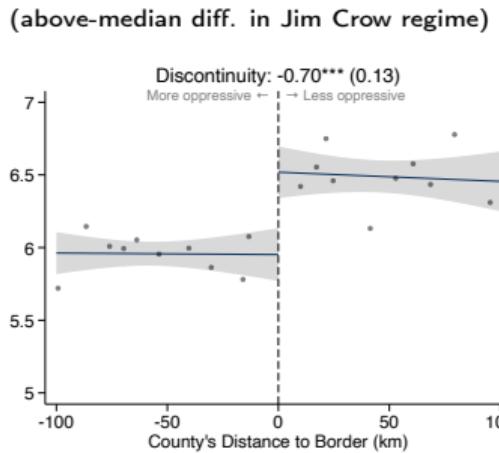
- y^{1940} : socioeconomic outcomes in 1940
- High^{1870} : Dummy = 1 if ancestors lived on more oppressive side of border b in 1870
- dist^{1870} : distance from ancestors' residence in 1870 to border b

Validation: RDD using pooled sample of all borders

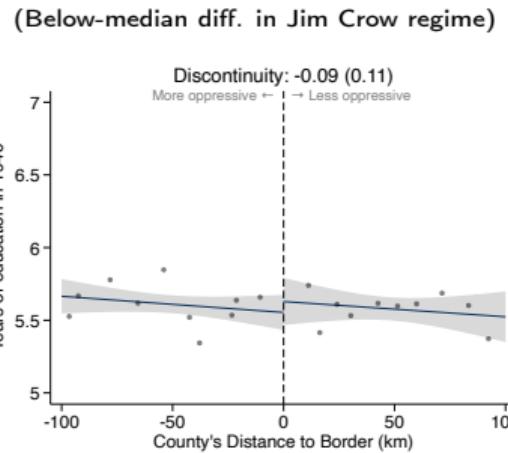
All borders



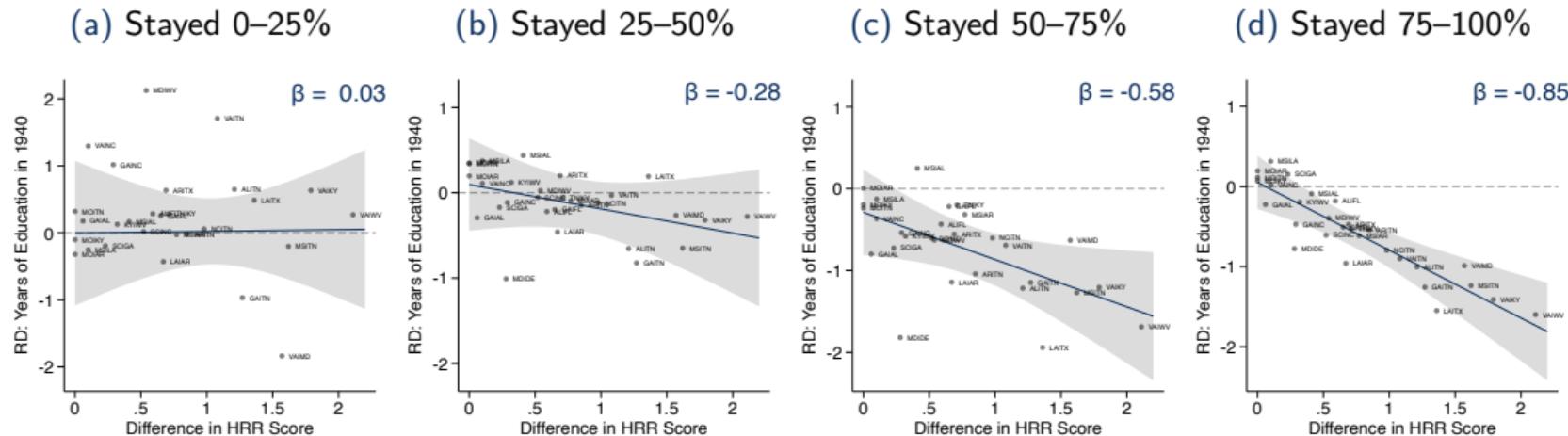
Policy borders



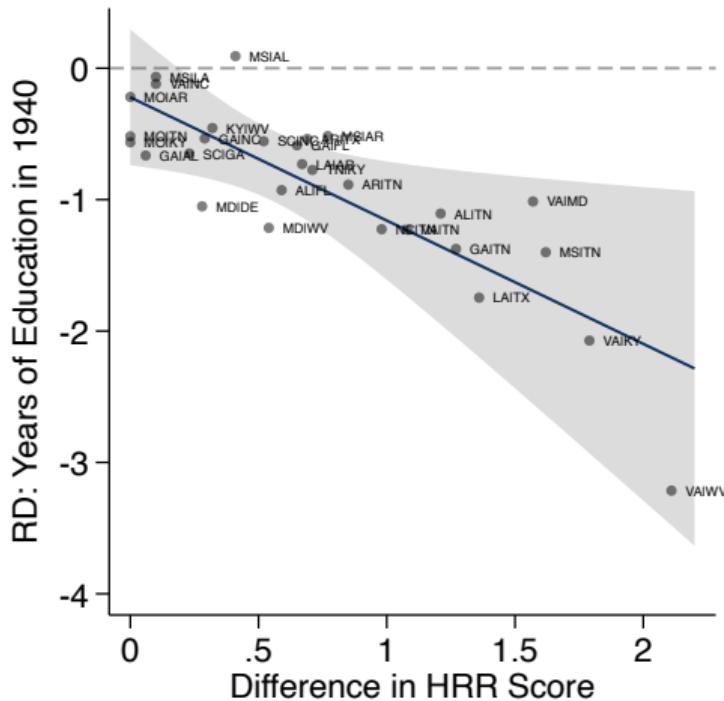
Placebo borders



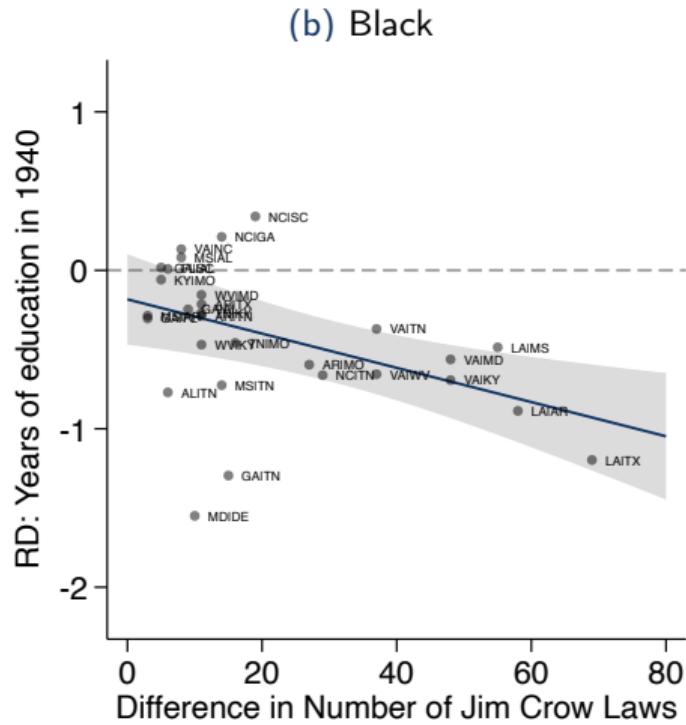
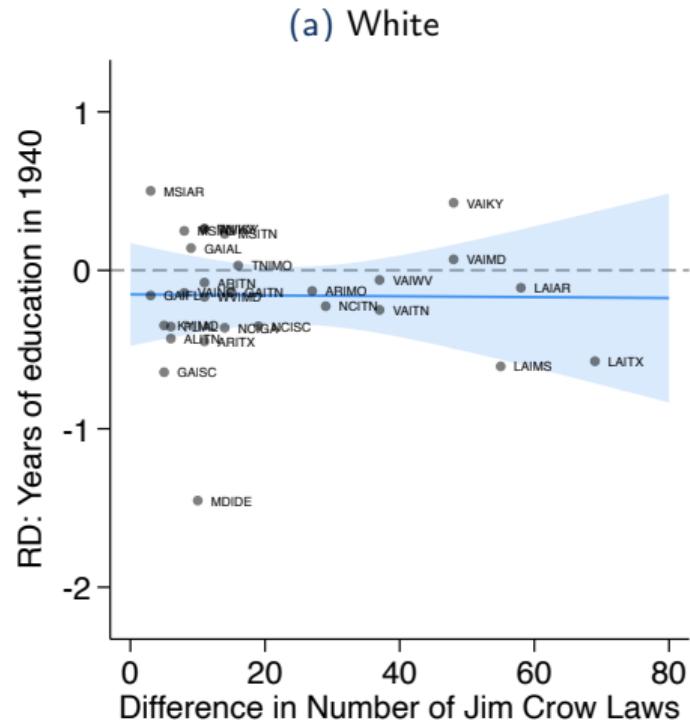
Result: RD estimates by fraction of decades in origin state (1865–1940)



Result: RD estimates for families who stayed until 1920, then left

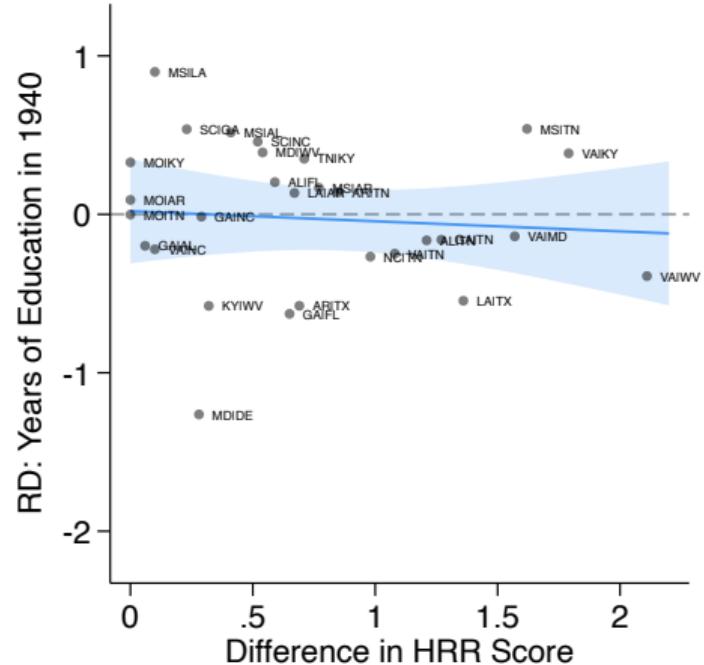


Result: Jim Crow had no effect on white Americans

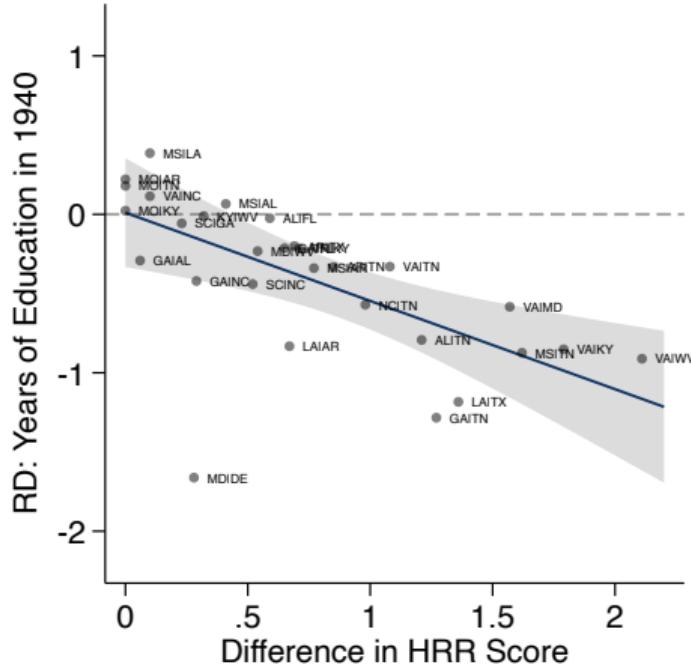


Result: Jim Crow had no effect on poor white Americans

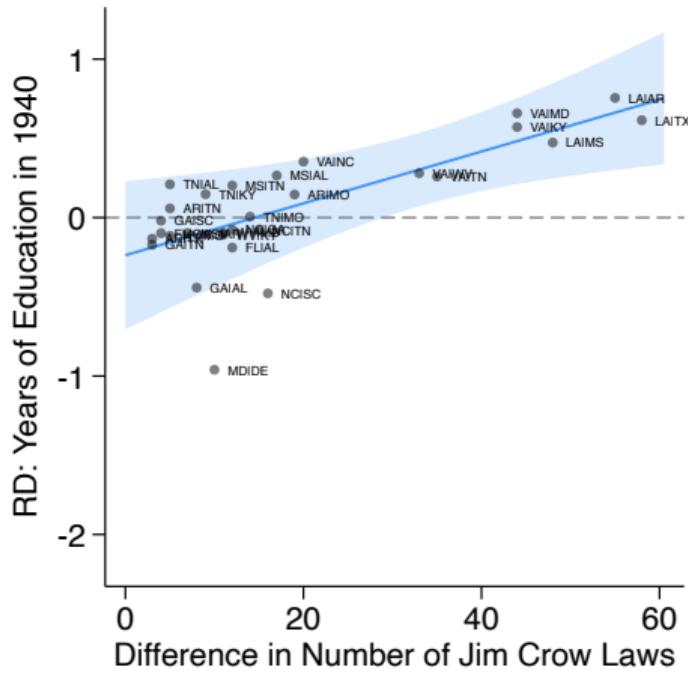
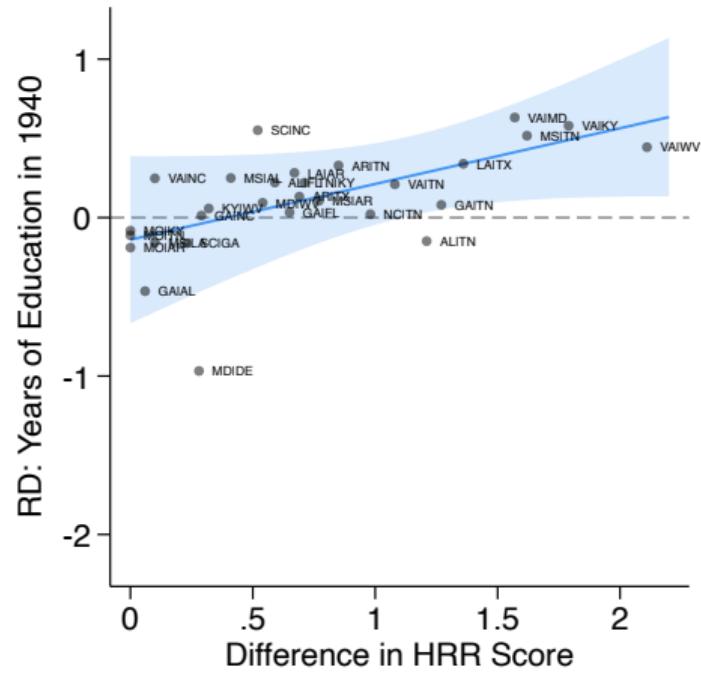
(a) Poor white



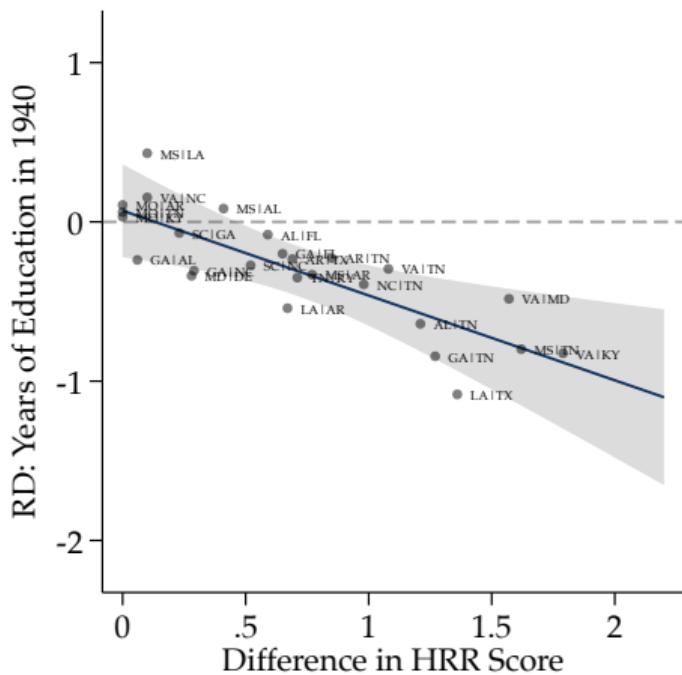
(b) Black



Result: Jim Crow benefited wealthy white Americans (top-10%)



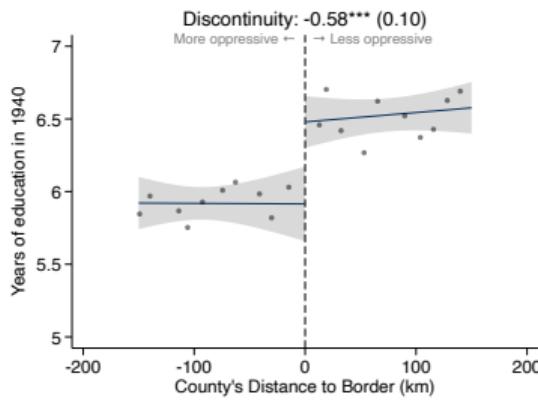
Validation: Results robust to including array of location-specific controls



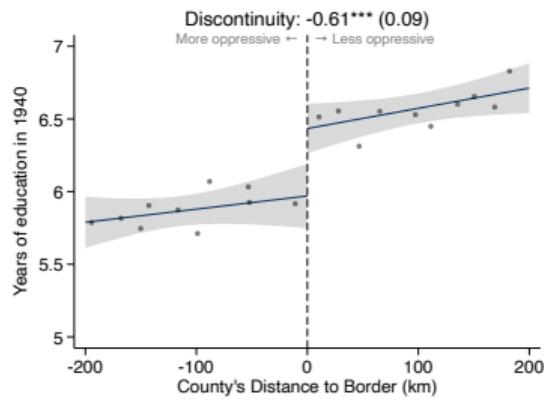
1860-controls: farm share, wealth, population density, share Black, migration cost to the North, per-capita tobacco, cotton, and cane sugar output, farm values, share slaveholders

RDD With Alternative Bandwidths

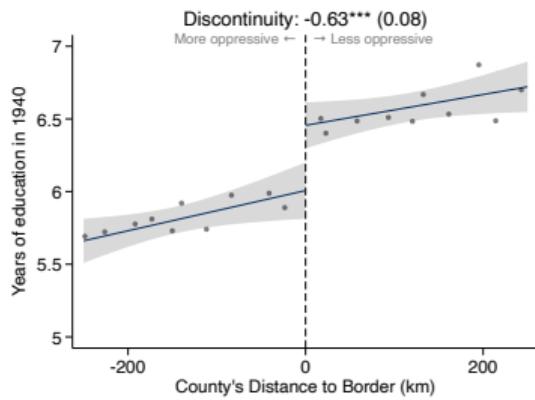
150km



200km



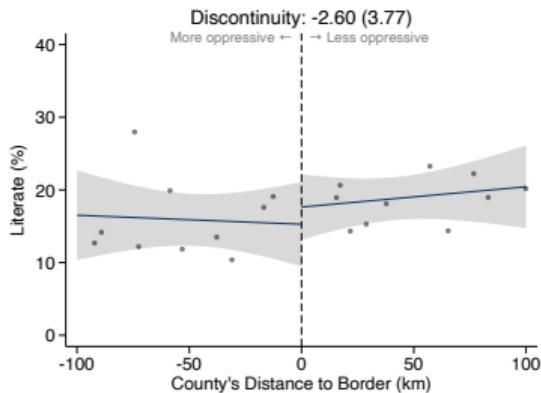
250km



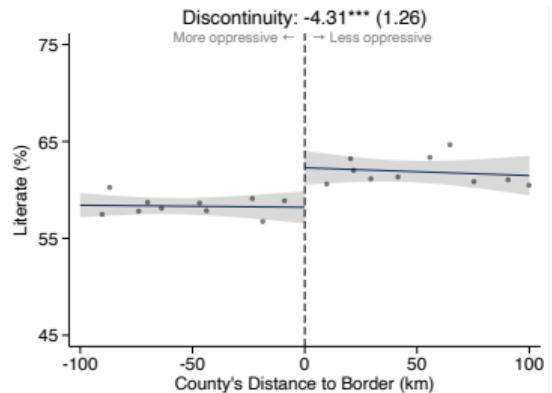
Validation: Gaps emerged with start of Jim Crow (1877-1964)

RD in Literacy

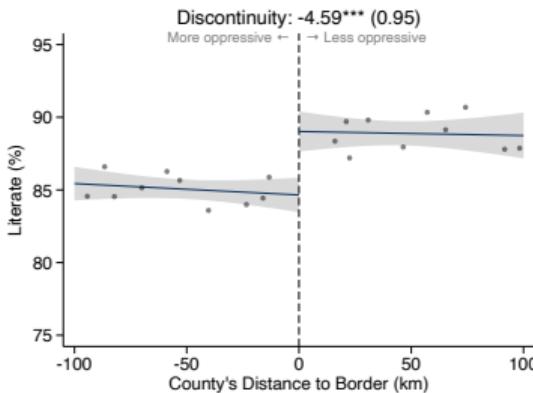
Pre-period: 1870



1900

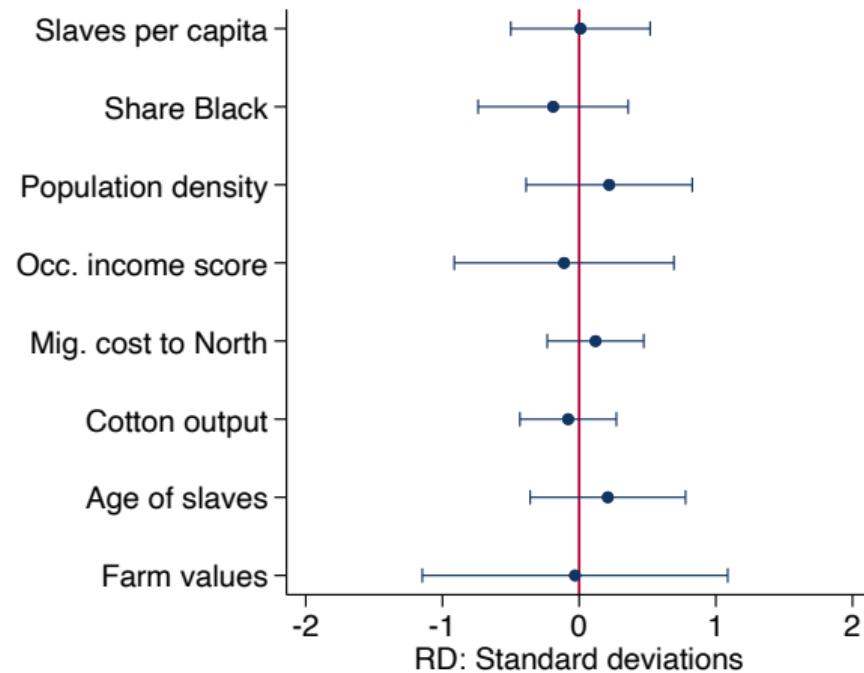


1930



Validation: No differences in location characteristics under slavery

RD: 1860 Location Characteristics (Policy Borders)



Strategy: Quasi-experimental school access – Rosenwald program (1914–31)

$$y_{i,1940} = \beta \cdot \text{Rosenwald}_{c(i,1870),y} + \mu_{c(i,1870)} + \mu_{s(i,1870),y} + \varepsilon_{i,1940}$$

- $y_{i,1940}$: 1940-outcome of child i
- $\text{Rosenwald}_{c,y}$: Fraction of children w/ access to Rosenwald school (county c , cohort y)
- $\mu_{c(i,1870)}$: Ancestor county fixed effects
- $\mu_{s(i,1870),y}$: Ancestor state \times cohort fixed effects

Empirical innovations: Evidence from the Rosenwald schools

Relative to the seminal work of Aaronson & Mazumder 2011

- ① **Mediate selection concerns** by measuring Rosenwald school exposure based on 1870 county (vs. child's own county of birth)
- ② **Analyze intergenerational effects** using panel's reach until 2000
- ③ **Assess treatment effect heterogeneity** across Jim Crow regimes