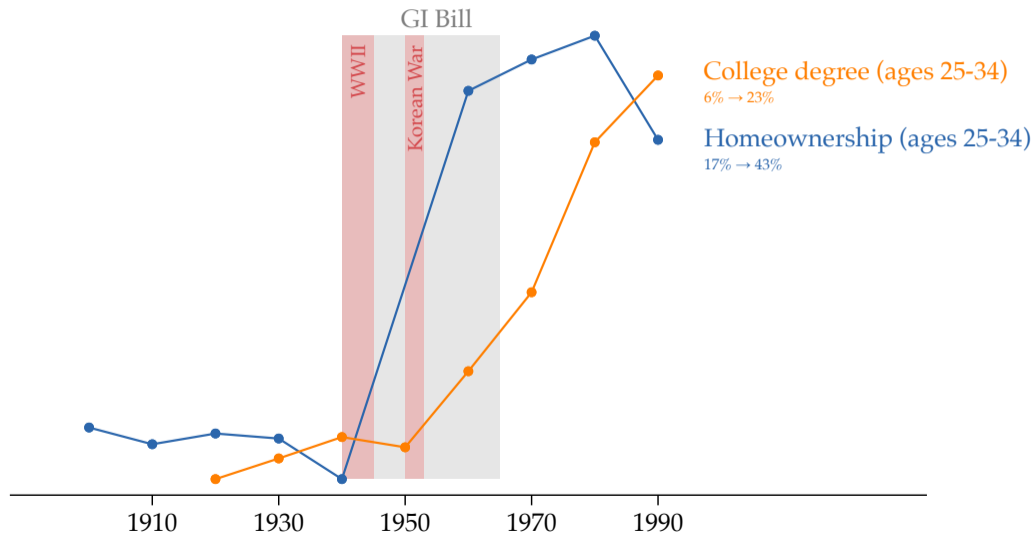


# Race-Blind Policy and Racial Inequality: Long-Run Effects of WWII

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March 27, 2026

# Motivation: The college and middle class boom in post-war US



- Post-WWII boom in college attendance and middle class expansion
- GI Bill (1944) (largest social policy in US history) credited as key driver

“The GI Bill [. . .] signaled the shift to the knowledge society. Future historians may consider it the most important event of the 20th century.” Drucker (1993)

- Not everyone benefited equally

“[B]lack veterans did not experience the same GI Bill as white veterans [...] [T]his result did not stem from any direct discrimination in the Bill itself. It was a feature of its implementation [...]” Frydl (2009)

- **Question:** Who benefited from the post-WWII human capital revolution?
- **Methodology:** First intergenerational assessment of the GI Bill
  - New linkage of census (1940–1950) to present-day records of 2nd generation into 2000s
  - Intergenerational RD exploiting age-based eligibility cutoffs among fathers
  - Assess channels of intergenerational racial gaps via decomposition framework
- **Findings:**
  - GI Bill boosted white veterans' college education, generating persistent gains for children
  - Black Americans did not benefit: Large gains in vocational training with minimal returns
  - Widened racial college gap by 47% among 2nd generation
  - Systemic discrimination was key driver, not pre-war endowments

- **Identity-blind policies and inequality**

- Systemically discriminating policies (Derenoncourt & Montialoux '21: minimum wage; Card & Krueger '92: school quality; Aaronson et al. '21: credit risk maps; Fishback et al. '24: New Deal)
- **This paper:** Largest identity-blind policy in US history

- **The GI Bill and the human capital revolution**


- Rapid mid-20th century rise in college attainment partly driven by WWII and GI Bill (Goldin & Katz '08; Bound & Turner '02; Stanley '03; Barrera et al. '25; Collins & Zimran '25)
- Differential access and returns by race and class (Turner & Bound '03; Abramitzky et al. '24)
- **This paper:** GI Bill's unequal effects persist beyond the veteran generation

- **Racial inequality in America**

- Slow convergence (Derenoncourt et al. '24; Chetty et al. '20; Althoff & Reichardt '24)
- **This paper:** GI Bill's role in exacerbating inequality

- ① Historical Background
- ② Empirical Strategy & Data
- ③ Results: Direct Effects
- ④ Results: Intergenerational Effects
- ⑤ Conclusion

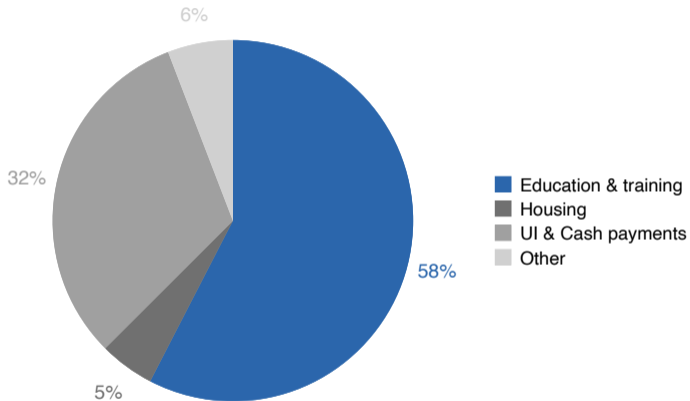
## Timeline: WWII Military Service and the WWII GI Bill

- 
- Dec. 1941 • US enters WWII after Pearl Harbor was bombed
  - Jun. 1944 • WWII GI Bill signed into law by FDR
  - Sep. 1945 • End of WWII
  - 1950–1953 • Korean War
  - Jul. 1956 • WWII GI Bill education benefits expire

# The Political Economy of the GI Bill

- **Broad bipartisan support driven by fear of mass unemployment**
  - 16 million veterans returning to a peacetime economy
  - Lesson from WWI: government mistreatment of veterans sparked unrest [▶ Details](#)
- **Education benefits faced opposition from university leaders**
  - Elite universities feared mass enrollment would “dilute academic standards”
  - Supporters argued: those who fought for the country earned the right to try college
- **Decentralized design enabled exclusion**
  - Southern Democrats controlled key committees, opposed federal oversight
  - States approved eligible institutions; local VA offices provided counseling
  - Black veterans often steered toward vocational training instead of college
  - Segregation limited options to overcrowded, underfunded HBCUs

## GI Bill spending by component (1945–1955)



16 million men served → 7.8 million used GI Bill for college or training (2.2m vs. 5.6m)

4.3 million home loans. VA GI Bill outlays from Collins, Zimran (2025).

[▶ Details: Edu](#)

[▶ Details: Housing](#)

[▶ Details: Cash](#)

[▶ Access](#)

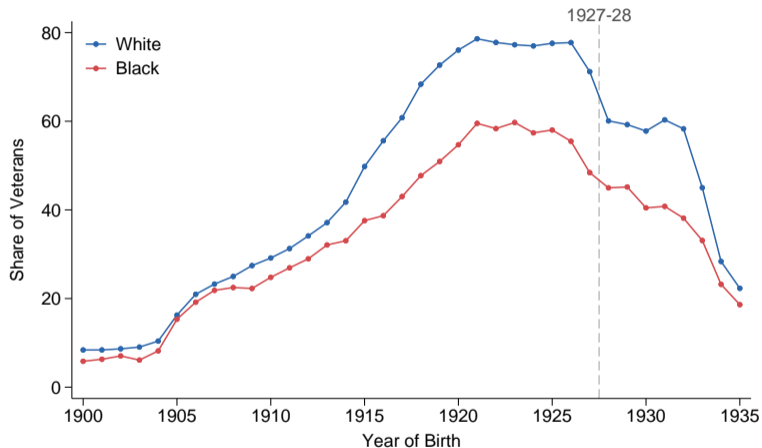
# Outline

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## Identification: Effect of WWII & GI Bill

- **Challenge:** Veteran status is not random
  - Physical, mental, and medical criteria
  - Voluntary enlistment
- **Strategy:** Age-based eligibility cutoffs for military service (Bound & Turner '02, '03, Fetter '13)
- **Mechanism:** GI Bill and military service
  - However: Limited effect of service from WWI age-based eligibility cutoffs
  - Evidence from draft lottery suggests effect of service  $\leq 0$  (Angrist '90, '11)

# Identification: Age-based military eligibility cutoff



▸ Draft Procedure

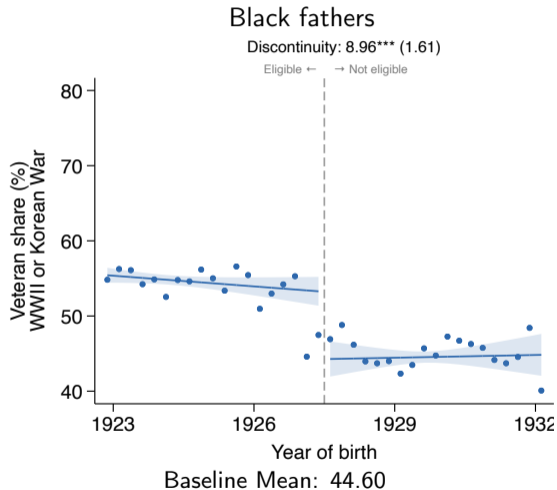
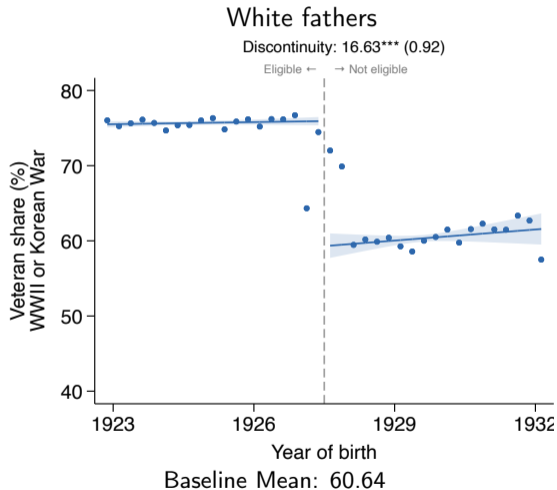
▸ Deferments

▸ Registration → Enlistment Flows

▸ Double V Campaign

▸ Estimation Equation

# First stage: WWII-eligible fathers are more likely to be veterans

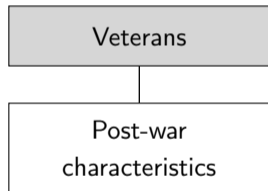


► Estimating Equation

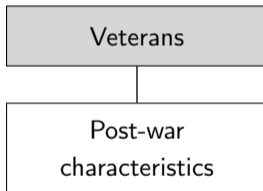
► Table

# Data for direct effects on veterans: Census cross sections

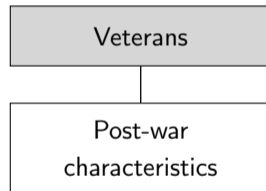
## 1960 census



## 1970 census

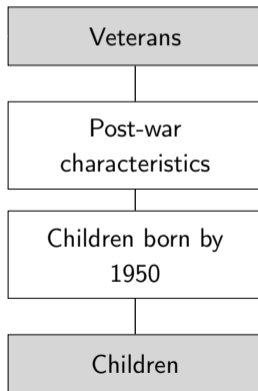


## 1980 census



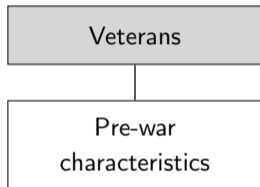
We use 1%-5% IPUMS Census samples.

## 1950 census

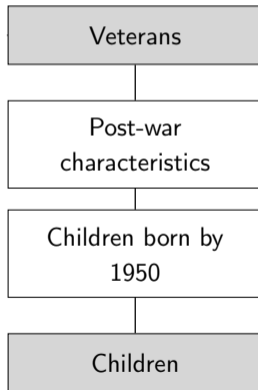


# Data for intergenerational effects: Overview of novel data linkage

## 1940 census

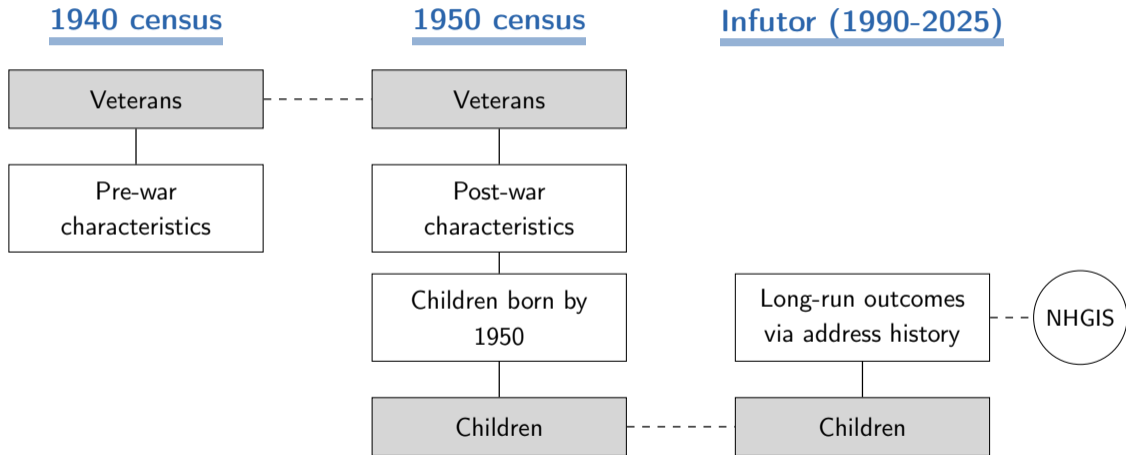


## 1950 census



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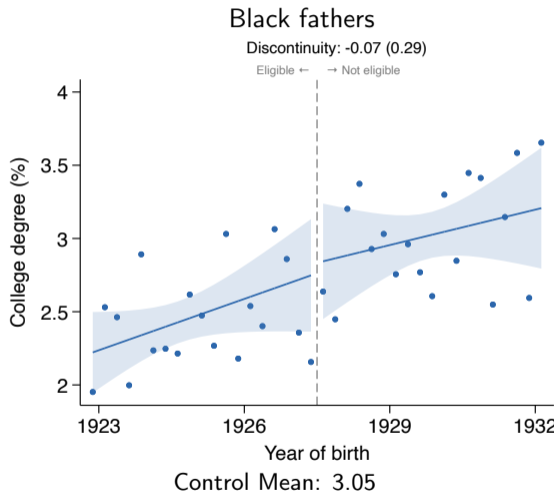
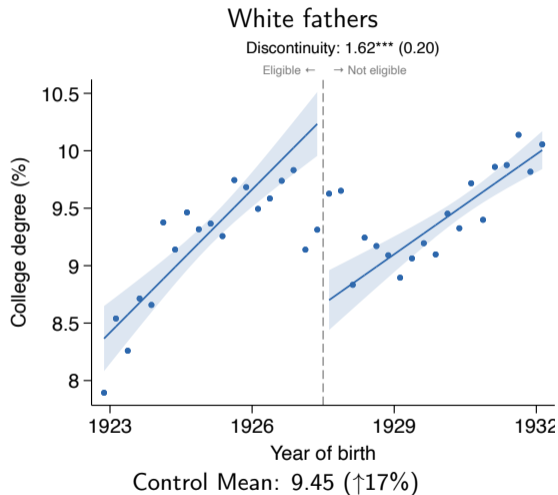
# Data for intergenerational effects: Overview of novel data linkage



# Outline

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# Reduced form results: WWII-eligible fathers are more likely to have college



Estimates based on the 1970 & 1980 census.

► Years of education

► HS degree +

► Some college +

► Robustness

## Reduced form & IV results: Widening inequality in education

	Reduced form		IV	
	White	Black	White	Black
Less than HS	<b>2.57***</b> (0.49)	<b>2.74***</b> (0.90)	<b>15.41***</b> (3.00)	<b>29.87***</b> (10.67)
HS degree	<b>-3.78***</b> (0.53)	<b>-1.66**</b> (0.83)	<b>-22.69***</b> (3.35)	<b>-18.16*</b> (9.38)
Some college	<b>-0.54**</b> (0.23)	<b>-1.06***</b> (0.34)	<b>-3.25**</b> (1.36)	<b>-11.56***</b> (4.08)
College degree	<b>1.58***</b> (0.20)	-0.10 (0.27)	<b>9.45***</b> (1.30)	-1.08 (2.98)
Postgraduate	0.18 (0.19)	0.09 (0.23)	1.08 (1.11)	0.93 (2.56)
Years of education	<b>0.06***</b> (0.02)	<b>-0.11*</b> (0.06)	<b>0.37***</b> (0.14)	-1.17 (0.71)
Vocational training	-0.20 (0.54)	<b>3.26***</b> (1.27)	-1.23 (3.25)	<b>35.59**</b> (14.68)

Estimates based on the 1970 & 1980 census.

▶ HS Effects

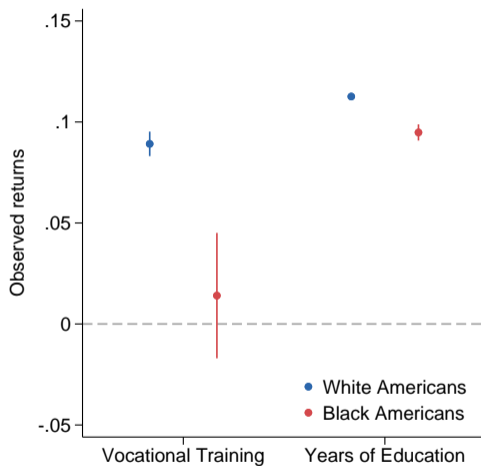
▶ Lit. comparison

▶ Voc. training

▶ South

▶ Means

## No returns to vocational training for Black veterans



Mincerian estimates controlling for state and age fixed effects based on the 1970 census.

## The rise of vocational training

- VA counselors steered Black veterans away from college, toward vocational programs

“[VA] counselors didn’t merely discourage black veterans. They just said no. [...] No to job placement, except for the most menial positions. And no to college.” Humes (2006)

- Vocational schools exploded: from ~100 to over 10,000 by 1950
  - Many “emerged merely to accept the plethora of GI Bill payments” (Humes '06)
  - Lacked federal oversight; offered little meaningful training
- Even well-trained Black veterans faced occupational ceilings
  - 24% of job orders to US empl. offices discriminatory in 1946 (*To Secure These Rights*, 1947)
  - Lack of employer willingness to hire or promote
- Our results: Massive vocational takeup for Black veterans, zero returns

# Did the GI Bill's effects persist across generations?

- Direct effects on veterans:
  - Share of men with less than high school increased for Black and white men
  - **White:** College attendance & completion → entry into knowledge economy
  - **Black:** Large gains in vocational training, but zero returns; no gains elsewhere
- Did these gaps persist into the next generation?
  - Key barrier: linking WWII-era veterans to their children's outcomes decades later
  - We overcome this with new census-to-present-day linkage (1940–1950–2000s)
  - Critical for ongoing policy debates about compensating descendants of Black veterans

# Outline

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## Reduced form & IV results: Widening inequality in education for children

	Reduced form		IV	
	White	Black	White	Black
Less than HS	<b>-0.41***</b> (0.06)	<b>0.81*</b> (0.38)	<b>-2.48***</b> (0.37)	<b>8.80**</b> (4.33)
HS degree	-0.06 (0.05)	-0.37 (0.55)	-0.37 (0.32)	-4.00 (6.05)
Some college	-0.03 (0.05)	0.69 (0.41)	-0.20 (0.32)	<b>7.55*</b> (4.55)
College degree	<b>0.24***</b> (0.06)	<b>-0.95***</b> (0.26)	<b>1.46***</b> (0.39)	<b>-10.36***</b> (3.19)
Postgraduate	<b>0.27***</b> (0.06)	-0.18 (0.28)	<b>1.59***</b> (0.37)	-1.99 (3.06)

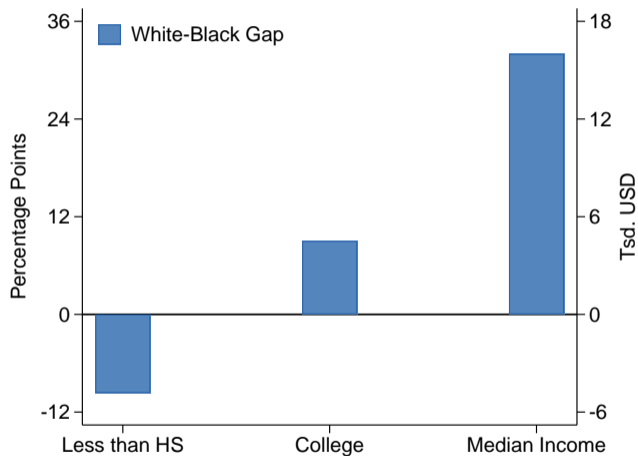
## Reduced form & IV results: Widening racial income inequality for children

	Reduced form		IV	
	White	Black	White	Black
Median Income	<b>558.33***</b> (92.74)	54.64 (220.11)	<b>3,347.47***</b> (577.51)	596.30 (2,403.65)
Median Family Income	<b>657.08***</b> (103.55)	217.47 (297.03)	<b>3,939.58***</b> (647.39)	2,373.38 (3,258.58)
Per Capita Income	<b>322.32***</b> (90.61)	81.66 (251.52)	<b>1,932.49***</b> (550.64)	891.23 (2,747.76)

## Large impacts on housing wealth for white children

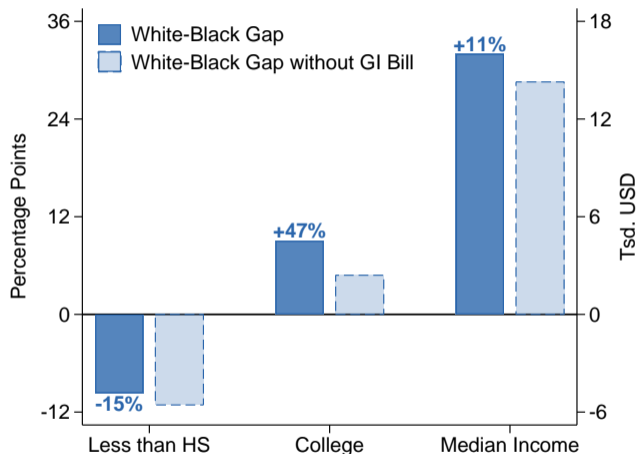
	Reduced form		IV	
	White	Black	White	Black
Home Ownership	0.01 (0.09)	0.05 (0.57)	0.07 (0.51)	0.51 (6.19)
Median House Value	<b>2,103.27**</b> (675.62)	954.03 (1,348.66)	<b>12,610.28***</b> (4,093.09)	10,411.83 (14,790.49)

## How much did GI Bill contribute to racial gaps for boomers?



White-Black gap based on 2000 census.

## GI Bill widened racial college gap by 47%



White-Black gap based on 2000 census. Counterfactuals subtract RDD effect weighted by share treated.

# Why didn't Black veteran families benefit?

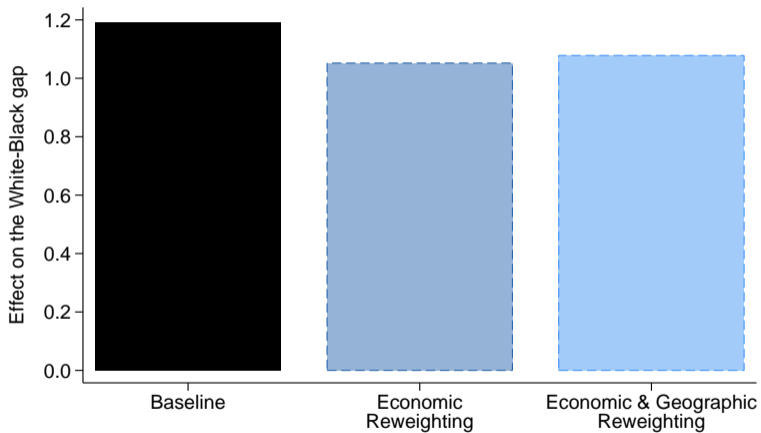
- Endowments

- Racial gaps in pre-war education & savings
- Dynamic complementarities widen gaps (Cunha & Heckman '07; Johnson & Jackson '19)

- Returns

- Segregated colleges, discriminatory local VA administration, etc.
- Systemic racial discrimination  $\Rightarrow$  benefits translated into low returns for Black veterans

# Endowments explain little of divergent WWII effects



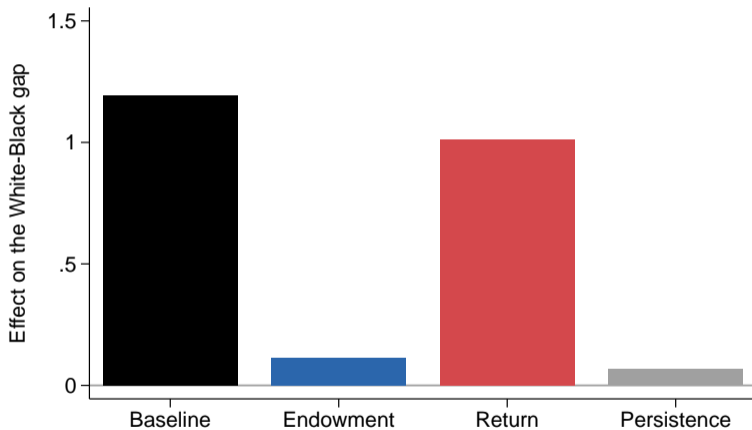
## Decomposing the intergen. racial gap: Endowment, return, or persistence?

$$\Delta\theta = \theta^W - \theta^B = \underbrace{\beta^W \left( \int \tau^W dF_W - \int \tau^W dF_B \right)}_{\text{endowment}} + \underbrace{\beta^W \left( \int \tau^W dF_B - \int \tau^B dF_B \right)}_{\text{return}} + \underbrace{(\beta^W - \beta^B) \int \tau^W dF_B}_{\text{persistence}}$$

- **Endowment:** Gap due to different pre-war characteristics (SES, geography)
- **Return:** Gap despite equal endowments
- **Persistence:** Gap due to different intergenerational transmission

Calibrated from Chetty, Hendren, and Jones (2020).

## Decomposing the White-Black gap in WWII effects on college



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## Conclusion: The GI Bill and inequality in America

- Policies can widen inequality due to unequal access to complementary institutions that make those subsidies valuable
- The GI Bill boosted white veterans' college education, generating persistent educational and income gains for their children
- At the same time, Black Americans did not benefit
  - ⇒ GI Bill widened racial college gap by 47% among baby boomers
- It was not pre-existing racial gaps in socioeconomic status, but systemic exclusion that made GI Bill's effects unequal

### **New bill would provide GI Bill benefits to descendants of Black World War II vets**

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The measure would provide families of these veterans a transferable benefit that could be used to obtain housing, attend college or start a business.

*NBC News, Nov 11, 2021*

### **Lawmakers reintroduce bill to grant G.I. Bill benefits to Black WWII veterans' families**

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*ABC News, Feb 27, 2025*

**Thank you!**

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# Mistreatment of returning World War I veterans

- Little immediate transition support
  - Discharged with \$60 and a train ticket
  - 1924: Congress granted bonuses, but could not be redeemed for cash until 1945
- Great Depression made the wait untenable
  - By 1932, millions of veterans unemployed
  - 20,000 veterans marched on Washington (“Bonus Army March”)
- Violent dispersal shocked the nation
  - Senate rejected early payment; President Hoover ordered the Army to clear the camps
  - Troops used tear gas, bayonets, and tanks; burned encampments

## Motivation: WWII and GI Bill as drivers of *white* human capital expansion

“By advancing the momentum toward suburban living, mass consumption, and the creation of wealth and economic security, this legislation created middle-class America.”

Katznelson (2005)

“The GI Bill [...] signaled the shift to the knowledge society. Future historians may consider it the most important event of the 20th century.” Drucker (1993)

“There was no greater instrument for widening an already huge racial gap in postwar America than the G.I. Bill.” Katznelson (2005)

“It is a fact that black veterans did not experience the same GI Bill as white veterans, and it is also a fact that this result did not stem from any direct discrimination in the Bill itself. It was a feature of its implementation – and an intended one.” Frydl (2009)

## Appendix: Intergenerational effect of WWII & GI Bill

$$Y_{child(i)} = \phi_c \alpha_{child(i)} + \beta_c Y_i + \varepsilon_{child(i)} \quad (\text{Child generation})$$

Substituting the father's equation:

$$Y_{child(i)} = \underbrace{\kappa}_{\beta_c \beta_f} Y_{father(i)} + \underbrace{\theta}_{\beta_c \tau} Vet_i^* + \underbrace{u_{child(i)}}_{\phi_c \alpha_{child(i)} + \beta_c \phi_f \alpha_i + \beta_c \varepsilon_i + \varepsilon_{child(i)}}$$

Key identifying assumption to estimate intergenerational multiplier  $\theta$ :

$$\mathbb{E} [ Vet_i^* \cdot u_{child(i)} \mid Y_{father(i)} ] = 0$$

# Timeline: WWII Military Service and the WWII GI Bill

- Sep. 1940 • Selective Training and Service Act of 1940 signed into law
- Oct. 1940 • 1st registration: all men aged 21–35 (Oct. **lottery** decided draft order)
- Jul. 1941 • 2nd registration: men who turned 21 since the last registration (Jul. **lottery**)
- Dec. 1941 • US enters WWII after Pearl Harbor was bombed**
- Feb. 1942 • 3rd registration: men aged 20–45 not previously registered (Mar. **lottery**)
- Apr. 1942 • 4th registration: men aged 45–64 (never drafted into military service)
- Jun. 1942 • 5th registration: men aged 18–20 (Nov. draft **young to old**, no lottery)
- Dec. 1942 • Ongoing registration: men registered on 18th birthday (draft **young to old**)
- Jan. 1943 • Men aged 38–45 no longer drafted, focus on younger men
- Jun. 1944 • [WWII GI Bill](#) signed into law by FDR**
- Sep. 1945 • End of WWII**
- Jul. 1956 • WWII GI Bill education benefits expire (housing benefits expire Jul. 1957)**

## Timeline: Korean War Military Service and the GI Bill

- Jun. 1948 • Registration of all men aged 18–26 for first ever U.S. peacetime draft
- Jun. 1948 • 20,000 men aged 19–26 drafted between 1948 and Korean War (young to old)
- Jun. 1950 • Beginning of Korean War, and sharp increase in number of men drafted
- Jun. 1950 • During the war 1.5 million men drafted, generally youngest to oldest
- Jun. 1951 • Age for military service lowered from 19 to 18<sup>1</sup>/<sub>2</sub>
- Jul. 1952 • [Korean War GI Bill](#) signed into law by Harry Truman
- Jul. 1953 • End of Korean War
- Jan. 1965 • GI Bill education benefits expire (no expiration date for housing benefits)

# The GI Bill education benefits (“Title II”)

- **Eligibility:** Honorable discharge and at least 90 days of service (Sep 1940–Jul 1947)
  - Start of training within 4 years of discharge or end of WWII (whichever was later)
  - Completion of training within 9 years of end of WWII
- **Coverage:** 1 year of training + 1 month per month of active duty (up to 48 months)
  - Tuition + supplies  $\leq$  \$500 + monthly stipend of \$50 if single or \$75 if married
  - Stipends  $\uparrow$  in 1945 (\$65, \$90 if married) & 1948 (\$75, \$105 if married, \$120 if with child)
  - \$14.5 billion spent on the program by the time it expired in 1954
- **Types of education:** Post-grad, college, trade schools, on-the-job training
  - 2,268 higher education institutions + 44,232 businesses received approval for training  
(for higher education 3 months of summer break not deducted from the eligible period)
  - States responsible for approving eligible colleges & vocational education programs  
(explicitly forbade federal control over states’ choices of eligible programs)

## The GI Bill home, business, farm ownership benefits (“Title III”)

- **Eligibility:** Honorable discharge and active service (Sep 1940–Jul 1947)
  - Loan must be made within 10 years of end of WWII
  - Loan had to be approved before government would guarantee it  
(primary mode of exclusion for black veterans)
  - Veterans had to indicate race on applications to VA for loan guarantees
- **Coverage:** Government guaranteed loans up to set amount
  - Guaranteed 50% of remaining loan  $\leq$ \$2,000 for  $\leq$ 20 years with interest rate  $\leq$  4%
  - Max. increased to \$4,000 in 1945; to \$7,500 and 60% of home value for  $\leq$ 25 years in 1950
  - For farming equipment & businesses, guaranteed  $\leq$ 50% of real-estate loan
  - Post-war surveys: 60% of veterans who bought 1st home with loan guarantees said they would otherwise not have been able to afford the down-payment

## Other benefits of the GI Bill

- **Eligibility**: Honorable discharge from service (Sep 1940–Jul 1947)
- **Discharge**: Ensures servicemen compensated fairly upon discharge (Title I)
  - Active servicemen cannot be discharged without final pay
  - Disabled servicemen cannot be discharged before a claim for compensation executed
- **Unemployment**:  $\leq 1$  year of \$20 per week in unemployment compensation upon return
  - If veterans failed to accept suitable work offered them, they could lose benefits
  - Frequently used by Southern states to purge unemployment rolls of Black veterans
- **Job search**: Priority in job placement services & employment counseling (Title IV)
- **Medical care**: Cost of prosthetic appliances (travel, surgery, rehab) for veterans covered

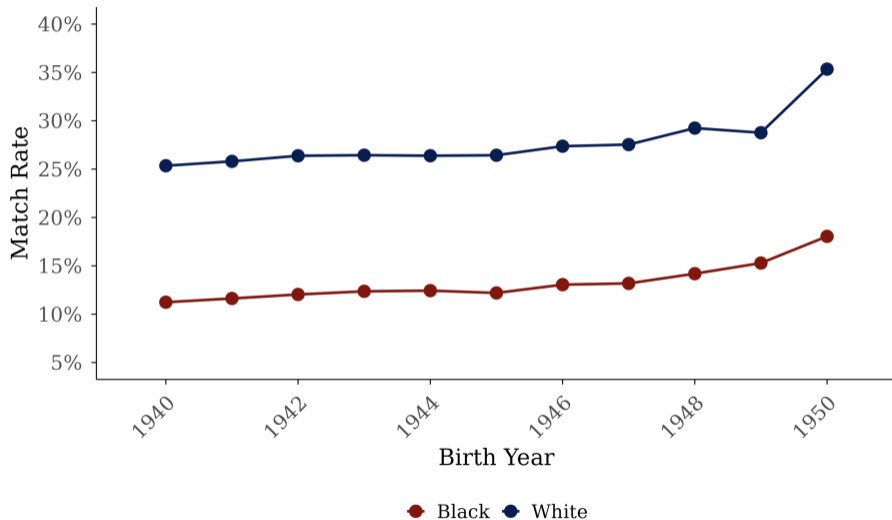
- Education

- ① **Educational institution:** Gain admission to VA certified educational institution
- ② **Local VA:** Obtain Certificate of Eligibility from local VA office; need honorable discharge
- ③ **Payment:** VA makes tuition payments directly to institution, stipend to veteran
- ④ **Receiving benefits:** Veteran must maintain good academic standing

- Loans

- ① **Local VA:** Obtain Certificate of Eligibility from local VA office; need honorable discharge
- ② **Private lender:** apply for loan; requires no down payment, < 4% interest
- ③ **VA appraisal:** appraise house and ensure meets standards; VA partially guarantees loan
- ④ **Finalization:** Loan is finalized and veteran closes on home sale

## Data linkage: Infutor match rates by race



# Draft Procedure

- 1 **Registration:** 36 million men register with 6000+ local draft boards over course of WWII
- 2 **Draft:** Local draft boards call up those drafted first by lottery, then youngest to oldest
  - Draft boards + 30,000 civilian doctors perform psychiatric and physical examinations (over 40% of 19 million drafted men rejected to reduce post-war veteran disability burden)
  - Starting in May 1941, the military required a fourth-grade literacy level (dropped by 1943)
  - Army General Classification Test (June 1943) elevated rejection rate for Black candidates
- 3 **Deferment:** Occupational and family status exempt men from service
- 4 **Discharge:** Points system determines eligibility for discharge at end of WWII in Europe
  - Adjusted Service Rating System determined eligibility for discharge based on deployment length, decorations, campaigns, and # of children
  - Blue Discharge (not honorable or dishonorable): used to remove African Americans + homosexuals (used to exclude from GI Bill benefits)

## Examples of deferments in WWII

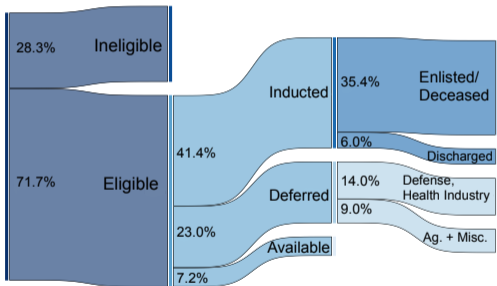
- **Occupational:** Occupations that contributed to the well-being of the community or nation (2-A); essential defense (2-B); agricultural production (2-C)
- **Educational:** Deferment to end of university academic year in 1940
  - From 1940 to 1943 more than half of medicine, veterinary medicine, engineering, chemistry, pharmacy, physics, and geology students deferred (2-A and 2-B); by May 1944, limited to medicine, dentistry, veterinary medicine and osteopathy students
- **Familial:** Sole heads of household with children were never drafted
  - Initially, fathers classified as 3-A and deferred; starting in Oct. 1943, 3-A classification removed and fathers with children born pre-Pearl Harbor were drafted
- **Beliefs:** Usually conscientious objectors for religious reasons, could perform work of national importance under civilian direction, only approx. 70,000 over course of war

## Examples of deferments in the Korean War

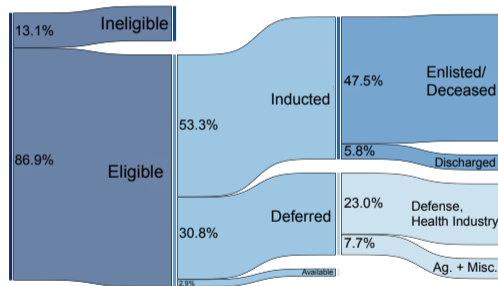
- The Selective Service Act of 1948 had some modifications relative to WWII
- WWII veterans are exempt from draft
- **Occupational:** Workers in critical military and civilian industries deferred
  - Four month grace period for graduates seeking job meriting occupational deferment
- **Educational:** All students allowed to finish their current semester
  - Unlike WWII, engineering and science students are not only ones eligible for deferment
  - Selective Service College Qualification Test score of 70+/150 (1950) → deferment
  - Men in apprentice programs for mechanics, machinist deferred, needed in defense industry
- **Familial:** childless husbands are no longer deferrable under class 3-A
  - July 11, 1953, did away with paternity deferments (unless paternity pre Aug. 1953)
- **Beliefs:** Conscientious objector for religious reasons exempt from draft
  - CO exemptions for inductees grew to 1.5%, compared to a rate of just 0.5% in WWII

# WWII selective service profiles of Black vs White men

## Black men



## White men



## Double V Campaign

- *Pittsburgh Courier* (Feb. 1942): “Victory over our enemies at home and victory over our enemies on the battlefields abroad.”
  - Largest circulation African American newspaper
  - coined “Double V” by James G. Thompson – wrote letter explaining double victory
  - Fighting fascism abroad and racism at home
  - WWII military segregated, black soldiers serve in separate units under white officers
  - Black Americans demonstrated similar willingness to serve in the military as white Americans, comparable enlistment rates
- NAACP grows from 50,556 members in 1940 to 450,000 in 1946
  - Regular membership dues paid by black soldiers in WWII support growth

## Empirical strategy: Age-based eligibility cutoffs

We estimate the following regression discontinuity design separately by race:

$$Y_{it} = \alpha + \beta \times \mathbb{1}[\text{qob}_i \leq c] + (\text{qob}_i - c) \times (\delta_0 + \delta_1 \times \mathbb{1}[\text{qob}_i \leq c]) + \varepsilon_{it}$$

- $Y_{it}$ : outcome for individual  $i$  in census year  $t$
- $\mathbb{1}[\text{qob}_i \leq c]$ : dummy if  $i$ 's quarter of birth is before cutoff  $c$  for WWII, Q3-1927
- $\beta$  captures effect of eligibility for military service and GI Bill

Data: 1%-5% IPUMS Census samples (1960–1980)

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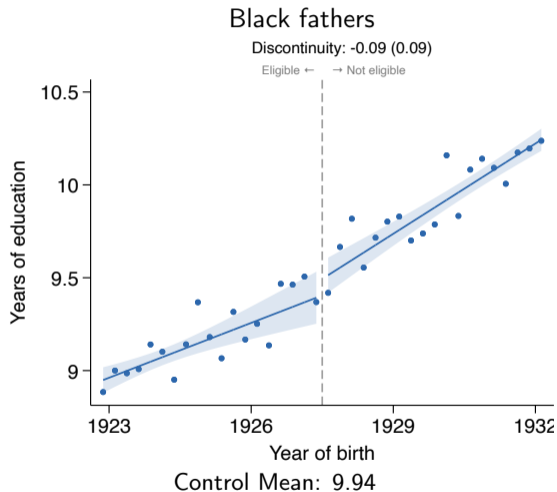
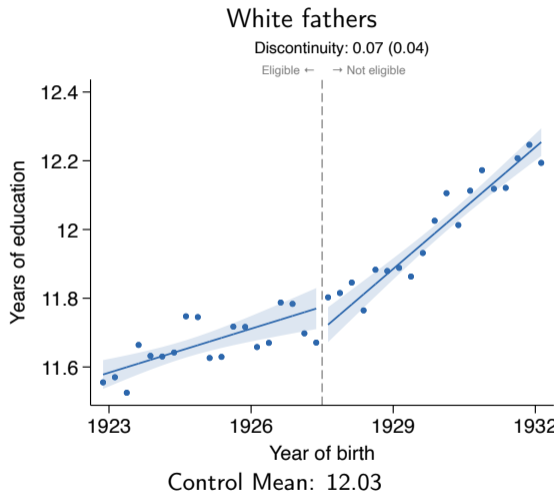
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- $\beta$  captures effect of eligibility for military service and GI Bill

Data: 1%-5% IPUMS Census samples (1960–1980)

## First stage estimates

	White		Black	
	All Regions	South	All Regions	South
<b>Veteran Status</b>	<b>16.68***</b>	<b>16.74***</b>	<b>9.16***</b>	<b>10.47***</b>
	(0.78)	(0.97)	(1.28)	(1.51)
Mean	-0.06	-0.02	0.02	0.02
Observations	950,466	281,034	95,624	46,859

# Reduced form results for years of education

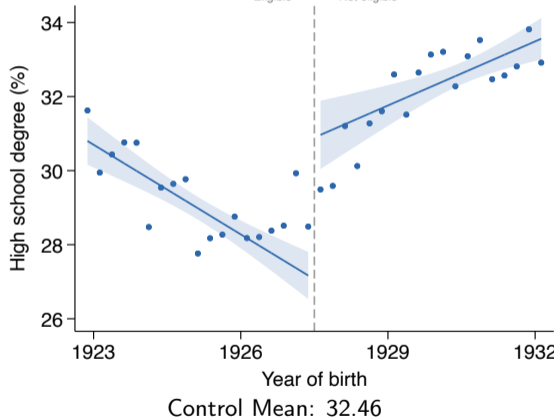


# Reduced form results for high school degree

## White fathers

Discontinuity:  $-3.83^{***}$  (0.59)

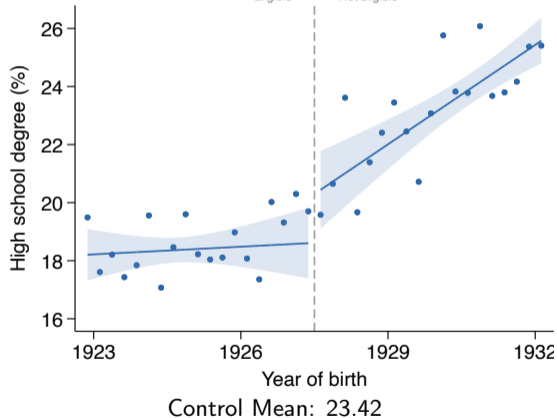
Eligible ← → Not eligible



## Black fathers

Discontinuity:  $-1.68^*$  (0.95)

Eligible ← → Not eligible

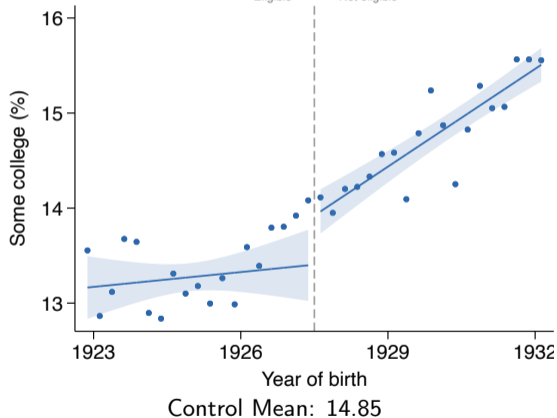


# Reduced form results for some college

## White fathers

Discontinuity:  $-0.52^{**}$  (0.23)

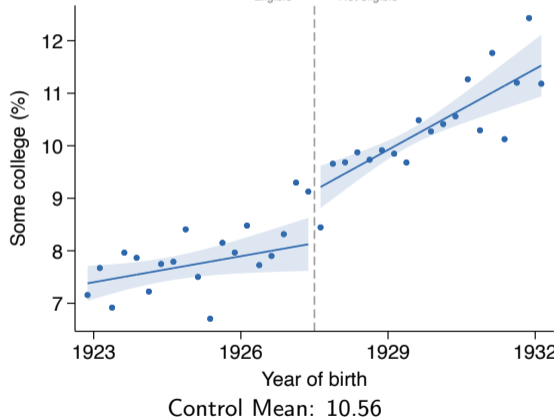
Eligible ← → Not eligible



## Black fathers

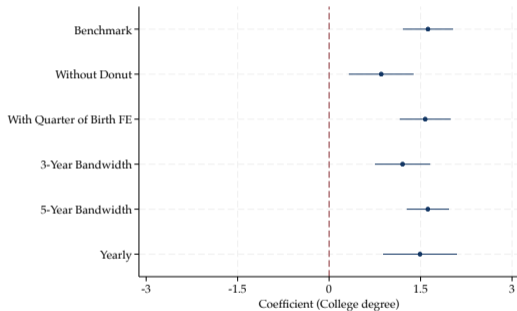
Discontinuity:  $-1.01^{***}$  (0.34)

Eligible ← → Not eligible

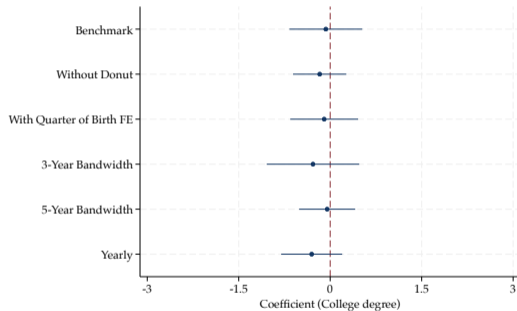


# Robustness: WWII-eligible fathers are more likely to have college

## White fathers



## Black fathers



## Literature comparison: Causal estimates on college completion

	This Paper		Bound, Turner ('02)	Turner, Bound ('03)	Stanley ('03)
	Pooled 1970–80	Pooled 1970–80	1970	1970	1970
WWII	–	–	0.07 (0.06)	–	<b>0.07***</b> (0.01)
Korea	–	–	<b>0.10***</b> (0.03)	–	<b>0.06**</b> (0.03)
Combined	<b>9.45***</b> (1.30)	<b>8.95***</b> (1.83)	–	–	–
WWII (Black)	–	–	–	0.03 (0.03)	–
Korea (Black)	–	–	–	–	–0.07 (0.05)
Combined (Black)	-1.08 (2.98)	-3.39 (3.43)	–	–	–

*Notes:* Values represent causal estimates on college completion. **This Paper** columns report IV estimates in percentage points (pooled 1970–80, census RD), matching the main education tables; literature estimates are as published (probability scale). \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ . Standard errors in parentheses.

## Reduced form & IV results for vocational training

	Reduced form		IV	
	White	Black	White	Black
Any Vocational Training	-0.20 (0.54)	<b>3.26***</b> (1.27)	-1.23 (3.25)	<b>35.59**</b> (14.68)
Business	<b>-0.58***</b> (0.13)	-0.23 (0.38)	<b>-3.46***</b> (0.82)	-2.47 (4.15)
Health	-0.05 (0.10)	0.08 (0.20)	-0.28 (0.61)	0.86 (2.20)
Trade	0.24 (0.37)	<b>2.17**</b> (0.95)	1.47 (2.22)	<b>23.67**</b> (10.90)
Science	0.05 (0.20)	0.17 (0.31)	0.33 (1.20)	1.84 (3.39)
Agriculture	<b>0.39***</b> (0.09)	<b>0.48**</b> (0.24)	<b>2.32***</b> (0.55)	<b>5.23*</b> (2.72)
Other	-0.27 (0.26)	0.59 (1.04)	-1.61 (1.58)	6.45 (11.41)

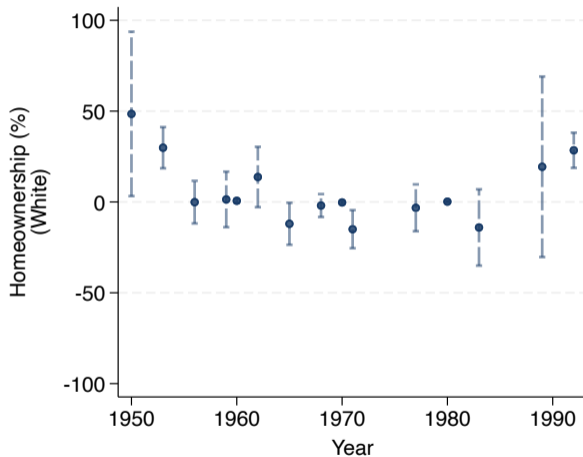
## Reduced form & IV results: Widening inequality in education in the South

	Reduced form (South)		IV (South)	
	White	Black	White	Black
Less than HS	<b>1.27**</b> (0.51)	0.82 (1.17)	<b>7.57**</b> (3.06)	7.85 (11.19)
HS degree	<b>-2.21***</b> (0.48)	-0.35 (0.66)	<b>-13.17***</b> (2.94)	-3.36 (6.32)
Some college	-0.53 (0.36)	0.01 (0.50)	-3.14 (2.14)	0.06 (4.80)
College degree	<b>1.50***</b> (0.29)	-0.35 (0.36)	<b>8.95***</b> (1.83)	-3.39 (3.43)
Postgraduate	-0.03 (0.25)	-0.12 (0.28)	-0.20 (1.51)	-1.16 (2.66)
Years of education	0.07 (0.04)	0.01 (0.09)	0.39 (0.25)	0.13 (0.90)
Vocational training	-0.90 (0.66)	<b>4.82***</b> (1.24)	-5.38 (3.95)	<b>46.03***</b> (13.55)

## Means of educational outcomes

	White		Black	
	All Regions	South	All Regions	South
Less than High School	36.22	42.30	63.80	71.98
High School Graduate	30.84	25.78	20.91	15.75
Some College	14.04	13.76	9.13	6.65
4-Year College	9.30	9.37	2.75	2.57
Postgraduate	9.60	8.78	3.40	3.05
Years of Education	11.84	11.37	9.54	8.67
Vocational School	34.31	31.93	27.86	23.25

## Reduced form: Early, but not lasting, gains for white veterans



Estimates based on the SCF and 1960, 1970 & 1980 census. [▶ Back](#)

## Reduced form & IV results: No persistent home ownership gains

	Reduced form		IV	
	White	Black	White	Black
1970	-0.08 (0.50)	-1.31 (1.28)	-0.50 (3.02)	-14.33 (14.15)
1980	0.03 (0.31)	-0.36 (1.01)	0.20 (1.84)	-3.97 (11.02)

## Reduced form & IV results: No home ownership gains in the South

	Reduced form (South)		IV (South)	
	White	Black	White	Black
1970	-0.60 (0.68)	-0.45 (1.75)	-3.57 (4.09)	-4.30 (16.74)
1980	-0.19 (0.48)	-0.60 (1.37)	-1.13 (2.88)	-5.76 (13.08)

## Reduced form & IV results: No persistent house wealth gains

	Reduced form		IV	
	White	Black	White	Black
<b>Value of occupied home</b>				
1970	-158.67 (125.13)	70.15 (288.34)	-951.31 (751.53)	765.55 (3,148.67)
1980	<b>-638.93**</b> (262.90)	-567.41 (458.67)	<b>-3,830.76**</b> (1,586.32)	-6,192.42 (5,080.02)
<b>Value of owned home</b>				
1970	-173.55 (141.74)	<b>-469.78*</b> (281.24)	-1,040.50 (851.21)	-5,126.97 (3,151.89)
1980	<b>-570.59**</b> (283.79)	<b>-958.25*</b> (562.62)	<b>-3,421.01**</b> (1,708.95)	<b>-10,457.88*</b> (6,311.89)

## Reduced form & IV results: No house wealth gains in the South

	Reduced form (South)		IV (South)	
	White	Black	White	Black
<i>Value of occupied home</i>				
1970	-184.15 (192.42)	-63.63 (291.43)	-1,099.77 (1,150.89)	-607.74 (2,784.96)
1980	-487.79 (434.48)	-747.81 (841.82)	-2,913.09 (2,600.16)	-7,142.71 (8,106.23)
<i>Value of owned home</i>				
1970	-253.00 (204.98)	-450.96 (299.03)	-1,510.96 (1,227.23)	-4,307.30 (2,922.79)
1980	-361.33 (435.41)	-818.38 (895.62)	-2,157.89 (2,603.26)	-7,816.77 (8,628.29)

## Reduced form & IV results: Reduced interstate migration

	Reduced form		IV	
	White	Black	White	Black
<i>Interstate migration</i>				
1970	<b>-1.24***</b> (0.41)	0.80 (1.64)	<b>-7.45***</b> (2.47)	8.78 (17.92)
1980	<b>-1.17**</b> (0.49)	<b>1.55*</b> (0.91)	<b>-7.02**</b> (2.97)	<b>16.97*</b> (10.22)
<i>Migration from South</i>				
1970	<b>-0.53***</b> (0.19)	0.94 (1.02)	<b>-3.18***</b> (1.16)	10.27 (11.24)
1980	0.19 (0.13)	<b>2.18**</b> (0.89)	1.12 (0.80)	<b>23.74**</b> (10.25)
<i>Migration to South</i>				
1970	<b>-0.43*</b> (0.24)	0.33 (0.32)	<b>-2.59*</b> (1.44)	3.58 (3.56)
1980	<b>-0.66***</b> (0.21)	0.18 (0.21)	<b>-3.93***</b> (1.28)	1.98 (2.35)

## Reduced form & IV results: Reduced interstate migration in the South

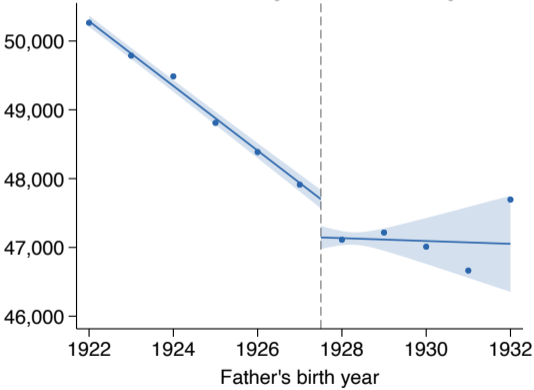
	Reduced form (South)		IV (South)	
	White	Black	White	Black
<i>Interstate migration</i>				
1970	<b>-2.86***</b> (0.83)	0.01 (2.04)	<b>-17.09***</b> (5.07)	0.08 (19.46)
1980	<b>-1.77*</b> (0.94)	0.73 (1.08)	<b>-10.56*</b> (5.65)	7.00 (10.38)
<i>Migration from South</i>				
1970	<b>-0.50**</b> (0.21)	0.29 (0.80)	<b>-2.99**</b> (1.25)	2.78 (7.66)
1980	-0.14 (0.12)	<b>1.99***</b> (0.50)	-0.84 (0.72)	<b>19.00***</b> (5.54)
<i>Migration to South</i>				
1970	<b>-1.76**</b> (0.78)	0.75 (0.72)	<b>-10.52**</b> (4.68)	7.12 (6.98)
1980	<b>-1.43**</b> (0.67)	0.30 (0.43)	<b>-8.53**</b> (4.04)	2.90 (4.15)

# As a result, GI Bill also boosted **income** for **white** children

### White children (Median income in 2000)

Discontinuity: 558.33\*\*\* (92.74)

Father WWII eligible ← → Father not WWII eligible

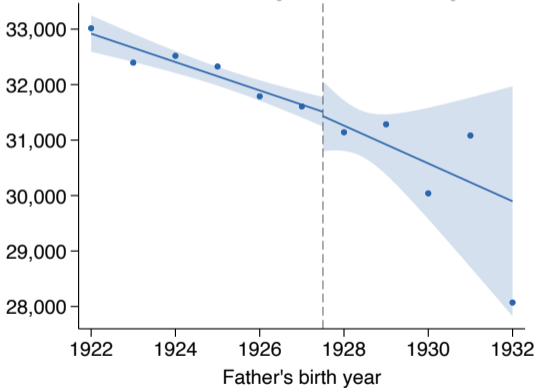


Baseline Mean: 47,122 (↑1.2%)

### Black children (Median income in 2000)

Discontinuity: 54.64 (220.11)

Father WWII eligible ← → Father not WWII eligible



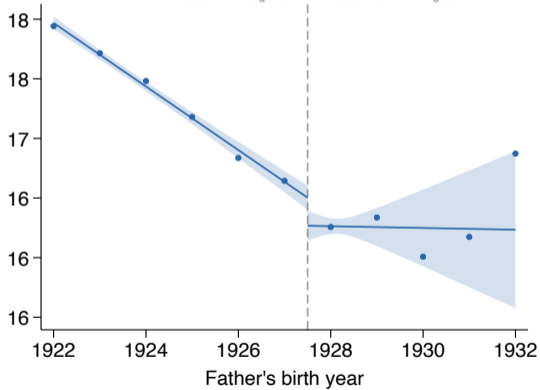
Baseline Mean: 30,992 (≈0%)

# Reduced form results: GI Bill boosted college for **white** children

## White children (in 2000)

Discontinuity: 0.24\*\*\* (0.06)

Father WWII eligible ← → Father not WWII eligible

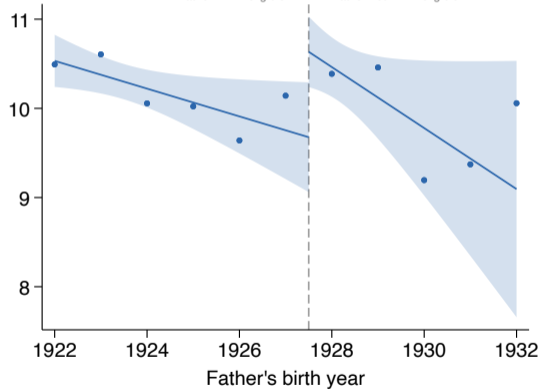


Control Mean: 16.26 (↑1.5%)

## Black children (in 2000)

Discontinuity: -0.95\*\*\* (0.26)

Father WWII eligible ← → Father not WWII eligible



Control Mean: 10.20 (↓9.41%)

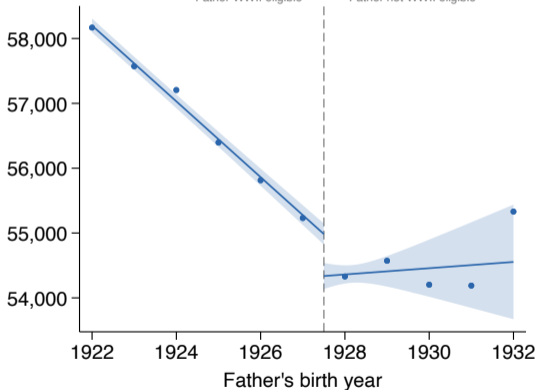
# Reduced form results: GI Bill boosted **income** for **white** children

## White children

(Median family income in 2000)

Discontinuity: 657.08\*\*\* (103.55)

Father WWII eligible ← → Father not WWII eligible



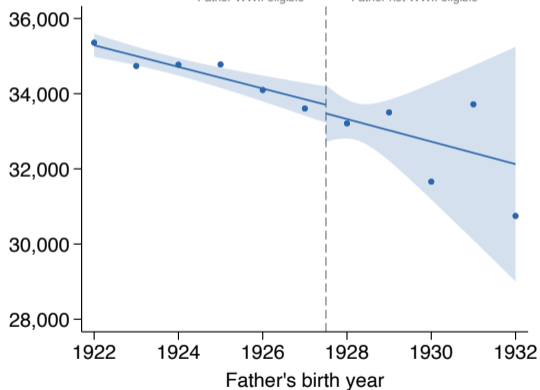
Baseline Mean: 54,391 (↑1.2%)

## Black children

(Median family income in 2000)

Discontinuity: 217.47 (297.03)

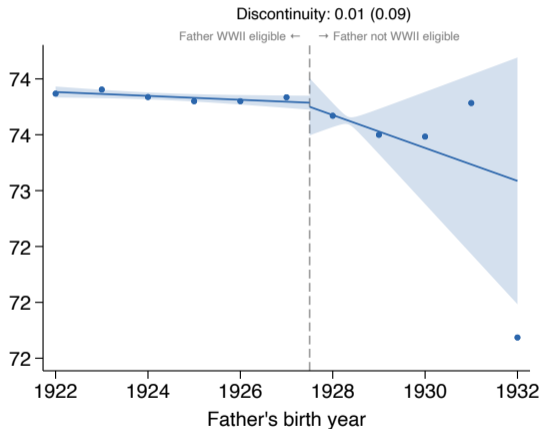
Father WWII eligible ← → Father not WWII eligible



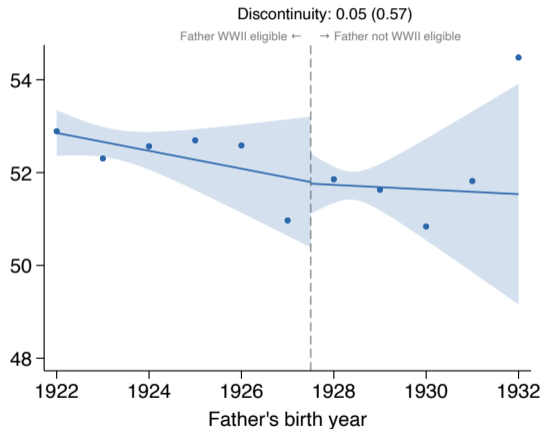
Baseline Mean: 33,089 (≈0%)

# Reduced form results: No impact on **home ownership** for children

## White children (Home Ownership in 2000)



## Black children (Home Ownership in 2000)

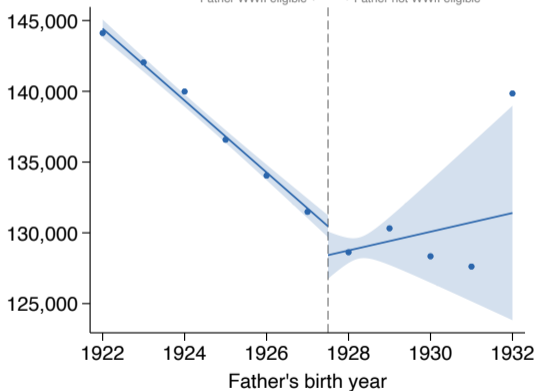


# Reduced form results: GI Bill boosted **house value** for **white** children

## White children (Median House Value in 2000)

Discontinuity: 2,103.27\*\* (675.62)

Father WWII eligible ← → Father not WWII eligible

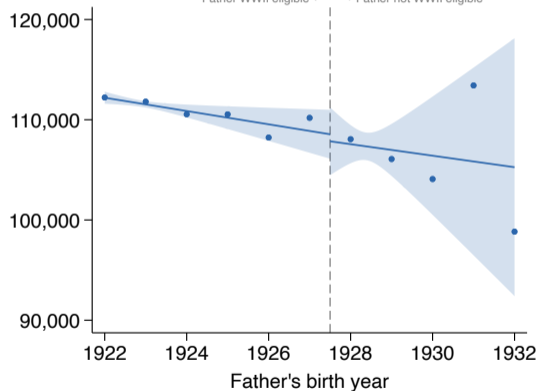


Baseline Mean: 129,166 ( $\approx 0\%$ )

## Black children (Median House Value in 2000)

Discontinuity: 954.03 (1,348.66)

Father WWII eligible ← → Father not WWII eligible



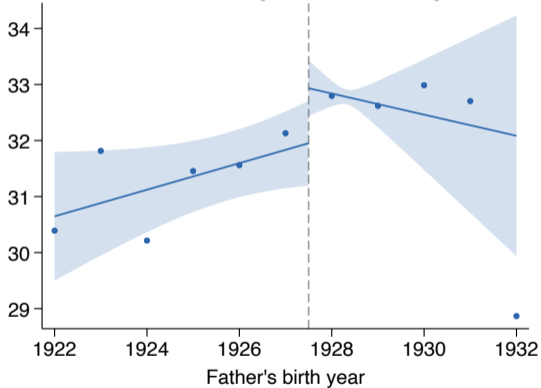
Baseline Mean: 107,113 ( $\uparrow 0.09\%$ )

# GI Bill reduced **migration** from South to non-South for children

## White children

Discontinuity:  $-0.86^{**}$  (0.37)

Father WWII eligible ← → Father not WWII eligible

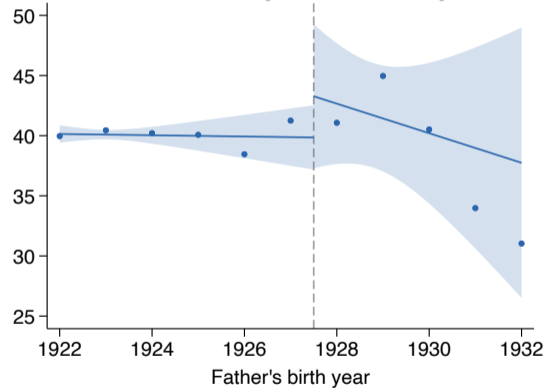


Baseline Mean: 32.7% ( $\downarrow 2.63\%$ )

## Black children

Discontinuity:  $-3.34$  (2.36)

Father WWII eligible ← → Father not WWII eligible



Baseline Mean: 41.7% ( $\downarrow 8\%$ )

## Decomposing race-specific intergenerational multiplier of the GI Bill

$$\theta^r = \beta^r \int \tau^r(k, K) dF_r(k, K), \quad r \in \{W, B\}$$

- $\beta^r$ : Intergenerational transmission
- $\tau^r(k, K)$ : Return to military service and GI Bill given family capital  $k$  and community capital  $K$
- $F_r(k, K)$ : Distribution of pre-war family and community capital

## Decomposing the intergen. racial gap: Endowment, return, or persistence?

$$\Delta\theta = \theta^W - \theta^B = \underbrace{\beta^W \left( \int \tau_W dF_W - \int \tau_W dF_B \right)}_{\text{endowment}} + \underbrace{\beta^W \left( \int \tau_W dF_B - \int \tau_B dF_B \right)}_{\text{return}} + \underbrace{(\beta^W - \beta^B) \int \tau_B dF_B}_{\text{persistence}}$$

- **Explained:** differences in (family and community) capital, **endowment** distributions
- **Unexplained** due to differences in:
  - **return** conditional on endowment (discrimination, exclusion, institutional barriers)
  - **persistence** from heterogeneous  $\beta^r$  (Black children may benefit less from parental gains)

## Did the GI Bill also create local spillovers?

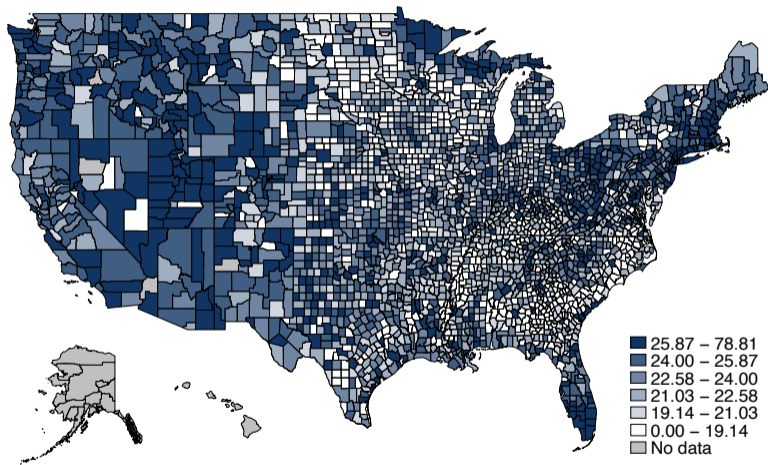
$$Y_{child(i)} = \kappa Y_{father(i)} + \underbrace{\theta Vet_i^*}_{\text{direct effects}} + \underbrace{\delta V_{\ell(c(i))}^*}_{\text{local spillovers}} + u_{child(i)}$$

- $V_{\ell(c(i))}^*$ : Residualized community veteran share
- $\delta$ : Effect of living in a veteran-dense community, beyond direct effect of father's veteran status

Key identifying assumption to estimate local spillovers:

$$\mathbb{E} \left[ V_{\ell(c(i))}^* \cdot u_{child(i)} \mid Y_{father(i)} \right] = 0$$

## Identification of **local spillovers**: Local variation in veteran shares



1950 veteran status by 1940 county of residence (1940-1950 linked census).

### Draft Boards Have Final Say In Applying Policies

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“[E]ach local board is boss in its own backyard and will apply the policy to fit its local conditions.”

*Marlow and Zielke '43*

### Survey Shows Wide Variations in Policies of Draft Boards Here

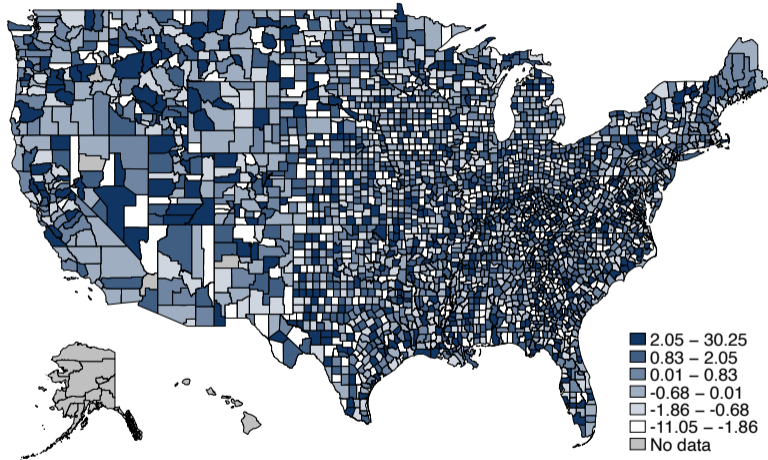
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“Draft regulations give only general rules regarding deferments, relying on the discretion of (...) draft boards to decide (...) whether a registrant shall be required to report (...) or deferred because of dependents or because of the importance of his civilian job. **The natural result is considerable divergence of policy among draft boards.**”

*St. Louis Post-Dispatch '41*

# Identification of local spillovers: Local residual variation

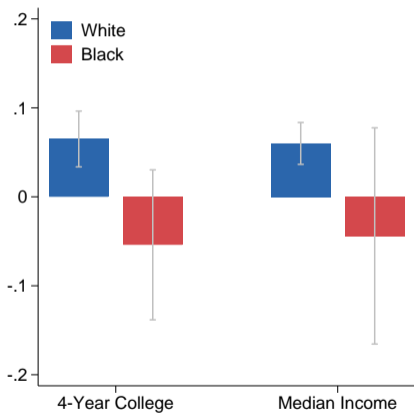
► Validation



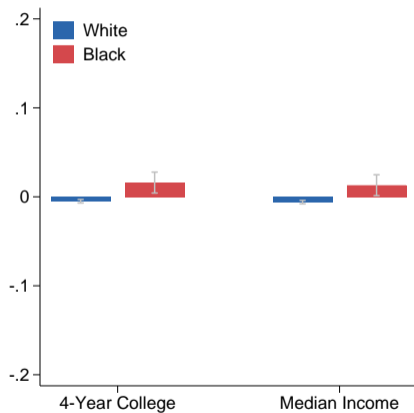
We regress WWII draft on individual and local factors influencing deferment (e.g., age and education groups, share of Black pop., female FLP, share of men in agric., war production, and essential jobs, p.c. spending on WWII and war supplies, etc.).  $R^2 = 0.82$ .

# Direct effects of the GI Bill drive racial gaps for children

## Direct effect



## Local spillovers



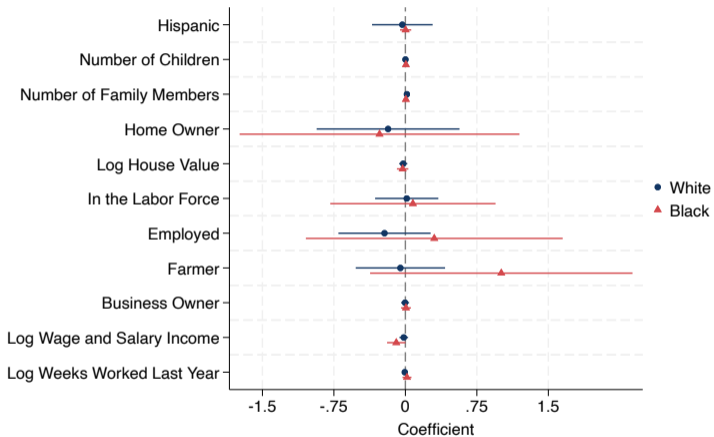
## Validating the local residual variation $V_{\ell(c(i))}^*$

Key identifying assumption:

$$\mathbb{E} \left[ V_{\ell(c(i))}^* \cdot u_{child(i)} \mid Y_{father(i)} \right] = 0$$

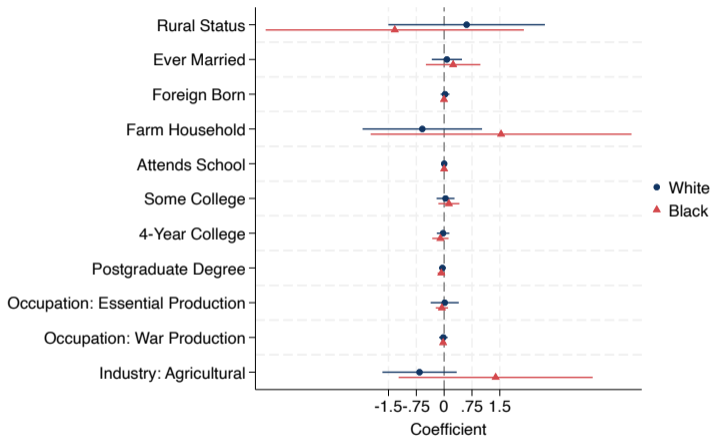
- 1  $V_{\ell(c(i))}^*$  uncorrelated with pre-war excluded characteristics ↔
- 2  $V_{\ell(c(i))}^*$  uncorrelated with pre-war included characteristics ↔
- 3 Placebo: Cohorts too young to serve WWII ↔

# $V_{\ell(c(i))}^*$ uncorrelated with pre-war excluded characteristics



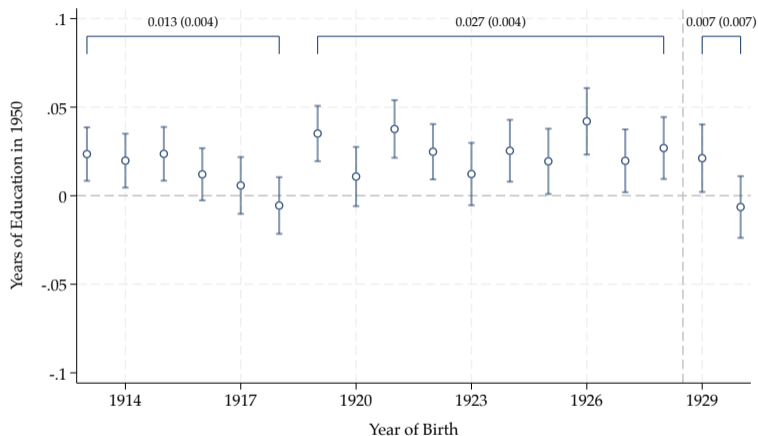
Estimates based on the 1940-1950 linked census.

# $V_{\ell(c(i))}^*$ uncorrelated with pre-war included characteristics



Estimates based on the 1940-1950 linked census.

# No impacts on veterans too young to serve WWII



Estimates based on the 1940-1950 linked census.

► Estimation equation

► Back

## Estimation equation with local residual variation $V_{\ell(c(i))}^*$

$$y_{i,1950} = \beta \times V_{\ell(c(i))}^* + X_{i,1940} + \alpha_{z,1940} + \varepsilon_{i,1950}$$

- $y$ : post-war outcome for individual  $i$
- $V_{\ell(c(i))}^*$ : WWII draft residuals at level of pre-war county of residence  $c$
- $X$ : rural, single, foreign-born, farmer, occup-group FE, educ-group FE
- $\alpha$ : pre-war commuting zone of residence  $z$
- $\beta$  captures change in outcomes due to an *unpredictable* full draft

Data: 1940-1950 linked Census

### Many Leaving High School

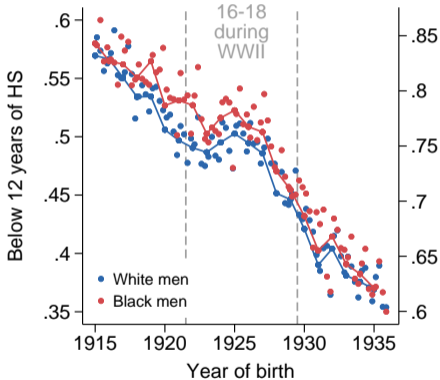
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“A marked decrease in the New York City high school enrollment has taken place during the last several years [. . .]. **Thousands of students between the ages of 16 and 18 are leaving the classroom to go to work.** Records show a **drop of 29,257 students** from academic and vocational schools during May 1943, as compared with the May 1942 figures.”

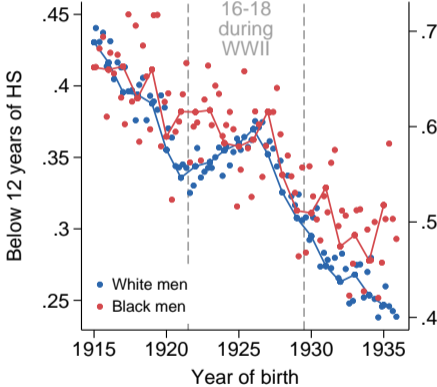
*New York Times, July 18, 1943*

# War production spill-overs: Black vs. white men

Low intensity war production



High intensity war production



# War production spill-overs: Men vs. women

Low intensity war production

High intensity war production

