Principles of Applied Microeconomics

Ross Summer Connection (2022)
Elird Haxhiu

Cook (2014)

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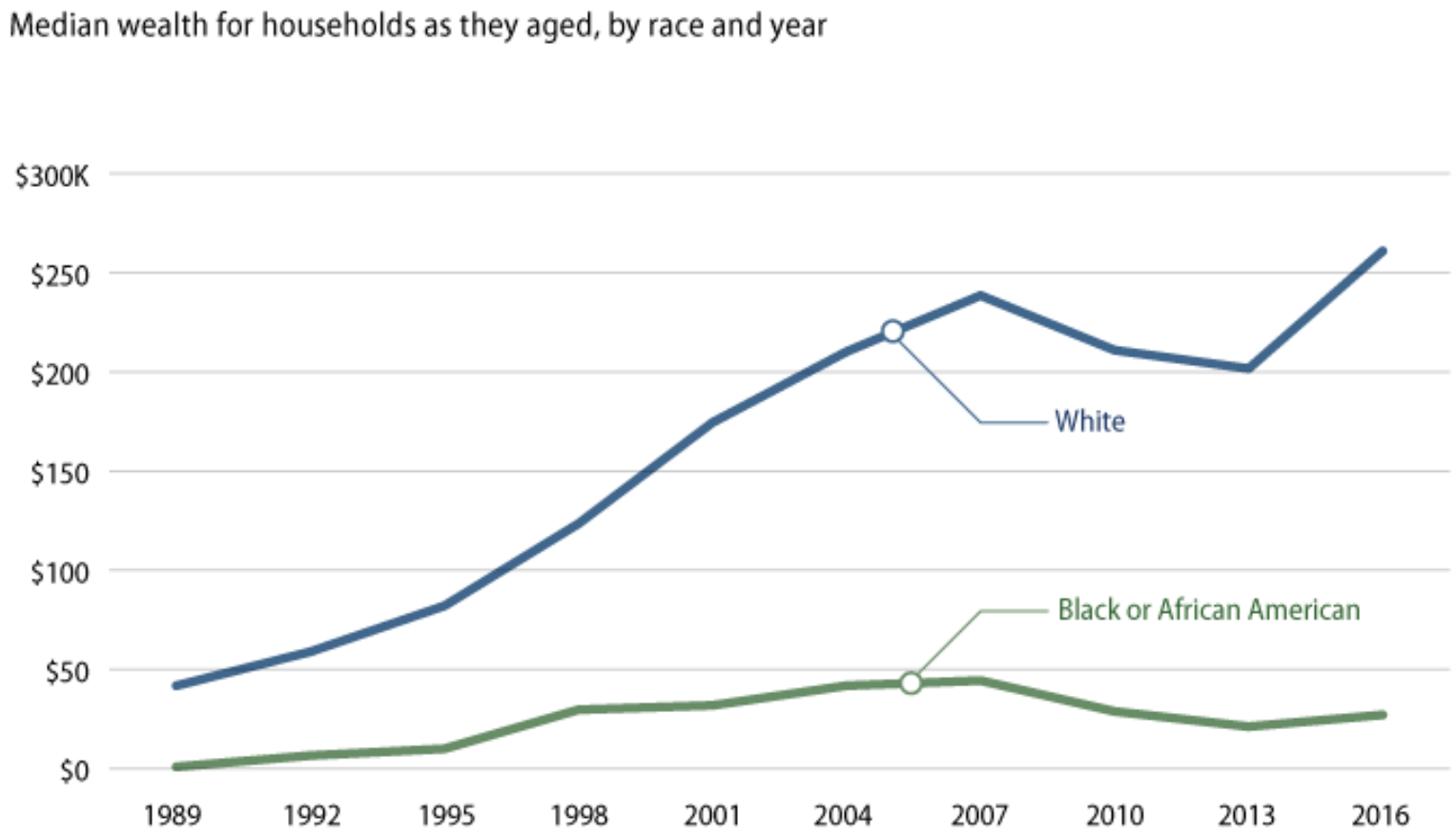
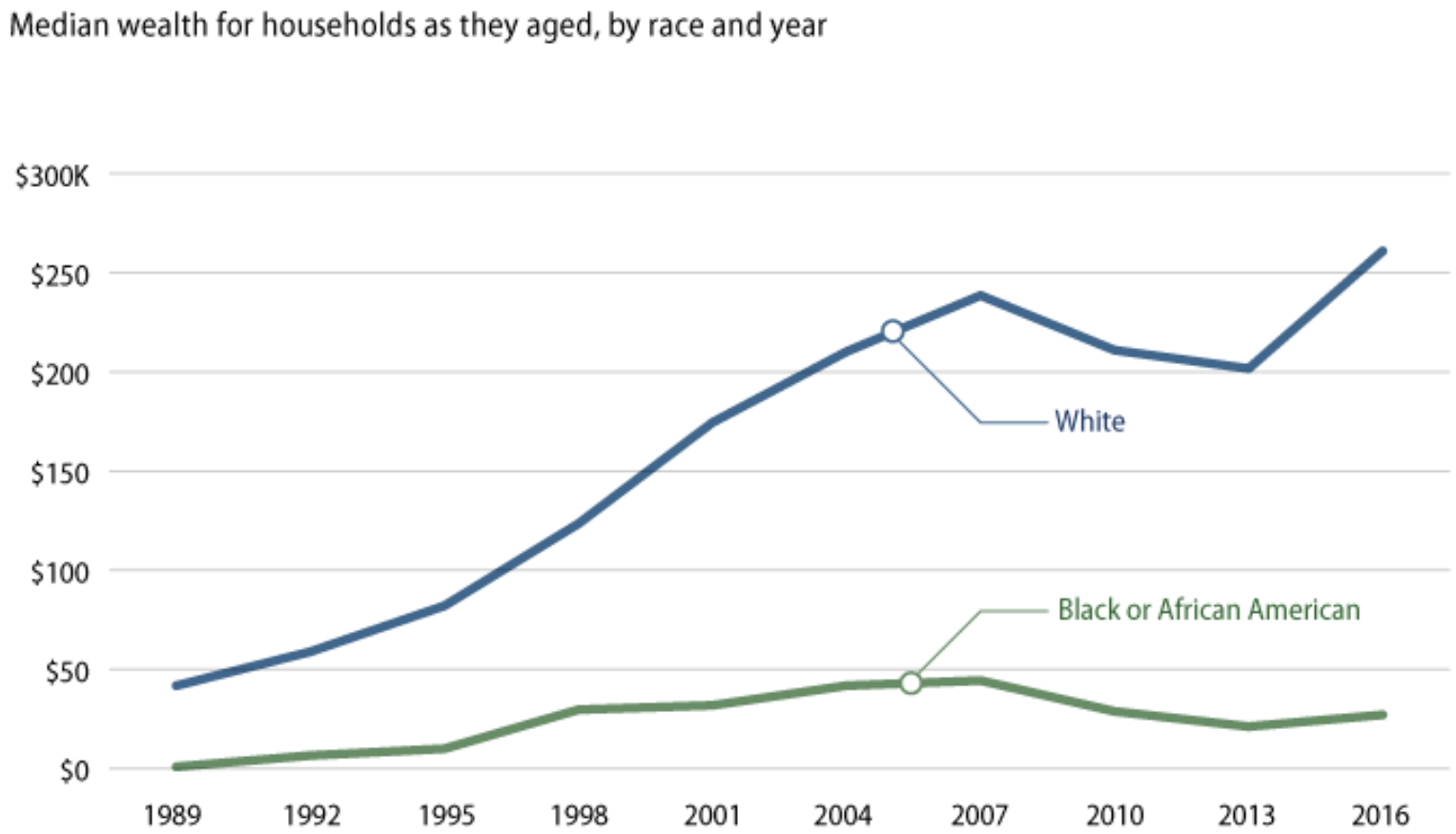
Racial wealth gap Δ_R in the US

- Many things go into wealth, but for median American mostly housing



Racial wealth gap Δ_R in the US

- Many things go into wealth, but for median American mostly housing
- Higher in wealth distribution other factors salient
- One of those: inventions
- Recall NPR podcast, Week 1: publishing Cook (2014)



Cook (2014)

Violence and economic activity: evidence from African American patents, 1870–1940

Lisa D. Cook

Published online: 10 May 2014

Abstract Recent studies have examined the effect of political conflict and domestic terrorism on economic and political outcomes. This paper uses the rise in mass violence between 1870 and 1940 as an historical experiment for determining the impact of ethnic and political violence on economic activity, namely patenting. I find that violent acts account for more than 1,100 missing patents compared to 726 actual patents among African American inventors over this period. Valuable patents decline in response to major riots and segregation laws. Absence of the rule of law covaries with declines in patent productivity for white and black inventors, but this decline is significant only for African American inventors. Patenting responds positively to declines in violence. These findings imply that ethnic and political conflict may affect the level, direction, and quality of invention and economic growth over time.

Keywords Growth · Conflict · Property rights · Institutions

Research Question

- How much do reductions in personal security and property rights affect individual creativity + inventive activity?

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- Social instability and conflict lead to worse economic outcomes
- Political unrest associated with reduced savings and investment at the national level (Alesina & Perotti, 1996)
- War is negatively associated with international trade (Luigi et al., 2009)

Context: United States, 1870 – 1940

- During this period, race related violence increased dramatically
  - Lynching peaked in 1983
  - Race riots peaked in 1921
  - Government policy: state segregation laws in 1908, 1928, 1933

- Cook (2014) uses these events to study the relationship between security/property rights and inventive activity

Segregation, Violence, and Inventing

- The more Jim Crow laws, the "fewer the encounters between African Americans and whites and the greater the degree of anxiety, mistrust, and suspicion between the races, which could lead to" violence
- Violence + lack of enforcement of property rights ⇒ Black inventors rationally expect to not be able to keep their created wealth…

Preview of Findings

- Black patenting activity reduced by 15% year in response to violence
- Overall patenting lower in states with more violence/segregation laws
- Result: 1100 “missing patents” relative to 726 actual patents

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- Placebo study: similar hate-related violence directed towards white inventors would have depressed total US patenting activity by 40%
- Thus, more volatile technological advancement

Data

- Race is typically not given on any patent documents/paperwork.
- How does Cook (2014) infer the race of inventors to answer her question?
  1. US patent office surveys in 1900 and 1913, but very incomplete
  2. Matched patent records to the US census

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- Matches corroborated using algorithm in Bertrand & Mullainathan (2004) to identify white- and Black-sounding names
- These efforts not sufficient; much more primary data collection done to find Black inventors and match their names to patent records

Table 3 Patented inventions by African Americans, selected, 1870–1940

Year	Patentee	Inventions	Location
1870	Harde Spears	Improvement in portable shields for infantry	Snow Hill, NC
1872	Elijah McCoy	Automatic lubricator cup	Ypsilanti, MI
1875	Alexander P. Ashbourne	Method of preparing coconut	Oakland, CA
1878	Benjamin H. Taylor	Improvement in rotary engine	Rosedale, MS
1881	Lewis H. Latimer	Carbon filaments for electric incandescent lamp	New York, NY
1883	Jan Ernst Matzeliger	Automatic method for lasting shoes	Lynn, MA
1884	Judy W. Reed	Dough kneader and roller	Washington, DC
1887	Alexander Miles	Elevator	Duluth, MN
1887	Granville T. Woods	Telephone system, electro-mechanical brake, railway telegraphy, third rail	Cincinnati, OH
1890	Frank J. Ferrell	Steam trap, apparatus for melting snow, valve	New York, NY
1894	George W. Murray	Fertilizer distributor, planter, cotton chopper	Sumter, SC
1897	Andrew Jackson Beard	"Jenny" coupler (for train operators), rotary engine	Eastlake, AL
1899	George F. Grant	Tapered golf tee	Boston, MA

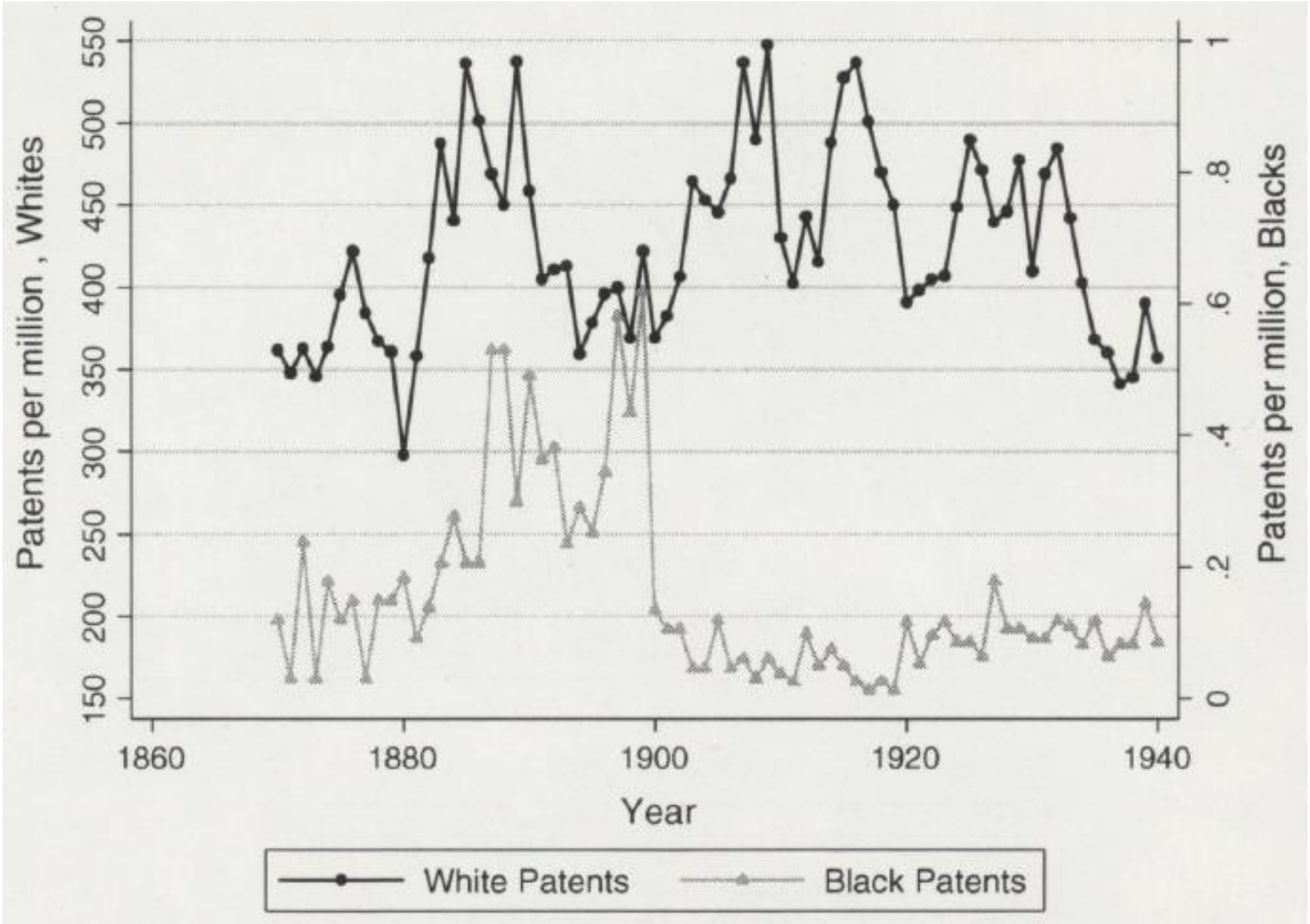
Patents per million , Whites
150
200
250
300
350
400
450
500
550
Patents per million, Blacks
0
.2
.4
.6
.8
1
1860
1880
1900
1920
1940
Year
White Patents
Black Patents

Table 4 Baseline characteristics, 1870

	Black	White	Gap
Patents, per million	0.119	361.811	361.692
Labor force participation, by industry (share)			
Agriculture	0.624	0.521	−0.103
Transportation, communications, public utilities	0.087	0.082	−0.005
Non-durable manufacturing	0.026	0.047	0.021
Durable manufacturing	0.098	0.075	−0.023
Occupation (share)			
White Collar	0.027	0.163	0.136
Skilled Blue Collar	0.038	0.095	0.057
Semi-skilled Blue Collar	0.049	0.057	0.008
Service	0.042	0.015	−0.027
Unskilled non-farm laborer	0.223	0.081	−0.142
Farm operator	0.376	0.442	0.066
Farm laborer	0.231	0.415	0.184
Illiteracy (share)	0.787	0.155	0.683
School attendance, 10–14 (share)	0.153	0.713	0.560

Source Cook (2004), black patents; USPTO, patents; Margo

Table 1 Conflict, rule of law, and segregation laws, 1870 to 1940

Decade	Major riots	Lynchings, black	Lynchings, White	New segregation laws				
				Total	Voting	Education	Public	Other
Panel A—riots, lynchings, new segregation laws, 1870–1940								
1870–1879	10	na	na	39	3	18	2	14
1880–1889	1	429	87	30	2	9	6	12
1890–1899	4	842	124	38	7	10	13	6
1900–1909	7	646	33	63	2	13	29	19
1910–1919	11	487	16	30	2	3	7	12
1920–1929	4	260	20	54	4	15	10	22
1930–1940	1	123	10	36	0	10	11	15

Research question

- How do **riots**, **lynching**, and **segregation laws** affect the number of patents produced per capita among white and Black inventors?

Table 6 Difference-in-differences regressions dependent variable: log patents per capita

Explanatory variable	Full	Whites	Blacks
Lynchings per capita, log	−0.342	0.136**	−0.908**
	(0.216)	(0.069)	(0.461)
Major riots	−0.085***	−0.021***	−0.132*
	(0.021)	(0.007)	(0.070)
Segregation laws (1)	0.013	−0.003	0.036
	(0.010)	(0.004)	(0.026)
Race	−0.141		
	(0.284)		
Year = 1921	0.172	−0.002	−0.538***
	(0.114)	(0.038)	(0.180)
Race × Year = 1921	−0.829***		
	(0.076)		
R^2	0.153	0.308	0.283
N	112	56	56
Year ≥ 1899	Yes	Yes	Yes
Additional controls	Yes	Yes	Yes

Table 7 State regressions dependent variable: patents per state per year

Explanatory variables	(1)	(2)	(3)	(4)	(5)	(6)
Lynchings, per 100,000	−0.058***	−0.055***	−0.031*	−0.028*	−0.035**	−0.069**
	(0.022)	(0.020)	(0.017)	(0.016)	(0.017)	(0.031)
Major riots	−0.429***	−0.461***	−0.333***	−0.364***	−0.419***	0.017
	(0.077)	(0.111)	(0.056)	(0.074)	(0.149)	(0.295)
Segregation laws (1)	−0.100	−0.131	−0.053	−0.081	−0.037	−0.081
	(0.101)	(0.101)	(0.121)	(0.127)	(0.178)	(0.163)
Illiteracy rate	−0.105	−0.407	−1.284***	−1.526***	−2.028***	−4.053*
	(0.400)	(0.416)	(0.478)	(0.515)	(0.696)	(2.160)
Number of firms, per capita			182.054***	179.098***	166.454***	204.407*
			(45.812)	(45.177)	(58.878)	(122.791)
Industry participation rate		0.685		0.623	0.498	0.369
		(0.552)		(0.529)	(0.602)	(1.639)
N	430	428	425	423	276	147
Number of states	49	49	49	49	49	49
R^2	0.105	0.112	0.173	0.179	0.185	0.174

Conclusion

- Rational expectation among Black inventors that government would not protect them against violence by other citizens
- Racial gap in patenting $\boldsymbol{\Delta_R^{\text{patent}}}$ maxed in years when violence highest

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- The 1100 missing patents due to violence no doubt harmed Black families within generation, but also perpetuated gaps in inherited wealth which is an intergenerational concern
- More evidence for the role of government policy in perpetuating $\boldsymbol{\Delta_R}$

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Historical Lynchings and the Contemporary Voting Behavior of Blacks†

By JHACOVA WILLIAMS*

This paper analyzes the extent to which the political participation of Blacks can be traced to historical lynchings that took place from 1882 to 1930. Using county-level voter registration data, I show that Blacks who reside in southern counties that experienced a relatively higher number of historical lynchings have lower voter registration rates today. This relationship holds after accounting for a variety of historical and contemporary characteristics of counties. There exists evidence of the persistence of cultural voting norms among Blacks, yet this relationship does not exist for Whites.(*JEL* D72, J15, N31, N32, N41, N42, Z13)

Policies to close gaps $\Delta_M \Delta_G \Delta_R$

- Easy to state
  1. Allow free labor mobility by opening borders (like capital and goods)
  2. Make childbirth a parental cost rather than a motherhood penalty by implementing parental leave policies
  3. Reparations + relenting targeted imprisonment of Black Americans, who go on to face discrimination in the labor, housing, and other markets

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Somebody needs to answer these questions & ask new, better ones…

why not you??