

Changes in Drug Laws and College Enrollment

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Senior Thesis

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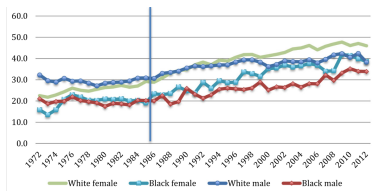
There's 2.2 million people in the American prison system, and half a million of those are locked up for drug offenses. A lot of them were in the same boat as me: victims of the mandatory minimum... It's the reason hundreds of thousands of nonviolent people—mostly black and brown people— are rotting in prison. Rotting like the baloney and cheese sandwiches they serve for breakfast, lunch, and dinner... I'd been in prison for ten years by the time my petition reached the Supreme Court.

- John Gargano, HONY

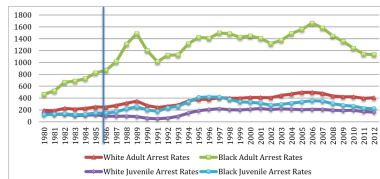
Background I

- Anti-Drug Abuse Act of 1986 established mandatory sentencing minimums (with disparities across drugs)
 - Increase in average time imprisoned for drug crimes from 22 months to 33 months
 - Number of black people sent to federal prison skyrocketed from approximately 50 to 250 in 100,000 adults (Equal Justice Initiative)
- Fair Sentencing Act of 2010 reduced disparities in sentencing and eliminated mandatory minimums
- Disparities in college attainment across race and gender have maintained across time

Background II



(a) College enrollment rates



(b) Drug possession arrest rate (per 100,000)

Figure: Education and possession trends over time (Britton, 2022)

Research questions

- 1 Did the passage of the federal Anti-Drug Abuse Act of 1986 cause a fall in relative college enrollment for Black male students?
- 2 Did the passage of the federal Fair Sentencing Act of 2010 cause an increase in relative college enrollment for Black male students?

- October Current Population Survey (CPS) education supplements 1982-2020
 - Limitations: i) excludes incarcerated persons ii) cannot track movement across states
- FBI Uniform Crime Reporting (UCR)
- Data on state-level possession/distribution penalties are manually collected from government publications

Table: Summary Statistics

	(1)	(2)
	Pre-period	Post-period
Male	0.49 (0.500)	0.49 (0.500)
Black	0.14 (0.346)	0.14 (0.347)
HS Graduate	0.82 (0.385)	0.81 (0.389)
Enrolled in college	0.24 (0.426)	0.29 (0.453)
Enrolled in 4-year coll.	0.24 (0.426)	0.28 (0.449)
Observations	47595	79894

mean coefficients; sd in parentheses

Empirical strategy

- Baseline approach: using young white males and young black females as counterfactuals
- Can we leverage variation in state-level laws and drug usage/arrest rates improve the robustness of our results?

Pre-trends

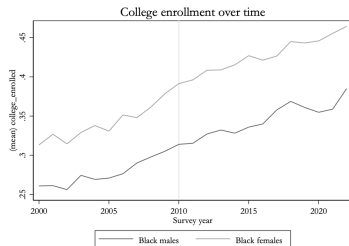
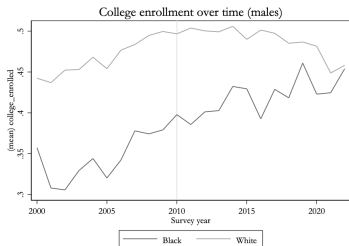
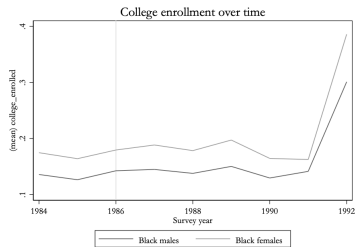
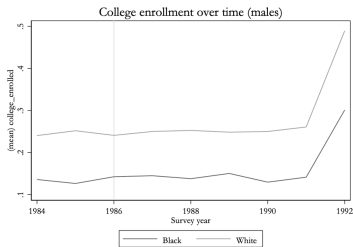


Table: Anti-Drug Abuse Act, blacks vs whites

	(1)	(2)	(3)
after1986	.04427*** (.006001)	.04037*** (.005414)	0 (.)
Black	-.1021*** (.01272)	-.06456*** (.0105)	-.07368*** (.01246)
interaction	-.01133 (.01378)	-.01234 (.01137)	-.006629 (.01187)
Constant	.2446*** (.008332)	-8.086*** (.4056)	-7.946*** (.4216)
Observations	61403	61403	61403
Adjusted R^2	0.009	0.120	0.146
State_yr_FE	N	N	Y
Demographic_controls	N	Y	Y

Clustered standard errors in parentheses
Weights used. Sample restricted to males.

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table: Fair Sentencing Act, blacks vs whites

	(1)	(2)	(3)
after2010	.03072*** (.007178)	.02859*** (.007088)	0 (.)
Black	-.1172*** (.01419)	-.1061*** (.01206)	-.1098*** (.01426)
interaction	.04387*** (.01025)	.03536*** (.01012)	.03728*** (.01105)
Constant	.4786*** (.008984)	-9.838*** (.254)	-9.764*** (.2498)
Observations	114090	114090	114090
Adjusted R^2	0.006	0.085	0.096
State_yr_FE	N	N	Y
Demographic_controls	N	Y	Y

Clustered standard errors in parentheses

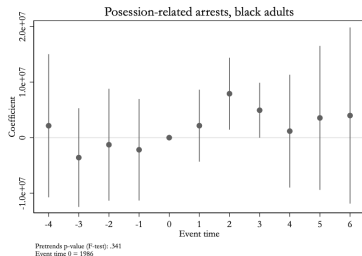
Weights used. Males only.

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

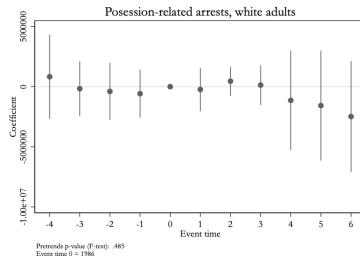
- Overall, the results so far are encouraging but far from robust (sensitive to specifications, weights, dropped observations, counterfactual group, etc)
- Further test the robustness of the DiD estimates
- Implement the DDIV / DDD approaches (similar to strategy implemented in Duflo, 2001)
- Can we use the same empirical approach to study the impact of these laws on other outcomes?

Pre-trends (DDIV)

Are states that did not increase the punitiveness of their drug laws a valid counterfactual?



(a)



(b)

Figure: Treatment: states that increased the punitiveness of their laws

$$\text{Model: } Y_{it} = \phi_i + \lambda_t + \sum_{s \neq 1986} 1[t = s] \times \text{treatment}_i \times \beta_s + \epsilon_{is}$$