14.03/003 Microeconomic Theory & Public Policy

Lecture 24. Criminal Records, Statistical Discrimination, and Ban the Box Laws

David Autor (Prof), MIT Economics and NBER

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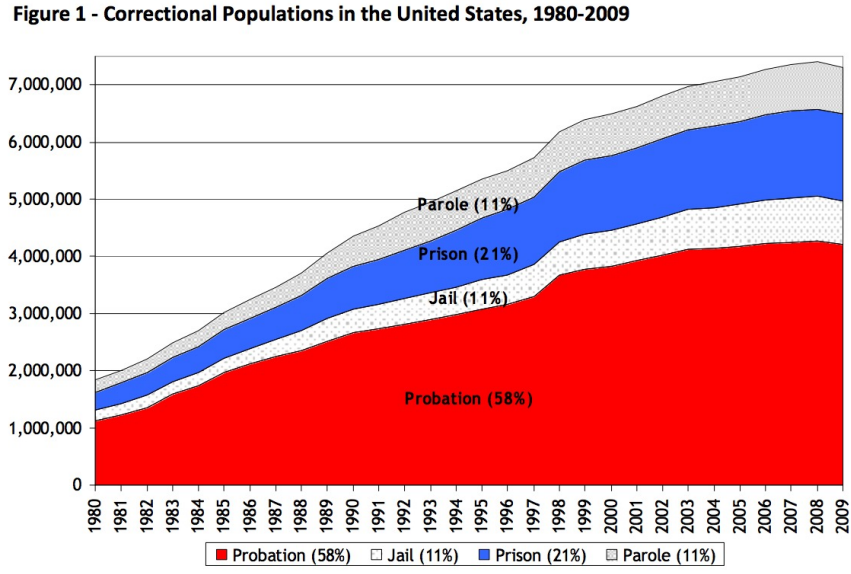
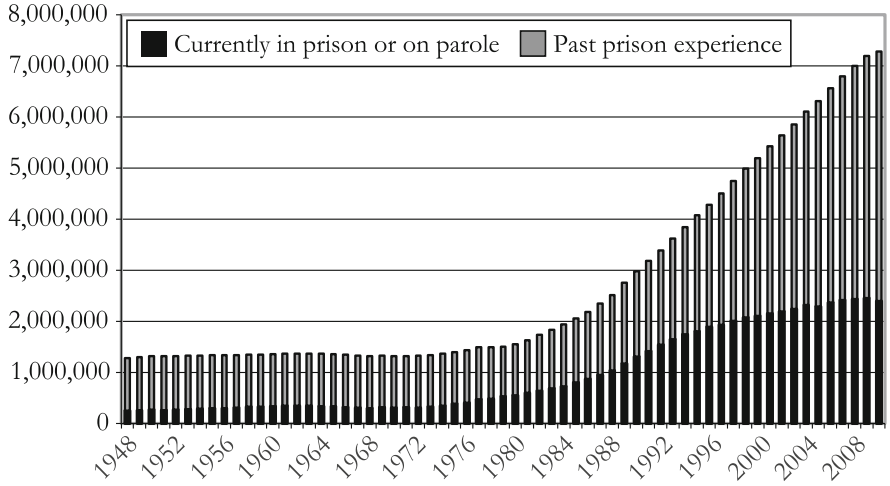
U.S. has extraordinarily high rates of criminal sentencing and incarceration, with disproportionate effects on minorities

Correctional populations in the United States, 1980-2009

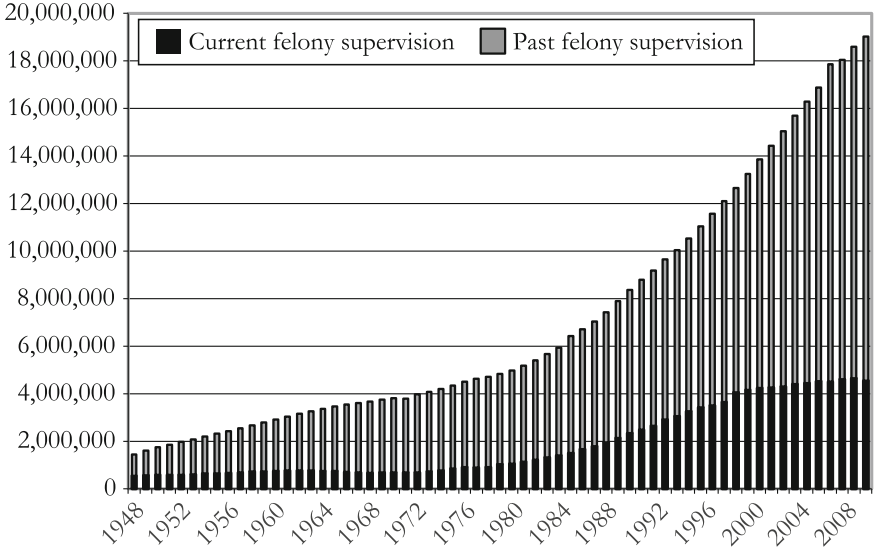


Prisoners and former prisoners in the U.S., 1948-2010



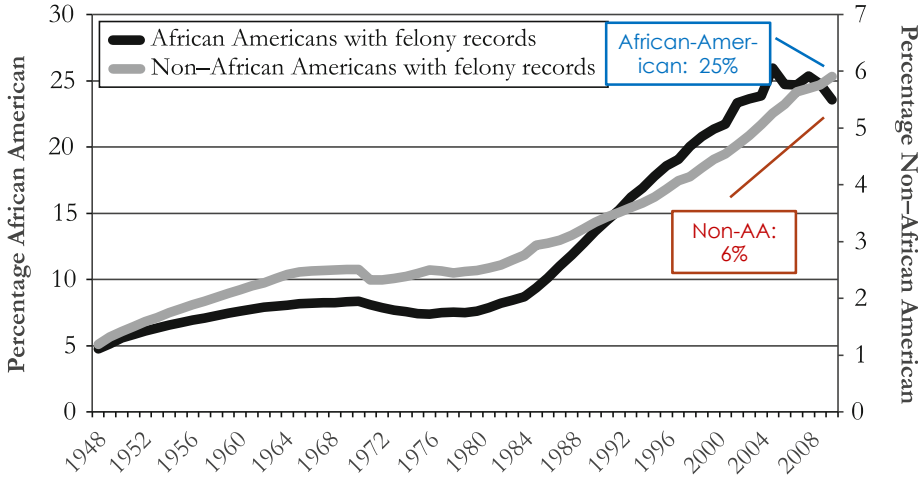
Shannon, Uggen, Thompson, Schnittker, Wakefield, and Massoglia, 2017

Felons and ex-felons in the U.S, 1948 - 2010



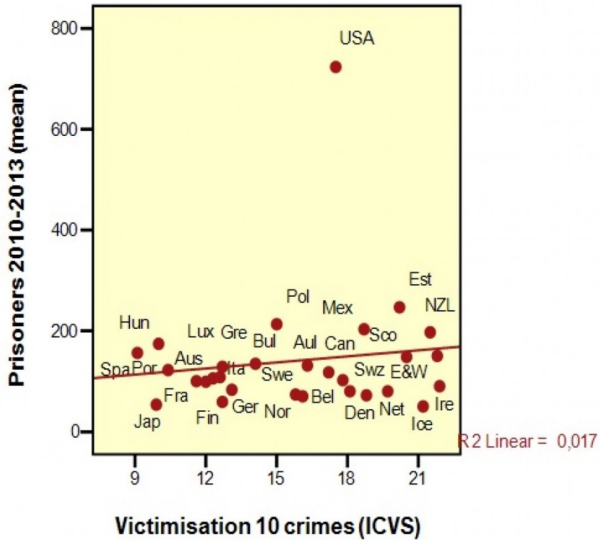
Shannon, Uggen, Thompson, Schnittker, Wakefield, and Massoglia, 2017

Racial disparity in % of U.S. adults with felony records, 1948-2010



Shannon, Uggen, Thompson, Schnittker, Wakefield, and Massoglia, 2017

U.S. criminal victimization rates are comparable to Western Europe – But the U.S. incarceration rate is much higher



Ban the Box, Criminal Records and Statistical Discrimination: A Field Experiment

Amanda Agan and Sonja Starr, *QJE* 2017

bantheboxcampaign.org

Toolkit | October 01, 2021

BAN THE BOX: U.S. CITIES, COUNTIES, AND STATES ADOPT FAIR HIRING POLICIES

by Beth Avery
READ PROFILE ➔

by Han Lu
Areas of expertise: Criminal Records and Employment, Workplace Equity

Nationwide, 37 states and over 150 cities and counties have adopted what is widely known as "ban the box" so that employers consider a job candidate's qualifications first—without the stigma of a conviction or arrest record. Borne out of the work of All of Us or None, these policies provide applicants a fair chance at employment by removing conviction and arrest history questions from job applications and delaying background checks until later in the hiring process.

Why many municipalities have ‘banned the box’

- “B2B laws seek to increase employment opportunities for people with criminal records. They are often also presented as a strategy for reducing unemployment among black men, who in recent years have faced unemployment rates approximately double the national average.

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- The theory underlying this strategy is straightforward: black men are more likely to have criminal convictions than other groups, and having a criminal record is a substantial barrier to employment.
- Thus, a policy that increases the employment of people with records should disproportionately help minority men."

Agan and Starr, *QJE* 2017

Agan and Starr: Research question

- **Do ban the box policies affect job opportunities among:**
  1. Job applicants with criminal records
  2. Job applicants from demographic groups that disproportionately have criminal records

Agan and Starr: Research design

- **New Jersey: BTB took effect on March 1, 2015**
  - Pre-BTB period: January 31 and February 28, 2015
  - Post-BTB period: May 4 and June 12, 2015

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Agan and Starr: Research design

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  - Pre-BTB period: June 10 and August 30, 2015
  - Post-BTB period: November 30, 2015 and March 31, 2016
- **RCT: 'Audit Study'**
  - Sent 15,000 fictitious online job applications to employers in New Jersey, New York City
  - Sent in waves before and after each jurisdiction's adoption of BTB policies

Research design continued

- **Types of jobs**
  - Suitable for candidates with limited work experience, no post-secondary education, and no specialized skills
  - Mostly non-supervisory: Team-member jobs at fast food and other restaurants, grocery and convenience stores, other retail establishments

Research design continued

- **Types of jobs**
  - Suitable for candidates with limited work experience, no post-secondary education, and no specialized skills
  - Mostly non-supervisory: Team-member jobs at fast food and other restaurants, grocery and convenience stores, other retail establishments
- **Sources of job listings**
  - Large online job boards: snagajob.com, indeed.com
  - Websites of chain businesses

Research design continued

- **Types of applicants**
  - Fictitious applicants: Males approximately age 21 to 22
  - Used ‘Resume Randomizer’ software to generate applicants

Research design continued

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  - Used 'Resume Randomizer' software to generate applicants
- **Randomization**
  - Profiles created in pairs, each consisting of one black and one white applicant
  - Pairs were assigned to the same store in the same time period
  - Applicants similar on all but the randomly assigned treatment dimensions

Research design continued

- **Treatment dimensions**
  1. Race
  2. Has felony criminal conviction or not
     - ≫ Conditional on conviction: Property crime or drug crime
  3. Has 1-year employment gap versus a 0- to 2-month gap
  4. Has a GED *vs* High School Diploma

A conceptual model of ban the box

A simple model of ban the box

- Consider a firm looking to hire its next worker
  - The firm pays a fixed wage for a given position
  - It prefers to hire a worker from Group 1 (e.g., a minority worker)
  - But could also hire a worker from Group 0 (e.g., a non-minority worker)
  - Firm can instantly determine whether an applicant is from Group 1 or Group 0
- Firm is averse to hiring felons
  - A fraction λ of Group 1 workers are felons (F)
  - Assume (for simplicity only) that no Group 0 workers are felons
- Denote firm's payoff as π_i

$$\pi_1^N > \pi_0 > \pi_1^F$$

Hiring with costless screening

- Denote firm's payoff as π_i

$$\pi_1^N > \pi_0 > \pi_1^F$$

- Equilibrium with full information
  - Firms will hire a non-felon if a non-felon from Group 1 is available
  - Otherwise, will hire someone from Group 0

Hiring when firms cannot distinguish felons from non-felons

- What if firms cannot distinguish felons v. non-felons?
  - Employers hire from Group 1 iff the following holds (otherwise only Group 0)

$$(1-\lambda)\pi_1^N + \lambda\pi_1^F > \pi_0,$$

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- Felons hired more often when
  - Non-felons from Group 1 are very profitable (π_1^N large)
  - Felons from Group 1 are not very *un*profitable (π_1^F reasonably close to π_0)
  - Felons are a modest proportion of Group 1 (λ small).

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  - Felons from Group 1 are not very *un*profitable (π_1^F reasonably close to π_0)
  - Felons are a modest proportion of Group 1 (λ small).
- Employers will *not* hire from Group 1 when

$$(1-\lambda)\pi_1^N + \lambda\pi_1^F < \pi_0$$

  - Here, employers 'statistically discriminate' against Group 1 members
  - Not out of animus; concern that too many have low productivity

Statistical discrimination

- Statistical discrimination
  - When *rational* decision-makers use aggregate group characteristics, such as group averages, to evaluate individual personal characteristics
  - Note: No animus; purely making predictions based on available information
  - Assumption :Employers are solving this problem 'correctly'

Adding a low-cost (not free) screening technology, AKA 'the box'

- A low cost screening technology becomes available
  - A checkbox where applicants must report a felony conviction
- For each applicant screened with box, the firm pays a cost c
  - If applicant turns out to be a felon, firm screens a new applicant
  - Expected number of applicants per non-felon hire is $1/(1-\lambda)$

    (If 50% of applicants are felons, you'd expect to screen two applicants to get one non-felon)

Adding a low-cost screening technology, AKA 'the box'

- Firms will use this screening technology iff

$$\pi_1^N - \frac{c}{(1-\lambda)} > (1-\lambda)\pi_1^N + \lambda\pi_1^F$$

$$\pi_1^N > \pi_1^F + \frac{c}{\lambda\,(1-\lambda)}$$

- Firms screen if $\Delta\pi$ for non-felons v. felons is large enough to justify c
  - If $\lambda = 0$, then it's never worth it to screen since there are no felons
  - If $\lambda = 1$, then it's never worth it to screen because all applicants are felons
  - If $\lambda \in (0, 1)$, it may be worthwhile to screen

Adding a low-cost screening technology, AKA 'the box'

Two additional subtleties

1. Firms may use the box even if they don't need the box to hire from Group 1
   - If $\pi_1^N > \pi_1^F + \frac{c}{\lambda(1-\lambda)}$, firms will prefer use 'the box'
   - Even if they would be willing to hire from Group 1 without the box, i.e., if $(1-\lambda)\pi_1^N + \lambda\pi_1^F > \pi_0$
2. 'The box' may allow firms to hire Group 1 workers whom they otherwise would not
   - If $(1-\lambda)\pi_1^N + \lambda\pi_1^F < \pi_0$: Group 1 is too risky to hire without a screen
   - Here, firms may hire Group 1 using 'the box' but would not hire Group 1 otherwise

$$\pi_1^N - \frac{c}{(1-\lambda)} > \pi_0 > (1-\lambda)\pi_1^N + \lambda\pi_1^F,$$

A 'ban the box' policy: Three scenarios

- 'Ban the box' policy: Illegal to ask applicants if they have a felony conviction
  - Firms can still do criminal background checks *after* interviewing
  - Cost of a criminal background check is $c' > c$
- What could happen? Three scenarios

(1) The cost is not *too* high so firms pay c' instead of c

$$\pi_1^N - \frac{c'}{(1-\lambda)} > \pi_0 > (1-\lambda)\pi_1^N + \lambda\pi_1^F.$$

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Firms drop box, use c' instead. Hire same people at greater cost

(2) Firms stop criminal background checks and simply hire from both groups

$$\pi_1^N < \pi_1^F + \frac{c'}{\lambda\,(1-\lambda)} \text{ and } (1-\lambda)\pi_1^N + \lambda\pi_1^F > \pi_0$$

A 'ban the box' policy: Three scenarios (cont.)

(3) The cost of criminal background checks for all applicants is too high *but* non-screened applicants are too risky

$$\pi_1^N < \pi_1^F + \frac{c'}{\lambda(1-\lambda)} \text{ and } (1-\lambda)\pi_1^N + \lambda\pi_1^F < \pi_0.$$

Firms exclusively hire group 0 *applicants – not group* 1 *applicants*:

- Workers harmed are Group 1 workers who are <u>not</u> felons
- Felons were not going to be hired regardless (since $(1-\lambda)\pi_1^N + \lambda\pi_1^F < \pi_0$)
- Banning the box prevents non-felons from group 1 from being considered

Theory of 'ban the box' policy: Summary

1. **Policy helps Group 1 workers if it induces a pooling equilibrium**
   - Employers choose to hire both felons and non-felons from Group 1 when it becomes too expensive to use a screen to distinguish them
2. **Policy harms Group 1 workers if it induces a separating equilibrium**
   - Employers hire only Group 0 workers because it's too expensive to screen Group 1 workers – but too risky to hire them without screening

- **If BtB causes separating eq'm, harms Group 1 workers who are not felons**
  - This is the opposite of what ban the box advocates would ever intend
  - It is nevertheless a realistic (though by no means certain) possibility

Evidence from Agan and Starr

Conveying race with 'distinctively' white and Black names

Table A2.1: White and Black Names Used for Applicants

White Names				Black Names			
First	%White	Last	%White	First	%Black	Last	%Black
SCOTT	88.87	WEBER	94.37	TYREE	97.94	PIERRE	97.78
THOMAS	86.92	ESPOSITO	93.30	TERRELL	96.23	WASHINGTON	90.28
CODY	86.71	SCHMIDT	92.63	DAQUAN	96.04	ALSTON	88.96
RYAN	85.37	BRENNAN	92.45	JAQUAN	95.03	BYRD	85.50
NICHOLAS	84.99	MEYER	92.27	DARNELL	93.43	INGRAM	78.63
DYLAN	84.70	KANE	91.75	JAMAL	91.36	JACKSON	76.32
MATTHEW	83.97	HOFFMAN	91.38	MARQUIS	91.36	BANKS	75.68
JACOB	83.37	RYAN	89.98	JERMAINE	89.45	FIELDS	74.83
KYLE	82.93	WAGNER	89.96	DENZEL	89.27	BRYANT	74.49
TYLER	82.82	HANSEN	89.60	DWAYNE	88.89	WILLIAMS	74.22
SEAN	82.41	SNYDER	88.84	REGINALD	88.41	SIMMONS	72.45
DOUGLAS	81.93	ROMANO	88.84	TYRONE	86.75	CHARLES	72.33
SHANE	81.11	O'NEILL	88.72	MALCOLM	86.06	HAWKINS	70.81
JOHN	80.36	RUSSO	88.67	DARRYL	84.78	ROBINSON	70.70
STEPHEN	80.12	FOX	86.43	TERRANCE	84.12	JENKINS	70.50
		SWEENEY	86.03	MAURICE	82.47	FRANKLIN	70.45
		SULLIVAN	85.08	ISAIAH	74.06	JOSEPH	70.42
				ELIJAH	72.35		

Notes: The %race columns indicate the percentage of babies born in NJ between 1989 and 1996 with that first or last name that were of that race (i.e. 88.87% of babies with the first name Scott are White).

Summary statistics: Main research data

Means of Applicant and Application Characteristics and Callback Rates by Period

	Pre-BTB	Post-BTB	Combined
Characteristics			
White	0.502	0.497	0.500
Conviction	0.497	0.513	0.505
GED	0.498	0.502	0.500
Employment gap	0.492	0.504	0.498
Application has box	0.366	0.036	0.199
Results			
Callback rate	0.109	0.125	0.117
Interview req.	0.060	0.067	0.063
Callback rate by characteristics			
Black	0.099	0.111	0.105
White	0.120	0.139	0.129
GED	0.106	0.127	0.117
HSD	0.113	0.122	0.118
Emp. gap	0.110	0.126	0.118
No emp. gap	0.109	0.124	0.116
N	7,245	7,392	14,637

Interview callback rates before Ban the Box by race and criminal status

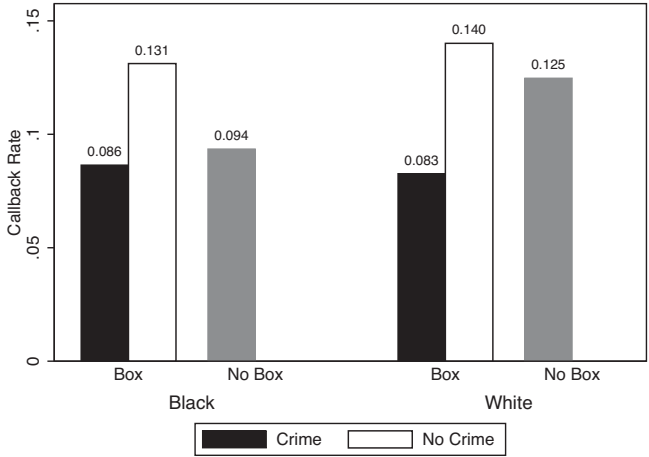

FIGURE I

Callback Rates by Race, Crime, and Box: Preperiod Applications Only

Interview callback rates pre-ban: Companies using a 'box' prior to the ban

CALLBACK RATES BY CRIME STATUS FOR STORES WITH THE BOX IN THE PRE-BTB PERIOD

	No crime	Crime	Property	Drug	Combined
Callback rate	0.136	0.085	0.084	0.085	0.110
Callback black	0.131	0.086	0.091	0.081	0.109
Callback white	0.140	0.083	0.077	0.089	0.111
N	1,319	1,336	703	633	2,655

Notes. Sample restricted to pre-BTB period applications where the application asked about criminal records. Callback implies application received a personalized positive response from the employer.

Key finding: Callback rates pre v. post BTB for companies using a 'box'

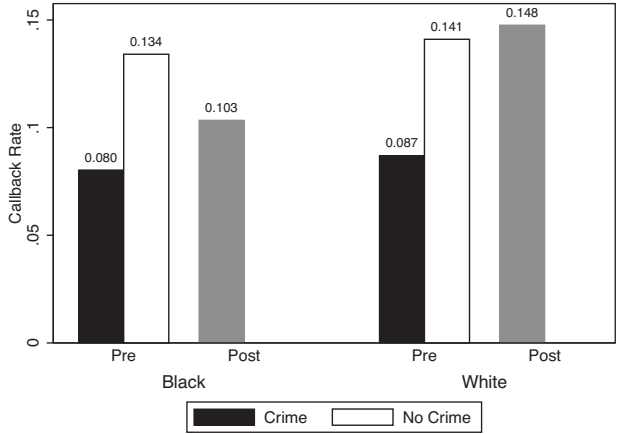

FIGURE II

Callback Rates by Race, Criminal Record, and Period: Balanced Box Removers Only

Callback rates pre v. post BTB: Companies using a 'box' pre-ban

Table 5: Average Black-White Response Rate Differences by Race and Treated, Before and After BTB Goes into Effect in NJ

	Treated	Not Treated	Diff
Black - White Callback Rate, Pre	-0.008	-0.027	0.019
Black - White Callback Rate, Post	-0.040	-0.022	-0.018
Diff	0.032	-0.005	0.037
Diff, Perfect Quad Sample	0.038	-0.004	0.042

Notes: Each cell is a black-white response rate differential, measured in percentage points. The last line restricts analysis to only those stores in the "perfect quad" sample, that is, stores for which we sent two applications in the pre- and two in the post. The two outlined cells represent the raw difference-in-differences in-differences in the full sample and the perfect quad sample.

Triple-diff estimates: Box/No-box × Pre/Post × White/Non-White

Effects of Ban the Box on Racial Discrimination: Triple Differences

	(1)	(2)	(3)
Box Remover × post × white	0.039*	0.040**	0.035*
	(0.020)	(0.018)	(0.018)
Post × white	−0.002	−0.006	−0.006
	(0.014)	(0.012)	(0.013)
Box Remover × post	−0.019	−0.011	
	(0.023)	(0.019)	
Box Remover × white	−0.017	−0.021	
	(0.015)	(0.014)	
Box Remover	0.016	0.009	
	(0.028)	(0.024)	
White	0.024**	0.028**	0.098
	(0.012)	(0.011)	(0.129)
Post	0.016	0.012	0.339**
	(0.017)	(0.015)	(0.139)
N	11,188	14,637	14,637
Controls	Yes	Yes	Yes
Center FE	No	Yes	Yes
Chain FE	No	No	Yes
Post × chain FE	No	No	Yes
White × chain FE	No	No	Yes
Sample	Balanced	Full	Full

Summary of results

	Pre-B2B	Post-B2B
Applicants with a Criminal Record		
Black applicants	8.0%	10.3%
White applicants	8.7%	14.8%
Applicants without a Criminal Record		
Black applicants	13.4%	10.3%
White applicants	14.1%	14.8%

Statistical Discrimination Versus Stereotyping

- **Statistical discrimination**
  - When **rational** decision-makers use aggregate group characteristics, such as group averages, to evaluate individual personal characteristics

Statistical Discrimination Versus Stereotyping

- **Statistical discrimination**
  - When **rational** decision-makers use aggregate group characteristics, such as group averages, to evaluate individual personal characteristics
- **Stereotyping**
  - When decision-makers **with erroneous beliefs** use aggregate group characteristics, such as group averages, to evaluate individual personal characteristics

Testing for statistical discrimination based on GED credential

Effects of BTB on Callbacks of GED Holders versus HS Grads: Triple Differences

	(1)	(2)
Box Remover × post × GED	−0.012	−0.010
	(0.025)	(0.019)
Post × GED	0.021*	0.009
	(0.013)	(0.010)
Box Remover × post	0.006	0.014
	(0.030)	(0.024)
Box Remover × GED	0.021	0.021
	(0.022)	(0.015)
Box Remover	−0.003	−0.012
	(0.029)	(0.026)
GED	−0.019*	−0.012
	(0.011)	(0.008)
Post	0.004	0.005
	(0.016)	(0.015)
N	11,188	14,637
Controls	Yes	Yes
Center FE	No	Yes
Chain FE	No	No
Post × chain FE	No	No
White × chain FE	No	No
Sample	Balanced	Full

Response from the National Employment Law Project (NELP)

Research Supports Fair-Chance Policies

Papers released in 2016 suggested that race disparities in job callback or employment rates increased after the adoption of ban-the-box policies.[47] As NELP has argued, this was the wrong conclusion.[48] A careful review of the papers reveals that there was an increase in hiring for a majority of blacks after ban-the-box policies were enacted. Ban-the-box has demonstrated success and should be one component of a comprehensive fair-chance hiring proposal.[49] Unlawful racial discrimination by employers, such as the stereotyping of black men as "criminals," is responsible for discrepancies in employment rates between racial groups and should not be tolerated.[50] ■

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Rather than identifying the root of the problem, the argument blames the reform.

"Where, in the absence of a criminal background check an employer chooses to use race as a proxy for criminal history, *that employer is patently violating federal civil rights law*."

The news is not all bad: Discouraging research findings generate fresh ideas

Increasing the Demand for Workers with a Criminal Record

Zoë Cullen, Will Dobbie, Mitchell Hoffman

The Quarterly Journal of Economics, qjac029,
https://doi.org/10.1093/qje/qjac029

Abstract

We experimentally test several approaches to increasing the demand for workers with a criminal record on a nationwide staffing platform by addressing potential downside risk and productivity concerns. The staffing platform asked hiring managers to make a series of hypothetical hiring decisions that affected whether workers with a criminal record could accept their jobs in the future. We find that 39% of businesses in our sample are willing to work with individuals with a criminal record at baseline, which rises to over 50% when businesses are offered crime and safety insurance, a single performance review, or a limited background check covering just the past year. Wage subsidies can achieve similar increases but at a substantially higher cost. Based on our findings, the staffing platform relaxed the criminal background check requirement and offered crime and safety insurance to interested businesses.

14.03/003 – Conclusions

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   - Incentives matter

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3. **Relevance**
   - Public policy matters
4. **Impact**
   - Credible research changes the world

Thank you!