Discrimination

EC 350: Labor Economics

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Winter 2022

Bertrand and Mullainathan (2004)

Discussion

Q_1: How does the study measure discrimination in the labor market?

Q_2: What are the strengths of the research design?

Q_3: What are the weaknesses of the research design?

Q_4: What are the main findings?

Q_5: What does the study tell us about employers?

Q_6: What did *you* find most interesting and/or depressing?

Discrimination

Theory

Economics has a lot to say about discrimination in the labor market and other settings.[1]

While they do not explain all forms of discrimination,[2] the two most prominent economic models of discrimination are

1. **Taste-based discrimination:** Prejudiced employers willingly sacrifice resources to avoid contact with workers from certain groups.

2. **Statistical discrimination:** Unprejudiced employers use group characteristics to make inferences about an individual worker's productivity.

[1] Kevin Lang and Ariella Kahn-Lang Spitzer (2020), Race Discrimination: An Economic Perspective, *Journal of Economic Perspectives*.

[2] Mario L. Small and Devah Pager (2020), Sociological Perspectives on Racial Discrimination, *Journal of Economic Perspectives*

Taste-based discrimination

Models of **taste-based discrimination**[†] posit that **prejudice** (or **animus**) causes discrimination in the labor market.

- **The premise?** Some economic agents would **willingly sacrifice resources to avoid contact** with certain groups of people.

Setup

Two groups of equally productive workers:

1. **In-group** workers (*e.g.*, White workers) who receive the wage w_{W}.
2. **Out-group** workers (*e.g.*, Black workers) who receive the wage w_{B}.

[†] Developed by Gary Becker in The Economics of Discrimination, *University of Chicago Press* (1957).

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Setup

A **discrimination coefficient** d captures the **disutility of out-group contact** for three types of prejudiced economic agents:

1. **Employers** who perceive hiring out-group workers as $d \times 100$-percent more costly than w_{B}.
2. **Co-workers** who perceive their wage as $d \times 100$-percent lower when working with the out-group.
3. **Customers** who perceive prices as $d \times 100$-percent when buying from an out-group seller.

[†] Developed by Gary Becker in The Economics of Discrimination, *University of Chicago Press* (1957).

Taste-based discrimination

Employer discrimination

Since both groups of workers are **equally productive**, they are **perfect substitutes**.

- The level of output simply depends on the number of workers: $q = f(E_{\mathrm{W}} + E_{\mathrm{B}})$.
- A firm with 25 in-group workers and 25 out-groups **produces the same output** as a firm with 50 in-group workers or a firm with 50 out-group workers.
- MP_E does not depend on in-group/out-group status!

Q: How would a non-discriminatory employer maximize profit?

- **A:** By hiring from the cheaper group of workers until $w = \mathrm{VMP}_E$.
  - If $w_{\mathrm{W}} > w_{\mathrm{B}}$, then hire E^*_{B} out-group workers such that $w_{\mathrm{B}} = \mathrm{VMP}_E$.
  - If $w_{\mathrm{B}} > w_{\mathrm{W}}$, then hire E^*_{W} in-group workers such that $w_{\mathrm{W}} = \mathrm{VMP}_E$.

Going forward, we will assume that $w_{\mathrm{W}} > w_{\mathrm{B}}$.

Taste-based discrimination

Employer discrimination

Non-discriminatory employers simply **hire out-group workers**.

- **Why?** Both groups of workers are equally productive (*i.e.*, same VMP_E), but out-group labor is cheaper (*i.e.*, $w_{\mathrm{B}} < w_{\mathrm{W}}$).

Taste-based discrimination

Employer discrimination

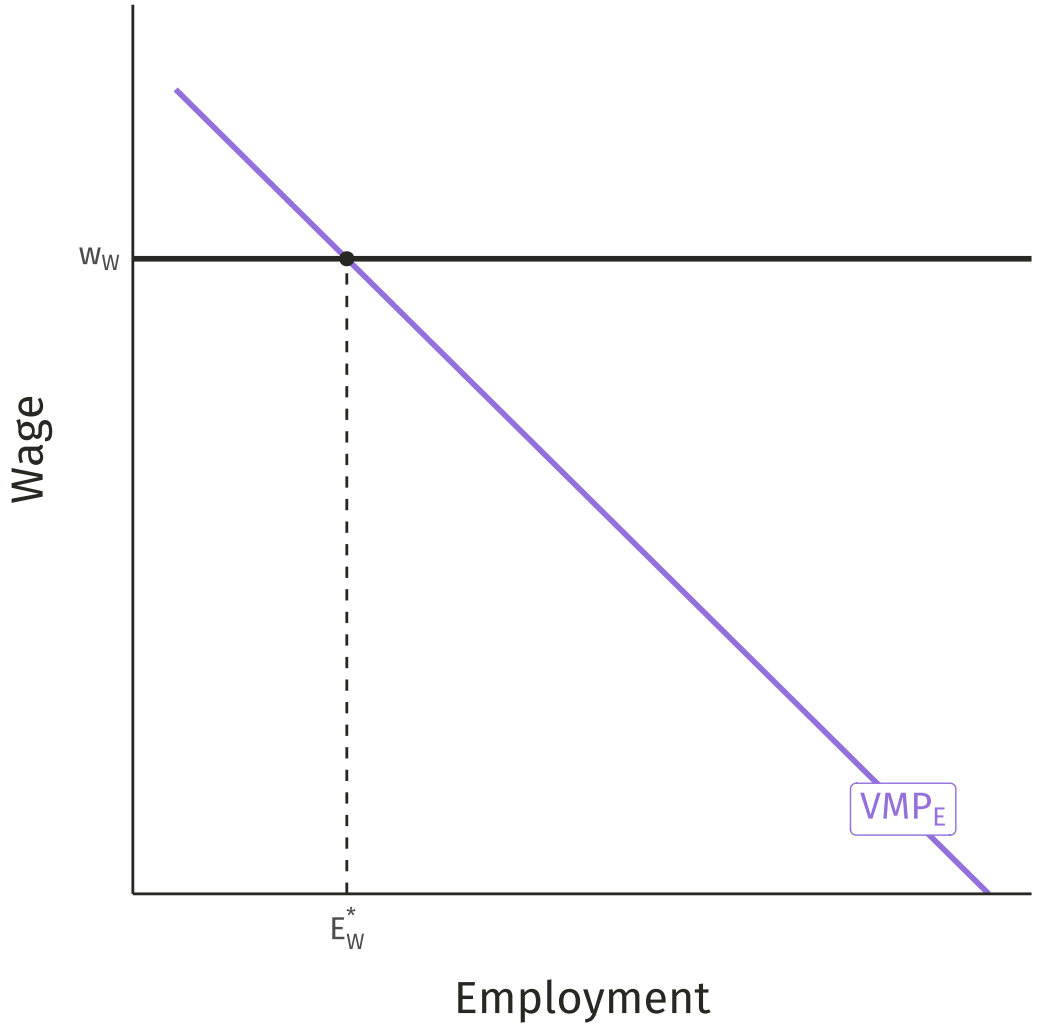
Discriminatory employers perceive the cost of employing an out-group worker as $w_{\mathrm{B}}(1+d)$.

- If $w_{\mathrm{B}} = 10$ and $d = 0.1$, then the employer will act as though the out-group worker costs $10(1+0.1) = 11$.
- The "utility-adjusted" cost of hiring an out-group worker exceeds the actual cost!

The result? Segregation! A discriminatory employer will

- Hire only in-group workers if $w_{\mathrm{B}}(1+d) > w_{\mathrm{W}}$
- Hire only out-group workers if $w_{\mathrm{B}}(1+d) < w_{\mathrm{W}}$

Taste-based discrimination

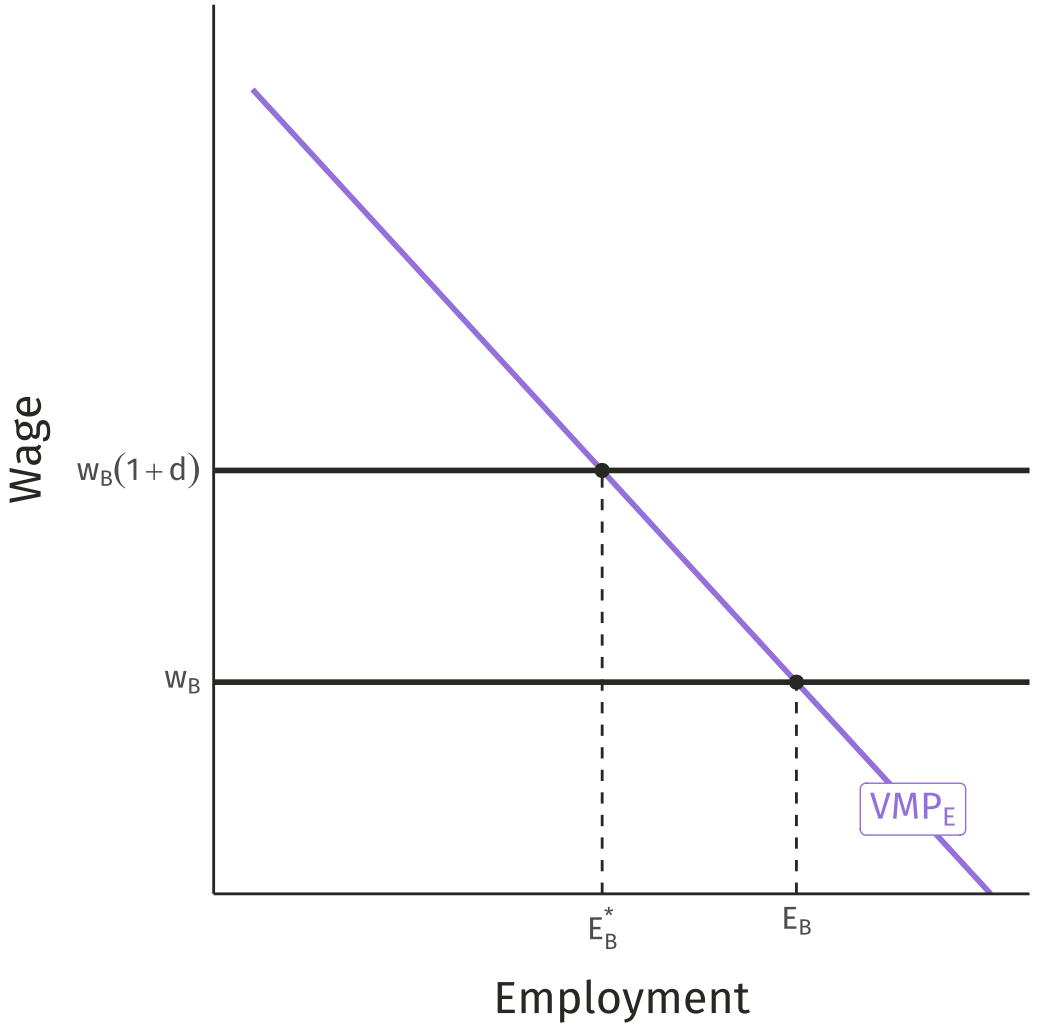


Employer discrimination

Case 1: Employer hires only in-group workers.

- The employer **overpays for labor!**
  - $w_{\mathrm{W}} > w_{\mathrm{B}}$, but VMP_E is the same for both groups of workers.
- Because in-group labor is relatively expensive, the employer **hires too few workers!**.

Taste-based discrimination



Employer discrimination

Case 2: Employer hires only out-group workers.

- The employer **hires too few workers!**
  - Actual hiring E_{B}^* occurs where $w_{\mathrm{B}}(1+d) = \mathrm{VMP}_E$, even though the actual wage is w_{B}.
- The employer **pays the out-group worker too little!**
  - The marginal worker receives less than her contribution, as $w_{\mathrm{B}} < \mathrm{VMP}_E = w_{\mathrm{B}}(1+d)$.

Taste-based discrimination

Employer discrimination

Q: Is discrimination profitable?

A: No!

- To indulge their distaste for out-group workers, **prejudiced employers sacrifice profit!**
- By hiring too few workers, discriminatory employers fail to operate efficiently!

The implication? In a perfectly competitive market, non-discriminating employers will eventually drive discriminating employers out of business.

- In-group and out-group wages will eventually equalize.

Q_1: Are wage differentials actually decreasing?

Q_2: Are markets actually perfectly competitive?

Taste-based discrimination

Co-worker discrimination

Suppose instead that employers are unprejudiced, but in-group workers dislike working with out-group workers.

- In-group workers receive w_{W}, but act as though they're paid $w_{\mathrm{W}}(1-d)$.

To offset the disutility of working with out-group workers, the employer would have to pay in-group workers an additional $w_{\mathrm{W}} \times d$ dollars.

- The total wage paid for an in-group worker would rise to $w_{\mathrm{W}}(1+d)$.
- If the marginal productivity of in-group and out-group workers is the same, and there are no discriminatory employers, then $w_{\mathrm{W}} = w_{\mathrm{B}} < w_{\mathrm{W}}(1+d)$.

The result? Segregation that persists *even with perfect competition*, but no wage differential.

Taste-based discrimination

Customer discrimination

Now suppose that workers and employers are unprejudiced, but customers dislike buying from the out-group.

- A prejudiced customer faces the actual market price p, but feels as though they are paying $p(1+d)$.

An employer with out-group workers would have to reduce p to compensate prejudiced customers.

- This assumes that the employer is unable to reallocate out-group workers away from customer-facing roles within the firm.

The result? The employer decreases wages for out-group workers, creating a wage differential that persists *even with perfect competition*.

Statistical discrimination

Models of **statistical discrimination**[†] posit that discrimination arises from employer **uncertainty** about difficult-to-observe productive attributes of workers.

The premise? Employers use a worker's race or gender to make inferences about the worker's productivity.

- In these models, **employers are unprejudiced**—they do not have a taste for discrimination.
- **The basis for discrimination?** Group differences in past performance (*e.g.*, achievement gaps).
  - When considering job applicants with the same observable productive traits, but different group characteristics (*e.g.*, race), employers will often rely on the **past performance of groups** to predict **difficult-to-observe productive traits of individuals**.
  - Discrimination occurs when the employer systematically favors applicants from higher-productivity groups.

[†] Developed by Edmund Phelps in The Statistical Theory of Racism and Sexism, *The American Economic Review* (1972), and Kenneth Arrow in "The Theory of Discrimination" in Orley Ashenfelter and Albert Rees, eds., Discrimination in Labor Markets, *Princeton University Press* (1973).

Statistical discrimination

Employers can test workers for productive traits, but it is unlikely that a test can perfectly predict productivity.

To set a worker's wage, an employer uses a weighted average of the worker's test score and the average score of the group to which the worker belongs:

$$w = \alpha T + (1 - \alpha)\overline{T}$$

- T is the individual's test score.
- $\overline{T}$ is the group average.
- $0 \leq \alpha \leq 1$ represents how well the test measures productivity.
  - If $\alpha = 1$, then the test provides a perfect measure of individual productivity and $w = T$.
  - If $\alpha = 0$, then the test provides no meaningful measure of individual productivity and $w = \overline{T}$.

Ban the box

Additional Information

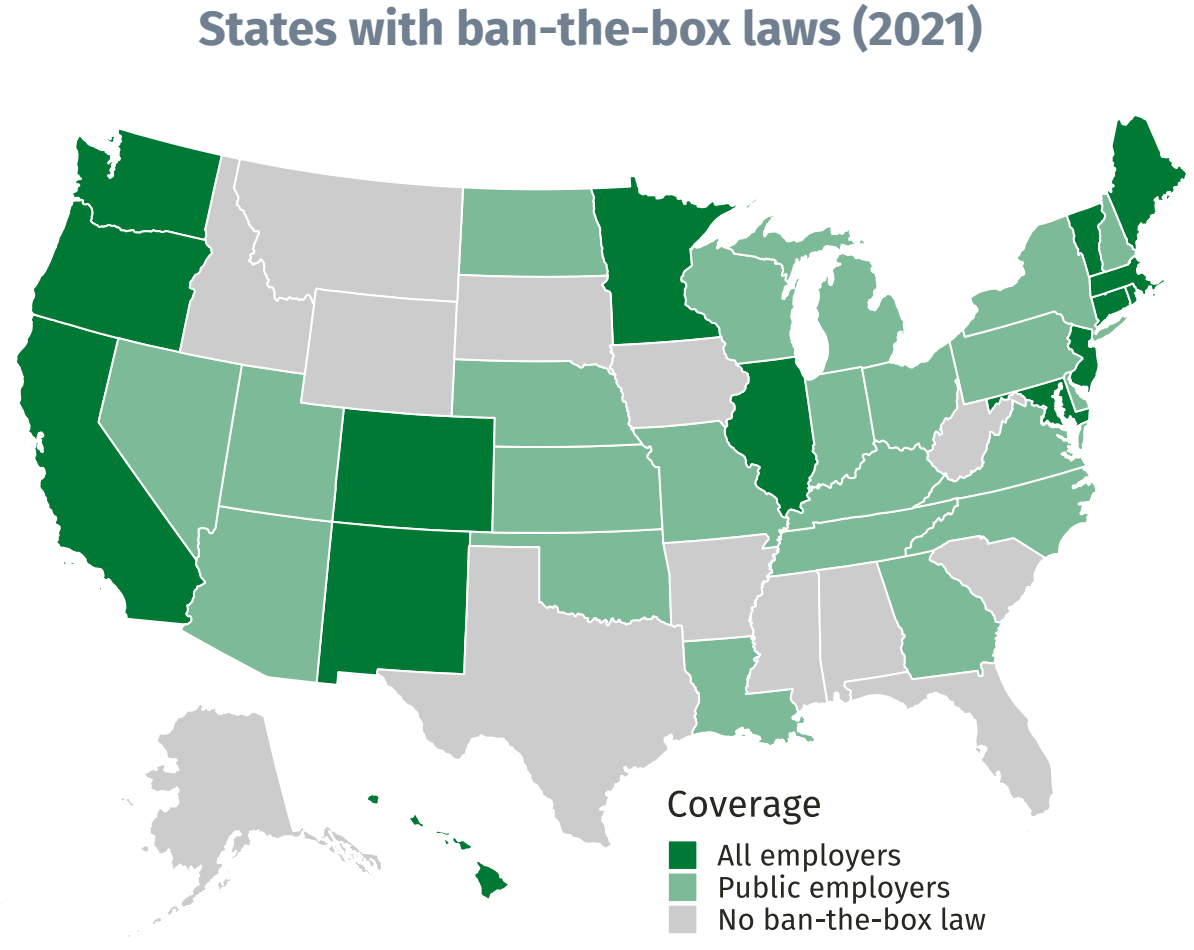
Have you ever been convicted of a crime or plead guilty or nolo contendre to a crime? (Include any convictions by military trial): *

- [x] No
- [ ] Yes

If your answer is yes, please explain.

Q: Why do employers ask about criminal history?

Ban the box



Source: National Employment Law Project

The policy? Forbid employers from asking about criminal history on job applications.

The objective? Expand employment opportunities for people with criminal records and **reduce racial disparities** in hiring.

Ban the box

Q: How might an employer respond to a ban-the-box law?

- Take a chance on candidates with criminal records?
- Avoid candidates who are more likely to have a prior conviction?

Intended consequence: Applicants with prior convictions get their foot in the door, increasing their odds of getting hired.

- Other things being equal, this would increase the probability of employment for young men of color.

Unintended consequence: Employers could respond by using race as a proxy for criminal history.

- Other things being equal, this would decrease the probability of employment for young men of color *without criminal records*.
- **Statistical discrimination!**

Agan and Starr (2017)

Discussion

Q_1: What is the research question?

Q_2: How does the study address the research question?

Q_3: What are the main findings?

Q_4: How does the study advance our understanding of racial discrimination in the labor market?

Q_5: What are the policy implications?

Q_6: What did *you* find most interesting?

Housekeeping

Problem Set 4 is due by **Friday, March 11th at 11:59pm**.

Final Exam is scheduled for **Tuesday, March 15th at 2:45pm**.

- In-person!