



Discrimination

EC 350: Labor Economics

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Spring 2021



Discussion

Q₁: How does the study measure discrimination in the labor market?

Q₂: What are the strengths of the research design?

Q₃: What are the weaknesses of the research design?

Q₄: What are the main findings?

Q₅: What does the study tell us about employers?

Q₆: 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 common 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).

Taste-based discrimination



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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**.

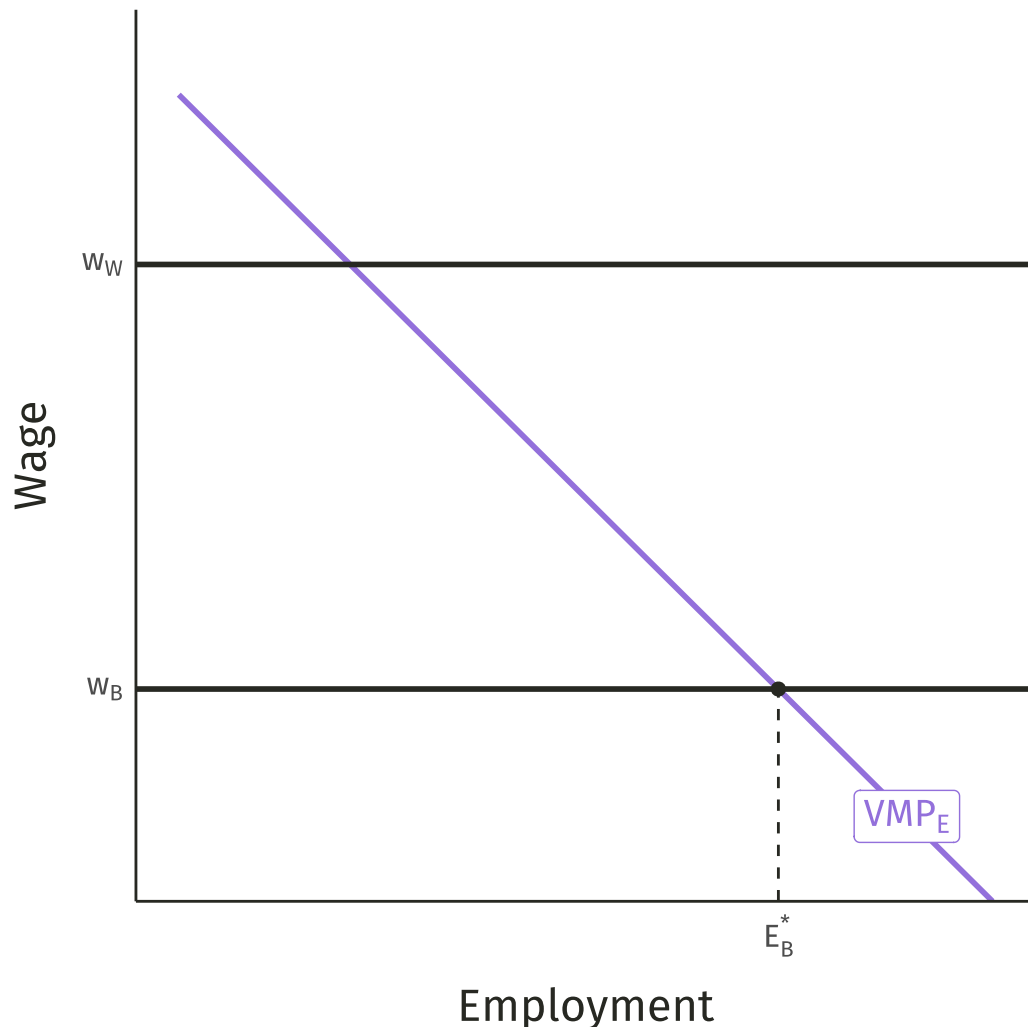
- The level of output simply depends on the number of workers: $q = f(E_W + E_B)$.
- A firm with 25 in-group workers and 25 out-groups **produces the same output** as a firm with 50 in-group workers or a firm with 50 out-group workers.
- MP_E does not depend on in-group/out-group status!

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

- **A:** By hiring from the cheaper group of workers until $w = VMP_E$.
 - If $w_W > w_B$, then hire E_B^* out-group workers such that $w_B = VMP_E$.
 - If $w_B > w_W$, then hire E_W^* in-group workers such that $w_W = VMP_E$.

Going forward, we will assume that $w_W > w_B$.

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.*, $w_B < w_W$).

Taste-based discrimination



Employer discrimination

Discriminatory employers perceive the cost of employing an out-group worker as $w_B(1 + d)$.

- If $w_B = 10$ 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 $w_B(1 + d) > w_W$
- Hire only out-group workers if $w_B(1 + d) < w_W$

Taste-based discrimination

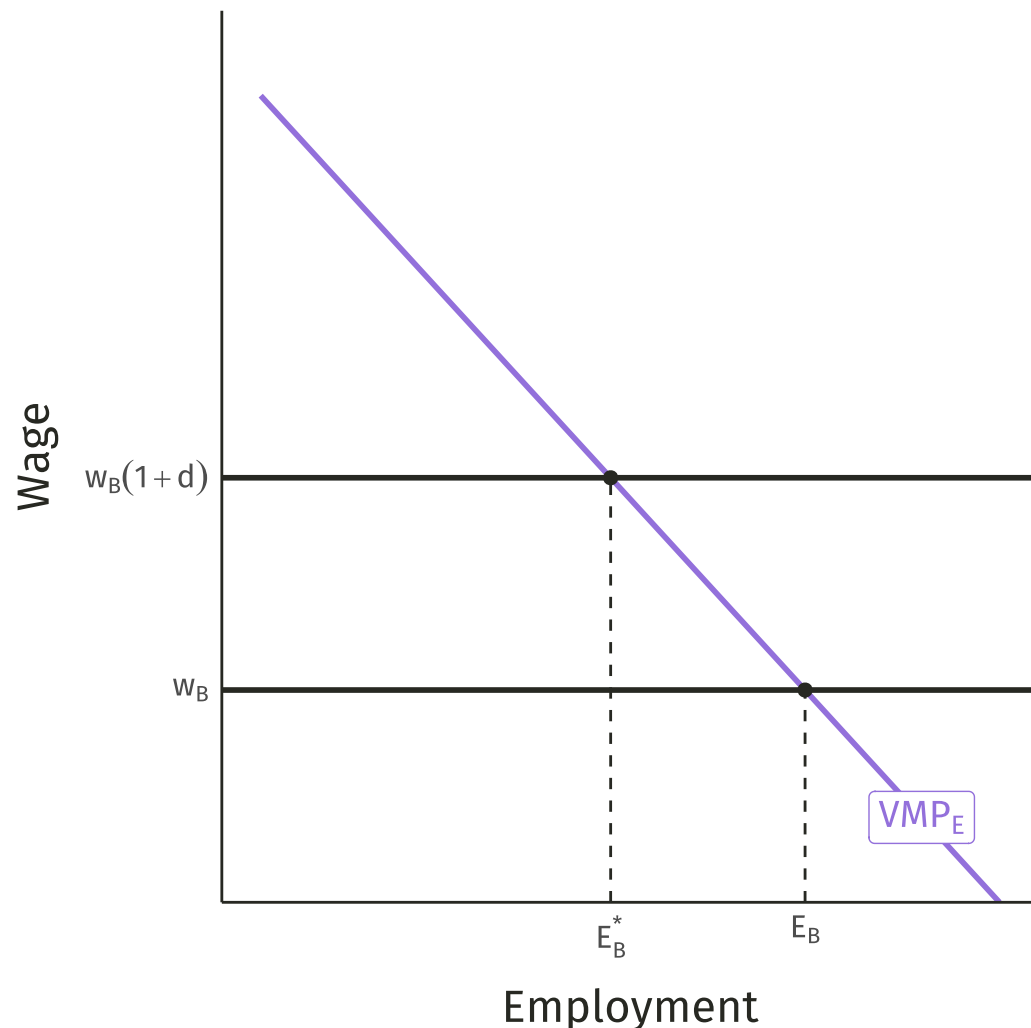


Employer discrimination

Case 1: Employer hires only in-group workers.

- The employer **overpays for labor!**
 - $w_W > w_B$, 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 $w_B(1+d) = VMP_E$, 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 $w_B < VMP_E = w_B(1+d)$.

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.

Q₁: Are wage differentials actually decreasing?

Q₂: 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 $w_W(1 - d)$.

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

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

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:

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

- T is the individual's test score.
- \bar{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 $w = \bar{T}$.



Discussion

Q₁: What is the research question?

Q₂: How does the study address the research question?

Q₃: What are the main findings?

Q₄: How does the study advance our understanding of racial discrimination in the labor market?

Q₅: What are the policy implications?

Q₆: What did *you* find most interesting?

Housekeeping



Assigned reading for Wednesday: *The Long-Run Effects of Teacher Collective Bargaining* by Michael F. Lovenheim and Alexander Willén (2019).

- Reading Quiz 11 is due by **Wednesday, June 2nd at 16:00**.
- The quiz instructions will include a reading guide.

Problem Set 4 is also due by **Friday, June 4th at 23:59**.

Final Exam scheduled for **Wednesday, June 9th from 14:45 to 16:45** on Canvas.