

# Intro to Causal Inference in Econometrics

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## Discrimination Studies

Edward Vytlacil

Yale University, Department of Economics

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# Taste-Based Discrimination

**Economic models of discrimination: Taste-based discrimination** (Becker, 1957), discrimination against minorities based on preferences.

For example in labor market setting

1. Employer taste-based discrimination:  
employer less likely to hire older workers because employer does not like older workers .
2. Worker taste-based discrimination:  
employer less likely to hire older workers because younger workers do not wish to work with older workers .
3. Customer taste-based discrimination:  
employer less likely to hire older workers because customers do not like older workers .

(or women, or minority workers, or. . . .)

# Taste-Based Discrimination

Taste-Based discrimination in non-labor market contexts:

1. Lender less likely to approve loans to minority applicants since lender does not like minorities.
2. Police officer more likely to use force against minority suspects because officer does not like minorities.
3. Judge tends to give more jail time to minority defendants since judge does not like minorities.

# Statistical Discrimination

**Statistical discrimination** (Phelps, 1972; Arrow 1973),  
Discrimination that follows from using a characteristic that is not relevant for productivity  
as a signal of characteristics that are relevant for productivity.

For example in labor market setting

1. Employer does not wish to hire older workers since older workers are less likely to be up-to-date with latest technology.
2. Employer does not wish to hire African-American workers since they are more likely to have a criminal history.

# Statistical Discrimination

Statistical discrimination in non-labor market contexts:

1. Lender less likely to loan to minorities since lender believes that minorities tend to have less stable income.
2. Police officer more likely to use force against minority suspects since officer believes that minority suspects more likely to engage in violence or resist arrest.
3. Judge tends to give more jail time to minority defendants since judge believes that minority defendants have a higher recidivism rate.

# Statistical Discrimination

Statistical discrimination:

1. May be “rational”, or may be based on exaggerated stereotypes.
2. Rational statistical discrimination often seen as efficient.
3. However, statistical discrimination, even if efficient, still often illegal, unfair.

# How to Detect Discrimination, Form of Discrimination?

Would like to compare outcomes for minority and non-minority candidates who have similar attributes other than minority-status.

1. Compare labor market outcomes of minority and non-minority applicants who have the same job-relevant attributes.
2. Compare mortgage origination decision for minority and non-minority applicants who have the same credit-worthiness.
3. Compare rates of police force for suspects with similar relevant characteristics.
4. Compare judges sentencing for otherwise similar minority and non-minority suspects.

# How to Detect Discrimination, Form of Discrimination?

- ▶ Would like to compare outcomes for minority and non-minority candidates who are have similar attributes other than minority-status.
- ▶ Often use regression analysis to control for other attributes.
- ▶ Attempt to include in regression as many relevant attributes as possible.
- ▶ **Key Limitation:** Many relevant attributes might not be observed in the data set, leading to omitted variable bias.



# How to Detect Discrimination, Form of Discrimination?

## **Alternative Approach: Audit Studies**

1. Use pairs of actors, one minority and one non-minority, with similar relevant attributes.
  2. Send a pair of actors to apply for each job (or loan, etc)
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- ▶ Advantage: can make relevant attributes similar.
  - ▶ Disadvantages:
    1. Can be hard to make each pair of actors similar in relevant attributes.
    2. Not double-blind.
    3. Expensive.

# How to Detect Discrimination, Form of Discrimination?

## **Alternative Approach: Correspondence Studies**

Mail in pairs of applications, one minority and one non-minority, with similar relevant attributes.

1. Create fictitious resumes, and randomly assign gender/minority status as signalled by name of applicant.
2. Can ensure that minority and non-minority applicants have on average the same relevant characteristics.
3. Inexpensive

Pioneering paper: “Are Emily and Greg More Employable Than Lakisha and Jamal? A Field Experiment on Labor Market Discrimination,” by Marianne Bertrand and Sendhil Mullainathan (2004).

Limitations?