Discrimination: Third Lecture

LABOR ECONOMICS (ECON 385)

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Introduction

Measuring discrimination in observational data.

- One popular way of testing for discrimination is using <u>audit methods</u>, or experiments.
  - According to these, fake job applications with race-signaling names are sent out without pictures, or volunteer applicants from different groups are sent to interview for a job to see which applicants are more likely to get calls back or offers.
  - These studies are interesting but of somewhat limited external validity.

- Observational data on the jobs and characteristics of many individuals and firms is the more common method of measuring discrimination.

One possible measure: the difference in mean wages

- But the observation of a wage gap between groups does not, by itself, reveal discrimination.

- A better measure would compare the overall compensation of each group.
  - Including CWDs! E.g., do more men select jobs with disamenities (and the attendant higher wages)?

- Moreover assessing discrimination requires comparing the compensation of equally skilled workers. This is the crucial part of a discrimination study's design: *ceteris* (especially productivity) *paribus*, does the demographic group to which a person belongs predict higher or lower wages?

The Oaxaca decomposition

A technique that decomposes a raw wage differential into a portion related to difference in (observable!) skills and a portion attributable to labor market discrimination. It overcomes the problem of comparing workers across groups that have different levels of education, experience, et al., across groups. For example, a wage gap is observed between two groups (male and female).

$$\Delta \overline{w} = \overline{w}_M - \overline{w}_F$$

- Each group's expected wage is determined by a linear function of observable productive traits (s) and returns to those traits (β):

$$w_M = \alpha_M + \beta_M s_M$$

$$w_F = \alpha_F + \beta_F s_F.$$

The Oaxaca decomposition, continued

- The expected values of these (which the sample means are supposed to estimate) are:

$$E(\overline{w}_M) = E(w_M) = \alpha_M + \beta_M \overline{s}_M \text{ and}$$
$$E(\overline{w}_F) = E(w_F) = \alpha_F + \beta_F \overline{s}_F$$

- Substituting the expected wage functions into the difference, you get:

$$\Delta w = \alpha_M + \beta_M \overline{s}_M - \alpha_F - \beta_F \overline{s}_F$$

- Employ a "clever trick" of adding and subtracting $\beta_M \overline{s}_F$ (thus adding 0) reveals the decomposition.

$$\Delta w = \alpha_M - \alpha_F + \beta_M \overline{s}_M - \beta_F \overline{s}_F + \beta_M \overline{s}_F - \beta_M \overline{s}_F$$

The Oaxaca decomposition, concluded

- Re-arrange the terms so,

$$\Delta w = \alpha_M - \alpha_F + (\beta_M - \beta_F)\bar{s}_F + \beta_M(\bar{s}_M - \bar{s}_F).$$

- The first two terms are the wage differences originating from different returns to productive characteristics, i.e., what we would call discrimination.

- The last term captures the two groups' differences in productive characteristics.

- Figures cited in the Borjas book indicate that roughly ¾ of the wage differential between men and women can be ascribed to discrimination, according to an Oaxaca method estimate.

- A comparable estimate for the white-black wage gap indicate roughly ½ of the gap can be ascribed to discrimination.

# Discrimination: estimation issues

Such estimates are sensitive to including all the relevant productive differences between the groups.

- Unobservable differences in productivity between groups?

- Differences in s could, itself, be evidence of discrimination—of the pre-market kind, e.g., schooling quality and quantity, parents' and peers' effects, expectations that differ across groups.
  - Women invested less in HC because they didn't expect to work after marriage?
  - Expectation of being discriminated against decrease the expected returns to HC?
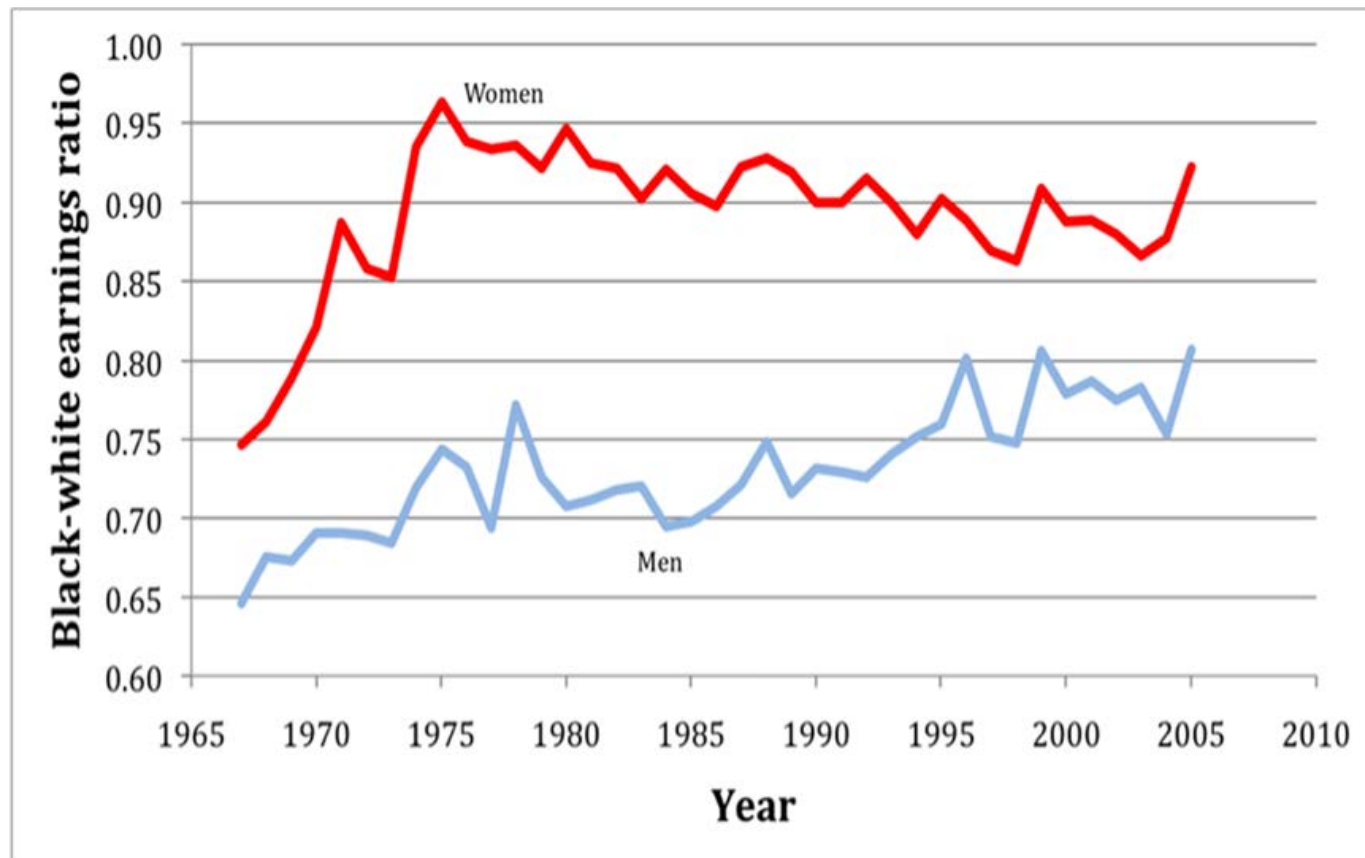
Trends in earnings ratios over time

- Female-Male trend, 1967-2005.
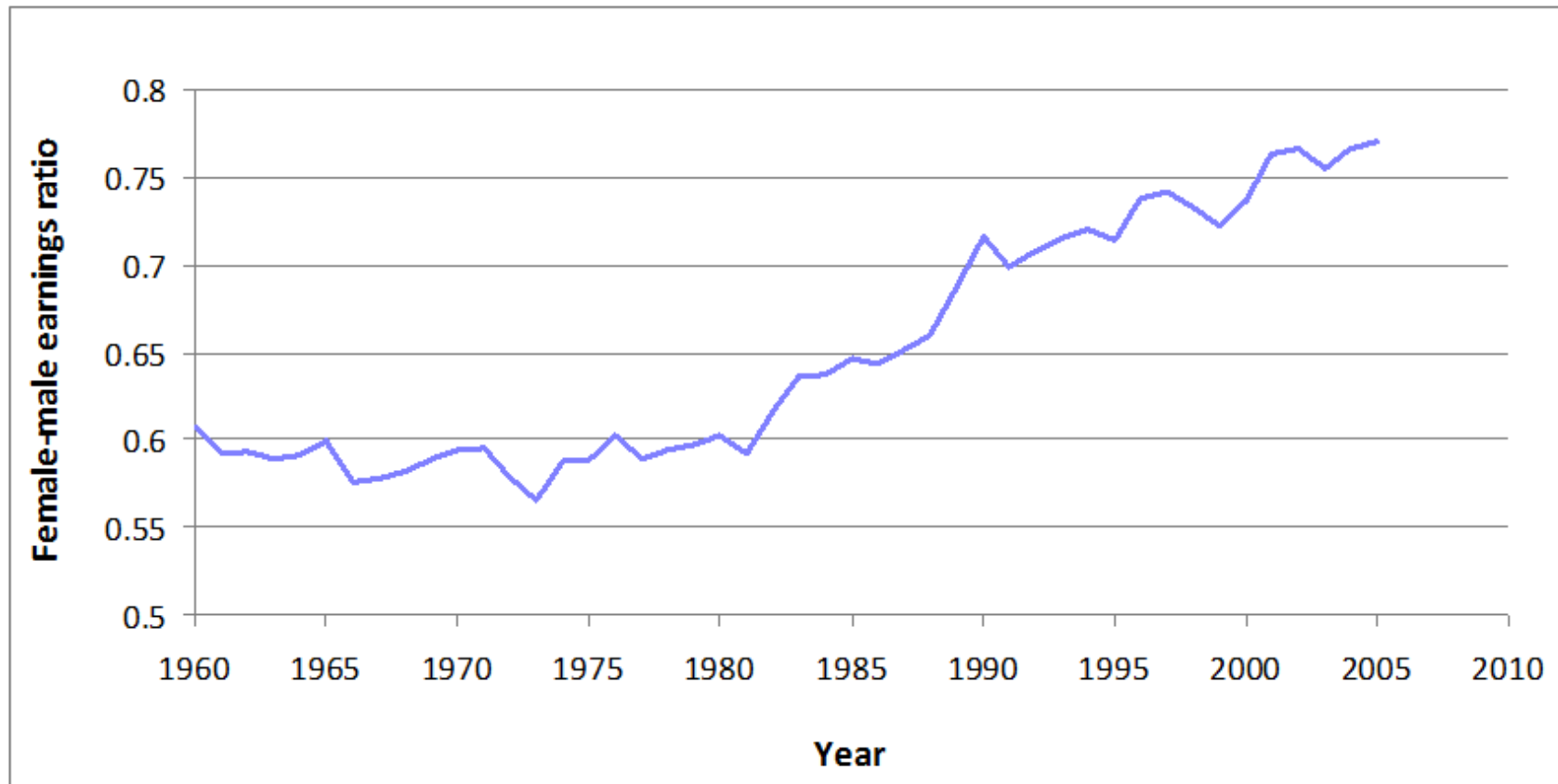
Trends in earnings ratios over time

- Black-White trend, 1967-2005.

Conclusions

- Measuring discrimination depends crucially on capturing all relevant productive differences between groups. This is exceedingly hard to do, suggesting that estimates overstate the contribution of discrimination.

- Productive differences from pre-market discrimination.
  - Probably a much bigger issue than labor market discrimination.
  - Unequal quality of primary/secondary schooling, peer and parental effects, career expectations result in unequal productive characteristics.
  - Unfortunately a much bigger problem that would require its own class; consider ECON 415 (Contemporary Economic Problems and Policies).