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The measurement of gender wage discrimination: by Coral del Río, Carlos Gradín & Olga Cantó

Discussant:

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Background & motivation (1)

- Most empirical studies of discrimination in earnings by sex (or religion or race …) by economists follow the same approach
  - Blinder-Oaxaca decompositions: difference in *mean* wage related to differences in mean characteristics and differences in coefficients, based on OLS regression, or
  - Differences at quantiles (e.g. median) related to characteristics and coefficients, based on quantile regression
- Argument: these types of study can benefit from the perspective of income distribution analysis

Background & motivation (2)

Distinguish between:

- *Identification* of discrimination for each woman
  - Wage each woman would (or should) receive were she a man otherwise with the same characteristics
  - Currently estimated using regression methods
- *Aggregation:* summarizing the full *distribution* of discrimination experienced by each woman
  - Current approaches focus on the *average*
  - Summarize using measures satisfying a set of desirable normative properties e.g. comparisons accounting for differences in 'discrimination aversion'

Outline of this paper

1. Critique of existing distributional approaches (starting from Jenkins, *J. Econometrics*, 1994)
2. Normative properties of measures for aggregating discrimination: orderings and indices
3. Identification: extension making use of quantile regressions
4. Application examining wage discrimination among Spanish women:
   - which groups are most discriminated against?
   - evidence about glass ceilings and sticky floors

1. Critique of existing distributional approaches

Define

y_f : observed wage for a woman (includes discrimination)

r_f : wage for a woman if no discrimination ('fair' wage)

$x_f = r_f - y_f$: 'wage gap'

- Several papers going beyond Blinder-Oaxaca methods focussing on means, most based on quantile regressions
  - Problem: they compare *marginal* distributions for women and men; not the *joint* distribution of woman's wages and woman's 'fair' wage, or the wage gap distribution
- Jenkins (1994) looked at the joint distribution, but it is argued that he did so inappropriately
  - Issue: how to handle cases in which wage gap is negative (see later)

2. Normative properties for measures

- Argument: measurement of discrimination is exactly analogous to the measurement of poverty,
  - wage gap $r_f - y_f$, versus poverty gap $z_f - y_f$
- So, apply all the measures developed for poverty measurement to discrimination
  - TIP curves to compare distributions of wage gaps
  - Foster-Greer-Thorbecke-type summary indices, which are decomposable by population subgroup
- Rests on key assumption (Focus axiom)
  - Negative wage gaps ($y_f > r_f$) set equal to zero
  - Aggregation based on censored distributions

3. Identification of wage gaps

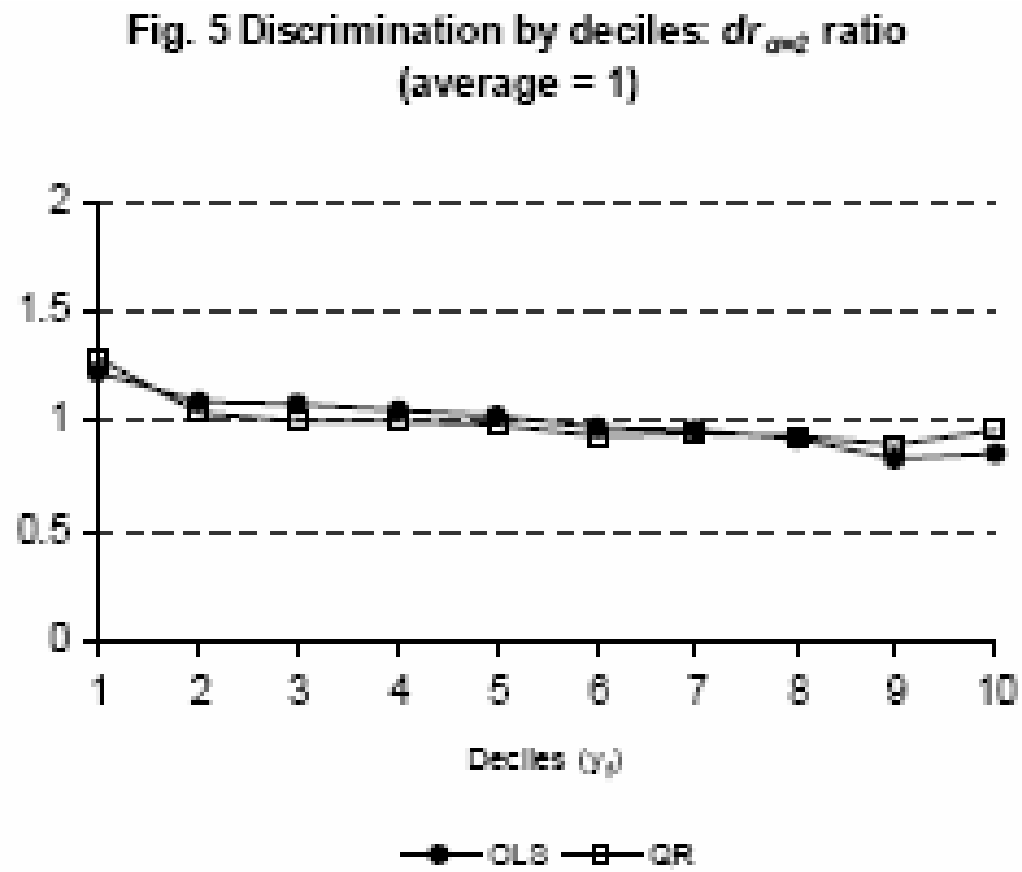
- Studies usually use OLS regressions to identify the fair wage
  - Conditional on characteristics, estimate derived using an *expected* value (mean)
- This study: consider also fair wage for a woman at the bottom of the wage distribution defined to be the wage for a man at a similar rank in the distribution of men's wages
  - Conditional on characteristics, estimate derived using quantile regressions

4. Illustrative application for Spain

- 1995 Encuesta de Estructura Salarial (Survey of Wage Structure)
- Employees in firms with 10+ employees; no wage data for those in agriculture, public sector (admin, health, education)
- Sample selection: part-time workers excluded
- N_f = 27,085. N_m = 100,208
- 99% of women earn less than men (controlling for differences in characteristics)
- Comparisons of discrimination using OLS and QR approaches to identification
  - Covariates: tenure, experience, education, region, contract type, occupation, firm size, etc.

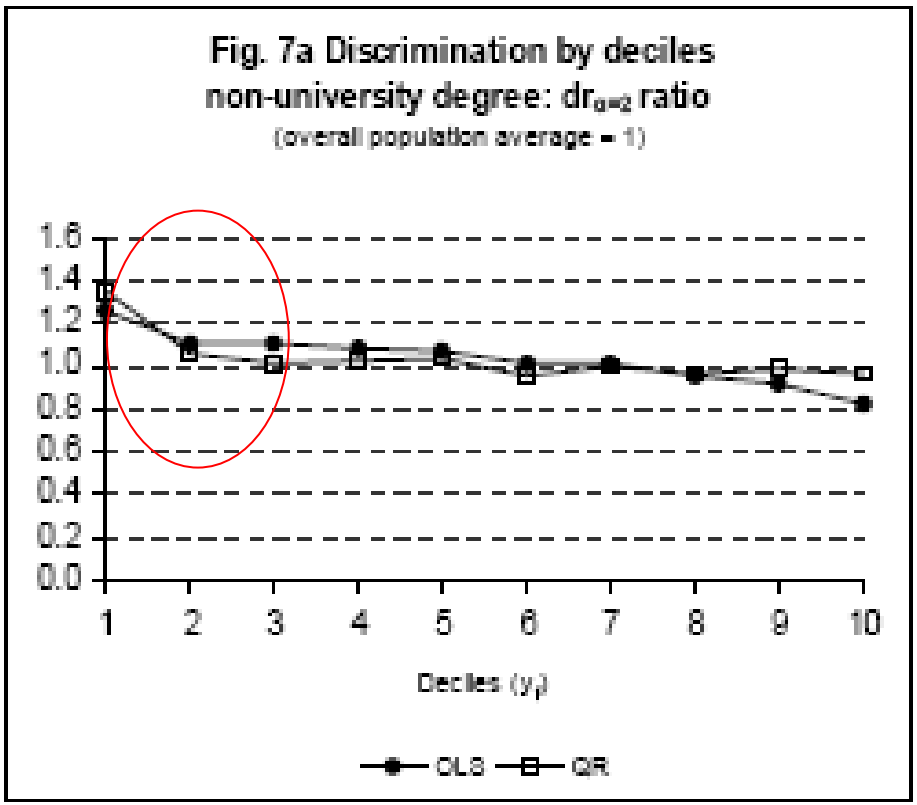
Some results (1)

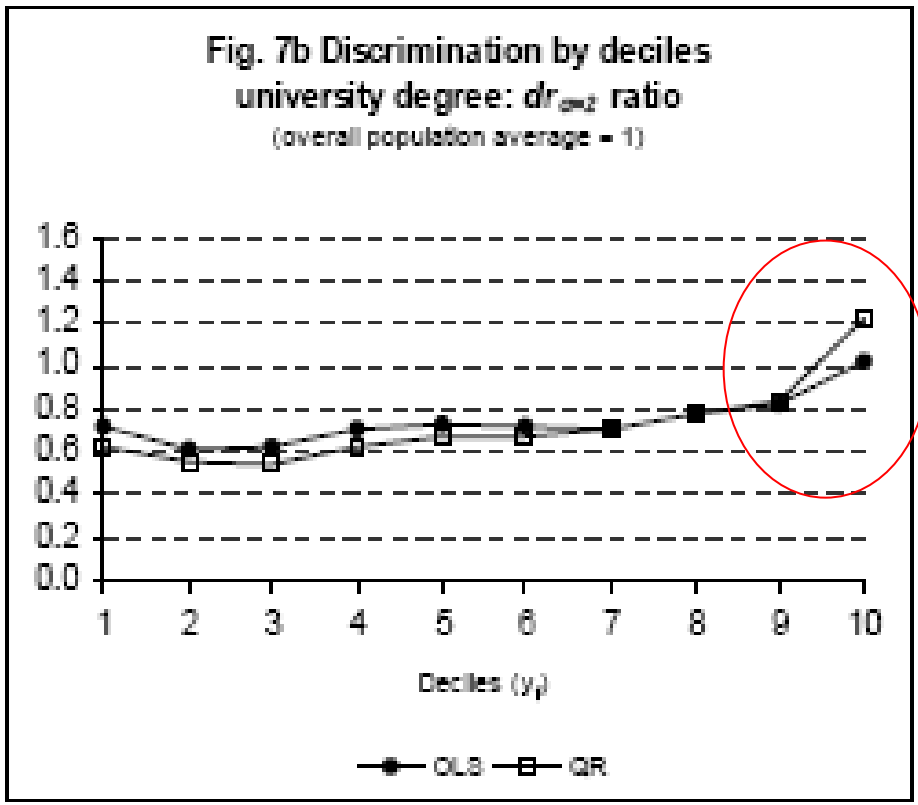
- Discrimination greatest at the bottom of women's wage distribution
- Similar patterns for OLS and QR approaches



Some results (2)

- Results separately by whether woman has university degree





'Sticky floor'

'Glass ceiling'

Comments (1)

- Empirical application would be more effective if looked e.g. at trends over time in discrimination
- Should the wage regressions for women take account of sample selection in Heckman sense?
- QR approach to Identification: I need more convincing that the 'fair' (no discrimination) wage for a woman should be based on comparisons with men at similar ranks in the wage distribution – why is that information relevant?
- If discrimination measurement analogous to poverty measurement, then no need to develop all the measures again at great length: focus on what is new and different

Comments (2)

- Is the analogy between discrimination measurement and poverty measurement really as close as argued here?
  - Jenkins (1994) used analogies with horizontal inequity measurement, not poverty (but proposed the same tools)
  - Want to summarize 'distance' between r_f and y_f for each woman
  - If r_f really is the 'fair wage', then shouldn't we take account of negative gaps as well as positive ones, rather than ignore, as here?
  - But how? Unclear that we should treat positive and negative gaps symmetrically (as Jenkins 1994 did)
- Should our efforts perhaps go into improving Identification rather than Aggregation aspects?