DISCRIMINATION IN THE LABOR MARKET

DEFINITION OF LABOR MARKET DISCRIMINATION

The valuation of personal characteristics of workers that are unrelated to productivity

3 Types
- Pure discrimination
- Occupational Segregation
- Statistical Discrimination

2003 Median Weekly Wages for Full-Time Workers

<table>
<thead>
<tr>
<th>Race/Origin</th>
<th>White Male</th>
<th>White Female</th>
<th>Black Male</th>
<th>Black Female</th>
<th>Hispanic Male</th>
<th>Hispanic Female</th>
<th>Asian Male</th>
<th>Asian Female</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$715</td>
<td>$567</td>
<td>$555</td>
<td>$491</td>
<td>$464</td>
<td>$440</td>
<td>$777</td>
<td>$558</td>
</tr>
<tr>
<td>(100%)</td>
<td>(79.3%)</td>
<td>(77.8%)</td>
<td>(64.7%)</td>
<td>(64.9%)</td>
<td>(57.3%)</td>
<td>(57.3%)</td>
<td>(107.9%)</td>
<td>(83.6%)</td>
</tr>
</tbody>
</table>

HOLDING PRODUCTIVITY CONSTANT

- Need to ask what earnings differential would be holding productivity constant
- Technique:
  - $\ln Y = \alpha + \beta \times (\text{pre-market factors}) + \gamma \times (\text{productivity characteristics}) + \delta \times (\text{discrimination})$

MEASUREMENT OF VARIABLES THAT EXPLAIN EARNINGS

- Measures
  - Productivity
    - Yrs. Experience
    - Region
    - Occupation
    - Industry
    - Pre-Market
    - Education
    - # children
    - Marital Status
    - Other factors
- Measurement issues
  - Quality of education
  - Occ. segregation
  - CWD to avoid OT for family needs
  - Quality of exp.
  - Ability
  - Language

THEORY 1: TASTE FOR DISCRIMINATION (Pure Discrimination)

- Basis for discrimination: Personal Prejudice
- Discrimination coefficient: Measure of willingness to pay (a discrimination premium)
- Assume $\text{MP}_f = \text{MP}_m = \text{MP}$
- Discriminating employer sees female productivity as lower and pays less:
  - $W_m = \text{MP} = W_f$
  - but discriminating employer believes $W_f = \text{MP} - d$
  - So $W_f = W_m - d$
PUZZLE: WHY DOESN'T THE MKT. DRIVE DISCRIMINATORY PRODUCERS OUT OF BUSINESS?

Discriminating ER hires $E_d$ EEs at $W_i$ while profit-max ER hires $E_f$ EEs at $W_f$. Since ER revenues = area under curve, see discriminating ER is giving up profits to discriminate.

CUSTOMER DISCRIMINATION

- Customers/clients may not want to be served by W&Ms
  - W&Ms therefore lower value to firm if affect customer preference
- Empirical expectation: Lower wages for W&Ms in jobs that are more visible
  - Some support for females, but almost no support for minority males.

CO-WORKER DISCRIMINATION

- Co-worker may need to be paid premium to work with W&Ms
  - Equally productive Ws thus paid differentially due to work with W&Ms
- Basis for Occupational segregation (next theory):
  - Rather than pay premium, crowd W&Ms into different occupation
- PUZZLE: Since all WMs do not discriminate, why does occ. seg. continue?
Theory 2: Occupational Segregation

→ Definition:
→ Different distributions of men and women or different racial or ethnic groups across occupation, jobs, and places of work (Padavic and Reskin, 2002).

Job/Establishment Level

→ Concentration by gender, race of ethnicity at establishment level or narrow job type
→ Somewhat difficult to measure
→ Example of job-level: Female investment bankers assigned to non-profit sector & Male to M&A
→ Example of establishment: Male vs. female wait staff

3 Models of Occupational Segregation

1) Crowding Model
2) Queuing Theory
3) Ideology of Separate Spheres/Pollution Theory
**Crowding Model: Increases Male Wage**

- Pre-Segregation
- Wages - Plumbers
- W - No segregation
- D_L

**Queuing Theory**

- Dual Queues:
  - Labor
  - Job queues

- Match:
  - Employers hire from top of labor queue;
  - Workers choose from top of job queue
  - Best jobs to preferred workers

**Basis for Queue Preferences**

- Employer rankings
  - Factors:
    - Productivity
    - Stability
    - Taste
    - Stereotypes

- Worker rankings
  - Maximize:
    - income, social standing,
    - autonomy, job security, working conditions,
    - interesting work, advancement.
<table>
<thead>
<tr>
<th>Structural Properties of Queues</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) Ordering of their elements (how jobs, groups of workers)</td>
</tr>
<tr>
<td>2) Shape (relative sizes of various elements)</td>
</tr>
<tr>
<td>Number of prospective workers in each subgroup sets shape of the labor queue.</td>
</tr>
<tr>
<td>3) Intensity of rankers' preferences</td>
</tr>
<tr>
<td>Can see differing preference intensities leading to unexpected location of high/low queue workers in low/high jobs, e.g., practicing medicine in rural areas.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Any of these can change:</th>
</tr>
</thead>
<tbody>
<tr>
<td>→ How workers or employers rank jobs/employees</td>
</tr>
<tr>
<td>→ New information about true worker productivity</td>
</tr>
<tr>
<td>→ Job content may change</td>
</tr>
<tr>
<td>→ Intensity of preferences</td>
</tr>
<tr>
<td>→ EEO: Change in Male Aversion; Cohort</td>
</tr>
<tr>
<td>→ Composition of queues</td>
</tr>
<tr>
<td>→ Differing labor supply, Different jobs in economy</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Ideology of Separate Spheres/Pollution</th>
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<tbody>
<tr>
<td>→ Ideology of Separate Spheres</td>
</tr>
<tr>
<td>→ Separated men's work from women's work</td>
</tr>
<tr>
<td>→ Distinction resting eventually on paid versus non-paid</td>
</tr>
<tr>
<td>→ Reinforced by Images about responsibility to support family vs. responsibility to raise family</td>
</tr>
</tbody>
</table>
Ideology of Separate Spheres/Pollution (2)

→ Pollution
  → Prestige of occupation is polluted if individuals who belong to a group with lower average productivity enters the occupation.
  → Even if the new entrant is qualified, she may be seen as qualified outside of the occupation and thus lower its prestige, i.e., polluting it.

Changes in Job Characteristics affecting Occupational Prestige

→ Decreases in share of full-time, year round jobs.
→ De-skilling
→ Some subjected to new regulations that eroded earnings
→ Some changes with rise of ownership patterns

Mechanisms for sorting

→ Social expectations: vicious circle
→ Employer decisions
  → Stereotyping
  → HR practices
→ Self-sorting
  → Socialization
  → Human capital investment decisions
Trends:
Index of Segregation

→ Tells us what percent of women or men would have to change occupations for distribution to be equal.
→ \( I = 0.5 \sum |m_t - f_t| \)
→ 0 = complete integration; 100 = complete segregation
→ \( I_{2000} = 52.9 \)
→ \( I_{1980} = 59.2 \)
→ \( I_{1970} = 67.9 \)

Patterns in decline of Index

→ Women moving into Male-dominated Occupations
→ Potential for re-segregation
→ Males moving into Female-dominated
→ Little of this sort of movement
→ Change in job structure
→ Fewer male-dominated or female dominated jobs in economy

WHY EARNINGS CHANGED

→ Some deskillling
→ Changes in Fair Labor Standards
→ Change in ownership patterns
→ Change in job security, occupational prestige, & mobility opportunities
WHERE ARE WE NOW?

- 3 Possible forms of occupational desegregation
  - Genuine Integration
  - Ghettoization
  - Resegregation
- Difficult to know – see wage gap increasing with age, but can not yet separate cohort effect from discrimination

THEORY 3: STATISTICAL DISCRIMINATION

- Discrimination as solving an information problem
  - ERs not risk seekers
  - ERs have to guess re: potential productivity of job applicants
  - ERs hire using information thought to be correlated with productivity

STATISTICAL DISCRIMINATION, CONT.

- Conditions when stat. disc. arises:
  - If group data has relationship to productive capacity, on average
  - No differences on average in compensation between groups who are on average equally productive
- Problems with statistical disc.
  - Tests don't equally predict all groups
  - On average correlations ne individual
Income Distribution

INCOME DISTRIBUTION SINCE 1970
Top number: Mean Household Income (in 2003 dollars);
Bottom number: total share of national income

<table>
<thead>
<tr>
<th>YEAR</th>
<th>LOWEST 20%</th>
<th>MIDDLE 20%</th>
<th>HIGHEST 20%</th>
<th>TOP 5%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1970</td>
<td>$3224</td>
<td>$13,443</td>
<td>$88,056</td>
<td>$106,897</td>
</tr>
<tr>
<td>1975</td>
<td>$9143</td>
<td>$37,000</td>
<td>$108,890</td>
<td>$112,415</td>
</tr>
<tr>
<td>1980</td>
<td>$4979</td>
<td>$37,028</td>
<td>$102,737</td>
<td>$146,808</td>
</tr>
<tr>
<td>1985</td>
<td>$4692</td>
<td>$88,357</td>
<td>$101,887</td>
<td>$191,957</td>
</tr>
<tr>
<td>1990</td>
<td>$3033</td>
<td>$41,944</td>
<td>$100,550</td>
<td>$205,375</td>
</tr>
<tr>
<td>1995</td>
<td>$37,354</td>
<td>$40,586</td>
<td>$121,754</td>
<td>$212,242</td>
</tr>
<tr>
<td>2000</td>
<td>$13,900</td>
<td>$46,315</td>
<td>$116,907</td>
<td>$249,268</td>
</tr>
<tr>
<td>2003</td>
<td>$10,550</td>
<td>$42,568</td>
<td>$147,272</td>
<td>$252,239</td>
</tr>
</tbody>
</table>

Components of Income Differences

- Earnings
- Labor force participation
- Unemployment history
- Earnings rate
- Transfer payments
- Non-cash programs (insurances)
- Unearned income
- Other assets

Household net worth by race, 1995

Common measures of Income/Earnings Distribution

- Dispersion of Earnings
  - Variance
  - Coefficient of Variation (less sensitive to change in unit size)
- Comparison of top and bottom percentiles: Ratio of incomes (best used to compare over time)
- Lorenz Curve
- Gini Coefficient

Dispersion as Measure of Income Distribution
Lorenz Curve & Gini Coefficient

- Lorenz curve:
  - Plots percentage of population against percentage of income held
  - If income distribution perfectly equal, Lorenz curve would be diagonal line bisecting two axes
- Gini coefficient: Area between Lorenz curve and diagonal line
  - If income distribution perfectly equal, Gini coefficient = 0

Changes in income distribution: Income distribution becoming less equal

- Recent history:
  - Fairly stable income distribution in 1970s, but rapid increase in income inequality during 1980s and 1990s.
  - Smaller share to both the bottom and middle of income distribution

<table>
<thead>
<tr>
<th>TABLE 1</th>
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<tbody>
<tr>
<td>Growth of household income inequality using various income definitions and inequality measures, 1979-00</td>
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<tbody>
<tr>
<td>Gini coefficient</td>
<td>0.403</td>
<td>0.402</td>
<td>0.399</td>
<td>0.000</td>
<td>0.000</td>
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<tr>
<td>Pre-tax market income</td>
<td>0.409</td>
<td>0.405</td>
<td>0.404</td>
<td>0.000</td>
<td>0.000</td>
</tr>
<tr>
<td>After-tax market income</td>
<td>0.390</td>
<td>0.389</td>
<td>0.388</td>
<td>0.000</td>
<td>0.000</td>
</tr>
<tr>
<td>Comprehensive income</td>
<td>0.393</td>
<td>0.392</td>
<td>0.391</td>
<td>0.000</td>
<td>0.000</td>
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Family income data:

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<td>0.392</td>
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Top percentile:

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<td>0.391</td>
<td>0.000</td>
<td>0.000</td>
</tr>
</tbody>
</table>

Source: A subset of various sources.
Figure 3: The top percentile income share in the United States, 1913-2000

Source: Authors' computations based on income tax returns, table A1, col. P99-100.

Figure 2: Civil Coefficient for Earnings of Men and Women, Full-Time, Year-Round Workers, 1967-1998

Figure 21: The Top 0.1% Income Share in France, the United States and the United Kingdom

**Income Distribution by Type of Household**

**Reasons for changes in earnings distribution**

- Changing occupational distribution:
  - Increasingly bimodal (fewer mid-range jobs)
- Changing returns to human capital
  - Increasing returns to higher ed.
  - Increasing difference in returns to experience between workers with college degree vs. high school graduates

**Reasons for Inequality, cont.**

- No evidence for a labor supply explanation (i.e., lots of low earning new entrants to workforce)
- No strong evidence for either a union or minimum wage explanation (?)
- Possible demand explanation
  - Changes in industry mix: decline in high pay/semi-skilled jobs
  - Large increase in managerial & professional jobs
  - Increase in complementarity between labor & capital - growth in information technology