Topics in Economics of Discrimination: Outline II

I. Household production theory
1. Theory
   a. Isoquants: combinations of time and market goods that yield the same level of utility
      - Diminishing marginal productivity implies convex shape
      - Flatter implies easier substitution of goods for time
      - Slope = -(MP_r/MP_G)
   b. Budget constraint
      - Time budget
        - Fixed time
        - Flexible time
      - Wage
      - Nonlabor income
      - Slope = - real wage = -W
   c. Optimum
      - W = (MP_r/MP_G)
   d. Normal inputs: as output rises, use more of input
   e. Response to change in nonlabor income: pure income effect
   f. Response to change in real wage: Income and substitution effects
      - Wage increase implies
        - Income effect toward home time and market goods
        - Substitution effect toward goods, away from home time
   g. Wage effects
      - For men, income and substitution effects are of roughly equal size
      - For women, substitution effect dominates

2. Applications
   a. Impact of rising wages when initially out of labor force
   b. Impact of rising wages on food production
   c. Impact of improved home technology
   d. Children
      - Impact of child labor income on adult time allocation
      - Impact of public schooling
   e. Fertility: The quantity-quality model
      - Rising women’s wages and family size
   f. Leisure demand: Aguiar and Hurst
      - Rising leisure demand, especially for the least educated
      - Relationship to changes in average wages by education level
   g. Birth control pill
      - Impact of better fertility control on time allocation
      - Baily: impact of earlier versus later liberalization of birth control laws by state

II. Theories of Discrimination
1. Becker taste theories of discrimination
   a. Employer discrimination
      - Employers maximize utility.
      - Workers are perfect substitutes.
Employers may prefer group W over group N.

Discrimination coefficient $d_i$.

Employer equates $W_N (1 + d_i) = W_W$.

Market discrimination coefficient $d$.

- $d_i > d$ implies hire W at $W_W$.
- $d_i < d$ implies hire N at $W_N$.

Firms pay for discrimination by accepting lower profits.

Importance of the distribution of discriminatory tastes.

Importance of the size of the discriminated group.

Role of product competition.

Discrimination in the short- and long-run.

Equal Pay Act.

Evidence

- Competition for labor in baseball.
- Minority hiring in monopoly vs. competitive markets.
- Women in deregulated financial institutions.
- Black and Brainerd: Globalization.
- Bertrand and Mullainathan on Emily and Lakisha.

b. Employee discrimination

Employers maximize profits.

Employees maximize utility.

- W workers prefer working with W over N.
- W workers paid $W_W$ in segregated markets, $W_W(1+d_i)$ in integrated markets.

Implication: segregated firms have higher profit.

Physical distance versus social distance.

Subordinate preferences and probability of promotion.

Evidence

- Gallup polls on supervisor preferences.
- Levitt on Weakest Link.
- Segregation in the government: the U.S. military before and after the Korean War.

c. Customer discrimination

Employers maximize profits.

Customers maximize utility.

- W customers prefer product/service produced by W.
- Customers equate $P_N (1 + d_i) = P_W$.

If $W = MRP$, $P_N < P_W$ implies $MRP_N < MRP_W$ which implies $W_N < W_W$.

Importance in sales and service versus manufacturing jobs.

Implications for segregated workplace, occupations.

Evidence

- Protected Class employment by government agency (HUD vs. USDA).
- Nardinelli and Simon on baseball cards.
- Holzer and Ihlanfeldt on composition of customers and last hired.

d. Discrimination against customers

Firms maximize utility.

- W firms prefer to provide service to W customers.
Charge $P_W$ to $W$ customers and $P_W(1+d_i)$ to $N$ customers.

Evidence

- 1968 Fair Housing Act studies (summarized in Yinger).
- Car Sales (summarized in Yinger).
- Equal Credit Opportunity Act studies (Ladd).

2. Audit studies
   a. Methodology
      Simulated market transaction using audit pairs.
      Equal observable attributes except protected class status.
      Randomized firm and order of visit.
      Strengths and weaknesses versus analyzing market transactions.
      Individual versus market discrimination coefficient.
      Training bias: auditors may skew outcomes.
      Randomization bias: customers do not randomize firms.
      Gross versus net discrimination.
      Equal treatment versus unequal treatment.
      Differences between audit versus transaction (regression) studies.
      Disparate impact versus disparate treatment.

3. Segregation
   Schelling simulation of housing segregation.
   Evidence of school segregation
   Within school district
   Within metro area across school districts
   Across metro areas and states
   Across time

4. Crowding
   a. Segregation index
      Method
      Interpretation
      Evidence
   b. Predominantly Female Jobs and Wages
   c. Assumptions
      Women are excluded from prestige sectors.
      Men can enter all sectors.
      Firms maximize profits, so $W = MRP$ in all sectors.
   d. Results
      $W_F < W_M$ due to crowding in female jobs.
      Men have no incentive to enter female jobs, so occupational segregation results.
      Wage differences increase as number of $F$ increase.
      Men have incentive to collude to restrict entry of women.

5. Statistical discrimination
   a. Assumptions
      Firms maximize profit.
      Firms use noisy signals to make hiring, compensation and job allocation decisions.
      Signals are noisier for group $N$ than group $W$. 
b. Results
   Given a noisy signal, say a test score, Firms will
   Project higher than average productivity for N at low levels of the test.
   Project lower than average productivity for N at high levels of the test.
   Reward W at a higher rate as the test score rises.
   If firm risk averse, N will be downgraded more for the higher variance of signal.
   If signals improve over time, N may have higher pay increases as firm gains
   information on skill.

   c. Type 1 versus type 2 error in hiring
   d. What if firms subjectively presume lower mean skill for N versus W?
   e. Does statistical discrimination persist over time in competitive markets?
   g. Evidence: Pinkston

6. Internal Labor Markets
   a. Definition: The job allocation, compensation and promotion decisions made within a
      firm that are insulated from the external labor market
   b. Entry Ports and Job Ladders
   c. Factors that Lead to Internal Labor Markets
   d. Examples
      Chemical Plant , Doeringer and Piore
      Electric equipment plant, Kelly
   e. How can internal labor markets lead to discrimination?
   f. How can internal labor markets lead to persistent discrimination?
   g. Evidence
      Historical: Goldin
      Ames Fire Department Admission Test
      California Merit System
      Firm size and gender segregation (Bielby and Baron)
      Finnish metalworking plants: Pekkarinen and Vartiainen
      Race of the Hiring Agent: Stoll et al
      Can the firm profit from accommodating families: Arthur and Cook.

7. Government Policies
   Equal Pay Act
   Title VII of the Civil Rights Act
   Affirmative Action.
   How well do these laws perform under the different models?
   Disparate impact versus disparate treatment

III. Human Capital
1. Definition
   a. The Stock of marketable skills embodied in a worker that can be rented on the labor market
   b. Human vs Physical Capital
   c. Forms of Human Capital Investment
      General Training: Education, Work Experience
      Firm-Specific Training: on-the-job training, job tenure
2. The Human Capital Investment Model
   b. Explaining Age-Earnings profiles using the human capital investment model
c. Job rationing due to the business cycle.
d. The college-wage premium over time
e. Present and Future Value Review
f. Returns to schooling

3. Patterns of schooling
   a. Men and Women
      Historical patterns: finishing high school and finishing college
      Recent history: advantage for women
      Explanations for the past gaps between men and women
      Explanations for the recent gains for women
      Response to returns
      Higher family incomes
      Rising labor force attachment
      Investments in science, math, and cognitive gains
   b. Blacks and Hispanics
      Historical patterns: finishing high school and finishing college
      Explanations for the past gaps
   c. Age-earnings profiles by schooling level
      Men and Women
      Patterns:
      Concave in age
      Flatter for less educated
      Flatter for women
      Level rises with education