

## Topic 4 - Discrimination

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Economics 471

### Discrimination

What is labour market discrimination?

- ◆ Occurs when participants in the marketplace take into account such factors as race and sex when making economic exchanges
- ◆ Even after accounting for the skills of workers and job characteristics race or sex influences decisions
- ◆ When thinking about wages could be discrimination in setting wages or in providing access to human capital or labour markets

What leads to discrimination in the labour market?

#### 1. Preferences

- ◆ One group of individuals may prefer not to work with or buy from another group of individuals

## Discrimination

### 2. Erroneous information on labour market worth

- ◆ Could come from employee who underestimates his/her labour market capacity
- ◆ Could come from employer who consistently underestimates value of group of workers

### 3. Statistical Judgement

- ◆ Occurs when all individuals in a group are judged based on the average performance of the group
- ◆ More likely to occur when information on individual workers is costly
  - e.g. employers judge pay decisions of a woman based on the turnover rate of all women
  - Difficult to signal your true "type"

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## Discrimination

### 4. Job Security Concerns

- ◆ One group of individuals may try to protect their high-wage jobs from low-wage competition
  - Could use government, unions etc. to maintain wages

Who discriminates?

#### **Employers:**

- ◆ Through wage, hiring and promotion policies

#### **Employees:**

- ◆ Through unions, apprenticeship systems etc.

#### **Customers:**

- ◆ Simply do not purchase goods from establishments that employ certain groups

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## Labour Market Discrimination Theories

- ◆ We can classify theories of discrimination based upon whether the focus is on demand, supply or noncompetitive aspects of the labour market

### **Demand Theories:**

- ◆ The demand for labour of a group being discriminated against is reduced relative to other workers

### Outcome Without Discrimination:

- ◆ Workers with different racial background or gender and similar skills are perfect substitutes
- ◆  $q = f(N_A, N_B)$
- ◆ Total output of the firm depends only on the total number of workers hired, regardless of race or gender

## Demand Theories of Discrimination

- ◆ Thus, the marginal product of workers is the same as well
- ◆ The firm's hiring decision is simple:
- ◆ Hire workers up to the point where  $MRP_N$  equals the wage
- ◆ If the wages of group A are less than group B hire only worker from group A

### With Discrimination (against group A):

- ◆ The employer acts as if group A's wage is not  $W_A$  but  $W_A(1+d_A)$ ;  $d_A$  is the "discrimination coefficient"

Employee discrimination:  $W_B(1-d_B)$  - working with A

Consumer discrimination:  $P_C(1+d_C)$  - when paid to A

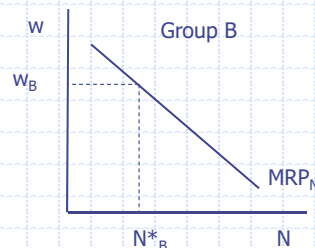
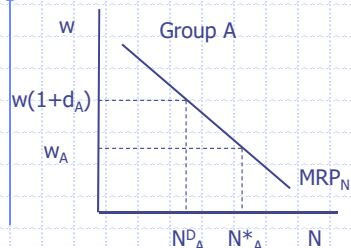
## Demand Theories of Discrimination

- ◆ The employer's hiring decision is not based on a comparison of wages  $W_A$  to  $W_B$
- ◆ Instead, the employer compares the utility adjusted price  $W_A(1+d_A)$  to  $W_B$
- ◆ The decision rule is:
- ◆ Hire only group A workers if  $W_A(1+d_A) < W_B$
- ◆ Hire only group B workers if  $W_A(1+d_A) > W_B$
- ◆ Clearly, this will lower demand for those workers who are discriminated against and lead to segregation in the labour market

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## Demand Discrimination Illustrated



- ◆  $d_A$  is small enough that the firm still hires "A" workers
- ◆ Firms that hire "A" workers hire too few workers to be efficient ( $N^D_A$  v.s.  $N*_A$ )
- ◆ Assume that group B's wage is higher than A's
- ◆ Firm's that hire group B workers pays too high a wage and hires too few workers
- ◆ Clearly, for both types of firms discrimination will not be profitable

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## Supply Theories of Discrimination

### 1. Crowding Hypothesis

- ◆ Discrimination takes the form of workers being segregated into certain jobs
  - e.g. women into “pink-collar” jobs
- ◆ The relatively high supply in these sectors leads to low wages even though workers are paid their marginal product

### 2. Dual Labour Market

- ◆ Suggests there are two distinct labour markets
  - Core labour market: secure employment at high wages
  - Secondary market: unstable employment at low wages
- ◆ Discrimination forces workers into the secondary market through the use of unions, barriers to education and training etc.

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## Noncompetitive Theories of Discrimination

- ◆ The predictions of the perfectly competitive model we reviewed lead to segregation not wage differentials
- ◆ Competitive forces should lead to an equalization of wages yet we don't observe this for some groups
- 1. Arrow (1973) suggests equalization might occur in the long-run but the long-run is a very long time
  - ◆ If there are fixed costs associated with hiring lower wage workers who are discriminated against it may take time for wages to adjust
- 2. Queuing of workers, such as that caused by efficiency wages may allow firms to ration jobs on the basis of discrimination

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## Noncompetitive Theories of Discrimination

3. Discrimination may occur in noncompetitive sectors  
e.g. government which has no bottom line  
Government sector may discriminate in hiring practices  
or in the provision of education and training
4. Historically determined practices
  - ◆ The “old-boy system” may help to perpetuate discrimination

## Measuring Discrimination

- ◆ In measuring discrimination you want to record evidence of unequal pay or promotion that is net of productivity differences
- ◆ However, productivity is difficult to measure
- ◆ It is easy to identify discrimination in cases where two individuals are doing the same job but are paid differently
- ◆ There are likely relatively few cases like this and we rarely get this kind of data
- ◆ Thus, most studies look at differences among groups and try to control for productivity
- ◆ Any difference that can't be accounted for by productivity is attributed to discrimination

## Oaxaca Decomposition

◆ This procedure decomposes the overall difference in earnings between two groups into two parts

1. The part that is due to differences in productivity
2. The part left over or unexplained (discrimination)

◆ For example, suppose we wish to explain the earnings gap between men (M) and women (F)

Earnings gap =  $Y^M/Y^F$  or  $Y^F/Y^M$

◆ Using human capital models of earnings:

$$\ln Y^M = \beta_M \bullet X_M$$

$$\ln Y^F = \beta_F \bullet X_F$$

$X_F$  and  $X_M$  are productivity characteristics

$\beta_F$  and  $\beta_M$  are the rates of return to these characteristics

## Oaxaca Decomposition

◆ Taking logs we can rewrite the male-female wage ratio as:

$$\ln(Y^M/Y^F) = \ln Y^M - \ln Y^F = \beta_M \bullet X_M - \beta_F \bullet X_F$$

Adding and subtracting  $\beta_M \bullet X_F$  we get:

$$\ln Y^M - \ln Y^F = \beta_M \bullet X_M - \beta_M \bullet X_F - \beta_F \bullet X_F + \beta_M \bullet X_F$$

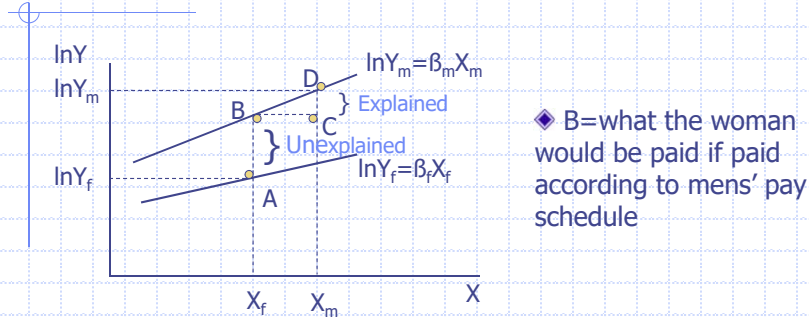
$$\ln Y^M - \ln Y^F = \beta_M \bullet (X_M - X_F) + (\beta_M - \beta_F) \bullet X_F$$

◆ The first part gives the predicted difference in earnings that arises due to differences in characteristics (Both men and women are paid at the men's rate  $\beta_M$ )

◆ The second part is due to differences in the returns to these characteristics

◆ This is usually labelled discrimination

## Graphical Illustration - Oaxaca



- ◆ Equations give the relationship between income and characteristics for men and women, separately
- ◆ Steeper male line suggests that men receive a higher return to productive skills
- ◆ Intercepts suggest men also receive a higher base pay

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## Problems?

- 1) What are the appropriate X variables?
  - i) Education and experience?
    - ◆ Predict productivity but may be "influenced" by discrimination themselves
  - ii) Industry and occupation?
    - ◆ Might be outcomes along with earnings and suffer from discrimination
  - iii) Demographic variables like marital status and number children?
    - ◆ What is the link to productivity?
- 2) What variables are missing?
  - ◆ The part we attribute to discrimination could all be unobserved productivity differences not discrimination

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## Empirical Results

- ◆ Despite some of its problems the Oaxaca decomposition has been used to examine a number of earnings differentials

### Male/Female Differentials:

- ◆ Lots of variation in the results; depending on approach and x-variables included

### Generally find:

1. Pure wage gap remains even after controlling for a number of wage-determining characteristics

Baker et al.

- Raw earnings gap = 0.402
- Unexplained = 0.374-0.338

Kidd and Shannon

- Raw wage gap = 0.295
- Unexplained = 0.22

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## Empirical Results

2. Potential discrimination outside the labour market is important

e.g. unequal division of labour with respect to childraising; affects hours worked, absenteeism, mobility, training, career interruption

Kidd and Shannon (1997)

- Use predicted labour force attachment to correct experience measures
- Find unexplained component is cut in half

Hersch and Stratton (1997)

- Find hours of household work has a negative effect on women's wages

3. The occupational segregation of women into lower paying jobs does not explain much of the earnings differential

- ◆ Perhaps too coarse to measure segregation into low-wage firms and industries

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## Empirical Results

4. The unexplained portion tends to be smaller in the union sector and in the public sector

### Ethnic/White Differentials:

- ◆ Confounded by the fact that many nonwhites in Canada are also immigrants
  - Need to separate the effects of immigrant status from ethnicity
- ◆ Some compare earnings of whites in Canada to various ethnic groups born in Canada
- ◆ The unexplained gap tends to vary by ethnic group
  - May suggest the gap reflects unobserved wage-determining characteristics (e.g. quality of schooling, credential recognition etc.)
- ◆ Unexplained gap is smaller in the US
- ◆ Rankings are also different

## Policies to Combat Discrimination

### 1. Conventional Equal Pay Legislation

- ◆ Deals with wage discrimination within the same job in the same establishment
- ◆ Requires equal pay for “equal work”
- ◆ Equal work is work that is substantially similar
- ◆ Only minor differences are allowed especially when offset by other tasks

Example: equal work even if males must do heavy lifting especially when women do other tasks

- ◆ All Provinces and Territories in Canada are covered

## Policies to Combat Discrimination

### 2. Pay Equity (Comparable Worth) Legislation:

- ◆ Recognizes that Conventional Equal Pay Legislation is limited in scope
- ◆ Requires equal pay for “equal value”
- ◆ Value is determined by a job evaluation scheme that is hopefully free of bias

Example: Male-Female Procedure

- ◆ Compare jobs that are predominantly male to those that are predominantly female (say 70% or more)
- ◆ Points are allocated to job attributes such as skill required, effort, responsibility and work conditions

## Pay Equity

- ◆ The points are summed for each job and “female” jobs are compared to “male” jobs
- ◆ Wages are then adjusted to reflect the “value” of the job done
- ◆ The equal value concept of value rejects the notion that value-in-exchange (market forces) should be the main determinant of pay
- ◆ It is felt that market forces reflect discrimination
- ◆ The equal value concept is determined by the notion of value-in-use
- ◆ Value is equal to the average value of inputs
- ◆ Rationalized on grounds of being able to deal with both wage discrimination and Occ. segregation

## Pay Equity

- ◆ Who is covered by Pay Equity?
- ◆ In Canada, all jurisdictions except Alberta and Saskatchewan
- ◆ In most jurisdictions coverage is restricted to the public sector
- ◆ Quebec and Ontario are the only two that require it to be applied to the private sector as well

## Policies to Combat Discrimination

### **3. Equal Opportunity Legislation:**

- ◆ Designed to prevent discrimination in recruiting, hiring, promotion and dismissal
- ◆ Part of the Provincial Human Rights Codes
- ◆ Complaints are initiated by the worker to the Human Rights Commission
- ◆ Hoped that this will increase demand for female employees and, in turn, increase wages
- ◆ Likely to benefit new recruits and those changing jobs more than incumbent females

## Policies to Combat Discrimination

### 4. Employment Equity (Affirmative Action)

- ◆ Focuses not on providing equal opportunities for work but on results or quotas
- ◆ The rationale is that equal opportunity is insufficient to compensate for a long history of discrimination
- ◆ Employment equity applies to four designated groups: women, visible minorities, disabled and aboriginal people (1984 Abella Commission)
- ◆ Essentially, goals are set so that the internal representation of workers match their representation in the relevant external market
- ◆ Employment equity covers only federal workers in Canada

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## Estimated Impacts of Policies

### Conventional Equal Pay

- ◆ Most studies find equal pay for equal work policies have very little effect on wages
  - Likely because of the limited scope of such legislation

### Pay Equity (Comparable Worth)

- ◆ A number of studies have examined the impact of comparable worth
- ◆ Typically examine its application in the public sector in Canada and the US
- e.g. Public Service Alliance of Canada PSAC alleged that female clerical workers were paid lower wages than the male dominated Program Admin. Group
- ◆ Ended in a 3.6 billion dollar settlement

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## Estimated Impacts of Pay Equity

- ◆ The female/male earnings ratio in the overall public sector before comparable worth adjustments was around 0.78
- ◆ After comparable worth adjustments about a third of the gap was closed – the ratio went to 0.84
- ◆ Note that these studies don't likely give a good indication of their likely impacts on the broader economy
  - Gap in public sector is just over half of that in the economy as a whole
- ◆ Impact is likely to be smaller because the gap reflects the segregation of women into low-wage firms and industries
  - Comparable worth doesn't compare across firms and industries

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## Estimated Impacts of Policies

- ◆ Evidence of the impact of comparable worth in the wider labour market confirms this
- ◆ e.g. Baker and Fortin (2000) examine the impact of Pay Equity in Ontario
- ◆ Find small wage effects
- ◆ Find small employment effects
- Affirmative Action:**
- ◆ Studied in the US by examining the impact of the US federal contract compliance of Executive Order 11246
- ◆ Minority groups targeted did benefit to a certain extent
- ◆ The effects were stronger during economic expansion than contraction in the overall economy

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