

Discrimination: First Lecture

LABOR ECONOMICS (ECON 385)

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Introduction

- Inefficient discrimination occurs when agents take into account such non-productive factors as race and sex when making economic decisions.
- Contrast this with the efficient variety of discrimination that involves choice based on productive considerations, e.g., preferring workers with skills that match the job better..

Types of discrimination

- Based on *preferences* (subject of this lecture). One or more of the following agents are prejudiced and prefer employees from one group over equally productive individuals another group:
 - Managers,
 - Co-workers, or
 - Customers.
- Based on *information* problems (subject of next lecture). Non-productive characteristics are correlated with productivity that an employer cannot directly observe. Groups communicate information and is a screening device: “statistical discrimination”.

Colorblind labor demand

- As a reference consider the employment decision for a “colorblind” firm.
 - It maximizes profits irrespective of the group from which it hires.
 - If both groups (say, white and black) have the same VMP_L , and the market-determined wage is lower for one group, a firm that does not discriminate will hire only from the group with lower wages.
 - It hires up to the point where the wage for the cheaper group equals the value of the marginal product of labor.



Labor demand for a prejudiced firm

- Firms that discriminate can be modeled as attempting to do two things at once: maximizing profits while also minimizing the employment of their non-favored group. They behave as if they are trying to maximize:

$$V = P * q(L_w + L_b) - w_w L_w - w_b L_b - d w_b L_b,$$

where w and L are wage and labor respectively, and the subscripts denote black and white labor.

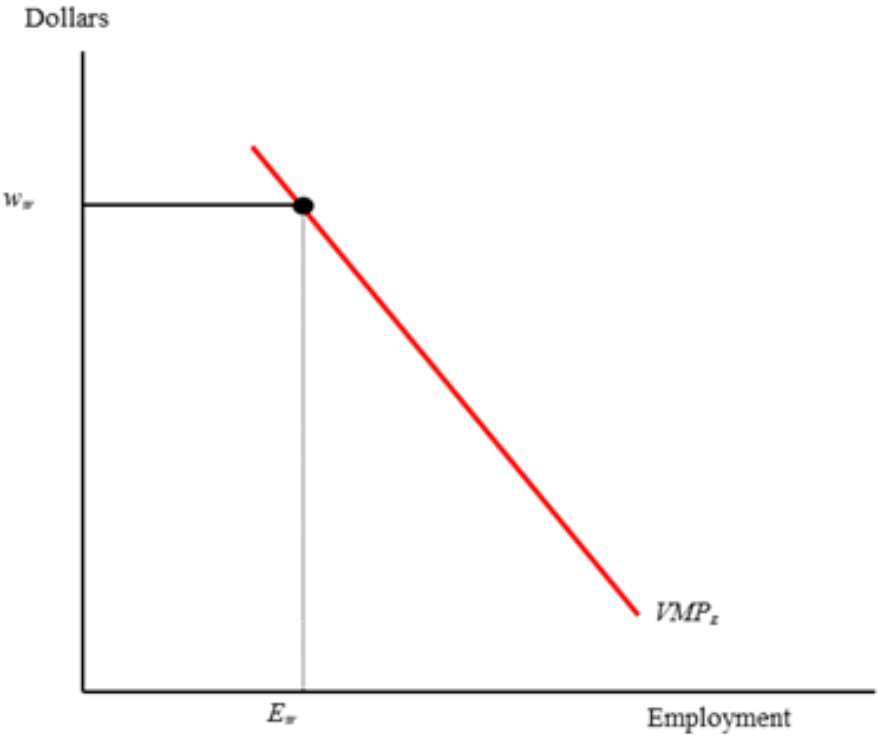
- The first three terms are the usual parts of the profit function, but the last term containing “ d ” represents the disutility the firm gets from hiring from the non-favored group.
 - Here we assume that the firm favors white workers. The strength of their preference is captured by the parameter d , which the textbook calls the discrimination coefficient.*

*This model originates with Gary Becker’s (1971) book, The Economics of Discrimination, 2nd ed. University of Chicago Press: Chicago.

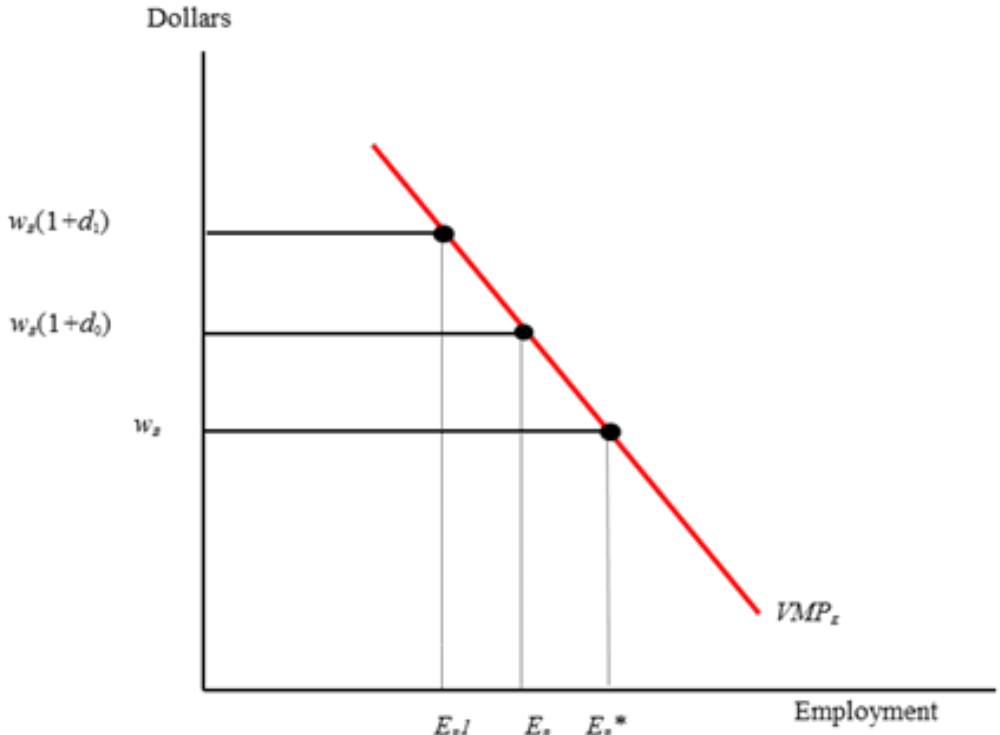
Hiring under discrimination

- Since the VMP is the same for both groups, the hiring decision will depend on the minimum of $\{w_w, w_b(1 + d)\}$.
- Depending on how large the wage differential is (assume $w_w > w_b$ for a non-trivial solution) and how strong the firm's prejudice is, a discriminating firm can hire either white or black employees.
- In either case, however, firms that discriminate hire fewer workers than firms that do not discriminate.

Discrimination coefficient



(a) White Firm



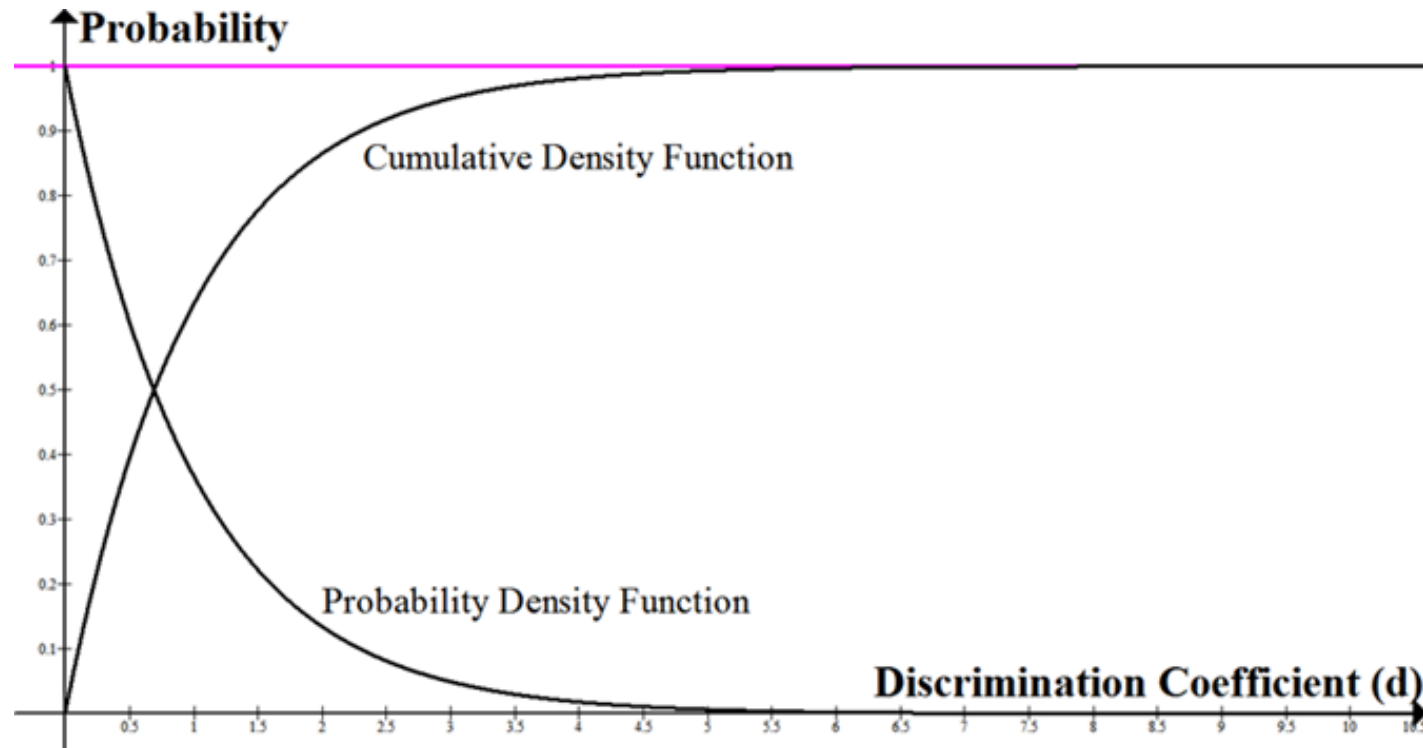
(b) Black Firm

Discrimination coefficient, continued

- Though the market wage for black workers is w_b , the employer acts as if it costs $w_b(1 + d)$ dollars to hire them.
- So they are less likely to hire the cheaper group at all, and even if they do hire them, they will hire fewer of them than is profit-maximizing.
- Note: the “colorblind” firm is included ($d = 0$) as a special case.

Firm heterogeneity

- Firms have different values of d . You can think of d as a continuous random variable with a distribution over the positive real numbers, for example, *exponential*:



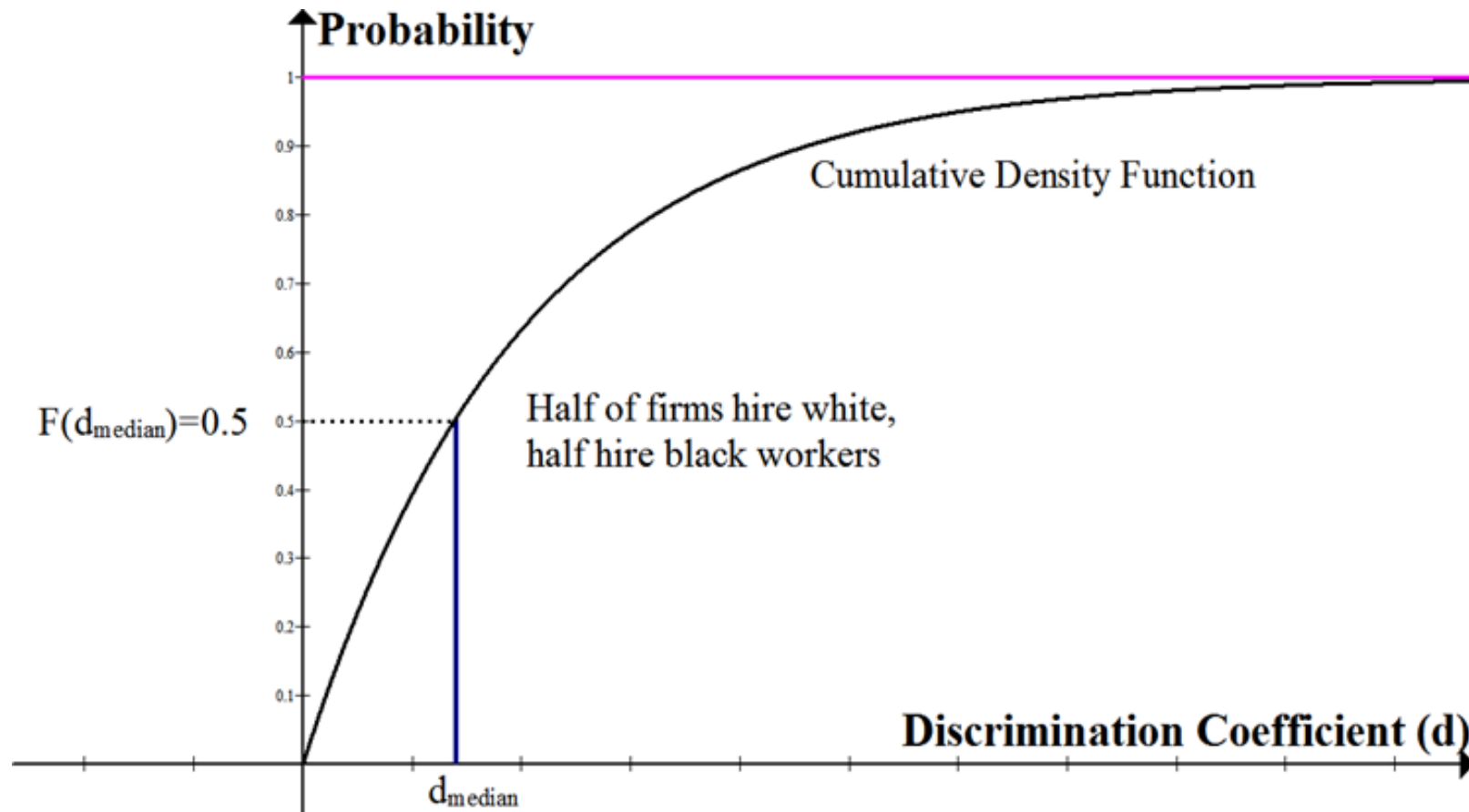
Distribution of discrimination preferences

- At any point on the cumulative density function (cdf), a value of d maps to the proportion of firms with a discrimination coefficient less than or equal to d .
- This reflects the proportion that would prefer to hire black workers when the white-black wage premium is,

$$\frac{w_w}{w_b} = 1 + d.$$

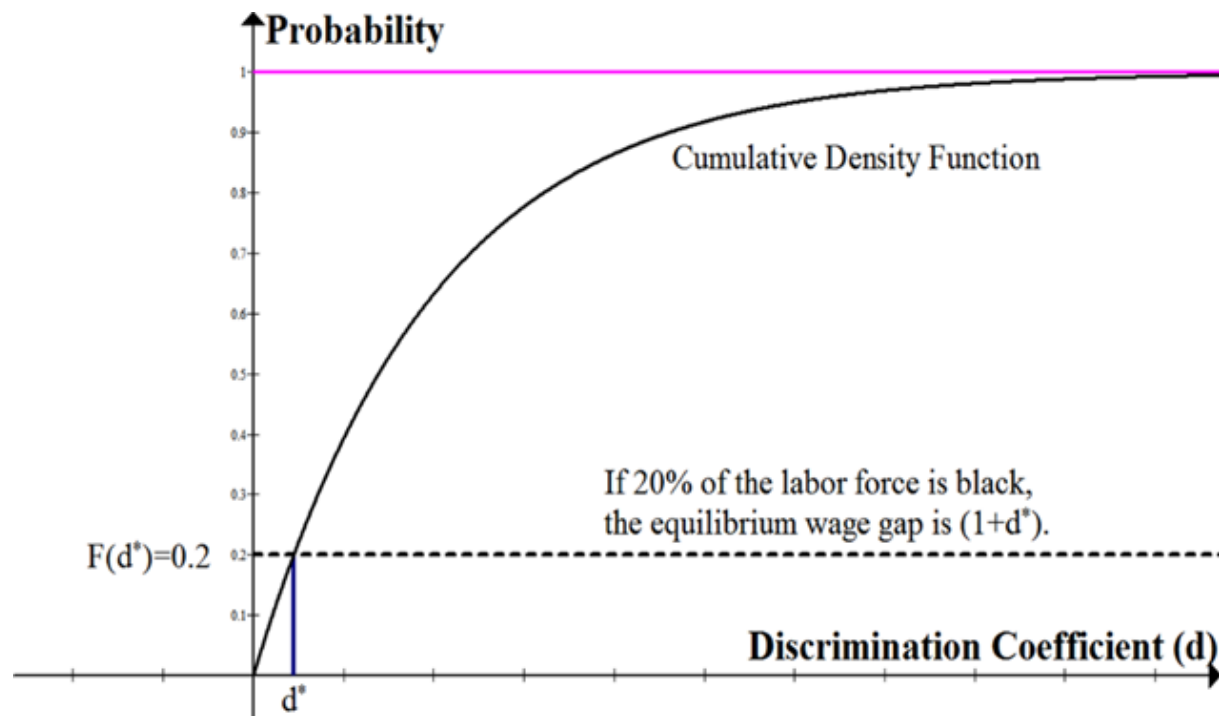
- As the hypothetical wage premium increases, a larger proportion of firms are willing to hire black workers. Even though they *prefer* white workers, they perceive it as too *costly* to indulge their preference.

Example: the median d



Equilibrium white-black wage gap with discrimination

- The equilibrium is determined by drawing a horizontal line on the graph, indicating the proportion of black workers in the labor force.
 - This line intersects the cdf above the equilibrium, d^* .



Equilibrium with discrimination

- The wage premium paid to white workers in equilibrium is:

$$\frac{w_w}{w_b} = 1 + d^*.$$

- At equilibrium, white workers are paid a wage equal to VMP and are sorted into the “most prejudiced” firms.
- Black workers are paid below VMP! Black workers are sorted into the “least prejudiced” firms.
- Profit is:

$$\Pi = p * q(L_w + L_b) - w_w L_w - \frac{w_w}{1 + d} * L_b.$$

- Since both types of workers have the same VMP, and the wage for black workers is lower, the profit-maximizing firm should hire all black workers!

Conclusion

- Discrimination is unprofitable!
- The least discriminatory firms out-compete more discriminating firms by producing at a lower cost.
- Only the “colorblind” firm that hires strictly according to VMP fully maximizes profit.
- Even somewhat discriminating firms sacrifice profit by hiring a sub-optimal number of workers.

