

## LABOR ECONOMICS (EE 471)

### ☺☺ Optional practice questions ☺☺

1. Feeling that local firms follow discriminatory hiring practices, a non-profit firm conducts the following experiment. It has 200 white individuals and 200 black individuals, all of whom are similar in age, experience, and education, apply for local retail jobs. Each individual applies to two jobs, one in a predominantly black part of town and one in a predominantly white part of town. Of the white applicants, 120 are offered jobs in the white part of town while only 80 are offered jobs in the black part of town. Meanwhile, 90 of the black applicants are offered jobs in the black part of town while only 50 are offered jobs in the white part of town. Using a difference-in-differences estimator, do you find evidence of discriminatory hiring practices? If there is discrimination, is it most likely employer-based, employee-based, customer-based, or statistical?

2. Suppose black and white workers are complements in that the marginal product of whites increases when more blacks are hired. Suppose also that white workers do not like working alongside black workers. Will discrimination by white employees lead to the firm choosing to completely segregate its work place? Does it create a wage differential between black and white workers?

3.

(a) Suppose a restaurant hires only women to wait on tables, and only men to cook the food and clean the dishes. Is this most likely to be indicative of employer, employee, consumer, or statistical discrimination?

(b) The dropout rate of minority and international students at U.S. colleges and universities is higher than it is for white American students. Is this pattern most likely indicative of employer (college administrations), employee (college faculty and staff), consumer (students), or statistical discrimination?

4. In 1960, the proportion of blacks in Southern states was higher than the proportion of blacks in Northern states. The black-white wage ratio in Southern states was also much lower than in Northern states. Does the difference in the relative black-white wage ratios across regions indicate that Southern employers discriminated more than Northern employers?

## Answers

**9-1. Feeling that local firms follow discriminatory hiring practices, a non-profit firm conducts the following experiment. It has 200 white individuals and 200 black individuals, all of whom are similar in age, experience, and education, apply for local retail jobs. Each individual applies to two jobs, one in a predominantly black part of town and one in a predominantly white part of town. Of the white applicants, 120 are offered jobs in the white part of town while only 80 are offered jobs in the black part of town. Meanwhile, 90 of the black applicants are offered jobs in the black part of town while only 50 are offered jobs in the white part of town. Using a difference-in-differences estimator, do you find evidence of discriminatory hiring practices? If there is discrimination, is it most likely employer-based, employee-based, customer-based, or statistical?**

The data can be used to create the following table.

Type of Worker	Chance of Receiving a Job Offer in the:		Difference	Diff-in-Diff
	Black part of town	White part of town		
Black	$90 \div 200 = 0.45$	$50 \div 200 = 0.25$	-0.20	
White	$80 \div 200 = 0.40$	$120 \div 200 = 0.60$	0.20	0.40

Thus, there does appear to be discrimination as whites are 40% more likely to be offered jobs in the white part of town after controlling for differences elsewhere. It is likely not statistical discrimination as the pattern of discrimination is defined by neighborhood boundaries. It is also likely not customer-based discrimination. If it were, then we would expect to see an overwhelming number of blacks being hired in the black neighborhood. It could be customer-based discrimination, however, if only white customers are discriminatory. The same goes for employer-based discrimination in that if this is the source of the discrimination then it arises from the owners of the firms in the white part of town (white owners?) and not from the owners in the black part of town (black owners?). Lastly, it is probably not employee-based discrimination as both types of workers were offered jobs in both locations.

**9-2. Suppose black and white workers are complements in that the marginal product of whites increases when more blacks are hired. Suppose also that white workers do not like working alongside black workers. Will discrimination by white employees lead to the firm choosing to completely segregate its work place? Does it create a wage differential between black and white workers?**

As blacks and whites are complements in the production process, there is an incentive for employers to employ blacks and whites together in the work place if the increase in productivity achieved by integrating the work force is higher than the extra wages employers must pay white workers to compensate them for working alongside blacks. Thus, as long as the differential needed to encourage white workers to work with black workers is not too large, there will be a wage differential and the workplace will not be completely segregated. If this is the case, the employer would like to compensate its workers so that there is a positive differential between white and black workers, though personnel policies, union contracts, or laws may prevent this, in which case the complementarity is going to have to be even larger for the employer to not choose to completely segregate its workforce.

**9-3**

**(a) Suppose a restaurant hires only women to wait on tables, and only men to cook the food and clean the dishes. Is this most likely to be indicative of employer, employee, consumer, or statistical discrimination?**

If this hiring pattern is due to discrimination at all, it is most likely due to customer discrimination. It is not employer discrimination as the employer is hiring both men and women. It is further unlikely to be statistical discrimination as an employer would likely be able to determine in a short time what would happen if women became chefs or men waited on tables. The hiring pattern could result from employee discrimination as well, but this seems unlikely as wait staff and chefs/dishwashers interact on the job.

**(b) The dropout rate of minority and international students at U.S. colleges and universities is higher than it is for white American students. Is this pattern most likely indicative of employer (college administrations), employee (college faculty and staff), consumer (students), or statistical discrimination?**

It is most likely statistical discrimination, or, in this case, even reverse discrimination. Colleges and universities actually compete very strongly for minority and international students in order to improve diversity on their campuses. Thus, it is possible that minority and international students are over-pursued, and once they find themselves in college, they discover that it was not a good decision for them.

One could also argue that this pattern does not reflect discrimination at all. Rather, as minority and international students are highly valued by colleges and universities, the high dropout rate may simply reflect a high transfer rate as these students change institutions in order to take advantage of better aid packages that are offered to them elsewhere.

**9-4. In 1960, the proportion of blacks in Southern states was higher than the proportion of blacks in Northern states. The black-white wage ratio in Southern states was also much lower than in Northern states. Does the difference in the relative black-white wage ratios across regions indicate that Southern employers discriminated more than Northern employers?**

Suppose employers in neither region discriminate, so that the equilibrium black-white wage differential in both regions is determined by the (relative) demand for and supply of black workers. If there are relatively many more black workers in the South than in the North, then the black-white wage ratio will be lower in the South than in the North, as the marginal black hired in the South is less valuable than the marginal black hired in the North. Thus, the fact that blacks earn relatively less in the South need not indicate that Southern employers discriminate more than Northern employers. Rather, the large differential may simply reflect the relatively large number of black workers in the South

The above analysis assumes that blacks and whites are not perfect substitutes. If they are, then the black-white wage ratio measures discrimination, in which case one would conclude that discrimination was greater in the South.