How Workplace Disparities May Arise: An Economic Outline

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Recent data from the [U.S. Equal Employment Opportunity Commission](#) show a dramatic increase in the number of workplace discrimination filings over the past two years, with Title VII claims and sex-based discrimination cases accounting for the largest share.[1]

2018 also saw the continuation of a number of high-profile employment discrimination class actions against major employers in a variety of industries including finance, law, technology and health care.[2] These recent trends, coupled with new state legislation to update equal pay laws,[3] suggest that workplace discrimination will continue to be an area of focus for enforcement activities and private litigation in the near future.

To comply with stronger pay equity laws and to hedge against the risk of litigation, employers must understand how systematic disparities in the workplace might arise. They must also recognize the potential for an appearance of discriminatory practices purely based on statistical outcomes even when no such discrimination occurred. The sources of these disparities are sometimes not salient. Recent cases show that ostensibly neutral policies or practices — such as considering salary histories in determining pay or introducing a test at the hiring stage — may lead to unintended differences in the terms and conditions of employment across employee groups.

In this article, we provide an introduction to how economists think about potential sources of discrimination and channels through which disparities in labor market outcomes can arise.[4] We start with an overview of principal economic models of discrimination, where discrimination is defined as differential treatment (whether intended or unintended) of otherwise identical individuals but for their group identity, such as sex or race. We then discuss the implications of these models for understanding employment discrimination claims.

Economic Theories of Labor Market Discrimination

Economists have proposed two broad approaches to modeling discrimination, distinguished by whether discrimination arises from prejudice — either explicit or implicit[5] — or employer responses to imperfect information.[6] Their applicability to a specific setting or situation should be evaluated on a case-by-case basis.

Below we focus our discussion on the potential for wage differentials, but some economic models may also generate predictions on other labor market outcomes, such as hiring and unemployment rates.

Prejudice-Based Discrimination Models

In models of prejudice-based discrimination that date back to Becker (1971),[7] some employers hold prejudice (or "dislike…that is neither based on reason nor actual experience"[8]) toward hiring members from a certain group (e.g., Group A). To offset their dislike, prejudiced employers are only willing to hire those workers at a lower wage than that offered to members of other groups (e.g., Group B) despite all workers being equally productive.

Under the assumption of a perfectly competitive labor market, however, Becker (1971) and Arrow (1972)[9] argue that this wage differential will be only short-lived. Unprejudiced (or weakly prejudiced) employers can attract all Group A workers by offering a wage that is higher than that offered by strongly prejudiced employers, yet still below Group B workers' equilibrium wage. As such, employers with less aversion to hiring members of Group A will be more profitable than employers who hold stronger prejudice. This profit opportunity will encourage less prejudiced employers to enter the market, and rising demand for Group A will place an upward pressure on their wage until the wage differential between the two worker groups is eliminated.

Becker's model shows that if there is a sufficient number of unprejudiced or weakly prejudiced employers, market forces should eliminate wage differentials in a perfectly competitive labor market. However, subsequent economic models show that relaxing the assumption of perfect competition allows wage differentials to persist. In particular, models incorporating search frictions — or factors that prevent instantaneous and costless matching of employers and workers — into the prejudice-based discrimination framework show that the presence of prejudiced employers can lead to long-run differences in wages and employment.[10]

The basic intuition for the result from search models is the following. Suppose, as in Becker's model, (1) some employers are prejudiced against workers in Group A and are only willing to hire them at a lower wage, and (2) all workers are equally productive. In a setting where workers search for jobs and firms search for employees, workers will accept a job or a wage offer only if the expected value of that offer is greater than (or equal to) what the worker can expect to receive by declining the offer and continuing to search.

Because some employers may be reluctant to hire Group A workers (or will only do so at a reduced wage), these workers will face lower probabilities of finding a job that will dominate their current offer. This reduces the value of additional search, which is costly and time-consuming, and hence, Group A workers will accept a job with a lower wage. This willingness may provide all profit-maximizing employers (not just the prejudiced ones) with the incentive to offer lower wages to members of Group A. Whether they do or not is an empirical question that Becker does not discuss.

More recent models of job search consider workers who decide where to apply in response to wages that are posted by the firms. In these "directed search" models, prejudiced firms do not use any discriminatory wage offer strategy: they post job openings with a single wage offer and hire applicants with the highest productivity.[11]

If some firms hold prejudice against Group A workers, prejudiced employers will always hire Group B applicants over Group A applicants whenever applicants from both groups apply for the same position. Group A workers, in an effort to avoid the wasted cost of applying to firms where they will not be hired, are more likely to apply to jobs with low-wage postings, whereas Group B workers are less likely to apply to such jobs. Consequently, the model predicts occupational segregation and lower average wages for Group A than Group B.

One key limitation of these models is that the resulting differences in labor market outcomes are premised on the assumption of employer prejudice and discriminatory behavior. Moreover, these models also make various simplifying assumption about the nature of job search and labor markets, ignoring factors such as repeated interactions, regulatory constraints, informal networks, and other elements that may invalidate the expected theoretical results. Thus, while these models may suggest that discrimination outcomes can occur, determining whether or not discrimination did occur in any given setting requires empirical analysis.

Statistical Discrimination Models

The second class of models focuses not on employer prejudice, but on employers' responses to imperfect information about job applicants' training or productivity. In these models of "statistical discrimination," employers seek to hire the best applicant for the position regardless of group membership, but cannot observe the applicant's productivity perfectly. Thus, employers rely on observable characteristics, including group membership such as race, sex or age, to draw inferences about the applicants that may be correct, on average, but may not be true for an individual applicant.

The basic statistical discrimination model assumes that employers have a greater difficulty evaluating the individual productivity of Group A workers relative to Group B workers based on observable characteristics such as education and experience.[12] The less informative the observable individual characteristics are, the more weight the employer may place on the average productivity of the applicant's group membership when assessing the applicant's expected productivity and/or determining the position or assignment to which the applicant is best matched.

Statistical discrimination models imply that employers' greater reliance on the average group productivity for Group A relative to Group B can lead to (1) lower wages for Group A workers whose individual productivity is higher than the group's average, and/or (2) mismatches in job assignments that can reduce Group A workers' productivity on the job, and in turn, their wages.[13]

One criticism of these basic models of statistical discrimination is that unprejudiced, profit-maximizing employers would likely learn about the true productivity or skill set of their workers over time.[14] Thus, such learning can be expected to eliminate or reduce the wage differentials that may exist at hiring or early in individuals' careers.

More recent models of statistical discrimination explore the implications of employers' decisions on the investment decisions that different groups make to increase their productivity. One model shows that if employers have greater difficulty assessing the productivity of applicants from Group A relative to applicants from Group B, Group A applicants will have less incentive to make investments that increase their productivity.[15] Another model relies not on the differential observability of applicants' productivity, but on the negative stereotypes that employers might hold about the productivity of certain groups, which can be self-enforcing.[16]

For example, if employers believe that members of Group A have worse analytical skills, employers who value such skills may impose a higher standard (e.g., better grades or test scores) for hiring them relative to the standard set for members of Group B. Facing a lower expected return for their investment in analytical skills, members of Group A will be less likely to make such investments, confirming the negative stereotype that employers hold. The implications of these modified statistical discrimination models remain theoretical concepts that require empirical testing.

Implications for Employment Discrimination Claims

Although these theoretical models make a number of simplifying assumptions that may or may not be true in a given setting, they provide some insights about the sources and channels through which disparities in labor market outcomes can arise and be mitigated.

First, employer hiring or wage-setting decisions that are ostensibly neutral can lead to differential outcomes across worker groups if they are based on factors that may have been impacted by discriminatory behavior elsewhere.

Second, the identity of the individuals who are responsible for making hiring decisions may be important. One potential source of differential observability of productivity across worker groups may be related to cultural, personality or other differences that create informational barriers between the interviewer and the applicant.[17] Hiring strategies that are aimed at combating these informational barriers may mitigate some of the adverse effects posited by statistical discrimination models.

Third, continued evaluation of performance and learning about the quality of the match between the worker and his/her assignment and position can mitigate potential differences in the terms of employment at the initial hiring stage.

Finally, we note that theoretical modeling of potential disparities between groups is different from empirically identifying and measuring discrimination in the real world. Economists rely on various statistical tools to attempt to draw causal inferences about discriminatory behavior or processes from observed differences in labor market outcomes. Empirically identifying and measuring discrimination requires isolating the effect of the discriminatory behavior or processes from the effect of other factors that may cause differences in the outcome of interest. This can be a difficult task, however, due to the nonrandom assignment of group identity: an individual's group may be correlated with many factors and decisions — unrelated to any discriminatory behavior or processes — that also affect labor market outcomes.

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Endnotes

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4   This article provides a summary of models of discrimination proposed by economists. We do not offer an opinion on what factor(s) should or should not be considered a "valid factor" in explaining differences in pay or other terms and conditions of employment from a legal perspective.

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