Introduction

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Although discrimination is not as prevalent and widespread today as it was in the past, there is general consensus on its continued existence. However, no consensus exists with regard to its magnitude, causes, consequences and remedies. Because of this lack of agreement, measuring discrimination, describing its causes and crafting efficient and equitable remedies remain active areas of debate among researchers, practitioners and policymakers.

Current debates will continue and new debates will emerge for several reasons. The US labor force will continue to become more racially and ethnically diverse. The structure of employer–employee relationships will continue to change, fueled by globalization, workplace technological innovations and changes in the ability of institutions such as organized labor to insulate workers from market forces. Collectively, these and other structural changes will shift the incentives for employers, employees and consumers to engage in discrimination.

The economics profession has responded to the changes. The number of discrimination studies on African Americans and women that utilize new data sources, econometric and statistical methods has grown. Members of the profession have also begun to study more intensely the market experiences of people with disabilities, older workers, and gays, lesbians and bisexuals.

There have also been a series of important legal developments that may have altered incentives to discriminate. Under Regulation C, which implements the 1975 Home Mortgage Disclosure Act (HMDA) in 2004, financial institutions were required to provide information about the loan rate and more detailed borrower race/ethnic information. Also in 2004, the Supreme Court ruled that only older workers could use the Age Discrimination in Employment Act (ADEA) to claim maltreatment.

Simply put, discrimination is a dynamic process, depending on changes in the supply, demand and institutional features of the economy. This *Handbook* presents nine chapters divided into three parts on the economics of discrimination. Part I discusses recent innovations in methods and data collection. Part II reviews empirical evidence on discrimination of demographic groups that have received less attention from researchers. Part III presents a discussion of anti-discrimination and affirmative action's impacts.

The chapters are written with the goal of being accessible to academic and professional economists, graduate students, advanced undergraduates,

practitioners, policymakers and funders of social science research. The methods and data chapters are particularly designed to encourage researchers to utilize the new approaches and develop new data sources. The policy chapters provide readers with a balanced discussion of the impacts of affirmative action and anti-discrimination laws.

Part I of the *Handbook* starts with Yana van der Meulen Rodgers' description of how researchers continue to modify the original Oaxaca–Blinder decomposition to answer a richer set of empirical questions. The innovations focus on identifying the appropriate weights to use in the decomposition and decomposing residual wage distributions into their quantity and price of unmeasured skills components. Rodgers describes how researchers have also begun to utilize quantile regression to understand the contribution of observed characteristics to wage gaps at different segments of the wage distribution.

In other recent work, researchers have developed decompositions that sort changes in the wage gap over time into a portion due to changes in group-specific characteristics and a portion due to changes in market returns to skills. These methods are extremely useful because they illustrate whether the relative status of workers in a particular demographic group has changed over time with regard to changes in education and experience, the distribution of returns to skills and unmeasured group-specific characteristics.

Although the new decomposition methods offer insights and new empirical information they are still subject to criticism. What are the appropriate weights? Has the researcher controlled for all of the supply, demand and institutional factors that could explain a group's lower relative status? If the decomposition's results are sensitive to the choice of weights and/or there are excluded factors, then the decomposition's results are biased and the ability to claim that discrimination has been correctly identified is substantially weakened.

Researchers have responded to these criticisms in a variety of ways. Judith Hellerstein and David Neumark have been at the forefront of developing data sets that link establishment-level employer data to the data of workers in those establishments. In Chapter 2, Hellerstein and Neumark discuss how linking the characteristics of establishments to the workers in those establishments allows a simultaneous test of whether a particular group's lower relative pay is due to their lower productivity. An additional benefit of using matched data sets, especially those that have a time series aspect to them, is that they can be used to answer questions about the extent to which labor market segregation has an impact on wages. They can also be used to directly test discrimination theory. For example, are discriminatory firms less profitable, a prediction of the Becker models of discrimination?

The central theme of Hellerstein and Neumark's chapter is that matched employer–employee data offer significant benefits. They are a potential source of additional information that is not available in the individual-level data. To

support this conclusion, Hellerstein and Neumark first describe the advantages that matched employer–employee data offer. They then provide a ‘users’ guide to matched employer–employee data sets. Third, they review the key studies that have used matched data. The last section of their chapter discusses new directions in which the construction and analysis of matched employer–employee data sets would have the greatest payoff in advancing the profession’s understanding of labor market discrimination.

Another approach to going beyond standard decomposition methods and individual-level micro data has been to analyze qualitative and quantitative data from employer interviews. In Chapter 3, Philip Moss and Chris Tilly review studies that measure the attitudes and preferences of employers toward workers from different demographic groups. They start by briefly describing the main employer surveys that have been utilized to measure discrimination. To date, the surveys have typically focused on describing racial attitudes. Moss and Tilly present six issues to consider when developing an employer survey: sampling strategy, employer access, inquiring about the correct job, who to interview in the establishment, the accuracy of employer responses and the ability to distinguish between supply (human capital) and demand (employer stereotypes). The last two areas present researchers with the greatest challenge to create a useful survey. Despite these hurdles, employer surveys are an extremely valuable tool for analyzing employment discrimination.

Moss and Tilly identify three major contributions from employer surveys. The evidence indicates a consistency in negative attitudes towards minority, particularly black, employees and potential workers. Blacks are consistently ranked lowest across the qualitative surveys on both hard and soft skills. Employers with formal job structures, recruiting methods and screening methods provide greater opportunities for minorities, have less gender-based occupational segregation, and women and African Americans have higher promotion rates.

Experimental methods have been used extensively among psychologists to study discrimination but much less among economists. However, the field of experimental economics has grown, and discrimination has been an active area of research. Experimental methods have the potential to identify not only discrimination’s existence but also its underlying causes. In Chapter 4, Lisa Anderson, Roland Fryer and Charles Holt survey laboratory studies of discrimination in psychology and economics. They show that, although heavily influenced by the psychology literature, the vast theoretical and empirical literature on employment discrimination and information economics serves as the primary motivation for experimental studies on discrimination. Experimental methods have been used to test statistical discrimination, asymmetric pair-wise tournaments and price-preference auctions.

Anderson *et al.* conclude that a large number of field experiments clearly document differential treatment of some groups, based on certain demographic characteristics. In addition, laboratory experiments provide credible support for a number of theoretical predictions. Laboratory experiments have generated group identification that is caused by discrimination. The economic consequences of this discrimination include the negative outcomes for members of the group that is discriminated against. Less obvious, but of major importance, are reductions in social welfare. Furthermore, discrimination experiments reveal that affirmative action can increase economic efficiency if subsidies to disadvantaged groups increase the competitiveness of effort-based allocations. Anderson *et al.* conclude with a users' guide for developing and conducting discrimination experiments in economics.

Part II of the *Handbook* goes beyond race and gender, by reviewing discrimination studies on disability, sexual orientation and age. A common thread that runs through these chapters is the importance of developing the appropriate definitions and data, and applying the appropriate methodology.

In Chapter 5, Baldwin and Johnson's review of the literature on disability discrimination first starts with a discussion of the terminology used to define disability status. Unlike empirical research on gender and racial discrimination, definitions are extremely important in the disability literature. In disability studies, productivity can be limited by the same health conditions that make disabled workers eligible for civil rights protection.

Baldwin and Johnson then summarize the approaches used to estimate wage and employment discrimination that workers with disabilities face. One group of studies measures discrimination using a single-equation model that includes binary variables to identify persons with disabilities. The second group of studies uses variations of the Oaxaca–Blinder decomposition to measure wage discrimination. Methods for estimating employment discrimination are less well established. Baldwin and Johnson conclude that the literature to date supports the hypothesis that discrimination against persons with disabilities is rooted in prejudice.

Data availability is also a concern of M.V. Lee Badgett, who in Chapter 6 reviews the literature on discrimination faced by gay, lesbian and bisexual individuals. To date, economists' most significant contribution to the broader social science literature in this area has been the application of regression-based tools to estimate discrimination's existence and its magnitude.

Badgett's review indicates that anti-gay pay discrimination occurs and is strongest for gay men. Gay men earn less than similar heterosexual men. The evidence of wage discrimination against lesbians is less clear. Several studies find that lesbians actually earn more than similar heterosexual women. The higher-than-expected earnings for lesbians does not rule out discrimination. To observe clearer evidence of discrimination, Badgett argues,

researchers, practitioners and policymakers must take into account the larger body of research on lesbians' work-related choices, self-reports of discrimination and one well-conceived audit study.

More generally, Badgett argues that economists must work harder to explain why discrimination based on sexual orientation exists. The profession has relied on theories designed to explain racial discrimination, excluding other possible sources of or rationales for discrimination. Persistent evidence of anti-gay attitudes should simply begin the conversation, not end it. The anti-gay ballot initiatives during the 2004 election are the most recent forms of anecdotal evidence.

In the final chapter of Part II, Scott Adams and David Neumark review the literature on age discrimination. Age discrimination's relative importance has increased. The number of age-related EEOC discrimination complaints is on a par with the number of gender and racial discrimination complaints. Similar to the experimental methods and sexual orientation literatures, noneconomists have been studying these issues more vigorously than economists.

Adams and Neumark first summarize studies that examine workplace attitudes toward older individuals and how these attitudes may affect management decisions. Second, they describe the composition of the cases filed with the Equal Employment Opportunity Commission (EEOC) and assess whether we can learn anything about age discrimination's impact on older workers. Third, Adams and Neumark summarize the findings of studies that describe the relative hiring, unemployment duration, re-employment wages and promotion outcomes of older workers. The chapter concludes with a discussion of whether the disadvantages are the result of employer discrimination.

Adams and Neumark draw several conclusions. Attitudes about older workers are used in making promotion decisions. Unresolved ADEA cases suggest that age discrimination is a key feature of the labor market. Older workers have longer unemployment durations, lower probabilities of getting rehired, and higher incidences of displacement. Upon re-employment their earnings are typically lower than the re-employment earnings of young workers. Age discrimination is linked to these adverse outcomes, but alternative nondiscriminatory explanations must not be ruled out.

The *Handbook* concludes with two chapters on policy impacts in credit, housing and labor markets. In Chapter 8, Gary Dymski reviews the literature on racial discrimination in credit and housing markets. When able, attention is given to gender discrimination. Dymski starts by putting credit market and housing market discrimination into a legal context. He then lays out the theoretical behavioral models that have guided most of the empirical work in this area. Dymski's review of the empirical literature covers racial redlining (The illegal identification of geographical areas as inappropriate for the offering of commercial credit services, based on criteria such as the average income or the

ethnic composition of the area. For example, there may be a decline in loans made available to an area by a bank because that community has a large minority population) and discrimination in credit markets, the impacts of predatory lending, racial discrimination in housing markets and gender discrimination in housing and credit markets. An important contribution of Dymski's chapter is its discussion of the significance of cultural affinity, networks and wealth in explaining discrimination in housing and credit markets.

Dymski concludes that the literature on credit and housing market discrimination is compelling, incomplete, contradictory and controversial. It is compelling because of their centrality to the American experience and debates over the importance of racial inequality for both social policy and theory. The literature is incomplete because it covers a small segment of the demographic groups protected under the Constitution and the Civil Rights Act. There are virtually no studies on sexual orientation and few on gender discrimination. The literature is also incomplete because existing models generate more questions than they answer.

The literature is contradictory. One interpretation of the literature's empirical studies is the successful documentation of many features of racial inequality in housing and credit markets. Another interpretation of the literature is its inability to demonstrate conclusively that a problem exists, which needs to be addressed through public policy. Empirical tests for credit and housing discrimination are controversial owing primarily to reasonable disagreements between practitioners over the design and interpretation of statistical tests for discrimination.

As a result, this creates a dilemma for the economic profession. Professional interest has focused on finding a 'smoking gun', but Dymski argues that while discrimination clearly worsens racial and gender differences in credit- and housing-market outcomes, existing structural gaps in resources and wealth generate most disadvantages. This professional focus on one aspect of a multidimensional, dynamic process, the portion that is hardest to identify precisely, leads Dymski to issue the following challenge to the profession. Because of the US's historical legacy on racial and gender inequality, discrimination theory should have at its heart the legal context and historical basis of the nation's laws against discrimination.

The purpose of the EEO laws is to address employment discrimination. Affirmative action's purpose is actively to improve the experiences of minorities and women in employment, university admissions and government procurement. In Chapter 9, Harry Holzer and David Neumark provide a critical review of the affirmative action and anti-discrimination literatures. Holzer and Neumark review the laws, court decisions and practices, along with the empirical evidence of their impacts.

Holzer and Neumark find that the balance of the empirical evidence is most consistent with the view that EEO laws helped to improve the relative economic status of blacks during the mid-1960s. Although equal pay laws should raise women's wages, they also tend to reduce their relative employment. Overall, Holzer and Neumark interpret the evidence to say that discrimination persists in some parts of the labor market. It plays a role in the persistence of racial and gender wage/employment gaps.

A portion of these gaps might be lessened with more resources for EEO employment monitoring, a different allocation of resources between hiring and other cases, or a different set of enforcement practices. The use of labor market intermediaries to provide employers with more information in hiring disadvantaged groups might be a useful remedy. But, to the extent that persistent wage and employment gaps reflect skill gaps, family time allocation choices and so on, a menu with multiple approaches is required if the goal is to generate greater parity in labor market outcomes across demographic groups.

On affirmative action, Holzer and Neumark write that the evidence clearly shows that, although not large, these programs tend to shift employment, university admissions and government procurement away from white men towards minorities and women. Replacing race-based affirmative action policies in admissions with race and gender-neutral practices would probably reduce the share of minorities on campuses. On the issue of whether beneficiaries of affirmative action are less qualified than white males, Holzer and Neumark's review of the evidence paints a more complex picture that is difficult to summarize here.

Holzer and Neumark believe that the empirical evidence on the effects of EEO policies and affirmative action should be considered in the formulation of any alternative approaches to address the challenges that minorities and women face. However, the evidence to date still continues to be limited, particularly on the relative performance of affirmative action beneficiaries, and most notably in the debate on government procurement activities. Research on the effects of EEO and affirmative action should continue to be on the radar screens of social scientists.