

REVIEW PROTOCOL FOR EMPLOYER COMPLIANCE

Highlights

- The objective of this systematic review is to determine the quality of existing causal evidence on the effectiveness of rules, policies, and enforcement activities aimed at preventing discrimination by employers to improve labor market outcomes.

Introduction

The U.S. Department of Labor (DOL) aims to protect the right of all workers to equal opportunity in the labor market. To meet this goal, DOL enforces laws to prevent employment discrimination. Enforcement involves detecting and resolving discriminatory practices among employers. A number of DOL agencies are tasked with enforcing laws covering particular employers and groups of workers:

- The Office of Federal Contract Compliance Programs (OFCCP) enforces affirmative action and equal employment opportunity provisions among covered Federal contractors and subcontractors. The laws under OFCCP's purview prohibit discrimination on the basis of race, color, religion, sex, national origin, and status as an individual with a disability or protected veteran. These laws include Executive Order 11246, Section 503 of the Rehabilitation Act of 1973, and the Vietnam Era Veterans' Readjustment Assistance Act of 1974, all as amended, as well as Title I of the Americans with Disabilities Act of 1990.
- The Equal Employment Opportunity Commission (EEOC) enforces federal laws aimed at preventing employment discrimination among broader classes of workers beyond federal contractors. These laws include Title VII of the Civil Rights Act of 1964, the Equal Pay Act of 1963, the Age Discrimination in Employment Act of 1967, and the Americans with Disabilities Act of 1990. Employment discrimination on the basis of race, color, religion, sex (including pregnancy), national origin, age (40 or older), disability, or genetic information is prohibited, as is discrimination against those who complain about or participate in an investigation or lawsuit about employment discrimination.
- The Office of the Assistant Secretary for Administration and Management's Civil Rights Center oversees equal opportunity in programs and activities receiving federal financial assistance from DOL and for all applicants to and employees of DOL.
- The Uniformed Services Employment and Reemployment Rights Act, which the Veterans' Employment and Training Service administers, prohibits employers from discriminating against applicants to and past and present members of the uniformed services.
- The Women's Bureau has the authority to investigate and report to DOL on the welfare and employment opportunities of working women.

This topic area focuses on the effects of DOL's nondiscrimination policies on workers' labor market outcomes. Although each DOL agency listed previously covers different populations, their aims are similar enough that this topic area groups their policies together. Workers include both employees and job applicants. Labor market outcomes include recruitment, employment, performance evaluation, advancement, termination, and rates of pay and other forms of compensation. Harassment is another important outcome that nondiscrimination policies might address but is outside the scope

of this review, as is worker productivity. Outcomes for both protected worker groups and all workers may be considered. The review addresses the following research question:

- What are the effects of rules, policies, and enforcement activities aimed at preventing discrimination by employers on workers' labor market outcomes?

CLEAR reviewers will assess the quality of causal (experimental and nonexperimental) evidence presented in studies with causal designs in this topic area. Depending on the size of the literature identified, CLEAR might define secondary research questions that focus on specific protected worker traits (for example, veteran status).¹

The rest of this evidence review protocol sets forth the criteria by which research are determined to be eligible for review, an outline of review procedures and study report contents, and descriptions of the types of guidelines to be used to review and (where appropriate) evaluate the quality of the evidence. Appendix A describes the methods that will be used to identify the research for the topic area.

Eligibility Criteria

CLEAR will conduct a broad literature search to identify all the research papers and reports that examine the research question of interest. This will consist of causal studies examining the effectiveness of a given program. The identified research will then be screened against the eligibility criteria described below; studies meeting these criteria will be entered into the citation database and receive a second-level review (see the CLEAR Policies and Procedures for further information about the two levels of review).

- 1.1. **Does it examine a population of workers with a protected trait?** For the purposes of this protocol, workers are defined as employees, former employees, job applicants, or applicants or participants in a training or apprenticeship program. The research eligible for review under this protocol must include worker groups defined by one of the following characteristics: race, color, religion, sex (including pregnancy), national origin, age (40 or older), disability, genetic information, participation in an investigation or lawsuit or filing a complaint about employment discrimination, or past or present uniformed service. These workers and traits represent the full set of individuals covered by the laws enforced by the DOL agencies above.
- 1.2. **Does it examine a rule, policy, or enforcement activity designed to prevent discrimination by employers against job applicants or employees?** The research eligible for review under this protocol is limited to rules or activities of the DOL agencies above. For example, policies that OFCCP enforces include employers maintaining written affirmative action plans and the agency providing awards to employers for voluntary efforts in achieving equal opportunity goals. OFCCP enforcement activities include selecting employers for review, conducting compliance reviews, developing and monitoring conciliation agreements, and imposing sanctions.

¹ In the early stages of determining the focus of the topic area, we also searched for descriptive studies on nondiscrimination policies. Because the topic area ultimately focused on causal literature, CLEAR did not conduct reviews of the descriptive studies identified. The full list of eligible nondiscrimination policy descriptive studies appears in Appendix C of this protocol.

- 1.3. **Does it examine an outcome of interest?** To be eligible for review, research must consider worker labor market outcomes or closely related outcomes in one of the following domains:
- Employment, including recruitment, employment, labor force participation, occupation, performance evaluation, advancement, and termination
 - Compensation, including rates of pay, earnings, earnings “gaps” or differentials between specified groups of workers, and other forms of compensation
- 1.4. **Was it conducted in a relevant time and place?** To be the most relevant to current practitioners, policymakers, and other stakeholders, the research must have taken place in the United States, including the 50 states, the District of Columbia, territories, and tribal entities, in 1990 or later, to capture the period since passage of the Americans with Disabilities Act of 1990.
- 1.5. **Does it contain an impact analysis?** Research that uses quantitative methods to assess the effectiveness of a program (and other eligibility criteria) receives a second-level review as long as it contains an outcome of interest.² Because one of the goals of the review is to determine which rules, policies, or enforcement activities aimed at preventing discrimination by employers are effective at promoting positive labor market outcomes for workers with protected traits, impact studies must contain at least one outcome that is included in the employment and earnings domain, for example the rate or probability of recruitment, employment, receipt of positive or negative performance evaluations, advancement, termination, and rates of pay and other forms of compensation.

Causal Evidence Guidelines Specific to the Topic Area

This topic area includes reviews of both experimental and nonexperimental causal research. CLEAR assesses the quality of evidence for randomized controlled trials (RCTs) using an adaptation of the Institute for Education Science’s What Works Clearinghouse (WWC) standards.³ RCTs can receive a High causal evidence rating if there are no obvious confounds to the RCT design and if the level of attrition in the RCT is low, as assessed using the WWC’s conservative attrition boundary. If CLEAR determines that an RCT cannot be rated as providing High causal evidence, CLEAR reviews the research using their own nonexperimental causal evidence guidelines.

In collaboration with a technical work group of experts, Mathematica Policy Research developed a set of evidence guidelines for reviewing nonexperimental studies with causal designs. These causal designs include instrumental variables, difference-in-differences, fixed and random effects, and other types of regression analyses. Research designs that meet the causal evidence guidelines receive a Moderate causal evidence rating; this rating indicates that there is evidence that the study establishes a causal relationship between the intervention being examined and the outcomes of interest, but there might be other factors that were not included in the analysis that also could affect the outcomes of interest. Designs that do not meet the guidelines receive a Low causal evidence rating, which indicates that we cannot be confident that the estimated effects are attributable to the intervention being examined.

² Causal studies in this topic area were reviewed according to CLEAR Causal Evidence Guidelines, Version 2.0. The full set of guidelines is available at <http://clear.dol.gov>.

³ See <http://ies.ed.gov/ncee/wwc/InsidetheWWC.aspx> for details.

Causal evidence guidelines for nonexperimental studies are tailored to the topic area of interest. In particular, the topic area protocol sets forth the specific types of control variables that need to be included in nonexperimental regression analyses (other than those using fixed effects) for a study to receive a Moderate causal evidence rating. The topic area protocol also describes whether changes in group composition should be a concern for the review.

Control Variables

The control variables for the employer compliance protocol are:

- Age
- Race/ethnicity
- Gender
- At least one pre-intervention measure of earnings or employment status. This could include pre-intervention earnings or wages, pre-intervention employment status, or measures of pre-intervention work history.

Regression methods that incorporate a matching design, in which statistical methods are used to create a comparison group that is as similar as possible to the group receiving the intervention, must match on the previously listed control variables or, if they do not match on them, must include them as controls in the regression. If the analysis is conducted at the aggregate rather than individual level (for example, examining employment rates in business establishments), the set of control variables included should be flagged for review by the PI.

Changes in Group Composition

Although research designs in this topic area commonly use state-level or other aggregate data, we do not require that authors demonstrate that the composition of the groups being compared does not change. Any changes in the composition or characteristics of workers in the aggregate due to an antidiscrimination rule, policy, or enforcement activity may be seen as an impact of that activity, and thus should be part of the measured treatment effect. For example, if minority workers move from states with less stringent policies regarding nondiscrimination in employment to states with more stringent policies, increases in the rate and share of minority employment in the latter states can be thought of as part of the impact of the state policies. Similarly, if firms hiring a smaller share of minority workers in a given industry become subject to penalties by the EEOC and go out of business, the resulting increase in minority employment rates in the industry can be thought of as part of the impact of nondiscrimination enforcement activities. Therefore, studies need not demonstrate that interventions left group composition unchanged.

APPENDIX A LITERATURE SEARCH

CLEAR conducted comprehensive literature searches to identify research meeting the eligibility criteria described in the review protocol. This included keyword searches of Scopus, which covers 19,500 peer-reviewed journals, 400 trade publications, 360 book series, and “Articles-in-Press” from more than 3,850 journals; as well as Business Source Complete, EconLit, SocINDEX, EBSCO’s E-Journals, and articles from Jurimetrics Journal in FirstSearch’s ArticleFirst database.⁴ Grey literature was identified by searching both the Social Science Research Network, which contains abstracts on more than 464,100 scholarly working papers and forthcoming papers, and a Custom Google Search Engine with more than 38 select organizations conducting research in these areas.⁵

The search parameters for the search was:

- Limited geographically to the United States
- Limited to the English language
- Limited to articles published from 1990 to the present
- Excluded editorials, letters, newspaper articles, and commentary
- Limited to causal studies, content analysis, descriptive studies, focus groups, field studies, implementation studies, interventions, narratives, qualitative, quantitative, and thematic analysis
- Excluded results related to drugs, health, and test development

CLEAR used combinations of the following search terms (asterisks indicate truncation):

- “Americans with Disabilities Act” OR “Executive Order 11246” OR “Rehabilitation Act” OR “Vietnam Era Veterans’ Readjustment Assistance Act” OR VEVRAA OR “Uniformed Services Employment and Reemployment Rights Act” USERRA OR “Civil Rights Act” OR “Equal Pay Act” OR “Pregnancy Discrimination Act” OR “Age Discrimination in Employment Act” OR “Genetic Information Nondiscrimination Act” OR “Fair Pay Act”
- “equal employment” OR “equal opportunit*” OR “affirmative action” OR discriminat* OR “anti-discriminat*” OR antidiscriminat* OR nondiscriminat*
- worker* OR employee* OR applicant* OR apprentice* OR “job training” OR contractor* OR subcontractor*
- race OR racial OR color OR religion OR sex OR gender OR woman OR women OR “national origin” OR disabilit* OR disabled OR veteran* OR “uniformed service*” OR ethnic*
- rule* OR program* OR policy OR policies OR intervention* OR law* OR regulation* OR guideline* OR provision* OR enforcement

⁴ <http://www.info.sciverse.com/scopus/scopus-in-detail/facts>

⁵ <http://www.ssrn.com/>

- impact* OR effect* OR QED OR “quasi experimental design” OR “quasi-experimental design” OR “quasiexperimental design” OR RCT* OR “randomized control trial*” OR “randomized controlled trial*” OR “descriptive studies” OR “descriptive study” OR “natural experiment*” OR “difference-in-difference*” OR “difference in difference*”
- “labor market” OR hire OR hiring OR employment OR unemploy* OR advancement OR promot* OR fire* OR firing OR terminat* OR pay OR earning* OR wage* OR compensation

In addition, CLEAR identified relevant research by searching the websites of more than 38 organizations conducting research in these areas through a Custom Google Search tool, including:

- American Bankers Association
- American Bar Foundation
- American Enterprise Institute
- American Institutes for Research
- Association for Public Policy and Management
- Biddle Consulting Group
- Booz Allen
- Brookings Institute
- Cato Institute
- Center for Corporate Equality
- Center for Economic Policy and Research
- Center for Law and Social Policy
- Center for Public Justice
- Congressional Research Services
- DCI Consulting
- Economic Policy Institute
- Ethics and Public Policy Center
- Ford Foundation
- Heritage Foundation
- Institute of Policy Research, Manhattan
- Institute of Policy Research, Northwestern
- Institute for Women’s Policy Research
- Joint Center for Political and Economic Studies
- Levy Economics Institute

- Massachusetts Budget and Policy Center
- Milken Institute
- National Bureau of Economic Research
- National Community Reinvestment Coalition
- National Credit Union Administration
- NORC
- Pacific Research Institutes
- Pew Research Center
- RAND Corporation
- SRI International
- Tax Foundation
- Urban Institute
- U.S. Bureau of Labor Statistics
- U.S. Government Accountability Office

Finally, CLEAR used the technique of snowballing for identifying relevant research. This means that they screened the reference lists of eligible or related research papers to identify other studies eligible for review. The papers consulted included:

- Ashenfelter, O., & Heckman, J. (1976). Measuring the effect of an anti-discrimination program. In O. Ashenfelter & J. Blum (Eds.), *Estimating the labor market effects of social programs* (pp. 46-89). Princeton, NJ: Princeton University Press.
- Beller, A.H. (1982). The impact of equal employment opportunity policy on sex differentials in earnings and occupations. *American Economic Review*, 72(2), 171-175.
- Gailey, A.H., & Seabury, S.A. (2010). The impact of employment protection on workers disabled by workplace injuries. In D.P. Kessler (Ed.), *Regulation versus litigation: Perspectives from economics and law* (pp. 165-196). Chicago: University of Chicago Press.
- Leonard, J. (1984). Employment and occupational advance under affirmative action. *The Review of Economics and Statistics*, 66(3), 377-385.
- Leonard, J. (1984). The impact of affirmative action on employment. *Journal of Labor Economics*, 2, 439-463.
- Romei, A., & Ruggieri, S. (2013). A multidisciplinary survey on discrimination analysis. *The Knowledge Engineering Review*, 29(5), 582-638.
- Stephanopoulos, G., & Edley, C. (1995). Review of federal affirmative action programs, part 3: empirical research on affirmative action and anti-discrimination. Retrieved from http://womenshistory.about.com/library/etext/gov/bl_gov_aa_06.htm.

APPENDIX B REFERENCES FOR REVIEW OF CAUSAL STUDIES

Studies with a high quality of evidence rating

None.

Studies with a moderate quality of evidence rating

Chay, K. (1998). The impact of federal civil rights policy on black economic progress: Evidence from the Equal Employment Opportunity Act of 1972. *Industrial and Labor Relations Review*, 51(4), 608-632.

Miller, C. (2014). The persistent effect of temporary affirmative action (Unpublished job market paper). Cambridge, MA: MIT Department of Economics.

Kurtulus, F. (2012). Affirmative action and the occupational advancement of minorities and women during 1973-2003. *Industrial Relations*, 52(2), 213-246.

Acemoglu, D., & Angrist, J. (2001). Consequences of employment protection? The case of the Americans with Disabilities Act. *Journal of Political Economy*, 109(5), 915-957.

Studies with a low quality of evidence rating

Bird, R., & Knopf, J. (2010). Do disability laws impair firm performance? *American Business Law Journal*, 47(1), 145-190.

Blanchflower, D.G., & Wainwright, J. (2005). An analysis of the impact of affirmative action programs on self-employment in the construction industry. Working paper no. 11793. Cambridge, MA: National Bureau of Economic Research.

Carrington, W.J., McCue, K., & Pierce, B. (2000). Using establishment size to measure the impact of Title VII and affirmative action. *Journal of Human Resources*, 35(3): 503-523.

Choe, C. (2008). *The outcomes of policies designed to eliminate discrimination* (Doctoral dissertation). University of Arizona.

Colello, A. (2011). Affirmative action bans and minority employment: Washington State's Initiative 200. Washington, DC: Georgetown University.

Collins, W. (2001). The labor market impact of state-level anti-discrimination laws. National Bureau of Economic Research working paper no. 8310. Cambridge, MA: NBER.

DeLeire, T. (2000). Changes in wage discrimination against people with disabilities: 1984-93. *The Journal of Human Resources*, 37(1), 144-158.

DeLeire, T. (2000). The unintended consequences of the Americans with Disabilities Act. *Regulation* 23(1), 21-24.

Fosu, A. (2000). Antidiscrimination measures of the 1960s and occupational mobility: Evidence for black American men. *Journal of Labor Research*, 21(1), 169-180.

- Hirsh, C. (2009). The strength of weak enforcement: The impact of discrimination charges, legal environments, and organizational conditions on workforce segregation. *American Sociological Review*, 74, 245-271.
- Hyclak, T., Taylor, L., & Stewart, J. (1992). Some new historical evidence on the impact of affirmative action: Detroit, 1972. *The Review of Black Political Economy*, 21(2), 81-98.
- Kalev, A., & Dobbin, F. (2006). Enforcement of civil rights law in private workplaces: The effects of compliance reviews and lawsuits over time. *Law & Social Equity*, 31(4), 855-903.
- McCrary, J. (2006). The effect of court-ordered hiring quotas on the composition and quality of police. National Bureau of Economic Research working paper no. 12368. Cambridge, MA: NBER.
- Moon, S., Chung, K., & Yang, D. (2003). The effects of the Americans with Disabilities Act: A longitudinal model analysis. *Clinical Research and Regulatory Affairs*, 20(4), 433-445.
- Myers, C. (2007). A cure for discrimination? Affirmative action and the case of California's Proposition 209. *Industrial and Labor Relations Review*, 60(3), 379-396.
- Neumark, D., & Stock, W. (2006). The labor market effects of sex and race discrimination laws. *Economic Inquiry*, 44(3), 385-419.
- Rodgers, W., & Spriggs, W. (1996). The effect of federal contractor status on racial differences in establishment-level employment shares: 1979-1992. *The American Economic Review* 86(2), 290-293.
- Wilhelm, S. (2002). The impact of Equal Employment Opportunity Commission enforcement on the wages of African American and white women, 1988-1996. *The Review of Black Political Economy*, 30(2), 25-51.

APPENDIX C DESCRIPTIVE STUDIES ON NONDISCRIMINATION POLICIES

These studies were identified in the initial stages of determining the focus of the topic area, when we were considering descriptive studies on nondiscrimination policies for inclusion. Because the topic area ultimately focused on the causal literature, CLEAR did *not* conduct reviews of the following studies.

- Ali, I. S. (2009). Bringing down the “maternal wall”: Reforming the FLMA to provide equal employment opportunities for caregivers. *Law & Inequality*, 27(1), 181-209.
- Altonji, J. G. and Blank, R. M. (1999). Race and gender in the labor market. In O. Ashenfelter and D. Card (Eds.), *Handbook of labor economics*, (pp. 3143-3259). Amsterdam, Netherlands: Elsevier.
- Baldwin, M., & Johnson, W. G. (1992). Estimating the employment effects of wage discrimination. *Review of Economics and Statistics*, 74(3), 446-455. doi: <http://www.mitpressjournals.org/loi/rest>.
- Becker, E., & Lindsay, C. M. (2005). The limits of the wage impact of discrimination. *Managerial & Decision Economics*, 26(8), 513-525. doi:10.1002/mde.1238
- Berry, D., & Bell, M. P. (2012). Inequality in organizations: Stereotyping, discrimination, and labor law exclusions. *Equality, Diversity and Inclusion*, 31(3), 236-248.
- Blanchflower, D. G. (2009). Minority self-employment in the United States and the impact of affirmative action programs. *Annals of Finance*, 5(3), 361-396.
- Bucks, B. K. (2004). *Legislating equal access in education and employment*. (Unpublished doctoral dissertation). University of Wisconsin, Madison, WI.
- Carter, S. D. (2012). Demographic changes and equal employment opportunity legislation: Implications for leveraging workforce diversity in the field of human resource development. In C. Scott, & M. Byrd (Eds.), *Handbook of Research on Workforce Diversity in a Global Society: Technologies and Concepts* (pp. 288-305). Hershey, PA: IGI Global.
- Donohue, J., & Heckman, J. (1991). Continuous versus episodic change: The impact of civil rights policy on the economic status of blacks. *Journal of Economic Literature*, 29(4), 1603-1643.
- Donohue, J., III. (1991). Panel II: The role of government in closing the socio-economic gap for minorities. *Harvard Journal of Law and Public Policy*, 14(41), 41-53.
- Holzer, H. J., & Neumark, D. (2004). *The economics of affirmative action*. Cheltenham, UK: Edward Elgar.
- Holzer, H., & Neumark, D. (1998). What does affirmative action do? *Industrial and Labor Relations Review*, 53(2), 240-271.
- Holzer, H., & Neumark, D. (1999). *Assessing affirmative action*. (National Bureau of Economic Research working paper no. 7323). Cambridge, MA: NBER.
- Holzer, H., & Neumark, D. (2006). Affirmative action: What do we know? *Journal of Policy Analysis and Management*, 25(2), 463-490.

- Iyer, A. (2009). Increasing the representation and status of women in employment: The effectiveness of affirmative action. In M. Barreto, M. K. Ryan, & M. T. Schmitt (Eds.), *The glass ceiling in the 21st century: Understanding barriers to gender equality* (pp. 257-280). Washington, DC: American Psychological Association.
- Kravitz, D., Turner, M., Levine, E., Chaves, W., Brannick, M., Denning, D. ... Conrad, M. (1996, October). Affirmative action: A review of psychological and behavioral research. Prepared by a subcommittee of the Scientific Affairs Committee of the Society for Industrial and Organizational Psychology. Accessed from <https://www.siop.org/AfirmAct/siopsaartoc.aspx>.
- Leonard, J. (1990). The impact of affirmative action regulation and equal employment law on black employment. *Journal of Economic Perspectives*, 4(4), 47-63.
- Murrell, A., & Jones, R. (1996). Assessing affirmative action: Past, present, and future. *Journal of Social Issues*, 52(4), 77-92.
- O'Neill, D., & O'Neill, J. (1992). Affirmative action in the labor market. *ANNALS of the American Academy of Political and Social Science*, 523(1), 88-103.
- Stephanopoulos, G., & Edley, C. (1995). Review of federal affirmative action programs, part 3: Empirical research on affirmative action and anti-discrimination. Retrieved from <https://clinton4.nara.gov/WH/EOP/OP/html/aa/aa03.html>.
- Tomaskovic, D., & Stainback, K. (2007). Discrimination and desegregation: Equal opportunity progress in U.S. private sector workplaces since the Civil Rights Act. *Annals of the American Academy of Political and Social Science*, 609(1), 49-84.
- Wallace, P. (1990). Affirmative action from a labor market perspective. Cambridge, MA: Massachusetts Institute of Technology, Alfred P. Sloan School of Management.

APPENDIX D

DESCRIPTIVE STUDIES ON STATISTICAL METHODS FOR IDENTIFYING DISCRIMINATION OUTSIDE THE SCOPE OF THE PROTOCOL

In the early stages of scoping out the focus of the Employer Compliance topic area, we looked into descriptive studies on statistical and analytic methods to detect discrimination. This Appendix describes the research question, eligibility criteria, and literature search strategy for the statistical methods for identifying discrimination topic, which was ultimately not included in the Employer Compliance topic area.

Statistical Methods Topic Background

OFCCP conducts compliance evaluations and obtains and monitors conciliation agreements from federal contractors who are in violation of regulatory requirements. The other DOL agencies listed previously engage in similar activities to detect and resolve instances of employment discrimination. According to many federal laws, employment practices are typically considered to be discriminatory when they have a “disparate impact” on workers with a protected trait (and do not relate to job requirements). Neutral employment policies that unintentionally have a disproportionately negative effect (“adverse impact”) on certain types of workers are prohibited unless shown to be job-related and justified by business necessity. Evidence of impacts can be shown through data on employee outcomes, such as promotions. Thus, to assess evidence of the extent of violations of nondiscrimination laws, the agencies need to conduct and interpret statistical analyses. Understanding the statistical and analytic tools that are available and/or in frequent use is important for this topic area.

As approaches may cut across outcomes, this topic area will include methods and models to detect discrimination in various settings. In addition to the labor market, these settings can include the housing and credit markets, voting, and the criminal law enforcement system. Discrimination in these areas is legally prohibited and enforced by a number of agencies outside of DOL. Depending on the size of the literature identified, it may be helpful to restrict attention to certain settings. The choice could be based on the similarity of legal standards of proof, the similarity of enforcement procedures, or the relevance of the outcomes to OFCCP.

The review addresses the following research question:

- What are the advantages and disadvantages of statistical and analytic methods to detect discrimination in the context of employment, housing, lending, voting, and criminal law enforcement?

The research on this topic area is not causal by nature. Therefore, eligible studies identified in the topic area will receive a second-level review as quantitative descriptive studies but will not receive a causal evidence rating. Reviews will summarize study findings about (for instance) the appropriate use and performance of relevant methods.

Eligibility Criteria for the Statistical Methods Topic

- 1.1. **Does it examine a statistical or analytic method to detect discrimination against individuals with particular traits?** The research eligible for review under this protocol must focus on statistical or analytic methods. The research must also discuss how the methods were applied to detect discrimination. Illustrative examples may be given (for instance, estimating

models using data from a specific investigation), but they should be of secondary importance to the method itself. The traits include, but are not limited to, those covered by the laws enforced by the DOL agencies above: race, color, religion, sex (including pregnancy), national origin, age (40 or older), disability, genetic information, participation in an investigation or lawsuit or filing a complaint about employment discrimination, or past or present uniformed service. Because eligible research may focus on outcomes outside of employment (see below), the set of relevant traits might be broader than those protected by DOL.

1.2. **Does it focus on outcomes in the context of employment, housing, lending, voting, and criminal law enforcement?** To be eligible for review, research must consider individual-level outcomes in one of the following domains:

- Employment, including recruitment, employment, labor force participation, occupation, performance evaluation, advancement, and termination
- Compensation, including rates of pay, earnings, earnings “gaps” or differentials between specified groups of workers, and other forms of compensation
- Receipt of information about available housing, including information about available advertised and similar housing units and opportunities to inspect available housing units
- Receipt of assistance in finding housing, including assistance with mortgage financing and encouragement and assistance from sales or rental agents
- Loan outreach
- Loan information and encouragement
- Loan approval
- Loan administration and treatment of missed payments
- Voting
- Criminal law enforcement

1.3. **Was it conducted in a relevant time and place?** To be the most relevant to current practitioners, policymakers, and other stakeholders, the research must have taken place in the United States, including the 50 states, the District of Columbia, territories, and tribal entities, in 1990 or later.

Literature Search Strategy for Statistical Methods Topic

CLEAR conducted comprehensive literature searches to identify research meeting the eligibility criteria described in the review protocol. This included keyword searches of Scopus, which covers 19,500 peer-reviewed journals, 400 trade publications, 360 book series, and “Articles-in-Press” from more than 3,850 journals; as well as Business Source Complete, EconLit, SocINDEX, EBSCO’s E-Journals, and articles from Jurimetrics Journal in FirstSearch’s ArticleFirst database.⁶ Grey literature was identified by searching both the Social Science Research Network, which contains abstracts on

⁶ <http://www.info.sciverse.com/scopus/scopus-in-detail/facts>

more than 464,100 scholarly working papers and forthcoming papers, and a Custom Google Search Engine with more than 38 select organizations conducting research in these areas.⁷

The search parameters for the search was:

- Limited geographically to the United States
- Limited to the English language
- Limited to articles published from 1990 to the present
- Excluded editorials, letters, newspaper articles, and commentary
- Limited to causal studies, content analysis, descriptive studies, focus groups, field studies, implementation studies, interventions, narratives, qualitative, quantitative, and thematic analysis
- Excluded results related to drugs, health, and test development

CLEAR used combinations of the following search terms (asterisks indicate truncation):

- Fair lend*
- Discriminat*, anti-discriminat*, antidiscriminat*
- Credit
- Compliance
- Audit
- Contractor
- lending denial dispar*
- predatory lending
- disparate impact*, adverse impact*
- credit scor*
- loan applica*
- loan
- lending
- statistical analysis, technique, method, model*, examination
- custom model*
- Criminal law enforcement disparit*
- Criminal justice system

⁷ <http://www.ssrn.com/>

- Law enforcement, traffic stops by police, frisk, search, charging decisions by prosecutors, jury trials, conviction, sentencing
- Hiring, employment, promotion, termination
- Disparity analysis, analysis* of disparity*
- Statistical inference

In addition to the processes above, for Topic Area 2, CLEAR conducted searches using Google Scholar due to difficulty identifying applicable research under this topic area. These searches in Google Scholar related to six subtopics using the following search terms:

- Credit – (“statistical methods” OR “statistical analysis” OR “adverse impact” OR “paired testing”) AND discrimination AND (credit OR lending OR loan OR housing OR mortgage)
- Law Enforcement – (“statistical methods” OR “statistical analysis” OR “adverse impact” OR “paired testing”) AND discrimination AND (“law enforcement” OR “traffic stops” OR frisk OR police)
- Criminal Justice – (“statistical methods” OR “statistical analysis” OR “adverse impact” OR “paired testing”) AND discrimination AND (“criminal justice system” OR prosecutor OR “jury trial” OR conviction OR sentence OR sentencing)
- Employment – (“statistical methods” OR “statistical analysis” OR “adverse impact” OR “paired testing”) AND discrimination AND (employment OR “labor market” OR hiring OR unemployment OR advancement OR promotion OR fire OR firing OR termination)
- Pay – (“statistical methods” OR “statistical analysis” OR “adverse impact” OR “paired testing”) AND discrimination AND (pay OR earnings OR wages OR compensation)
- Voting – (“statistical methods” OR “statistical analysis” OR “adverse impact” OR “paired testing”) AND (“discrimination in voting” OR “voter discrimination” OR “voting discrimination”)

In addition, CLEAR identified relevant research by searching the websites of more than 38 organizations conducting research in these areas through a Custom Google Search tool, including:

- American Bankers Association
- American Bar Foundation
- American Enterprise Institute
- American Institutes for Research
- Association for Public Policy and Management
- Biddle Consulting Group
- Booz Allen
- Brookings Institute
- Cato Institute

- Center for Corporate Equality
- Center for Economic Policy and Research
- Center for Law and Social Policy
- Center for Public Justice
- Congressional Research Services
- DCI Consulting
- Economic Policy Institute
- Ethics and Public Policy Center
- Ford Foundation
- Heritage Foundation
- Institute of Policy Research, Manhattan
- Institute of Policy Research, Northwestern
- Institute for Women’s Policy Research
- Joint Center for Political and Economic Studies
- Levy Economics Institute
- Massachusetts Budget and Policy Center
- Milken Institute
- National Bureau of Economic Research
- National Community Reinvestment Coalition
- National Credit Union Administration
- NORC
- Pacific Research Institutes
- Pew Research Center
- RAND Corporation
- SRI International
- Tax Foundation
- Urban Institute
- U.S. Bureau of Labor Statistics
- U.S. Government Accountability Office

Finally, CLEAR used the technique of snowballing for identifying relevant research. This means that they screened the reference lists of eligible or related research papers to identify other studies eligible for review. The papers consulted included:

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