Recent Research on the Economics of Discrimination: What Do We Know and Where to From Here? Presentation to the U.S. Congressional Budget Office

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Discrimination has been at the forefront of political, social, and economic discourse.

- We personally think understanding and addressing discrimination is important.

We decided that we wanted to act in a positive way on this issue. We proposed:

1. A University of Arizona Economics Department discrimination statement.
2. Initiatives to expand undergraduate majors.
3. An undergraduate class in Economic Analyses of Discrimination.
4. Funding for undergraduate travel, e.g., to the Sadie T.M. Alexander Conference.
5. A department reading group.

We were interested in the reading group as we begin work on environmental justice.

- Now even more important since EJ is a focus of the Biden administration.
- We wanted to get a better sense of the broader discrimination literature.

This presentation synthesizes our thoughts from the reading group.
Some Definitions of Discrimination

Definition might seem obvious, but it’s not super simple.

*Disparate treatment* and *disparate impact* both matter (Pager and Shepherd, 2008):
- **Disparate treatment:** individuals are treated unequally because of their race.
- **Disparate impact:** no disparate treatment given some set of rules, but the rules themselves favor one race.
- Our view: economists’ focus on proving disparate treatment may limit our ability to understand systemic racism.

Eliminating disparate impact may require disparate treatment.
- This is one of the main justifications for affirmative action.

These definitions are context-specific, depending on breadth of research setting:
- E.g., a lack of disparate treatment in one subsector of the economy (in hiring) may obscure broader disparate impact (in the full education and labor market).
Social scientists in different fields have developed theories of discrimination:

- Becker (1957) models taste-based discrimination, showing that it does not persist in equilibrium.
- Phelps (1972) and Arrow (1973) model statistical discrimination.
- Sociologists model self-reinforcing statistical discrimination, in-group protection, and (negatively) complementary externalities (Pager and Shepherd, 2008).

More recent work models labor market discrimination with endogenous skill development:

- Fryer and Loury (2013) consider affirmative action policies.
Theories Are Both Contentious and Important

- Empirical measurement of discrimination fundamentally depends on theory.
  - Theoretical disagreements have led to debate by top empirical scholars.

- Fryer (2019) shows that, conditional on being stopped by the police, Blacks and whites are shot at the same rate.
  - Fryer views this as evidence that officer shooting costs are higher than any taste-based discrimination.
Top Scholars Disagree with Fryer’s Assessment

- Durlauf and Heckman (2020) wrote a stinging comment.
  - They don’t dispute Fryer’s empirical findings!
  - But, Black people may be stopped more frequently than whites.
  - This may imply that more law-abiding Blacks are being stopped than whites.
  - In this case, having the same shooting rate implies disparate treatment.

- Durlauf and Heckman therefore view Fryer as not establishing credible evidence.
  - Who is right? Depends on your definition of discrimination.
Black workers earn lower wages than white workers (Darity and Mason, 1998):
- This shows *disparate impact*.
- Understanding discrimination here depends on how one defines discrimination.
- E.g., to understand disparate impact in the labor market, we don’t necessarily want to control for education if Black students experience disparate treatment.

“Emily” and “Greg” receive more callbacks than “Lakisha” and “Jamal” (Bertrand and Mullainathan, 2004):
- This audit study shows *disparate treatment*.
- Returns to education for Black-sounding names are also lower.

Audit studies have become important in understanding disparate treatment.
- However, audit studies can only get at one, relatively narrow, part of the process.
- This makes it difficult to use audit studies to understand mechanisms.
- Provide limited information on the design of policies to combat discrimination.
Affirmative action bans decrease minority share at top colleges (Hinrichs, 2012):
- Cross state difference-in-difference design.
- Underrepresented minorities shift to less selective schools.
Evaluating “Ban-the-Box” Policies with an Audit Study

- **Increased** discrimination against Black male candidates (Agan and Starr, 2018):
  - NJ and NYC made asking about felony convictions on job applications illegal.

- Agan and Starr find overuse of race in predicting felony convictions after bans:
  - Before the ban, a felony conviction decreased callback rates 40%, but conditional on felonies, callback rates were similar across race.
  - Bans led to drops in Black callback rates and *increases* in white callback rates.
  - Could only occur if employers believe that no white applicants are felons!
Discrimination in the Criminal Justice System

- Blacks experience more police use of force, but not of shootings (Fryer, 2019).
- Police use discretion more for white drivers’ (Gonçalves and Mello, 2020):
  - Interpretation is that police seem to show favorable discretion towards whites.
  - Some officers appear to show no discretion and thereby do not discriminate.

Criminal justice studies have an overarching selection issue:
  - We don’t know the baseline attributes: how many Blacks were speeding?
  - But, denominators matter in whether we find discrimination!
The ADH setting is whether judges release defendants on bail.
- Outcome is pre-trial misconduct by the defendant.
- Defendants are randomly assigned to judges.

Structural model where judge has defendant prior, gets signal, and decides release:
- Prior means of misconduct rates assumed to be accurate.
- Statistical discrimination: from prior distribution on misconduct propensity.
- Bias: if judge’s threshold for bail release varies across race.
- Allow variation across judge/racial groups in prior variance and thresholds.

Identification:
- Extrapolation to judge who releases everyone identifies prior mean by race.
- Prior variances identified by misconduct rates (controlling for selection).
- Bias thresholds identified by release probability.

Findings: bias and statistical discrimination both drive racial differences.
- In contrast, mean misconduct propensities are similar across race.
Doctors Assess Black Patients’ Symptoms Differently

Black women are less likely to receive physician referrals to expensive treatments (Schulman et al., 1999):

- Audit study of physician recommended treatment in response to video and health background.
- Physicians refer Black female patients with chest pain to cardiac catheterization less.
Black Doctors Matter

Black men are more likely to agree to preventive healthcare when they see a Black doctor (Alsan, Garrick, and Graziani, 2019):

- Results based on experiment with recruitment of Black men in the field.
- Strongest results for invasive care (e.g., flu shots, cholesterol screenings).
- Mechanisms: patients more likely to talk to Black doctors about health issues.
Discrimination in Environmental Exposure

Black and Hispanic landowners get worse environmental terms for shale gas land leases (Timmins and Vissing, 2017):

- Implies more pollution produced per lease in minority neighborhoods.
- Impacts more pronounced when owners don’t speak English.
Environmental regulation has mitigated some of the disparate impact of pollution exposure (Currie, Voorheis, and Walker, 2020):

- Black neighborhoods have more exposure to harmful PM2.5, even controlling for income and other characteristics.
- But, Black-white gap shrunk by two-thirds between 2000 and 2015.
- Gap shrunk mostly in NAAQS non-attainment counties, suggesting a link to Clean Air Act enforcement.
Discrimination in the Housing Market

- Real estate agents steered Black actors into minority neighborhoods (Galster, 1990):
  - Auditors request listings of homes to purchase or rent.
  - Similar Black actors shown relatively more listings in minority neighborhoods.

- Minority actors who arrive with a specific home listing are steered toward lower quality neighborhoods (Christensen and Timmins, 2018):
  - They are more likely to be steered toward neighborhoods with less economic opportunity, more crime, and more pollution.
  - Steering effect is large: enough to explain differential in African American mothers’ proximity to Superfund sites.
White Reactions to Black Residents

- White residents leave cities when Black migrants arrive (Boustan, 2010):
  - Each Black migrant’s arrival led to 2-3 white departures.
  - Does not appear to be a result of housing price changes.

- White college students exposed to Black peers are more likely to choose to live with a Black roommate (Carrell, Hoekstra, and West, 2019):
  - Consider a military academy with randomized peer groups.
  - Effects are larger for Black students with higher high school grades.
Black Migration Lowered Outcomes for Black Residents

Black migration to the north harmed Black men in these areas (Derenoncourt, 2019):

- Also uses a shift-share instrument.
- Local governments spent more on policing and incarceration.
- Schooling expenditures fall.
Overall Critiques of the Economic Approach

1. Economists have studied discrimination less than other social scientists.

2. Economists often start with the prior of no discrimination (Spriggs, 2020):
   - Combined with a focus on narrow segments of markets this can create problems:
     - Unable to detect/discuss systemic racism.
   - Tends to lead to justifying findings as statistical discrimination.

3. But statistical discrimination is problematic as well:
   - Why is race the key variable that needs to “load” all of these expectations?
   - Statistical discrimination in one area of the economy excuses people for disparate outcomes that occur across the economy.

4. Removing discretion may eliminate disparate treatment. But, this can hurt minorities.
   - Makes understanding the correct counterfactuals critical.
Some Issues About These Empirical Findings

1. Why is there a systematic disparate impact by race?
   - Effect is there for environmental justice, criminal justice, wages, etc.
   - Mechanisms are less clear.

2. There are important questions of conditioning variables, e.g., in wage regressions:
   - Depends on our definition of discrimination.

3. Who collects the data matters:
   - If police are biased and record crime data, this may create fundamental issues.
   - Data on wages are more readily available than data on hours, so measuring the impact of e.g. minimum wages on disparate impacts is complicated.

4. Easier to identify discrimination in one measurable sector than systemic racism.
Mechanisms Through Which Discrimination Occurs

Some important findings on mechanisms:
- Alsan et al.: improved communication from Black doctors is critical.
- Agan and Starr: employers overuse statistical discrimination.
- Timmins and Vissing: language barriers important for disparate outcomes.
- Carrell et al.: familiarity with peers of other races may help integration.
- Arnold, Dobbie, and Hull: increasing judge knowledge about Black defendants and lowering racial biases may lead to less disparate treatments.

Our view: the future literature will focus on mechanisms and policy responses:
- We’re working on whether and how much the EPA values environmental justice in enforcement.
- More evaluations of counterfactual policies to alleviate discrimination needed.
What About Discrimination in the Economics Profession?

Bayer, Hoover, Washington (2020) conduct surveys of Black, Latinx, and Native American economists and potential economists.

- Survey includes *nondisrupted* and *disrupted* respondents.
- Key concerns: lack of mentoring, lack of good information, and implicit bias.
- Disrupted economists further cite lack of funding, departmental policies/actions, hostile climate, and lack of openness to new questions/methods.

Their suggestions to improve outcomes:

1. Welcome: expand introductory courses to be more applied and with broader applications, and recognize and call out bad behavior.
2. Inform: explain how to succeed in college and prepare for an economics PhD, what economists do outside of the classroom, and salary information.
3. Mentor: listen to mentees’ goals, connect mentees to resources and networks.
Limitations of our Discussion

- We come at this as applied microeconomists starting work on environmental justice.
  - One advantage is we’re not citing our own work!
- We have created a reading list with many experts in these areas, with whom we hope you consult.
- We recognize all of the participants of the University of Arizona discrimination reading group, who helped us understand these papers in greater depth.
  - This includes some great graduate students who will be on the job market soon!
- There are areas we omitted and others where we’re surely missing important works.
We’ve been considering what the University of Arizona can do.

What can the CBO do to understand and address discrimination?
- Should the CBO evaluate the discrimination impact of potential laws?
  - Consider effects on both disparate impact and treatment.
- Consider pipeline effects of hiring practices for RAs and PhDs.

What role do government agencies more generally play?
- Government agencies may want to consider how to best address discrimination.
  - E.g., what does it mean for the EPA to consider environmental justice?
- What about mentoring undergraduates about potential jobs for economists?
  - How much of this should be at the undergraduate vs. graduate level?

What questions should the literature be addressing from your standpoint?