

Taste as an Institution

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Motivation

Macro models of the labor market must jointly reckon with the following 6 descriptive facts ¹:

1. There is a persistent unemployment rate gap between Black and white workers (6 percentage points on average).
2. The gap is driven by both the job finding and separation margins.
3. The Black unemployment rate is more volatile than the white unemployment rate.
4. The unemployment rate gap is counter-cyclical.
5. Charges of racial discrimination filed with the EEOC are also counter-cyclical.
6. The gap is not explained by observables (age, gender, education, marital status, state of residence, or industry).

¹Boulware and Kuttner (2019, 2024); Cajner et al. (2017)

Starting Point

Cairó and Lipton (2023):

- ▶ NK model with search and matching frictions (à la Mortensen and Pissarides 1994) in the labor market and taste-based discrimination.
- ▶ Firms pay extra psychic cost κ to employ Black workers.
- ▶ Can explain the gap in levels and volatilities (1 and 3), the counter-cyclical of the gap (4), and the counter-cyclical of charges of discrimination (5).
- ▶ The gap is driven by both the job finding and separation margins in the model (2).
- ▶ The entire gap is due to discrimination (6).
- ▶ Shortcoming: taste based discrimination is modeled as a black box.

Our contribution: unpack the κ term to inform effective policy for closing the gap.

Search, Matching, and Wage Determination

- ▶ Firms recruit workers by posting un-targeted vacancies.
- ▶ Matching function: matches are proportional to the number of vacancies with elasticity ε and the number of unemployed workers with elasticity $1 - \varepsilon$.
- ▶ All workers will take the resulting job meeting probability, p_t , as given.
- ▶ Firms will take the resulting vacancy filling probabilities, q_{gt} , as given for $g \in \{b, w\}$.
- ▶ q_{gt} is the probability that a vacancy is filled by a worker from group g .
- ▶ Every match draws an idiosyncratic productivity shock, $z_t \sim G$, each period.
- ▶ Revenue is $p_t z_t$, workers are paid wages, $w_{gt}(z)$, according to Nash bargaining.
- ▶ There will be an endogenously determined threshold, z_{gt}^R , below which matches are endogenously destroyed.

Separation, Job-Finding, and Unemployment

- ▶ A fraction λ^x of matches are also exogenously destroyed every period.
- ▶ Separation rate: $s_{gt} = \lambda^x + (1 - \lambda^x)G(z_{gt}^R)$
- ▶ Job finding rate: $f_{gt} = (1 - G(z_{gt}^R))p_t$
- ▶ Unemployment evolution:

$$\underbrace{u_{gt} - u_{gt-1}}_{\text{net change in unemployed population}} = \underbrace{s_{gt}e_{gt-1}}_{\text{inflows to unemployment}} - \underbrace{f_{gt}u_{gt-1}}_{\text{outflows from unemployment}}$$

- ▶ Population size is normalized to 1, so the unemployment rate by race is the mass of unemployed workers of that race divided by the share of the labor force of that race.

Introducing Taste-Based Discrimination

- Match surplus to worker:

$$V_{gt}(z) = \underbrace{w_{gt}(z)}_{\text{wage}} - \underbrace{h}_{\text{UI}} + \underbrace{\beta \left[(1 - \lambda^x - p_{gt+1}) \int_{z_{gt+1}^R} V_{gt+1}(z) dG(z) \right]}_{\text{discounted continuation value}}$$

- Match surplus to firm:

$$J_{gt}(z) = \underbrace{p_t z_t}_{\text{revenue}} - \underbrace{w_{gt}(z)}_{\text{wage}} - \underbrace{\kappa_g}_{\text{discrimination}} + \underbrace{\beta \left[(1 - \lambda^x) \int_{z_{gt+1}^R} J_{gt+1}(z) dG(z) \right]}_{\text{discounted continuation value}}$$

- Total match surplus:

$$S_{gt}(z) = \underbrace{p_t z_t}_{\text{revenue}} - \underbrace{h}_{\text{UI}} - \underbrace{\kappa_g}_{\text{disc}} + \underbrace{\beta \left[(1 - \lambda^x - (1 - \zeta)p_{gt+1}) \int_{z_{gt+1}^R} S_{gt+1}(z) dG(z) \right]}_{\text{discounted continuation value}}$$

Equilibrium Outcomes

- Free-entry condition:

$$\underbrace{\chi}_{\text{vacancy posting cost}} = \underbrace{q_{bt}}_{\text{prob of hiring Black worker}} \underbrace{\int_{z_{bt}^R} \zeta S_{bt}(z) dG(z)}_{\text{average value of Black worker to firm}} + \underbrace{q_{wt}}_{\text{prob of hiring white worker}} \underbrace{\int_{z_{wt}^R} \zeta S_{wt}(z) dG(z)}_{\text{average value of white worker to firm}}$$

- Job destruction condition: $\underbrace{S_{gt}(z_{gt}^R)}_{\text{Surplus at threshold productivity}} = 0$

- $\kappa_b > \kappa_w = 0 \implies z_b^R > z_w^R \implies s_b > s_w, \quad f_b < f_w \implies U_b > U_w$
- Discrimination against Black workers implies that Black workers face higher productivity thresholds, which in turn implies that Black workers face higher separation rates and lower job finding rates, leading to an unemployment rate gap.

Research Questions

- ▶ Challenge: if κ is pure preference, discrimination should vanish in steady state (Becker, 1971).
- ▶ Question 1: How can discrimination survive in the steady state of a Mortensen and Pissarides (1994) search and matching model?
- ▶ Answer 1: κ does not reflect pure taste, but rather all the implicit racial biases built into how employees are evaluated. There is actually a cost, k , to **remove** the κ (i.e. anti-racism training).
 - ▶ Since there is a cost to removing the κ , a non-discriminating businessperson can't just swoop in and compete the discriminators out of the market.
- ▶ Question 2: What policies can help break the discriminatory steady state?
- ▶ Answer 2: Policy that sufficiently subsidizes k can eliminate discrimination in steady state.

The Beckerian Argument in a Mortensen and Pissarides (1994) Model

- ▶ Suppose there are non-discriminating employers who post vacancies.
- ▶ The surplus for these employers from a match with a Black worker is:
$$S_{bt}(z) = p_t z_t - h + \text{discounted continuation value} = S_{wt}(z)$$
- ▶ Compare this to the surplus for the discriminating employers:
$$S_{bt}(z) = p_t z_t - h - \kappa + \text{discounted continuation value} < S_{wt}(z)$$
- ▶ New free entry condition:
$$\chi = \max \{ \text{vacancy value for non-discriminators, vacancy value for discriminators} \}$$
- ▶ Vacancy value for non-discriminators $>$ Vacancy value for discriminators.
- ▶ The cost of a vacancy is higher than the benefit from posting for discriminators, so they will post no vacancies and employ no workers in steady state.

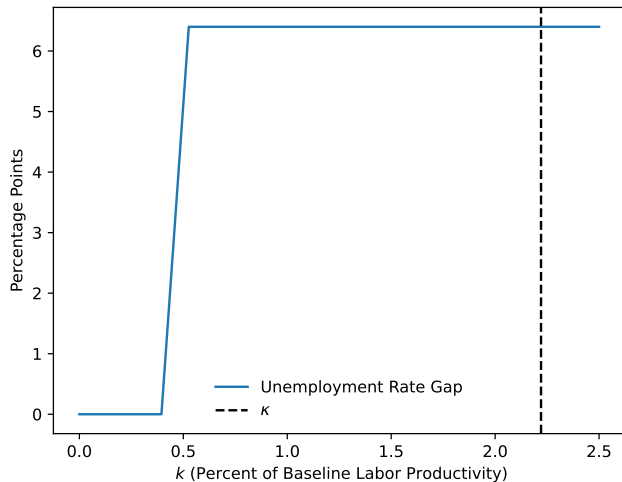
Breaking Becker

- ▶ Suppose κ does not reflect pure preference, but rather the implicit racial biases built into the institution of the labor market:
 - ▶ Bertrand and Mullainathan (2004) fake resume experiment for example.
- ▶ Imagine it requires investment k (trainings, audits, etc.) to combat these biases.
- ▶ Now, the non-discriminating firms are the ones who pay k and the discriminating firms are the ones who do not.
- ▶ New free entry condition:

$$\chi = \max \{ \text{vacancy value for non-discriminators} - k, \text{vacancy value for discriminators} \}$$

- ▶ If k is sufficiently large, the value of a vacancy will be higher for the discriminating firms, so non-discriminators get priced out of the market.

From Discriminatory Steady State to Non-Discriminatory Steady State



Next Steps

- ▶ Can we identify the cost of removing discrimination (k)?
- ▶ In theory, we can from a program evaluation of anti-racism practices.
- ▶ For example, imagine randomly providing a subset of firms free trainings on how to reduce bias when making hiring decisions.
- ▶ We could quantify the causal effect of the training on racial disparities in hiring and compare that to the cost of the program.
- ▶ We can then see that it costs $X\$$ to reduce hiring discrimination by $Y\%$.

References I

- Becker, Gary**, *The Economics of Discrimination*, 2nd ed., University of Chicago Press, 1971.
- Bertrand, Marianne and Sendhil Mullainathan**, “Are Emily and Greg More Employable Than Lakisha and Jamal? A Field Experiment on Labor Market Discrimination,” *American Economic Review*, September 2004, 94 (4), 991–1013.
- Boulware, Karl David and Kenneth N. Kuttner**, “Labor Market Conditions and Discrimination: Is There a Link?,” *AEA Papers and Proceedings*, May 2019, 109, 166–70.
- **and** —, “What Explains Black Employment Dynamics?,” *AEA Papers and Proceedings*, May 2024, 114, 191–95.
- Cairó, Isabel and Avi Lipton**, “Labor Market Discrimination and the Racial Unemployment Gap: Can Monetary Policy Make a Difference?,” Technical Report, FEDS Working Paper No. 2023-65 October 2023.

References II

Cajner, Tomaz, Tyler Radler, David Ratner, and Ivan Vidangos, “Racial Gaps in Labor Market Outcomes in the Last Four Decades and over the Business Cycle,” Finance and Economics Discussion Series 2017-071, Board of Governors of the Federal Reserve System, June 2017.

Mortensen, Dale T. and Christopher A. Pissarides, “Job Creation and Job Destruction in the Theory of Unemployment,” *Review of Economic Studies*, July 1994, 61 (3), 397–415.