Labor market conditions and discrimination: Is there a link?

By KARL DAVID BOULWARE AND KENNETH N. KUTTNER*

This paper looks at race-based employment discrimination and how it depends on labor market conditions. We hypothesize that discrimination will be less prevalent in a tight labor market, simply because firms will not be able to afford to discriminate if they are having to compete for workers. In the context of a search model, for example, the cost to an employer of passing on a qualified minority job candidate, or treating her in such a way that would increase the likelihood of separation, would be an increasing function of the expected time it would take to fill the vacancy, which would be longer when non-minority applicants are scarce.

Our paper brings together two strands of the literature on the labor market outcomes of underrepresented minorities. It relates to the recent research documenting the large and counter cyclical racial gap in unemployment (e.g. Cajner *et al.*, 2017; Hoynes et al., 2012; and Rodgers, 2008). It also deals with some of the issues studied in micro-level research on labor market discrimination (e.g. Neumark, 2018; Darity and Mason, 1998; Lang and Lehman, 2012).

To preview, the panel analysis in section II reveals a strong countercyclical pattern in discrimination, with falling unemployment associated with a decrease in the number of charges filed. Moreover, discrimination charges are disproportionately responsive to the Black/African-American (AA) and Hispanic/Latino-specific unemployment rates. In the cross-sectional analysis of section III, we find that occupational mix and the demographic composition of the labor force explain most of the variation across states in the discrimination charge rate. These findings are consistent with the view that employers's decisions to discriminate are sensitive to the economic costs attendant upon them.

I. Data

Our data on discrimination charges are from the *Enforcement and Litigation Statistics* compiled by the U.S. Equal Employment Opportunity Commission (EEOC). The EEOC reports

* Boulware: Department of Economics, Wesleyan University, 238 Church Street, Middletown, CT, 06459, kboulware@wesleyan.edu. Kuttner: Department of Economics, Williams College, 24 Hopkins Hall Drive, Williamstown, MA 01267, kenneth.n.kuttner@williams.edu. The authors thank Will Levinson and Avi Lipton for research assistance. Boulware thanks Jamein Cunningham and the participants at the 2016 NEA/ASHE Freedom and Justice Conference for useful comments and discussions.

the number of discrimination charges filed for six different categories: race, sex, age, national origin, religion, and color.[1]

A charge of discrimination is a signed statement filed with the EEOC asserting that an employer, union, or labor organization engaged in employment discrimination in the workplace and requests that the EEOC take remedial action. In theory, retaliation against employees who file charges is strictly forbidden; but it is common in practice.

Reported discrimination varies widely across states. At one end are Alabama, Indiana and Arkansas, with charge rates of 2.55, 2.46 and 2.16 per thousand workers, respectively. Connecticut, Massachusetts and California are at the other end of the spectrum, with charge rates of only 0.19, 0.20 and 0.28.

An attractive feature of the EEOC data is that, because the EEOC is legally obligated to accept all charges filed, the numbers will not be affected by differences, either across states or over time, in the criteria used by the EEOC to decide whether and how to proceed with enforcement actions. It is not a perfect measure of workplace discrimination, however, as it requires a worker to file a charge, which is costly (from lost time and inconvenience, at a minimum; and quite often retaliation). Consequently, it reflects an individual's decision to file an application, which depends on the worker's assessments of the costs and benefits; and these are likely to be related to worker characteristics (Oyer and Schaefer, 2002).

Our analysis relies on labor market data from two other sources. We use labor force data from the *Local Area Unemployment Statistics* compiled by the Bureau of Labor Statistics (BLS), broken down by demographic groups and states, to calculate the discrimination charges filed as a share of the relevant demographic group. The BLS is also the source of unemployment rates disaggregated by state and race/ethnicity. The analysis in section III makes use of EEOC data on employment by occupation, also broken down by demographic group and state, from the *Job Patterns for Minorities and Women in Private Industry report*. The EEOC provides figures for ten different occupations; but as discussed below, we will use a coarser two-way distinction between low-wage blue-collar jobs and those with more professional or technical characteristics.[2]

The availability of the EEOC data limits the time period of our analysis to 2009–17. In addition, we drop states with any missing data and those with an average of fewer than 30 charges.[3] The reasons for excluding these states are twofold. First, the missing data

[1]Unfortunately, the race category is not broken down into subgroups (e.g. Black/AA, Hispanic/Latino and Asian), so we will not be able to look at the incidence of discrimination against those in specific groups.

[2]The blue-collar occupations are Clerical, Craft, Operator, Laborer and Service. The other categories are Senior Office, Professional, Middle Management, Technical, and Sales.

[3]The states with missing values are Alaska, Hawaii, Idaho, Iowa, Maine, Montana, Nebraska, New Hampshire, North Dakota, Oregon, South Dakota, Utah, Vermont, Wyoming and West Virginia. Rhode Island is the one state with non-

are typically for the most recent years. This would skew the average unemployment and charge rates, since the unemployment rate has been steadily falling since 2011. Second, the data for states with very few charges (e.g. Wyoming and Alaska) tend to be noisy, and may be unrepresentative of patterns in the rest of the country.[4] Finally, because of missing state-level employment data for Asians, we limit our analysis to the Black/AA and Hispanic/Latino groups.

II. Discrimination over time

This section examines the degree to which fluctuations over time in reported discrimination charges depend on changes in labor market tightness. Our econometric approach is to estimate standard fixed-effects panel regressions of the following form:

$$Y_{i,t} = k_i + \mathbf{U}'_{i,t}\,\mathbf{c} + e_{i,t} \tag{1}$$

where i indexes the state and t is the year. The dependent variable, Y, is the number of reported race-based discrimination charges, divided by the combined of the Black/AA and Hispanic/Latino labor force. The $\mathbf{U}$ is a vector of unemployment rates for the White, Black/AA and Hispanic/Latino groups. The k_i is a state fixed effect.

We estimate equation 1 using OLS, on the assumption that the error term is orthogonal to the demographic group-specific unemployment rates. This rules out feedback from the frequency of discrimination charges to the unemployment rate. This would be invalid if employers used the likelihood of a worker filing a discrimination complaint as a consideration in the hiring decision. The assumption would also be invalidated by the omission of a variable that affected discrimination charges, was correlated with unemployment, and not absorbed by the state fixed effects.

The results in the first row of table 1 show that discrimination is countercyclical for all groups, rising during economic contractions and falling during expansions. The coefficient on unemployment indicates that a one percentage point decline in the unemployment rate is associated with a decrease of 0.07 in the reported discrimination rate, significant at the 0.001 level. To put that into perspective, the estimate implies that the roughly five percentage point drop in unemployment from 2009 to 2017 accounts for a 0.35 reduction in the charge filing rate.

The second row reports the results from a regression in which the unemployment rate is

missing data but fewer than 30 charges.

[4]There is a great deal of overlap between these two sets of states, and dropping those with missing data eliminates all but one of those with fewer than 30 charges.

TABLE 1—PANEL REGRESSION RESULTS

	Coefficients on unemployment rates				
	Overall	White	Black	Hispanic	$\bar{R}^2$
(1)	0.073***				0.32
	(13.1)				
(2)		0.014	0.022***	0.016**	0.34
		(1.00)	(4.20)	(2.28)	

Note: The table reports OLS estimates of Equation 1, including state fixed effects. The dependent variable is the number of race-based discrimination charges divided by the labor force, expressed in charges per 1,000 workers. Unemployment rates are expressed as a percent. Parentheses contain t statistics. Asterisks denote statistical significance: * for 10%, ** for 5% and *** for 1%. The number of observations is 306, a balanced panel of 34 states for 9 years.

broken down into White, Black/AA and Hispanic/Latino categories. The results show that the quantitative effects of labor market conditions differ sharply across groups. The most pronounced impact is for the Black/AA group, with a highly significant coefficient of 0.022. (While this is smaller than the coefficient on overall unemployment in the first regression; but because the drop in Black/AA unemployment was considerably more pronounced, the contribution to the observed reduction in charge filing remains quite large.) The statistically significant coefficient of 0.016 on the Hispanic/Latino unemployment rate shows that labor market conditions disproportionately affect that group as well. White unemployment has no effect on discrimination charges.

The results support the hypothesis that labor market conditions affect discrimination in a way that is consistent with a search model of employment. In a slack labor market, firms can afford to discriminate by passing up qualified minority job applicants, for example; or by treating existing employees in a way that would increase the likelihood of separation. (A caveat is that the observed positive relationship between the unemployment rate and the rate of charge filing could also be driven by an increased tendency of workers to file charges in a slack labor market, even with no increase in actual discrimination.)

III. Discrimination across states

We turn next to the question of what accounts for the stark disparities across states in reported discrimination. Differences in labor market conditions could explain some of these discrepancies, to the extent that slack conditions reduce employers' opportunity cost of discrimination. There is not enough cross-state variation in average unemployment rates to account for these disparities, however; nor is there a clear relationship between unemployment and charge rates. Alabama's charge rate is nine times that of California, for example, despite having a lower average unemployment rate. Factors other than labor market slack are therefore likely to be playing a role.

Occupational mix is another candidate explanation for cross-state differences in discrimination charges. A plausible hypothesis is that it is easier to replace workers for low-end jobs (e.g. clerical or service), than it is for professional jobs (e.g. managerial or technical). In the context of a search model of employment, the opportunity cost (i.e. the additional time the vacancy would remain unfilled) of firing a worker of failing to hire an applicant would be less costly in the former case than in the latter. Consequently, one would expect to find more discrimination in states with a higher share of low-skill "blue-collar" jobs.

The demographic composition of the labor force could be another factor. Again in the context of a search model, having a large share of minorities in the labor force would increase the cost of discrimination, if the scarcity of white applicants meant it took longer for employers to find suitable non-minority workers.

Finally, discrimination may arise from longstanding cultural or social factors. Some (though surely not all) may be related to the history of slavery and segregation, and thus be more prevalent in the southern states.

To explore these possibilities, we estimate a cross-sectional regression using time averages of the state-level data. Essentially, this is an effort to discern the source of the state fixed effects in the panel regressions presented in the previous section. The cross-sectional approach is appropriate here since the candidate explanatory variables are constant or change only gradually over time.

We use the following model specification

$$Y_i = k + a \cdot X_i + \mathbf{L}_i' \, \mathbf{b} + \mathbf{U}_i' \, \mathbf{c} + d \cdot D_i + e_i \tag{2}$$

in which Y is again the number of race-based discrimination charges (per thousand) in the relevant subset of the labor force, $\mathbf{U}$ is a vector of the unemployment rates for White, Black/AA and Hispanic/Latino groups, $\mathbf{L}$ is a vector of labor force shares for Black/AA and Hispanic/Latino groups (the White share is 1 minus the sum of the other two). The X is the (scalar) share of the workforce engaged in blue collar occupations, and D is a dummy variable equal to 1 for the states in the deep South (defined as those belonging to the Confederacy). Table 2 reports the OLS estimates of equation 2.

The significant positive coefficient on the blue collar share regressor shows that states with relatively more workers in low-skill occupations tend to report more discrimination. The parameter estimate implies that a 1 standard deviation increase in the blue collar share (0.06) is associated with an increase of 0.3 in the rate of charge filing. This corresponds to

TABLE 2—CROSS-SECTION REGRESSION RESULTS

	Labor force shares, **L**		Unemployment rates, **U**			Blue collar	Deep	
	Black	Hispanic	White	Black	Hispanic	share, X	South, D	$\bar{R}^2$
(1)	–2.706**	–3.364***	0.004	0.0204	–0.138**	5.068***	0.254	0.665
	(2.40)	(3.87)	(0.04)	(0.45)	(2.17)	(3.57)	(1.22)	
(2)	–1.982**	–3.283***			–0.143**	5.770***		0.678
	(2.32)	(5.22)			(3.46)	(5.03)		

Note: The table reports OLS estimates of equation 2. The dependent variable is the number of race-based discrimination charges divided by the labor force, expressed in charges per 1,000 workers. Unemployment rates are expressed as a percent and employment shares are in decimal terms. Parentheses contain t statistics. Asterisks denote statistical significance: * for 10%, ** for 5% and *** for 1%. The number of observations is 34.

going from an "average" state with a charge rate of 1.10 per thousand (e.g. Illinois, with 1.09) to one with a rate of 1.31 (e.g. Ohio, 1.32). The result supports the hypothesis that search costs are an important consideration in firms' decisions to discriminate.

The coefficients on the Black/AA and Hispanic/Latino labor force shares are both negative and statistically significant, indicating that fewer discrimination charges are filed in states with relatively more minority workers. The effects are substantial in economic terms, with 1 standard deviation increases in the shares leading to decreases of 0.24 and 0.37 per thousand for Blacks and Hispanics, respectively. This is consistent with the hypothesis that a larger share of minorities in the labor pool decreases the likelihood of finding qualified non-minority workers, and increases employers' opportunity cost of discrimination.

Unemployment rates explain relatively little of cross-state variation in discrimination. The coefficient on the Black/AA rate is statistically insignificant. The negative parameter estimate indicates that Hispanic/Latino unemployment is associated with less discrimination, counterintuitively; but the magnitude of the effect is small in economic terms. Interestingly, the deep South dummy is statistically insignificant. This suggests that to the extent that historical and/or social factors affecting discrimination are not uniquely associated with states in the region. The second line of the table shows that dropping the insignificant Black/AA and White unemployment rates and the deep South dummy yields very similar parameter estimates, and a modest increase in the adjusted R-squared.

IV. Conclusions

Using charges filed with the EEOC as an indicator, we found that race-based employment discrimination varies systematically over the business cycle and across states, in ways that are consistent with employers weighing Becker's (1971) "tastes for discrimination" against the opportunity cost of indulging those tastes.

Examining the cyclicality of discrimination charges in a panel of states in section II, we found that the incidence of reported discrimination charges depends on the state of the labor market, with increases in unemployment leading to more frequent charges. This finding should serve as a reminder that the reduction in discrimination associated with low unemployment should not be overlooked as a benefit of a strong economy. Monetary and fiscal policymakers should take this into account when weighing the benefits of expansionary policy against the costs. Moreover, the unemployment rates for Black/AA and Hispanic/Latino workers affect race-based discrimination charges, even controlling for overall labor market conditions.

Looking across states in section III, we found that slack labor market conditions, measured by the unemployment rate, are not generally associated with an increased incidence of race-based discrimination charges. The occupational mix of jobs matters more, as states with more blue-collar jobs, on average, experiencing a higher incidence of race-related discrimination charges. Fewer discrimination charges are filed in states with relatively larger shares of minority workers.

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