BLACK JOB APPLICANTS AND THE HIRING OFFICER'S RACE

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Recent studies have consistently found that in the United States, black job applicants are hired at a greater rate by establishments with black hiring agents than by those with white hiring agents. The results of this examination of data from the 1992–94 Multi-City Employer Survey suggest two proximate reasons for this pattern: black hiring agents receive applications from blacks at greater rates than do white hiring agents, and they hire a greater proportion of blacks who apply. The authors suggest that moving more blacks into positions with hiring authority within firms might help to alleviate the persistent unemployment difficulties of African Americans.

The distribution of African-American employment is uneven across firms.[1] Several studies show that African Americans account for a greater proportion of employment in central city establishments than in suburban establishments (Stoll et al. 2000; Holzer and Ihlanfeldt 1996; Raphael 1998). Similarly, recent research on firm size and black employment demonstrates that smaller firms are less likely than larger firms to employ African Americans (Holzer 1998a; Chay 1995). In this paper, we document and explore an empirical observation that has received less attention: establishments where blacks are in charge of hiring are considerably more likely to employ African Americans than are establishments in which whites are in charge of hiring.

This empirical regularity has surfaced in several recent studies. Raphael et al. (2000) showed that suburban firms with black hiring agents are more likely to hire African Americans than are suburban or central city firms with white hiring agents. Using data from the 1990 Worker-Establishment Characteristics Database and the 1987 Characteristics of Business Owners Database, Carrington and Troske (1998) found that black workers are disproportionately sorted into firms in which owners, managers, and customers are also black. Bates (1993, 1994), using a 1987 survey of small businesses from 28 metropolitan areas, showed that the black share of employment at black-owned firms is high both in predominantly minority areas and in non-minority areas, and is higher than that in white-owned firms. Similarly, in a descriptive case study of Detroit firms in the auto supply industry,

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The data, along with copies of the computer programs used to generate the results presented in the paper, are available from the first author at School of Public Policy and Social Research, UCLA, 3250 Public Policy Bldg., Los Angeles, CA 90095–1656; e-mail MStoll@UCLA.edu.

[1]We use the terms black and African American interchangeably to refer to U.S. citizens of African descent.

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Turner (1997) demonstrated that black-owned firms hire a greater percentage of black applicants than do otherwise similar white-owned firms.

We explore this empirical regularity by analyzing the individual steps of the hiring process and the role of the race of the hiring agent. We first assess the degree to which differences in the race of the hiring agent correspond to differences in the racial composition of the establishment's applicant pool. We investigate the proportion of the variation in black application rates across establishments that can be attributed to differences in observable characteristics such as an establishment's physical proximity to black residential areas and access to public transit. Residual differences in black application rates between firms with black and white hiring agents provide upper bound estimates of the effect of the hiring agent's race on black application rates.

Next, we explore the association between the race of the hiring agent and the race of the establishment's most recent hire. To the extent that black hiring agents generate higher black application rates, there will be a positive correlation between the presence of a black hiring agent and the likelihood of hiring black workers. We assess whether the race of the hiring agent affects outcomes above and beyond any indirect effect operating through application rates. We also test whether the partial correlation between the hiring of black workers and the presence of a black hiring agent survives controlling for observable establishment characteristics, such as size, location, or recruiting and screening methods.

The Hiring Agent's Race and Blacks' Employment at the Firm

There are several avenues by which the race of the hiring agent may directly affect the race of recent hires. For example, in recruiting new employees, hiring agents may rely on social networks that are either external or internal to the firm. The racial composition of these networks is likely to depend on the race of the decision-making agent. In addition, the race of the hiring agent may influence racial preferences. If such preferences affect hiring outcomes, black hiring agents may be less likely to discriminate against (or more likely to discriminate in favor of) African Americans than are white agents.[2]

These factors are also likely to influence where blacks apply for jobs. Informal and formal recruiting efforts that tap into predominantly black social networks should generate relatively large numbers of black applications. Furthermore, black applicants may take into account their *a priori* perceptions concerning the likelihood of being treated fairly in the application process and therefore apply to firms where they may face less discrimination—for example, firms in which blacks already hold positions of authority (Holzer 2000).

The impact of black hiring agents on racial hiring outcomes will depend in part on the agent's position within the establishment. For example, black business owners will have more latitude in designing recruiting strategies and making hiring decisions than black agents who are employed as personnel officers. Similarly, black agents in black-owned firms may face constraints different from those faced by black agents in white-owned (or predominantly white) firms. The latter group may face pressure to behave like whites, or, at minimum, to hire in a way that is consistent with whites' preferences. Indeed, in white-owned firms, blacks may be selected into hiring positions only if they demonstrate behavior that is "non-threatening" or consistent with a firm's racial preferences.

[2]While some research has measured employer discrimination in hiring against African Americans (see Fix and Struyk 1994), we are aware of no studies directly investigating the hypothesis that employers with black hiring agents discriminate against African Americans less than employers with white hiring agents do. Some indirect evidence reported by Raphael et al. (2000), however, is highly suggestive of the validity of that hypothesis.

The ability of black hiring agents to hire African Americans may also be mitigated by the skill requirements of jobs or by the frequency with which these firms hire less-skilled workers. Firms with high skill demands, low vacancy or turnover rates, or a pattern of hiring few workers relative to the size of their work force are associated with lower black employment (Holzer 1998b). This association is due partly to African Americans' lower levels of skill, and partly to discriminatory treatment by employers that places black applicants lower in the hiring queue. To the extent that black hiring agents are employed in firms with these characteristics, there will be fewer opportunities to exert influence.

To be sure, observed differences between firms with black hiring agents and those with white hiring agents in the likelihood of hiring African-American applicants may be attributable to mean differences in basic firm characteristics, such as geographic location, size, racial composition of customers, and use of Affirmative Action in the hiring process. The literature on spatial mismatch indicates that racial residential segregation combined with search and commuting costs and imperfect information limits the geographic distance workers are willing or able to travel (Stoll 1999; Stoll and Raphael 2000; Holzer and Ihlanfeldt 1996). These spatial factors contribute to racial segregation across workplaces. Firms located nearer to black communities receive more applications from blacks, as a proportion of all applications, and will be more likely to hire black workers as a result. By similar reasoning, such establishments may also be more likely to have black employees in charge of hiring, creating a spurious correlation between the race of the hiring agent and the race of recent hires.

Similarly, average differences in establishment size may contribute to the observed differences in hiring outcomes between firms with black and white hiring agents. African Americans are more likely to work in larger firms than in smaller firms. This pattern is often attributed to the fact that larger firms are more concentrated in central cities, are more likely to have Affirmative Action policies, are more likely to face perceived or real pressure from government Equal Employment Opportunity (EEO) regulations, and are more likely to use hiring practices that are favorable to black applicants (Holzer 1998a; Chay 1995; Carrington et al. 1995). These same factors might also increase the likelihood that the hiring agents at larger firms are black.

Similar arguments apply to the firm's use of Affirmative Action, as well as to the racial composition of the firm's customer pool. Whether the firm engages in Affirmative Action in recruitment or hiring (either because it is a federal contractor or because it has voluntarily chosen to do so) is likely to influence hiring practices and the racial composition of applicants (Holzer and Neumark 2000). The firm's customer pool is also likely to influence the racial composition of applicants and hiring at the firm, as customer preferences will affect the behavior of profit-maximizing employers (Becker 1971; Holzer and Ihlanfeldt 1998; Stoll et al. 2000).

Description of the Data and the Empirical Strategy

We use data from employer surveys collected through the Multi-City Study of Urban Inequality (MCSUI). The employer surveys were administered by telephone to over 3,000 firms between June 1992 and May 1994 in the Atlanta, Boston, Detroit, and Los Angeles metropolitan areas. The sample of firms comes from two sources: a household survey conducted concurrently in the four metropolitan areas (providing approximately 30% of the firms) and a sample generated by Survey Sampling Incorporated (SSI).[3] The response rate for

[3]SSI draws its sample of firms primarily from local phone directories. The subsample of firms drawn from households is based on a question in the household survey that asked for the name and location of the respondent's current employer. The household-based firm data were generated in order to construct a matched household-firm subsample from the two separate surveys.

firms that passed the initial screening is 67%, which is comparable to response rates in other recent telephone surveys of employers (Kling 1995).

The SSI sample of the MCSUI survey is randomly stratified where the initial lists are stratified by establishment size. In addition, firms are sampled according to the proportion of metropolitan area employment accounted for by their respective size categories. Hence, the SSI sample is representative of the set of establishments faced by a jobseeker in any of the four metropolitan areas. Sample weights are used in all tabulations and model estimations to account for the non-representative portion of the sample from the household surveys. Holzer (1996) provided detailed comparisons of response rates by 1-digit industry, county of location, and establishment size categories and found no substantial differences in response rates of firms across these characteristics.[4] He also provided evidence that the within-area distributions of firms in the MCSUI sample across industry and firm size are comparable to those found in *County Business Patterns*, suggesting that the sample of establishments generated here is quite representative.

Of course, focusing on the last hired worker in each establishment might cause us to oversample high-turnover or low-wage/low-skill employees *within* (as opposed to across) establishments. However, Holzer (1996) also showed that the distribution of workers across 1-digit occupations in these establishments is fairly close to the corresponding estimated distributions in the 1990 Census of Population for these four metropolitan areas, which implies that any such bias in the nature of the sample is not severe. Nevertheless, we limit our analysis below to workers hired into jobs that do not require a college degree (that is, non-college jobs). Hence, our focus is on the hiring of semi- and low-skilled employees.[5]

A telephone survey was conducted with the individual in charge of hiring (whom we identify as the "hiring agent") at each establishment. The survey collected information on the respondent's self-identified racial group. Extensive information was also collected on the establishment's characteristics (for example, establishment size, industry, presence of collective bargaining, and distance from public transit stops), hiring and screening behavior, and skill demands and requirements of jobs. The survey also contains information on the characteristics of the most recent non-college job filled by the employer and the traits of the last worker hired into that job. For each establishment, we calculate the average physical distance between the establishment and the residences of various racial groups. This provides a more precise measure of firm spatial proximity to the residences of minority and non-minority workers than does the standard central city indicator often used in the literature.[6]

We use a number of firm-level outcome measures to examine differences in hiring outcomes between establishments with black and white hiring agents. Specifically, we analyze the determinants of the proportion of applications submitted to the firm that are from African Americans, whether the last worker hired

[4]These characteristics of establishments are available even for non-respondent establishments, based on the data provided on each prospective respondent by SSI.

[5]Our sample might still overstate the presence of high-turnover jobs within the lower educational or occupational categories. But the relatively high frequency of reading/writing, arithmetic, and computer tasks required on these jobs (Holzer 1998b) also suggests that any such bias should not be not terribly large.

[6]More precisely, these distances are weighted averages of the distances (in miles) from the census tracts in which the establishments are located to every other census tract in the metropolitan area, weighted by the percentages of racial/ethnic population groups (for example, blacks) that are located in those other census tracts, according to the 1990 Census of Population STF3a files.

into a non-college job was African American, and the percentage of non-college employees who are black. The percentage of applicants who were black provides information on the supply of black workers to the firm. The second measure provides a gauge of the hiring decisions most likely to be made by the current hiring agent. The final measure provides an overall indication of the average hiring policies of the firm.

Each of the outcomes used raises various concerns over the extent to which we can attribute the hiring of African-American workers to the person in charge of hiring. A major concern is that the race of the hiring agent may in itself be endogenous to hiring practices at the firm—that is, unobservables causing blacks to be promoted to positions of authority may be correlated with those leading to high black hiring, employment, and application rates at the firm. For example, an actively pursued Affirmative Action policy at a firm is likely to lead to both the employment of blacks and the promotion of blacks into hiring positions. Similarly, firms with a predominantly black applicant pool may find that employing black hiring agents minimizes recruitment and screening costs. To mitigate concerns about omitted variables bias, we control extensively for employer hiring and recruiting practices and establishment characteristics.

Our empirical strategy is as follows. First, we examine mean differences in hiring outcomes between establishments with black hiring agents and those with white hiring agents. Next, we estimate a series of regression equations to explain the baseline differences between these employers in the recruitment and hiring of African Americans. The final specifications of these equations are then used to develop a series of decomposition exercises aimed at estimating to what degree the differences between establishments with black and white hiring agents in the recruitment and hiring of African-American workers can be attributed to the various establishment-level factors.

Empirical Results

Unadjusted Differences in Hiring Outcomes

Table 1 shows the means of the establishment-level applicant and hiring outcomes for African-American workers in all establishments as well as in those where the hiring agent is white (82% of all employers in the sample), black (9%), or "other minority" (9%).[7] These measures are shown for the pooled sample of metropolitan areas and separately for each MSA. The results indicate that applications from blacks represent a smaller proportion of all applications received by firms with white hiring agents than by other firms. The split is particularly stark when one considers just those firms receiving *no* applications from black job seekers: nearly 19% of firms with white hiring agents are in that category, compared to 3% of firms with black hiring agents.[8]

The results also indicate that the proportion of the non-college work force that is African American is larger at establishments with black hiring agents than at other establishments. Moreover, the last hired worker is much more likely to be black in such establishments. These general patterns are comparable across the four metropolitan areas included in our analysis, although there are some notable differences. For example, the difference between the two categories of establishments in the percentage of non-college employees who are African American is about 29 percentage points in Atlanta, while it is between 32 and 51 percentage points in the

[7]The other minority hiring agent category includes persons of Hispanic, Asian, and Native American background, as well as "other" racial background. The majority of the hiring agents in this category are Hispanic.

[8]We examined the mean percentage of applicants who are black for firms with nonzero values for this measure, and found differences between firms with white and black hiring agents that were similar to those reported in Table 1 with zero values included.

Table 1. Black Employment and Applicants by Race of the Hiring Agent—Non-College Jobs. (Standard Deviations in Parentheses)

	Race of Employer			
Description	*White*	*Black*	*Other Minority*	*All*
Pooled Sample of Metro Areas				
% Applicants Black	0.257 (0.294)	0.522 (0.308)	0.200 (0.240)	0.268 (0.297)
Probability Last Hire Is Black	0.149	0.489	0.080	0.175
% Employees Black	0.153 (0.229)	0.517 (0.326)	0.118 (0.186)	0.174 (0.251)
Ratio Last Hire Black to Black Apps.	0.580	0.937	0.400	0.653
Atlanta				
% Applicants Black	0.381 (0.321)	0.580 (0.292)	0.298 (0.246)	0.395 (0.321)
Probability Last Hire Is Black	0.254	0.534	0.252	0.280
% Employees Black	0.265 (0.270)	0.558 (0.330)	0.292 (0.317)	0.295 (0.291)
Ratio Last Hire Black to Black Apps.	0.667	0.921	0.846	0.709
Boston				
% Applicants Black	0.159 (0.237)	0.320 (0.305)	0.297 (0.312)	0.165 (0.241)
Probability Last Hire Is Black	0.073	0.414	0.036	0.081
% Employees Black	0.094 (0.191)	0.486 (0.319)	0.102 (0.139)	0.103 (0.202)
Ratio Last Hire Black to Black Apps.	0.459	1.294	0.121	0.491
Detroit				
% Applicants Black	0.318 (0.327)	0.730 (0.236)	0.282 (0.359)	0.340 (0.336)
Probability Last Hire Is Black	0.210	0.752	0.102	0.240
% Employees Black	0.154 (0.238)	0.663 (0.334)	0.115 (0.166)	0.183 (0.271)
Ratio Last Hire Black to Black Apps.	0.660	1.030	0.362	0.706
Los Angeles				
% Applicants Black	0.190 (0.228)	0.414 (0.287)	0.177 (0.223)	0.202 (0.238)
Probability Last Hire Is Black	0.062	0.331	0.058	0.085
% Employees Black	0.078 (0.128)	0.400 (0.287)	0.094 (0.155)	0.107 (0.172)
Ratio Last Hire Black to Black Apps.	0.326	0.800	0.328	0.421

Note: All results are weighted with survey weights.

other metropolitan areas. These differences, however, do not seem to correlate with the percentage of blacks in the metropolitan area. For example, the difference between establishments with black and white hiring agents in the percentage of non-college employees who are black is similar in Atlanta, which has the largest percentage of blacks for the metro areas in the sample, and Los Angeles, which has next to the smallest share of blacks but the largest share of Hispanics.

For the sample overall and for each metropolitan area, the table also presents the ratio of the proportion of firms whose most recent hire was black to the average black application rate for the respective cells created in the table.[9] This ratio reflects the demand for black applicants conditional on where they apply, or specifically, the rate at which firms hire blacks out of the available black applicant pool.[10] The pat-

[9]These values provide the ratio of the averages for each variable rather than the average of an establishment-level ratio.

[10]We also constructed similar ratios for the percentage of non-college employees at the firm who are black and the black application rate, and we found results similar to those we report here. If we make the strong assumption that the firm's hiring practices are in a steady state, the ratio of the black share of non-

terns consistently indicate that firms with black hiring agents are more likely to hire black workers out of the available applicant pool than are firms with white or non-black minority hiring agents.[11] Moreover, this conditional hiring rate is well below 1 for firms with white or non-black minority agents, indicating a relative disinclination to hire black applicants.[12] Of course, black application rates are likely to be endogenously determined by establishment recruitment practices, which in turn are likely to reflect employers' preferences. Endogenous application rates would bias this conditional hiring rate toward one. Hence, mean differences in this ratio are likely to understate the true racial differences across establishments in the propensity to hire blacks out of the available applicant pool.

Another concern is that we are only measuring the relative quantity and not the quality of black applicants across firms. This may affect the interpretation of the conditional hiring rates of African Americans between employers with black and white hiring agents. The obvious possibility is that the higher conditional hiring rate of African Americans by employers with black hiring agents may reflect the self-selection of higher-skilled African-American applicants to these employers. However, this concern is tempered by the fact that higher-skilled African-American applicants are more likely to live in suburban than central city areas (Holzer 2000), while employers with black hiring agents are more likely to be located in central cities. The fact that larger firms also have higher skill requirements, despite their relatively greater tendency to hire blacks, tends to mitigate this concern as well.

Estimating Equations

The preceding analysis demonstrates very large differences between employers with black, white, and non-black minority hiring agents in the propensity to receive applications from, and hire, African-American workers. In this section, we discuss the models used to assess what exactly determines these differentials. We estimate the equations

$$(1)\quad \%\text{ApplicantsBlack}_k = R_k\beta_{11} + \beta'_{12}X_k + \varepsilon_{1k}$$

$$(2)\quad \Pr_k(\text{LastHireBlack}) = F_2(R_k\beta_{21} + \beta'_{22}X_k + \beta'_{23}D_{jk} + \varepsilon_{2k})$$

$$(3)\quad \%\text{NonCollegeEmployeesBlack}_k = R_k\beta_{31} + \beta'_{32}X_k + \varepsilon_{3k}$$

where R is the race of the hiring agent in firm k, X is a variety of independent establishment-level variables for firm k, and D is a matrix of variables describing the characteristics of the most recent job filled. Equations (1) and (3) are estimated with OLS, while equation (2) is estimated using probit.[13]

Variation in application and hiring outcomes for African Americans may be attributable to several factors, including basic establishment-level characteristics, black

college employment to black application rates reflects both the firm's propensity to hire black employees and its propensity to retain black employees. We show the ratio of new hires to applicants because the applicant data are measured with more precision to the last filled job than to the employment level at the firm.

[11]We also find patterns similar to those in Table 1 when hiring agents are classified according to their position within the establishment—that is, owner, manager/supervisor, personnel officer, or other personnel. These results are available upon request to the authors.

[12]Conversely, it is fair to say that establishments in which this ratio is greater than one have a relatively stronger inclination to hire blacks out of the applicant pool.

[13]We also estimated equation (3) with tobit, on the assumption that there might be a censored latent variable (that is, zeros) in the measure of non-college employees who are black that would indicate that negative demand could exist in the form of layoffs or discharges of those non-college blacks previously hired. 34.6% of the sample did not have blacks employed at the firm. However, the results of these models were nearly identical to those shown here using OLS.

application rates (for employment outcomes), employer preferences, overall hiring activity and labor market conditions, and the skill needs and requirements that employers use in filling vacancies. To adjust for such factors, we use a number of establishment characteristics as independent variables.[14] Basic firm characteristics that are likely to affect black application rates and employment include size, industrial affiliation, collective bargaining, and non-profit status. A particularly important establishment characteristic will be physical location. To control for spatial proximity, we include measures of an establishment's proximity to public transit stops, the average distance to black neighborhoods, and whether the firm is located in the central city.[15] We also control for the internal position of the hiring agent in the establishment, such as whether the agent is the owner, manager, or personnel department officer.

The percentage of applicants who are black is also likely to affect black employment at the firm, since it influences the composition of the pool of workers from which employers hire. However, the black application rate is also endogenous to the firm's hiring practices and preferences and ultimately to its employment. Since the black application rate both influences and is influenced by factors relating to black employment at the firm, we treat it as both an independent and dependent variable in the analysis.

In addition, for the two employment outcomes, we present regression models with and without controlling for the percentage of the applicant pool that is African-American. To be sure, the racial composition of applicants to the establishment is likely to be influenced by the social networks and unobserved practices of the hiring agent in charge. For the purposes at hand, this suggests that controlling for the proportion of applicants who are black will over-control for, and possibly under-estimate, the impact of the race of the hiring agent. Nonetheless, the racial composition of the applicant pool provides a sweeping control for supply-side factors that are likely to influence the race of the most recent hire as well as the composition of the establishment's work force independent of the preferences of whose in charge of hiring. Thus the true effect of a black hiring agent will likely lie between these two alternative model estimates.

We observe several establishment-level variables that are indicative of employer preferences toward employing members of particular minority groups. For example, we can observe the percentages of blacks in the customer pool and whether or not the firm engages in Affirmative Action in recruitment or hiring. We include these controls in the models below. To proxy overall hiring activity and labor market tightness, we use the establishment's current job vacancy rate, measured as the percentage of all jobs in the establishment that are vacant and available. The vacancy rate should incorporate both the frequency of new hiring, reflecting turnover and net employment growth at the establishment, and the average durations of such efforts, reflecting employers' ability to find acceptable applicants for these jobs. We also include the gross hiring rate, measured as the total number of persons hired in the previous year as a percentage of the total number of

[14]In addition to these, we also experimented with variables indicating whether hiring agents thought inner-city workers were weaker job candidates, and, in equations using the last hired worker as the dependent variable, variables indicating whether the job required "soft skills" such as appealing speech, dress, or appearance. Recent research indicates that "soft" skill job requirements prevent blacks from attaining employment (Moss and Tilly 1996). Including these variables did not change the black hiring agent coefficient, though some of them were statistically significant predictors of the dependent variables.

[15]The locations of firms are based on their mailing addresses. The primary central city refers to the cities of Atlanta, Boston, Detroit, and Los Angeles. In Los Angeles, the San Fernando Valley is excluded from the central city, while East Los Angeles is included. The other areas include other central cities in each of these four metropolitan areas as well as other municipalities whose residents are at least 30% black. See Holzer and Ihlanfeldt (1996) for a more thorough discussion of these location definitions.

current employees, to capture the overall extent of hiring at the firm. All of these dimensions of hiring should influence the firm's willingness to hire applicants from disadvantaged groups, such as blacks (see, for example, Freeman and Rodgers 2000).

Overall skill needs and requirements for jobs are also likely to affect black employment at the firm. So, too, should the recruitment methods and hiring practices used by firms to fill jobs. To capture the skill measures, we include a series of dummy variables indicating whether the last filled job requires a high school diploma, recent or specific work experience, references, or vocational training. We also include a series of task variables for the last filled non-college job that indicate whether customer contact, phone use, reading/writing, math, or computer use is required. We capture firms' recruitment methods through a series of dummy variables that indicate whether the firm used informal referrals, public or private placement agencies, newspaper ads, or help wanted signs/walk-ins to fill the job.[16] Finally, we include a vector of hiring practice dummies that measure whether the firm used pre-employment tests, criminal background checks, personal interviews, or written applications. We also control for the log of the starting wage of the last filled job. This should partially allay concerns about unobserved skills and supply-side factors affecting the choice to apply and accept an offer. Indeed, the effects of virtually all of the above variables on an establishment's hiring of low-skill and minority workers have been demonstrated in past work.[17]

Since the skill needs and requirements variables as well as the variables measuring the hiring practices of firms refer to the last position filled, we include these measures in the specification of equation (2). Since the questions regarding the racial composition of the applicant pool also pertain to the most recent position filled, we also include these controls in our analysis of applicant racial composition (equation 1).[18] We will present a variety of specifications that use the variables listed above to examine the factors that explain why firms with black hiring agents are more likely to hire African-American workers than are firms with white or non-black minority hiring agents. While unobserved heterogeneity across establishments and jobs is always a concern with regard to cross-sectional estimates, the broad range of the variables described here will, we hope, limit its effects.

Table 2 provides the means of these establishment-level characteristics by the race of the hiring agent. Establishments with black hiring agents are, on average, located nearer to black populations than are those with white hiring agents. Nearly 57% of firms with black hiring agents are located in primary central city areas, as compared to 24% of firms with white hiring agents. Moreover, relative distance to black neighborhoods is substantially greater for employers with white hiring agents than for those with black and other minority hiring agents. Firms with black hiring agents are also closer to public transit stops than are those with white hiring agents, a fact that is largely attributable to the greater presence of the former in central city locations (Holzer and Ihanfeldt 1996). Given the

[16]Interactions between black hiring agents and each of the recruitment methods were never statistically significant in equations (1) and (3), indicating that if there were differences in recruitment methods between black and white hiring agents, they were not responsible for differences in the rates at which blacks applied for employment or were hired.

[17]See, for instance, Holzer (1996, 1998a, 1998b, 2000), Holzer and Ihlanfeldt (1996), and Stoll et al. (2000).

[18]For much the same reason, we experimented with including in equation (1) the vector of dummy variables for hiring practices and hiring requirements. However, because none of these variables attained statistical significance, and their inclusion did not change the estimated coefficients of the effect of the hiring agent's race on the racial composition of applicants, we did not include them in the specifications shown here.

Table 2. Means of Firm-Level Characteristics by Race of the Hiring Agent: Pooled Sample of Metro Areas. (Standard Deviations in Parentheses)

	Race of Employer			
Description	*White*	*Black*	*Other Minority*	*All*
Level of Hiring Agent				
Owner	0.189	0.139	0.183	0.185
Manager/Supervisor	0.491	0.379	0.436	0.478
Personnel Department Officer	0.207	0.367	0.271	0.224
Other Personnel Officer	0.111	0.116	0.110	0.112
Firm Size				
1–19	0.395	0.288	0.419	0.390
20–49	0.213	0.146	0.149	0.203
50–99	0.129	0.140	0.080	0.125
100–499	0.172	0.279	0.234	0.184
> 500	0.078	0.145	0.074	0.082
Industry				
Agriculture/Mining	0.001	0.011	0.000	0.002
Construction	0.023	0.000	0.001	0.019
Manufacturing	0.174	0.036	0.188	0.166
Trans./Comms./Utils.	0.046	0.119	0.039	0.050
Wholesale Trade	0.080	0.001	0.071	0.074
Retail Trade	0.187	0.188	0.162	0.185
Finance, Insurance, and Real Estate	0.083	0.047	0.031	0.075
Services	0.375	0.556	0.478	0.397
Collective Bargaining	0.228	0.323	0.314	0.243
Not-for-Profit	0.187	0.385	0.299	0.211
Location				
Relative Distance—Black Population	0.772 (0.187)	0.655 (0.172)	0.726 (0.141)	0.759 (0.185)
Central City—Primary	0.241	0.566	0.440	0.282
Other Areas	0.168	0.074	0.158	0.160
Suburbs	0.591	0.361	0.402	0.558
Distance from Public Transit Stop				
0–.25 miles	0.585	0.751	0.769	0.614
.26–1.00 miles	0.141	0.082	0.169	0.139
> 1.00 miles	0.273	0.167	0.063	0.247

Continued

relatively heavy dependence of African Americans on public transit (Raphael and Stoll 2000; Holzer et al. 1994), one would expect these differences to partially explain the greater propensity of employers with black hiring agents to hire black applicants. Differences between firms with white and black hiring agents in these location characteristics are also likely to account for the greater percentage of customers who are black at firms in which the hiring agents are black.

Employers with black hiring agents are also more likely than other employers to be in the service industry and to have large firms. This is important with regard to the questions at hand, since larger firms and firms in service industries are more likely to use Affirmative Action than are smaller firms and firms in manufacturing (Holzer and Neumark 2000; Holzer 1998a). Black hiring agents are employed at firms that have relatively strict hiring requirements and practices. For example, firms with black hiring agents are more likely to require a high school diploma than are firms

Table 2. Continued.

Description	*Race of Employer*			
	White	*Black*	*Other Minority*	*All*
Percent Customers Black	0.172 (0.191)	0.354 (0.285)	0.140 (0.153)	0.262 (0.294)
Affirmative Action	0.489	0.626	0.606	0.509
Vacancy Rate	0.036 (0.096)	0.039 (0.121)	0.028 (0.077)	0.036 (0.096)
Gross Hire Rate	0.410 (2.118)	0.265 (0.436)	0.268 (0.400)	0.387 (1.946)
Recruiting Methods				
Help Wanted Signs/Walk-ins	0.708	0.816	0.694	0.714
Informal Referrals	0.866	0.915	0.820	0.865
Public Placement Agencies	0.491	0.759	0.519	0.512
Private Placement Agencies	0.193	0.248	0.220	0.200
Newspaper Ads	0.447	0.410	0.383	0.438
Hiring Requirements				
High School Diploma	0.694	0.855	0.654	0.701
Recent Work Experience	0.698	0.729	0.678	0.699
Specific Work Experience	0.634	0.668	0.645	0.638
References	0.749	0.811	0.783	0.757
Vocational Training	0.388	0.459	0.395	0.394
Hiring Practices				
Pre-Employment Tests	0.283	0.384	0.298	0.292
Criminal Check	0.285	0.556	0.273	0.302
Personal Interview	0.875	0.896	0.806	0.870
Written Application	0.781	0.845	0.742	0.782
Job Tasks				
Customer Contact	0.727	0.784	0.774	0.736
Phones	0.640	0.698	0.738	0.653
Reading/Writing	0.809	0.835	0.816	0.812
Math	0.810	0.705	0.734	0.795
Computer	0.561	0.671	0.567	0.570
Log (Starting Wages)	2.099 (0.446)	2.117 (0.442)	2.016 (0.406)	2.092 (0.443)
N	1,099	121	121	1,341

Note: All results are weighted with survey weights.

with white hiring agents. Despite the fact that many of these correlates of the presence of a black hiring agent are often associated with lower demand for black labor (Holzer 1998b), employers with black hiring agents still hire more blacks than do employers with white hiring agents. Finally, compared to employers with white hiring agents, those with black hiring agents recruit more intensively and use public placement agencies in these efforts at much greater rates.

Model Results

Table 3 presents the results of a regression in which the dependent variable is the proportion of applicants who are black. Here, we only present the coefficients on the variables describing the race of the hiring agent. Coefficient estimates for the other control variables are presented in Appendix Table A1.

We first present models in which the hiring agent's race is treated simply as a control variable, along with controls for MSA and interview year. The empirical strategy is to first estimate these baseline hiring agent race coefficients, and then add to the base specification basic firm characteristics, the black application rate, employer preferences, labor market tightness and overall hiring activity, and job-specific variables (skill needs, skill require-

Table 3. Estimated OLS Effects of Hiring Agent Race on the Percentage of Applicants Who Are Black: Non-College Jobs. (Standard Errors in Parentheses)

	(1)	(2)	(3)	(4)	(5)	(6)
Black Hiring Agent	0.272***	0.191***	0.118***	0.192***	0.189***	0.119***
	(0.032)	(0.031)	(0.029)	(0.031)	(0.031)	(0.029)
Other Minority Hiring Agent	−0.022	−0.051	−0.037	−0.049	−0.047*	−0.033
	(0.030)	(0.028)	(0.026)	(0.028)	(0.028)	(0.025)
Included in the Specification:						
Industry, Size, Collective Bargaining, Not-for-Profit, Location, Level of Hiring Agent	No	Yes	Yes	Yes	Yes	Yes
Black Customers, Affirmative Action	No	No	Yes	No	No	Yes
Vacancy and Gross Hiring Rates	No	No	No	Yes	No	Yes
Recruitment Methods	No	No	No	No	Yes	Yes
Adj. R^2	0.158	0.308	0.416	0.309	0.313	0.421

Notes: All results are weighted with survey weights. Sample size is 1,203. Columns (1)–(6) include controls for MSA (Los Angeles is the reference category) and year of interview.

*Statistically significant at the .10 level; **at the .05 level; ***at the .01 level.

ments, and so on). Examination of the change in magnitude of the hiring agent race coefficients after these variables are entered into the equation will help determine whether and to what extent such factors account for the differences between employers with black and white hiring agents in the hiring of African Americans.

The results in Table 3 indicate that basic firm characteristics and factors affecting employers' preferences account for roughly a third of the difference in black application rates between the two sets of employers. Employer preferences, as indicated, in particular, by the percentage of the firm's customers who are black and whether the firm practices Affirmative Action, account for the largest part of the difference, about 38%, in black application rates between employers with black and white hiring agents. In the model including all explanatory variables (regression 6), we explain roughly 56% of the differences between the two categories of firms in the black application rate. Nonetheless, even after we account for observable factors, we find that employers with black hiring agents receive a considerably larger proportion of their job applications from blacks than do employers with white hiring agents (a gap of 12 percentage points).[19]

Table 4 presents the results from a probit regression in which the dependent variable is a dummy indicating whether the most recent hire is African American.[20] Model 1

[19]As noted in footnote 17, to examine in more detail whether differences in recruitment methods between black and white employers explain differences in the black application rates, we experimented with interactions between the black hiring agent and recruitment method variables. We also included the percentage of non-college workers who are black as a variable in the model, and interacted it with the recruitment variables. We found no evidence from either of these estimations to support the hypothesis that differences in recruitment method were an important factor.

[20]We also estimated a similar sequence of models for the last hired worker who is black for all jobs (that is, both jobs that require a college degree and those that do not). The results of this exercise are similar to those we report here for non-college jobs only. Moreover, the results for the other dependent variables included in the analysis, too, are substantively the same whether we look only at non-college jobs or all jobs. These results are available from the authors on request.

Table 4. Estimated Probit Effects of Hiring Agent Race on the Probability That the Last Hire Is Black: Non-College Jobs. (Standard Errors in Parentheses; Partial Derivatives, Evaluated at the Sample Means, in Brackets)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Black Hiring Agent	0.876***	0.658***	0.488***	0.663***	0.737***	0.550***	0.354*	0.341*
	(0.154)	(0.171)	(0.182)	(0.183)	(0.190)	(0.195)	(0.185)	(0.204)
	[0.205]	[0.127]	[0.090]	[0.126]	[0.119]	[0.094]	[0.063]	[0.060]
Other Minority Hiring Agent	−0.236	−0.415*	−0.357	−0.394	−0.454*	−0.363	−0.395	−0.401
	(0.223)	(0.246)	(0.257)	(0.247)	(0.262)	(0.275)	(0.273)	(0.293)
	[−0.055]	[−0.080]	[−0.066]	[−0.075]	[−0.073]	[−0.056]	[−0.061]	[−0.051]
Included in the Specification:								
Industry, Size, Collective Bargaining, Not-for-Profit, Location, Level of Hiring Agent	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Black Customers, Affirmative Action	No	No	Yes	No	No	Yes	No	Yes
Vacancy and Gross Hiring Rates	No	No	No	Yes	No	Yes	No	Yes
Hiring Requirements and Practices, Job Tasks, Recruitment Methods, Starting Wages	No	No	No	No	Yes	Yes	No	Yes
Black Applicants	No	No	No	No	No	No	Yes	Yes
−Log L	−451.4	−390.5	−364.5	−387.8	−354.0	−331.6	−328.1	−295.3

Notes: All results are weighted with survey weights. Sample size is 1,099.
Columns (1)–(8) include controls for MSA (Los Angeles is the reference category) and year of interview.
*Statistically significant at the .10 level; **at the .05 level; ***at the .01 level.

shows the baseline effect of the race of the hiring agent on hiring an African American with controls for MSA and year of interview only. It indicates that employers with black hiring agents are statistically more likely to hire these workers than are employers with black or non-black minority hiring agents. The partial derivative of the probit coefficient evaluated at the sample means indicates that employers with black hiring agents are 21 percentage points more likely to have recently hired a black applicant than are employers with white hiring agents. Relative to the mean of the dependent variable in this sample (0.175), this effect is quite large. The results also indicate no statistically significant difference in the rate of hiring of African Americans between employers with non-black minority hiring agents and those with white hiring agents, and this result largely holds across the alternative specifications presented.

Model 2 adds to the equation the basic firm characteristics, which are listed in the lower panel of Table 3. The inclusion of these characteristics reduces the estimated probit coefficient on employers with black hiring agents by about 25%. In particular, firm size and location differences between firms with white and black hiring agents account for a large part of this effect, as indicated in the full model specification listed in Appendix Table A1. Model 3 adds variables measuring employers' perceptions and preferences to the equation in Model 2. The results indicate that a moderate portion (about 25%) of the estimated effect of black hiring agents on hiring African Americans is accounted for by differ-

ences in black customers and Affirmative Action in hiring between firms with black and white hiring agents. In addition, black customers alone explain much of this effect.

In Models 4 and 5 we include vacancy and gross hiring rates and skill, hiring, and recruitment factors that affect the last hired worker, respectively.[21] The inclusion of these variables does not explain any of the employer race effect on the hiring of African Americans. Indeed, the coefficient on black hiring agent increases with their inclusion. This is because, as noted previously, black hiring agents are more likely than white ones to be employed in firms with characteristics associated with relatively low African-American employment.

The fully specified equation (without black applicants) is shown in Model 6. The host of firm, employer preference, and job-specific characteristics account for about 37% more of the black hiring agent effect on the last hired worker who is black than does Model 1. Still, even after we account for these factors, employers with black hiring agents are 9 percentage points more likely than those with white hiring agents to hire African Americans. We note that caution must be exercised in interpreting this as an explicit effect, as there may be unobservables that are correlated with both black hiring agents and black employment at the firm that are excluded from our model.

Model 7 adds the black application rate to the specification in Model 2. Differences between firms with white and black hiring agents in the black application rate explain about half of the estimated effect of black hiring agents on hiring African Americans, once the basic firm characteristics are taken into account. As discussed earlier, the inclusion of the black application rate in the last hired black equation offers a strict test of the effect of the hiring agent's race on the hiring of African Americans, a desirable refinement given our concern that this variable's endogeneity could bias downward the estimated effect of black hiring agents. However, even after we include the black application rate, the coefficient on black hiring agents remains marginally significant at the 10% level, though the estimated marginal effect of black hiring agents on hiring African Americans is reduced. Finally, the fully specified equation that includes the black applicant rate explains about 60% more of the black hiring agent effect on hiring African Americans than does Model 1. Again, the black hiring agent effect remains marginally significant and is estimated to raise the hiring of African Americans by about 6 percentage points.

Table 5 presents OLS results from an estimation in which the dependent variable is the percentage of the firm's non-college employees who are African American. Although there is greater cause here than in the foregoing analyses for concern over the possibility that the person in charge of hiring influences the overall racial composition of the firm's employees, the patterns of results are similar to those reported in Table 4 for the last hired worker who is black. The only important difference is that the effect of black hiring agents on black employment at the firm is larger in magnitude. The estimated effect of black hiring agents is particularly sensitive to the inclusion of the black application rate and the racial composition of the customer pool. After we account for all relevant factors, we still find that black hiring agents are positively associated with the proportion of employees who are black. After we account for these and other relevant factors, the percentage of non-college employees who are black is between 34 and 16 percentage points higher in firms with black hiring agents than in those with white hiring

[21]We also specified a model for this dependent variable in which we included the percentage of non-college employees who are black as an independent variable and interacted this with use of informal recruitment methods to test the hypothesis that employers with black hiring agents hire more African Americans than those with white hiring agents do because of their greater, or more effective, use of current black employees as an informal recruitment strategy. This interaction was never statistically significant, however.

Table 5. Estimated OLS Effects of Hiring Agent Race on the Percentage of Non-College Employees Who Are Black. (Standard Errors in Parentheses)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Black Hiring Agent	0.342*** (0.025)	0.263*** (0.024)	0.198*** (0.022)	0.262*** (0.024)	0.199*** (0.022)	0.182*** (0.020)	0.161*** (0.020)
Other Minority Hiring Agent	0.015 (0.023)	−0.010 (0.022)	−0.002 (0.020)	−0.008 (0.022)	−0.001 (0.020)	0.005 (0.018)	0.007 (0.018)
Included in the Specification:							
Industry, Size, Collective Bargaining, Not-for-Profit, Location, Level of Hiring Agent	No	Yes	Yes	Yes	Yes	Yes	Yes
Black Customers, Affirmative Action	No	No	Yes	No	Yes	No	Yes
Vacancy and Gross Hiring Rates	No	No	No	Yes	Yes	No	Yes
Black Applicants	No	No	No	No	No	Yes	Yes
Adj. R^2	0.223	0.353	0.459	0.356	0.461	0.553	0.578

Notes: All results are weighted with survey weights. Sample size is 1,258.
Columns (1)–(7) include controls for MSA (Los Angeles is the reference category) and year of interview.
*Statistically significant at the .10 level; **at the .05 level; ***at the .01 level.

agents, depending on whether we include the black application rate, as shown in Models 7 (included) and 5 (excluded), respectively.

Decomposing the Results

Table 6 uses the model results presented above to decompose the unadjusted difference in hiring outcomes between firms with black and white hiring agents into the proportion of the differential attributable to observable characteristics and the residual remaining difference. The first row in the table shows the raw differences between the two categories of employers in the three dependent variables (directly comparable to the unadjusted differences in Table 1). The decompositions are based on the full model specifications for each dependent variable. To decompose these differentials, we first multiply the coefficients of the independent variables by the difference in their means between employers with black and white hiring agents. We then divide the sum of these products by the raw mean difference in the outcome variable. We interpret this fraction as the percentage of the raw differences in these means that is accounted for by the relevant factors.

In the first set of results (which omit black application rates for the hiring outcomes and treat application rates as a dependent variable), the estimated impact of a black hiring agent is 42%, 45%, and 57% of the raw differential for the black application rate, last-hire-black, and percentage of employees black outcomes, respectively. The fraction of customers who are black accounts for fairly large fractions as well (25–36%), while the firm's size and its location account for a much smaller part (about 18–24%).

The lower part of the table provides these decomposition estimates from the full model specifications that include the black application rate. They indicate that the black application rate accounts for most of the difference between employers with white and black hiring agents in the probability that the most recent hire is black. On the other hand, the black employer variable remains the biggest contributor to the raw difference in the racial composi-

Table 6. Accounting for the Difference between Black and White Employers in the Hiring of African Americans.

Description	*Percent Applicants Black*	*Probability Last Hire Black*	*Percent Employees Black*
Raw Difference between Black and White Hiring Agents[a]	0.265	0.340	0.364
Without Percent Applicants Black[b]			
Percent of Difference Due to:			
Location	17.1	20.4	12.0
Firm Size	6.4	4.0	6.1
Black Customers	35.7	27.8	24.6
Black Employer	42.2	45.3	56.7
With Percent Applicants Black[c]			
Percent of Difference Due to:			
Location	—	9.6	7.5
Firm Size	—	1.2	4.2
Black Customers	—	11.9	12.7
Black Employer	—	23.1	45.0
Black Applicants	—	39.9	28.5

[a]The raw differences in outcome means between black and white employers are equal to those implied in Table 1 for all metro areas combined.

[b]The decompositions are based on Model 6 in Table 3, Model 6 in Table 4, and Model 5 in Table 5 for the respective dependent variables.

[c]The decompositions are based on Model 8 in Table 4 and Model 7 in Table 5 for the respective dependent variables.

tion of non-college employees. For both employment measures, the contribution of the firm's size and location to these differences is cut in half when the black application rate is taken into account.

Finally, in Table 7 we show the adjusted means for the outcomes measures that are based on the predicted values calculated at the mean level of all independent variables, not including the race of hiring agents. The mean adjusted differences in the outcome measures between employers with white and black hiring agents are equal to the coefficients on black hiring agent in the relevant full model specifications displayed in the previous tables. As noted previously, even after we adjust for a full spectrum of firm characteristics and employer behaviors and preferences, we find that black hiring agents are more likely than white hiring agents to receive applications from and hire African Americans. Of more interest here is that after these relevant factors are adjusted for, the ratio of the probability that the last hire is black to the percentage of applicants who are black remains higher for employers with black hiring agents than for those with white hiring agents, though this difference is smaller than that indicated by the unadjusted ratio shown in Table 1. This indicates that the apparently greater inclination of employers with black hiring agents to hire African Americans out of the black applicant pool remains after the analysis controls for relevant factors.

Using these and earlier results, and assuming that our estimated results really reflect causal relationships, we can also simulate what the effect would be on the demand for and employment levels of black labor of having a larger percentage of blacks in charge of hiring in these metropolitan areas. For instance, if blacks were in charge of hiring in .17 of all establishments (which would be proportional to their current overall employment representation in these data for the pooled sample) as opposed to their

Table 7. Predicted Means in Hiring African Americans by Race of Employer. (Adjusted Means)

Description	*Race of Employer: Black*	*White*	*Difference: B – W*
Without Percent Applicants Black[a]			
Percent Apps. Black—Non-College Jobs	0.382	0.263	0.119
Probability Last Hire is Black—Non-College Jobs	0.278	0.169	0.109
Percent Black—Non-College Employees	0.363	0.164	0.199
Ratio Last Hire Black to Percent Apps. Black	0.728	0.643	0.085
With Percent Applicants Black[b]			
Probability Last Hire is Black—Non-College Jobs	0.235	0.174	0.061
Percent Black—Non-College Employees	0.327	0.166	0.161

[a]The predicted means are based on Model 6 in Table 3, Model 6 in Table 4, and Model 5 in Table 5 for the respective dependent variables.

[b]The predicted means are based on Model 8 in Table 4 and Model 7 in Table 5 for the respective dependent variables.

current proportion of .09, the demand for black labor overall would rise by about 2 percentage points. The extent to which such a rise in labor demand would translate into higher employment rates for blacks (as opposed to higher wages) would then depend on the elasticity of their labor supply at the metropolitan or national level.[22]

Conclusion

Why are employers with black hiring agents more likely to hire African Americans than are employers with white hiring agents? The preceding analysis suggests that this pattern may be driven in large part by the propensity of blacks to apply for jobs in establishments where blacks occupy positions of authority. The black application rate is much higher at firms with black hiring agents than at firms with white hiring agents, even after the analysis accounts for a large set of relevant establishment characteristics.

These results suggest that having blacks in visible positions of authority at firms, such as those in charge of hiring, might increase the rate at which blacks apply for jobs at those firms. Exactly why there should be such a connection is not a matter we have addressed empirically in this study, but two possibilities seem likely. First, the presence of blacks in positions of authority may signal to potential black applicants that they are less likely at these firms than at others to experience discrimination in hiring or promotion, or to have to work in a hostile environment. This is a particularly plausible hypothesis since recent research clearly indicates that blacks apply to firms at greater rates where their conditional hiring rate is higher (that is, where blacks' expected benefit from search is higher) (Holzer 2000). Second, it may allow employers with black hiring agents to use informal networks (which are unobserved in these data) that promote the flow of information about job opportunities to black applicants who otherwise might not receive it.

The results also suggest that employers with black hiring agents are more likely

[22]The projected increase in the demand for black labor is based on (.17 – .09) × .161, where .09 is the current percentage of hiring agents who are black and .161 is the coefficient on black hiring agents from column (7) of Table 6. The percentage increase in employment generated by a positive shift in labor demand is $dD/(ED + ES)$, where dD represents the shift in demand (in percentage terms) and ED and ES are labor demand and supply elasticities, respectively.

than those with white hiring agents to hire African Americans, perhaps because they discriminate less against African Americans. Of particular note is that at the mean level, these patterns hold despite the fact that the hiring requirements and screening methods are much stricter at firms with black hiring agents than at those with white hiring agents. The conclusion that the hiring practices of the former may be less discriminatory toward African Americans is supported by recent evidence from audit studies of matched pairs of black and white job seekers indicating that blacks are discriminated against in hiring, and that this is more true in suburbs, where black applicants are especially likely to face employers with white hiring agents, than in inner cities (Bendick et al. 1994).

Finally, the results also suggest that firm characteristics and the proportion of customers who are black account for important but smaller portions of the differences between employers with black and white hiring agents in the hiring of African Americans. The racial composition of customers seems to influence the racial composition of hiring at the firms (Holzer and Ihlanfeldt 1998). Since employers with black hiring agents are more likely than those with white hiring agents to interact with black customers, they are more likely to face pressure from customers to hire blacks. Still, black customers may also influence the black application rate at firms if job information is accessible to them. Moreover, firm size and location account for smaller portions of these differences between the two categories of employers. As has been demonstrated elsewhere, however, these factors do affect the employment rates of African Americans at the establishment level.

Of course, all of these results are subject to the important caveat that many unobserved characteristics of establishments and their employers might influence which workers apply to them for work and which of them are accepted. Our results are therefore best viewed as suggestive evidence, not definitive proof, of a causal effect of hiring agents' race on employment outcomes.

Nonetheless, our results suggest that, in the private sector, an increased presence of blacks in positions with hiring authority might substantially increase the employment rates of blacks. At a minimum, the results imply that the potential positive effects of having more blacks in positions with hiring authority should at least be considered as we debate the merits of various policy options, such as stronger enforcement of Equal Employment Opportunity (EEO) laws or the continued existence of Affirmative Action requirements on government contractors, that are designed to raise the employment rates and earnings of blacks.

Table A1
Regressions of Main Dependent Variables
(Standard Errors in Parentheses)

Independent Variable	*Percent Applicants Black—Non-College Jobs* (1)		*Probability Last Hire is Black—Non-College Jobs* (2)		*Percent Non-College Employees Black* (3)	
Metro Area						
Atlanta	0.150***	(0.021)	0.677***	(0.204)	0.088***	(0.016)
Boston	–0.013	(0.020)	–0.107	(0.215)	0.024*	(0.014)
Detroit	0.131***	(0.026)	0.354	(0.232)	0.050***	(0.018)
Year of Hire						
1993	0.008	(0.042)	0.074	(0.351)	0.029	(0.029)
1994	0.002	(0.045)	–0.250	(0.394)	0.023	(0.031)
Firm Size						
1–19	–0.134***	(0.032)	–0.448*	(0.278)	–0.134***	(0.022)
20–49	–0.081***	(0.031)	–0.377	(0.262)	–0.109***	(0.022)
50–99	–0.043	(0.033)	–0.053	(0.273)	–0.088***	(0.022)
100–499	–0.016	(0.030)	–0.522**	(0.247)	–0.054**	(0.020)
Industry						
Agriculture/Mining	–0.162	(0.154)	2.219**	(1.015)	0.170	(0.113)
Construction	0.076	(0.049)	0.279	(0.493)	–0.008	(0.036)
Manufacturing	0.050*	(0.026)	–0.136	(0.278)	–0.036*	(0.019)
Trans./Comms./Utils.	0.156***	(0.036)	0.773***	(0.306)	–0.025	(0.025)
Wholesale Trade	0.072**	(0.032)	0.897***	(0.294)	–0.040*	(0.022)
Retail Trade	0.056**	(0.026)	0.191	(0.263)	–0.039**	(0.018)
Services	0.066***	(0.023)	0.232	(0.233)	–0.011	(0.017)
Collective Bargaining	0.008	(0.017)	–0.742***	(0.176)	–0.024**	(0.012)
Not-for-Profit	–0.057***	(0.022)	0.442	(0.193)	0.021	(0.015)
Location						
Relative Distance—Black Population	–0.223***	(0.045)	–1.216***	(0.438)	–0.081***	(0.032)
Central City—Primary	0.057***	(0.018)	–0.127	(0.167)	0.052**	(0.013)
Other Areas	0.040**	(0.020)	–0.171	(0.185)	0.016	(0.014)
Distance Public Transit Stop						
.26–1.00 miles	–0.039**	(0.020)	–0.101	(0.201)	–0.021	(0.014)
> 1.00 miles	–0.049***	(0.018)	–0.098	(0.168)	–0.007	(0.013)
Level of Hiring Agent						
Owner	0.001	(0.026)	0.141	(0.258)	0.005	(0.019)
Manager/Supervisor	0.021	(0.023)	–0.102	(0.218)	–0.011	(0.016)
Personnel Department Officer	0.034	(0.027)	0.085	(0.242)	–0.048***	(0.018)
Percent Applicants Black	—		2.098***	(0.241)	0.384***	(0.021)
Percent Customers Black	0.554***	(0.038)	0.908***	(0.324)	0.249***	(0.030)
Affirmative Action	–0.018	(0.014)	0.139	(0.133)	–0.011	(0.010)
Vacancy Rate	–0.018	(0.072)	0.455	(0.653)	0.052	(0.051)
Gross Hire Rate	0.006**	(0.003)	0.017	(0.076)	0.003	(0.002)
Recruiting Methods						
Help Wanted Signs/Walk-ins	0.002	(0.016)	0.304*	(0.167)	—	
Informal Referrals	0.017	(0.020)	–0.080	(0.135)	—	
Public Placement Agencies	0.028*	(0.015)	0.352*	(0.210)	—	
Private Placement Agencies	–0.010	(0.017)	0.112	(0.158)	—	
Newspaper Ads	0.041***	(0.014)	0.056	(0.129)	—	
Hiring Requirements						
High School Diploma	—		–0.094	(0.159)	—	
Recent Work Experience	—		–0.161	(0.148)	—	
Specific Work Experience	—		–0.032	(0.156)	—	
References	—		–0.238*	(0.147)	—	
Vocational Training	—		–0.295**	(0.153)	—	

Continued

Table A1
Continued

Independent Variable	*Percent Applicants Black—Non-College Jobs (1)*	*Probability Last Hire is Black—Non-College Jobs (2)*	*Percent Non-College Employees Black (3)*
Hiring Practices			
Pre-Employment Tests	—	0.355*** (0.137)	—
Criminal Check	—	–0.027 (0.145)	—
Personal Interview	—	–0.030 (0.190)	—
Written Application	—	0.078 (0.176)	—
Job Tasks			
Customer Contact	—	–0.184 (0.163)	—
Phone Conversations	—	–0.108 (0.159)	—
Reading/Writing	—	–0.139 (0.159)	—
Math	—	–0.378*** (0.152)	—
Computers	—	–0.187 (0.152)	—
Log (Starting Wages)	—	0.232 (0.201)	—
Constant	0.240*** (0.078)	–1.230 (0.840)	0.143*** (0.052)
-Log L/R^2	0.421	–295.3	0.578
N	1,203	1,099	1,258

Notes: All results are weighted with survey weights. Columns (1) and (3) are estimated using OLS and correspond with Models 7 and 6 in Tables 3 and 4, respectively; Column (2) is estimated using Probit and corresponds with Model 8 in Table 4.

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