

June 2001

Perceived Criminality, Criminal Background Checks and the Racial Hiring Practices of Employers

Harry J. Holzer
Georgetown Public Policy Institute
Georgetown University
E-mail: hjh4@gunet.georgetown.edu

Steven Raphael
Goldman School of Public Policy
University of California, Berkeley
E-mail: raphael@socrates.berkeley.edu

Michael A. Stoll
School of Public Policy and Social Research
University of California, Los Angeles
E-mail: mstoll@ucla.edu

We thank the Russell Sage Foundation for their generous support of this project.

Abstract

High criminal conviction rates among certain sub-groups of the population may indirectly affect the labor market prospects of members of that population who do not have criminal histories. When information is imperfect, employers are likely to infer the likelihood of a past criminal conviction based on such traits as gender, race, and age. To the extent that employers are reluctant to hire workers with criminal histories, employers may statistically discriminate against individuals from demographic groups with high incarceration rates. Under such circumstances, the effect of employer-initiated criminal background checks on the hiring of groups with disproportionately high rates of past criminal convictions is theoretically ambiguous. In this paper, we analyze the effect of employer-initiated criminal background checks on the likelihood that employers hire African-Americans. We find that employers who investigate the criminal background of their potential employees are more likely to hire African-Americans than those who do not. This positive effect of background checks survives controlling for establishment spatial proximity to black neighborhoods and the proportion of the applicant pool that is black. In addition, we find a strong interaction effect between self-reported aversion to hiring ex-offenders and whether employers check criminal histories that is consistent with the hypothesis that more averse employers are more likely to statistically discriminate against blacks. Separate estimates by establishment size category indicate larger effects for smaller establishments.

1. Introduction

At current incarceration rates, the Bureau of Justice Statistics (BJS) estimates that approximately 9 percent of all men will serve some time in state or federal prisons. These projections differ significantly by race and ethnicity, with figures of 28 percent for black males, 16 percent for Hispanic males, and 4 percent for white males (U.S. Bureau of Justice Statistics 1997).¹ The BJS also estimates that the median time served for prisoners released during the late 1990s was less than two years. These two pieces of information taken together suggest that at a given point in time a large minority of non-institutionalized men have served prison sentences. Moreover, for certain sub-groups of the population, African-Americans in particular, the proportion with past criminal convictions who have served time may be quite large.

The labor market prospects of ex-offenders are likely to be impacted by whether employers can review the criminal history records of job applicants. Employers may be reluctant to hire workers with criminal histories for fear that an applicant with a past criminal conviction may harm a customer or be more likely to steal. To the extent that employers can and do review criminal history records, individuals with past convictions are likely to be excluded from some employment opportunities.² Moreover, given the disproportionately high proportion of African-Americans who have served time, one might argue that employer-initiated criminal background checks will have a disproportionately adverse effect on hiring outcomes for black job applicants.

¹We report figures for men only since the overwhelming majority of federal and state prison inmates are male (92 and 95 percent, respectively).

²In addition, individuals who serve time fail to accumulate work experience, sever ties with potential employers, and may experience an erosion of skills while incarcerated, all factors that are likely to harm one's employment prospects. For research on the employment and earnings consequences of serving time in federal prison, see Kling (1999). Grogger (1995) and Freeman (1992) present estimates of the effect of arrest records on subsequent earnings.

Whether employers review criminal history records may also impact the labor market prospects of individuals without criminal records. If accessibility to criminal history information is limited (due to cost, state prohibitions, or the incompleteness of state and federal records), employers may infer the likelihood of past criminal activity based on such traits as gender, race, or age. Such statistical discrimination may adversely affect the employment and unemployment rates of individuals with clean histories that belong to demographic groups with high conviction rates. This negative consequence of high incarceration rates is likely to disproportionately impact African-Americans, though the segment of the black population affected by such discrimination is distinct from the segment who would be excluded by accessible criminal histories.

These arguments suggest that the net effect of employer-initiated criminal background checks on the employment prospects of African-Americans is theoretically ambiguous. Employers who review criminal history records will be more likely to eliminate black applicants based on information revealed through the search while employers who do not run background checks may eliminate black applicants based on the lack of information about past criminality. Moreover, it is unclear which of these effects, if either, should predominate. If employers overestimate the degree of past criminality among minority applicants, the information infusion associated with a systematic background check may actually increase the likelihood that an African-American is hired. Alternatively, if employers' perceptions regarding the relationship between race and past criminality are correct, background checks will not affect the likelihood of hiring a black applicant.

In this paper, we analyze the effect of employer-initiated criminal background checks on the hiring of African-Americans. Using establishment level data for four metropolitan areas, we assess whether the race of the most recently hired employee is impacted by whether the employer

investigates the criminal backgrounds of job applicants. We test for an effect of background checks holding constant the racial composition of the establishment's applicant pool and the establishment's spatial proximity to African-American residential areas. In addition, we investigate whether the impact of criminal background checks varies with the intensity of the employer's aversion to workers with criminal histories. One would expect such heterogeneity if employers who are more averse to hiring ex-offenders are more likely to statistically discriminate on the basis of race.

We find that employers who investigate the criminal backgrounds of their potential employees are more likely to hire African-Americans than those who do not. This positive effect of background checks survives controlling for establishment spatial proximity to black neighborhoods and the proportion of the applicant pool that is black. In addition, we find a strong interaction effect between self-reported aversion to hiring ex-offenders and whether employers check criminal histories that is consistent with the hypothesis that more averse employers are more likely to statistically discriminate against blacks. Separate estimates by establishment size category indicate larger effects for smaller establishments.

2. Employer Use of Criminal History Records

There are several reasons why employers may consider information from criminal history records in screening potential employees. To start, certain occupations are closed to individuals with felony conviction under state and in some cases, federal law (Hahn 1991). Examples include jobs requiring contact with children, certain health services occupations, and employment with firms providing security services. In addition, in many states employers can be held liable for the criminal actions of their employees. As articulated by Bushway (1996), "...employers who know, or should

have known, that an employee has had a history of criminal behavior may be liable for the employee's criminal or tortuous acts." Under the theory of negligent hiring, employers may be exposed to punitive damages as well as liability for loss, pain, and suffering (Craig 1987).³ Finally, employers who need to fill positions where employee monitoring is imperfect may place a premium on trustworthiness. To the extent that past criminal activity signals a lack of trustworthiness, employers may take such information into account when screening applicants.⁴

Employer aversion to applicants with criminal history records is clearly evident in the establishment level data that we analyze. Figure 1 presents the distribution of employer responses to a question inquiring about the likelihood that the employer would be willing to accept an applicant with a criminal record.⁵ Over 60 percent of employers indicate that they would "probably not" or

³Craig (1987) cites several examples where employers were held responsible for the criminal acts of their employees under the theory of negligent hiring, including judgement against the owner of a taxi company and a security services firm for sexual assaults committed by employees. In one cited instance involving a sexual assault committed by an apartment manager, the owner of an apartment complex was found negligent for not taking into account gaps in the manager's work history in the hiring decision.

⁴Whether the employer can legally access and consider such information in making hiring decisions is another matter. A 1976 Supreme Court decision ruled arrest and prior conviction records are public given that the initial source of information were public records (Bushway 1996). Hence, non-criminal justice employees accessing criminal history records does not violate a privacy right. Moreover, who can access records and the extent of information available (for example, arrests and prior convictions vs prior conviction only) is determined by individual states (U.S. Department of Justice 1999). The extent to which employers can consider criminal history records is subject to both federal and state guidelines. The Equal Employment Opportunities Commission guidelines prohibit "blanket exclusions" of applicants with criminal records. However, employers can consider criminal histories so long as the severity of the offense is related to the applicant's ability to effectively perform the job and so long as the employer considers the time lapsed since offending in coming to a decision (Bushway 1996).

⁵The data were collected in the early 1990s and cover establishments in the Atlanta, Boston, Detroit, and Los Angeles metropolitan areas that hire workers without college degrees. The data source and sampling frame will be discussed in detail below.

“definitely not” be willing to hire an applicant with a criminal record, with “probably not” being the modal response. These distributions are similar across the four metropolitan areas covered by the survey. Since the data pertain to employers who have recently hired low-skilled workers (employers who are perhaps the most likely to employ ex-offenders), the simple distributions in Figures 1 and 2 imply that the large majority of employers are unwilling to hire ex-offenders.

The ability of employers to act on this aversion, and the nature of the action in terms of hiring and screening behavior, will depend on the accessibility of criminal history record information to non-criminal justice entities. Information on arrest, conviction, and time served for non-federal offenses are compiled by the state where the offense occurred. Each state and the District of Columbia maintains a central repository where this information is housed and from which criminal history information is disseminated. All law enforcement agencies within a state are required to report arrest and disposition information to the central repository for all serious offenses (U.S. Department of Justice 1999). The information in the repository is the source used to generate rap sheets for law enforcement officials and the source for criminal history records for non-criminal justice purposes.

In its most recent review of state privacy and security legislation, the U.S. Department of Justice concludes that criminal history record information is increasingly becoming more available to non-criminal justice users, although the degree of openness varies from state to state (US Department of Justice 1999). Nearly all states make a distinction between arrest records and conviction records. In general states are less likely to freely disseminate information on arrest records, especially arrests for cases that are still open or have occurred within the previous year. States tend to place fewer restriction on non-criminal justice access to conviction records. Currently,

23 states have some form of public access or freedom of information statutes that pertain to some aspect of criminal history record information.

In addition to the greater openness of state repositories, several services have emerged that perform nationwide criminal history record reviews for small fees. An internet search of the term “criminal history record” will turn up several companies who will perform nation-wide criminal background checks (allegedly accounting for offenses in all 50 states) for as little as \$15. In addition, well-known security services firms such as Pinkerton offer basic and extensive background checks for employers as well as other non-criminal justice clients.

While the time period covered in our sample likely precedes the emergence of internet services providing low-cost criminal background checks, the use of such checks by a sizable minority of employers is evident in the data. Figure 3 presents the distribution of employer responses to a question concerning the frequency with which employers check the criminal background of job applicants. Approximately 32 percent of employers in our sample say that they always check, 17 percent indicate that they check sometimes, while 51 percent indicate that they never check criminal backgrounds. While the distribution by MSA indicate some cross-areas differences (employers in Boston were the least likely to use criminal background checks as a screening device), the patterns are generally comparable.

The effect of employer-initiated criminal background checks on hiring outcomes for African-Americans will depend in part on the manner in which employers make use of such information. Some employers may view the potentially lower productivity of ex-offenders as the equivalent of a payroll tax that effectively reduces marginal product. If this is the case, employers may offer ex-offenders employment, but at reduced wages. If employers review criminal history records, they

could identify ex-offenders and offer discretely lower wages. Since background checks for black applicants will be more likely to reveal a criminal record, such a wage penalty will be applied disproportionately to blacks. In the absence of a background check, employers may offer lower wages to employees suspected of having a record. Given the higher conviction rates of African-Americans, black applicants will be disproportionately affected by such statistical discrimination.

An alternative, and perhaps more likely, response is that many employers will perceive the potential downside of employing ex-offenders as so large that marginal wage reductions would not constitute sufficient compensation. Such employers will avoid hiring ex-offenders all together. Given the overwhelmingly negative response of employers to the question regarding their willingness to hire workers with criminal histories (Figures 1 and 2), such a quantity response seems to be the more likely margin of adjustment of employers to the actual or perceived criminality of job applicants.

The net effect of employer-initiated criminal background checks is theoretically ambiguous. The consequences for mean wage offers and the likelihood that employers hire African-Americans depend on whether employers accurately estimate the relationship between race and the likelihood that an applicant has a criminal history. To illustrate this point more formally, we employ a simplified version of the statistical discrimination model presented by Altonji and Pierret (2001). Let v_i be the productivity of a job applicant i which is determined by the equation

$$v_i = \beta_0 + \beta_1 S_i + \beta_2 C_i + \beta_3 B_i + \eta_i, \quad (1)$$

where S_i is educational attainment, C_i is a measure of criminality which increases with the applicant's propensity to offend, B_i is an indicator variable for black applicants, η_i is a mean-zero random error term which is un-correlated with race, criminality, and schooling, and β_0 through β_3 are parameters.

Assume that employers hire all applicants with positive productivity (–i.e, $v_i > 0$) and that criminality negatively affects worker productivity ($\beta_2 < 0$). Criminality is determined by educational attainment, race, and a mean zero random component according to the equation

$$C_i = \alpha_0 + \alpha_1 S_i + \alpha_2 B_i + \varepsilon_i, \quad (2)$$

where α_0 through α_2 are parameters, ε_i is a mean-zero random disturbance which is uncorrelated with schooling and race, and all other variables are defined as above. The parameter α_2 provides the mean difference in criminality between blacks and non-blacks which is assumed to be positive. As written, the difference does not vary with educational attainment.

We begin with the case where employers have full access to the criminal history records of applicants. The difference between the likelihood that the employer will hire a non-black applicant and the likelihood of hiring a black applicant will be an increasing function of the average productivity difference between the two groups of applicants. This follows from the employer's hiring rule. The difference in the expected value of productivity is given by

$$E(v_i | S, B = 0) - E(v_i | S, B = 1) = -\beta_3 + \beta_2 [E(C | S, B = 0) - E(C | S, B = 1)]. \quad (3)$$

Since the difference between the conditional expectation of C on the right hand side of this equation is equal to the negative of the coefficient on B in equation (2), the difference in expected productivity can be written as

$$E(v_i | S, B = 0) - E(v_i | S, B = 1) = -\beta_3 - \beta_2 \alpha_2. \quad (4)$$

Since employers are assumed to hire all workers with positive productivity, this mean productivity difference will lower the relative likelihood that the firm hires black workers. Moreover, the higher average criminality among blacks contributes to the relatively lower likelihood that a black applicant is hired. Note, in this instance, employers observe the true value of C_i , a fact which is more likely to harm the employment prospects of blacks on average.

Now suppose that employers cannot review criminal history records. One possibility would be that employers ignore the relationships in equation (2) and make hiring decisions based only on the direct observable effects of schooling and race on productivity given by equation (1). This would involve ignoring the relationship between race, schooling, and criminality and would eliminate the expected difference in productivity between black and non-black job applicants operating through differences in average criminality. Alternatively stated, employers would not statistically discriminate on the basis of race in order to avoid workers with criminal history records. If this were an accurate description of employer behavior, then limiting access to criminal history records would unambiguously increase the relative hiring rates of African-American applicants.

However, if employers are able to formulate expectations of the effects of race and schooling on criminality, one might expect that employers would take these expectations into account when making hiring decisions. One manner of modeling the process by which employers “estimate” the criminality of job applicants is to assume that employers know the parameters of the criminality equation (2). Such an estimate might be considered “rational” in the sense that employers do not systematically under-estimate the criminality of minorities (as in the previous example) or over-estimate the relationship (as discussed below). Under these assumption, employers estimate criminality based on schooling and race according to the equation

$$E(C|S, B) = \alpha_0 + \alpha_1 S_i + \alpha_2 B_i. \quad (5)$$

Substituting this conditional expectation in equation (1), an employer's estimate of a given applicant's productivity in the absence of perfect information on criminal history records is given by

$$E(v_i|S, B) = \beta_0 + \beta_2 \alpha_0 + (\beta_1 + \beta_2 \alpha_1) S_i + (\beta_3 + \beta_2 \alpha_2) B_i. \quad (6)$$

Equation (6) illustrates a common feature of models of statistical discrimination. Since the employer cannot observe criminality, C_i , the employer will place extra weight on the correlates of criminality (race and schooling, in this example) in formulating expectation about the likely productivity of the job applicant.⁶

In this instance, the difference between the likelihood of hiring a non-black applicant and the likelihood of hiring a black applicant will again be an increasing function of the difference in the expected productivity between the two groups, or

$$E(v_i|S, B = 0) - E(v_i|S, B = 1) = -\beta_3 - \beta_2 \alpha_2, \quad (7)$$

which is equivalent to the expected productivity differential when criminal history records are perfectly accessible. *Hence, if employers accurately estimate the relationship between race and criminality, increasing access to criminal history records will not affect the relative hiring rates of blacks.*⁷

⁶Hence, if employers set wages according to expected productivity, a regression of wages on schooling and education that omitted criminality from the regression specification would yield a more negative coefficient on the black dummy variable than a regression that included criminality in the specification directly.

⁷Of course, the composition of the pools of who is hired and who is not will change. Statistical discrimination will clearly harm some applicants with positive productivity while

Of course, this result depends critically on the assumption that employers accurately estimate the relationship between criminality and race. If employers systematically over-estimate the racial difference in criminality (i.e., perceived α_2 is more negative than actual α_2), then the expected difference in productivity given by equation (7) will be larger than the actual difference. When this is the case, increasing employer access to criminal history records would actually increase the likelihood that establishments hire African-Americans, since the positive hiring effect of eliminating statistical discrimination would swamp the proportion of applicants that are excluded due to revelation of a criminal past.⁸

In many economic models of statistical discrimination, it is often assumed that the pursuit of profits will eventually cause an alignment between expectations and reality (see Aigner and Cain 1977, Altonji and Pierret 2001, Lundberg and Startz 1983). The basic argument is that firms who consistently under or over-estimate the relationship between a signal and an unobservable factor that affects labor productivity (such as race and criminality) will suffer as a consequence. In the example analyzed here however, the underlying relationship employers would need to assess has changed considerably over the past two decades. Moreover, the sharp increase in prison incarceration rates among young black males may easily lead to a period of over-estimated criminality that only time and experience will undo. Regardless, the model illustrates how the net effect of increasing or restricting access to criminal history records on the hiring rates of African-Americans is an empirical

benefitting others with negative productivity.

⁸The opposite case where employers under-estimate the racial difference in criminality was discussed in its extreme form above (where employers ignore the relationship between criminality and race, altogether). Under such conditions increasing employer accessibility to criminal history records would reduce the relative hiring rates of African-Americans.

issue.

To date, there is little empirical research on the effects of employer-initiated criminal background checks on establishment-level hiring outcomes. However, there is one study that uses microdata to investigate whether state policy regarding the openness of criminal history records impacts African-American average earnings and unemployment rates. Bushway (1996) finds some evidence the labor market outcomes of African-Americans are better in states where employers can more easily access criminal history records.

3. Empirical Strategy and Description of the Data

The theoretical discussion presented above indicates that the impact of employer access to criminal history records depends on the extent to which employers statistically discriminate in the absence of such information. Moreover, the accuracy with which employers estimate the mean relationship between race and criminality will impact the net effect of criminal background checks. Since the net effect of employer access is theoretically ambiguous, this question is inherently empirical. In this section we outline an empirical strategy for assessing the consequences of employer-initiated criminal background checks on firm hiring outcomes.

Specifically, we estimate the effect of employer-initiated criminal background checks on the likelihood that an establishment's most recently hired employee is African-American. The principal identification problem encountered concerns the possibility that whether employers check criminal backgrounds is likely to be endogenously determined by the criminal background of their typical applicant. Employers that rely heavily on black workers may be more likely to check criminal backgrounds as a result of the higher past conviction rates of black applicants. In this instance,

variation in the proportion of the applicant pool that is black causes variation in the likelihood that employers use criminal background checks as well as variation in the race of the most recent hire. Omitting the composition of the applicant pool from the analysis would thus create a spurious positive correlation between employers reviewing criminal history records and the likelihood of hiring black workers.

There is considerable evidence suggesting that certain employers draw quite heavily on minority labor supplies. For example, there is ample evidence demonstrating that black-owned businesses as well as establishments with African-American management are considerably more likely to hire black workers (Bates 1993; Turner 1997; Carrington and Troske 1998; Raphael, Stoll, and Holzer 2000). Moreover, several studies show that urban space racially segregates racial employment and search distributions.⁹ Hence, one might contend that variation in whether employers check criminal history records would occur along such dimensions.

Our first strategy for addressing this identification problem is to control extensively for aspects of the firm that are likely to impact the racial composition of the firm's labor supply. Specifically, in our models of firm hiring outcomes we include extensive controls for the firm's spatial proximity to black and white residential communities. In addition, we control directly for employer self-reports concerning the proportion of the applicant pool that is black. Finally, we make use of the extensive information on employer skill needs and screening methods collected in the

⁹Holzer (1996), Ihlanfeldt and Young (1996), and Raphael, Stoll, and Holzer (2000) all show large geographic differences in the likelihood that employers hire African-Americans, with employers located nearer to black communities and nearer to public transit stops more likely to hire black workers and having a higher proportion of applicants black. Stoll and Raphael (2000) show that black and white workers search for jobs in different areas of the metropolitan area, with much of the difference explained by racial housing segregation.

survey to adjust the estimates for inter-establishment variation in the demands placed on new employees.

Our second strategy exploits the imperfect association between whether employers check criminal backgrounds and the employers' self-reported aversion to hiring workers with criminal histories. Figure 5 graphically presents employers' reported use of criminal background checks by employer willingness to hire applicants with criminal records. There is a strong association between unwillingness to hire and the use of criminal background checks, although this correlation is far from perfect. Approximately 19 percent of employers who say that they "definitely will" hire workers with criminal backgrounds run criminal background checks compared with 57 percent of the employers who indicate that they definitely would not hire an ex-offender. Similar, 62 percent of those employer most willing to hire workers with criminal backgrounds never use criminal checks while only 32 percent of the least willing employer never run background checks.

Variation in the use of this screening device within these sub-samples permits a more precise assessment of the likely impacts of increasing employer access to criminal history records. Specifically, it seems reasonable to assume that employers with a strong stated aversion to hiring applicants with criminal history records are more likely to statistically discriminate in the absence of a formal criminal background check. Moreover, if there is a systematic tendency of employers to over-estimate the strength of the relationship between race and criminality, one might expect that employers least willing to hire ex-offenders (perhaps, the employers with the most to lose if they make a Type II error) will be the most likely to commit such an error. These arguments suggest that the net effect of employer-initiated background checks will be heterogeneous, with more positive effects for those employers least willing to hire ex-offenders. In other words, there should be a

positive interaction effect between criminal background checks and employer unwillingness to hire.¹⁰

We employ this strategy in an attempt to detect statistical discrimination aimed at weeding out applicants with criminal records. We first stratify the sample into two groups defined by employer willingness to hire ex-offenders. Next, we calculate within-group difference in the likelihood of hiring black applicants between employer who check and employer who do not. We then test whether the effect of background checks is larger for the least willing employers by calculating the relevant difference-in-difference and testing its significance. We present difference-in-difference estimates that are both unadjusted and regression-adjusted for observable variables¹¹

We use an establishment survey collected through the Multi-City Study of Urban Inequality (MSCUI). The survey includes slightly over 3,000 establishments and was conducted between June 1992 and May 1994 in the Atlanta, Boston, Detroit, and Los Angeles metropolitan areas. The sample of firms is drawn from two sources: from the employers of the respondents to a household survey conducted in conjunction with the survey of establishments that provided approximately 30

¹⁰This idea is conceptually similar to the estimation strategy employed by Holzer and Ihlanfeldt (1998) in their assessment of the importance of customer discrimination in determining the race of recent hires. The authors reason that the effect of customer discrimination on the likelihood that blacks are hired should matter most for positions involving direct customer contact. Based on this proposition, they test for an interaction effect between a dummy indicating a customer contact job and the racial composition of the establishment's customers in regression models where the dependent variable is a dummy indicating that the most recent hire is black. Since one would expect heterogeneity in the importance of customer discrimination along this dimension, a significant interaction effect would buttress interpretations of a raw relationship between hiring outcomes and the composition of customers as reflecting the impact of customer preferences.

¹¹The difference-in-difference estimate can also be thought of as using employers who are willing to hire ex-offenders as a control group to net out the impacts of all the correlates of background checks (such as firm size, the existence of formal human resource systems, subjection to EEOC regulations and review).

percent of the observations, and from a sample of establishments generated by Survey Sampling Incorporated (SSI). The SSI sample is a random-stratified sample where the initial lists are stratified by establishment size, and 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 job seeker in any of the four metropolitan areas. We use sample weights in all calculations and model estimations to account for the non-representative portion of the sample from the household survey. Establishment were screened according to whether they had hired an employee into a position not requiring a college degree within the previous year. The response rate for firms that passed the initial screen is 67 percent. This compares favorably with other establishment surveys (Kling 1995).¹²

Telephone surveys were conducted with individuals in charge of hiring at the firm. Our chief dependent variable is the race of the most recent hire into a position not requiring a college degree. The survey includes two question vital to the current analysis: a question on employer preferences with respect to workers with criminal histories, and a question on whether employers use criminal background checks.¹³ These three variables provide our key dependent and explanatory variables for the analysis below.

¹²Holzer (1996) provides detailed comparisons of response rates by industry, location, and establishment size and finds no substantial differences in response rates. He also provides evidence that the distribution of firms in the MCSUI sample within areas by industry and firm size are comparable to those found in the *County Business Patterns*.

¹³The exact wording of the questions are as follows. For criminal background checks, the question reads “For the last position hired into, how often do you check the applicant’s criminal records? always, sometimes, or never?” The question on employer preferences also refers to the most recently filled position. The question reads “Would you accept for this position an applicant who had a criminal record? definitely will, probably will, probably not, absolutely not?”

4. Characterizing the Demand for Ex-Offenders

Before investigating the effects of background checks on hiring outcomes, a discussion of the relationships between observable establishment characteristics, employer aversion to hiring ex-offenders, and employer use of background checks is needed. In this section, we present this preliminary analysis. Tables 1 through 3 presents means of establishment characteristics, recruiting, and screening practices for the sample stratified by employer self-reported aversion to hiring ex-offenders and self-reported use of criminal background checks.

Each table provides conditional averages for a common set of variables. Establishment characteristics include size and industrial distributions, the percent of workers represented by a union, dummy variables indicating that the hiring agent is black and that the firm is located in the central city, a variable measuring the average distance to blacks in the metropolitan area, and a variable measuring the average distance to whites in the metropolitan area.¹⁴ Next, we present means for a set of dummy variables equal to one if the employer regularly uses the described recruiting methods, screening methods, and background checks in filling jobs comparable to the most recently filled position. Next are sets of dummy variables indicating job tasks that are performed regularly on the recently filled job, job qualifications that the employer requires of new hires, and employee characteristics that the employer believes are very important for the demands of the position (for example, physical neatness, being polite, or being motivated). Finally, we present means for a set

¹⁴The average distances are calculated using linear distances (in miles) between the centroid of the employer's census tract and the centroids of all other census tracts in the area. The variable for each employer is the weighted average of distance to all other census tracts where the weights are the number of person or a particular race residing in the destination tract. Hence, the variable distance black measures the firm's distance to the average black person in the metropolitan area. See Holzer and Ihlanfeldt (1996) and Raphael, Stoll, and Holzer (2000) for a more detailed discussion of these indexes.

of dummy variables indicating types of applicants that the employer would not consider for the recently filled position.

Table 1 presents averages for each of these variables for the sample stratified by employer responses to the question concerning their willingness to hire workers with criminal histories. There are several clear patterns in the table. First, the establishment size distribution among the least willing employers is skewed towards smaller firms, while large firms are disproportionately represented among employers most willing to hire workers with criminal histories. Among employers willing to hire ex-offenders, manufacturing firms are disproportionately represented while establishments in the finance, insurance, and real estate sector and the service sector are under-represented. The opposite pattern holds among employers that are the least willing. There is little relationship between the remainder of the establishment characteristics and employer aversion to hiring ex-offenders, although employers located in the central city are slightly more likely to be among the firms willing to hire.

Concerning recruiting and screening methods, firms that are averse to hiring ex-offenders are less likely to consider applications from walk-ins, post help wanted signs, are less likely to consider referrals from state and community agencies, and are less likely to use affirmative action in recruiting for the position. These patterns are consistent with employers who are averse to hiring ex-offenders avoiding recruiting methods that generate applicants from people with criminal history records. There are also positive relationships between employer aversion and several of the screening methods, including the use of aptitude and personality tests, checking criminal backgrounds, and the verification of educational attainment and references.

One of the strongest associations evident in Table 1 is the positive relationship between

employer unwillingness to hire ex-offenders and whether the recently filled job involves frequent customer contact. Among employer most willing to hire ex-offenders, 52 percent of the positions required customer contact. Among employers least willing to hire ex-offenders 71 percent of the positions required customer contact. There also are weaker positive correlations between unwillingness to hire and several of the other job tasks, including phone conversations, reading, and writing. Employers that are the least willing to hire ex-offenders are more likely to require high school degrees, recent and specific work experience, references, and some vocational education. Such employers are also more likely to indicate that physical attractiveness, neatness, politeness, motivation, verbal skills, and the ability to speak English well are very important employee characteristics.

The final pattern concerns the variables indicating the types of applicants that the employer is likely to avoid hiring. Employers that are unwilling to hire ex-offenders are more likely to be unwilling to hire applicants on welfare, applicants with a GED rather than a high school diploma, applicants with gaps in their work histories, and applicants who have been unemployed for more than one year. These patterns are consistent with the argument that employers use aspects of the applicant that may predict criminality in making employment decisions.

To summarize, the patterns in Table 1 indicate that smaller, non-manufacturing firms whose employees interact with customers are the most averse to hiring ex-offenders. The patterns also indicate that averse employers are less likely to use informal recruiting techniques (walk-ins, for example) and are less likely to hire workers with gaps in their employment history. These patterns are sensible and indicate that the values of the variable measuring willingness to hire ex-offenders distinguishes firms in our sample in a meaningful way.

Table 2 presents similar comparisons for the sample stratified by the responses to the question concerning how often the firm uses criminal background checks to screen employees. There are notable differences in the size and industrial distributions between employers that check and employers that do not. Despite the high correlation of checking with employer unwillingness to hire and the greater reluctance of small employers, smaller employers are most represented among establishments that never use criminal background checks. Nearly 40 percent of employers that never check have fewer than 20 employees compared to 24 percent for employers that always check. Concerning industry, manufacturing firms are the least likely to use criminal background checks while establishments in FIRE and services are the most likely. There is a negative relationship between a firm's spatial proximity to black neighborhoods and use of criminal background checks. In addition, more unionized establishments screen criminal history records more than less unionized establishments.

There are several interesting patterns in the difference in the use of the various recruitment methods. Employers that check criminal backgrounds are more likely to use informal recruiting methods (accepting walk-ins and posting help-wanted signs), more likely to accept referrals from state and community agencies, and are more likely to use affirmative action in recruiting. Note, in Table 1 we saw that firms unwilling to hire workers with criminal histories were less likely to use these tools. Concerning screening methods, use of background checks is strongly associated with the use of other forms of tests (such as drug and aptitude tests) and with the likelihood that the employer verifies the stated educational attainment of the applicant and the applicant's references.

Employers that are filling positions that require customer contact are more likely to check criminal backgrounds, a pattern consistent with the patterns in Table 1. In addition, employers who

check are more likely to require high school diplomas, though the association is considerably weaker than that with the variable measuring employer unwillingness to hire ex-offenders. Perhaps the most interesting finding in Table 2 is the fact that there is no relationship between the variables indicating the types of applicants that the employer would be unwilling to hire and the use of criminal background checks. Relative to employers who do not check criminal backgrounds, employers who check are no more unwilling to hire applicants on welfare, applicants with a GED instead of a high school diploma, applicants with spotty work histories, and applicants who have been unemployed for more than a year.

The positive association with firm size, unionization rates, and the use of other screening tests suggests that employers with more formal human resources systems are more likely to run background checks. The positive association between checking and positions with customer contact indicates that the determinants of employer aversion are also important determinants of whether one checks. However, there are several patterns in Table 2 where the differences in the averages between employers that check and employers that don't are the opposite of what one might predict a priori from the patterns in Table 1.¹⁵ Hence, a further dissection of the data may better illuminate the relationship between employer aversion, the use of criminal background checks, and recruiting, screening, and hiring practices.

Table 3 provides a more detailed cross-tabulation of the data. We first define all employers

¹⁵Since checking and employer aversion to hiring ex-offenders are positively correlated, one might predict that variables that are positively correlated with employer aversion should be positively correlated with the likelihood that firms check, and the opposite for variables that are negatively correlated with firm aversion. The patterns in Table 2 contrast these prediction for firm size, several of the recruiting methods variables, and the means for the variables indicating the types of applicants that the employer would avoid hiring.

that indicate that they “definitely will” or “probably will” hire applicants with criminal records as willing to hire ex-offenders and employers who respond “definitely not” or “probably not” as being unwilling. Next, we dichotomize the criminal background checks variable by defining employers who say they check sometimes or always as checking and by defining employers who say they never check as not checking. The table presents means for the variables in Tables 1 and 2 for the four categories defined by these two dichotomized variables. The first two columns present means for firms that are willing to hire ex-offenders while the third and fourth columns present means for employers who are unwilling to hire ex-offenders.

Stratifying the sample in this manner reveals several patterns that are masked in Tables 1 and 2. First, the firm size distributions indicate small firms constitute a very large portion of firms that are unwilling to hire and that do not check criminal background. Fully 45 percent of establishments in this category have fewer than 20 employees. The theoretical discussion above indicates that statistical discrimination against blacks would occur at firms that are averse to hiring ex-offenders and that do not check criminal history records. The size distributions in Table 3 indicate that small firms fall disproportionately into this category. Moreover, since firms with fewer than 50 employees are not subject to Equal Employment Opportunity Commission (EEOC) reporting requirements, such firms are likely to be the most able to engage in statistical discrimination.

Concerning the distributions by industry, manufacturing establishments are quite likely to be among firms that are willing to hire ex-offenders and that never review criminal history records, while establishments in the service and FIRE sectors are most likely to be unwilling and to check. Retail and wholesale trade establishments are disproportionately represented among firms who will not hire ex-offenders and who never check (a pattern consistent with the size distributions).

Skipping ahead to daily job tasks, customer contact is positively associated with checking among both firms that are willing and firms that are unwilling to hire ex-offenders. In addition, employers that check criminal backgrounds are more likely to demand certain job qualifications of applicants, relative to employers who do not check.

Again, the most interesting patterns in the Table are the differences in the means of the dummy variables indicating types of applicants that the employer avoids. Among firms that are willing to hire ex-offenders, checking is basically unrelated to these variables. Among firms that are unwilling to hire ex-offenders, firms that check are less averse to hiring these types of workers than firms that do not check. For both firms that check and firms that don't check, unwillingness to hire ex-offenders is associated with a greater unwillingness to hire the types of applicants described by the dummy variables. However, this differential aversion is greatest among employers who do not run criminal background checks. Specifically, among employers who do not check criminal history records, the difference between those who are unwilling to hire ex-offenders and those who are willing is 12 percentage points for the unwilling to hire welfare recipients dummy, 6 percentage points for the dummy indicating unwillingness to hire workers with a GED, 24 percentage points for the spotty-work-history dummy, and 14 percentage points for the dummy indicating an applicant who has been unemployed for more than a year. The comparable differences among firms who do check are 7, 2, 13, and 9 percentage points, respectively. These differences among employers who check are uniformly lower (and by considerably magnitudes) than those for employers who do not.

These patterns indicate that employers who do not review criminal history records and who are unwilling to hire ex-offenders are more likely to exclude from consideration applicants with characteristics that may be indicative of a criminal history. This is precisely the form of statistical

discrimination that we hypothesize may impact the likelihood of hiring African-American applicants. We now turn to the discussion of racial hiring outcomes.

5. Criminal Background Checks and the Likelihood of Hiring Black Applicants

In this section, we analyze the effects of employer initiated criminal background checks on the likelihood that the most recently hired employee is African-American. Throughout this section, we first present estimates of the average effect for all firms followed by estimates that are allowed to vary by employer self-reported unwillingness to hire ex-offenders. We first present estimates for establishments of all sizes, with and without regression adjusting for observable covariates. We then present separate estimates by establishment size categories.

Estimating Effects Pooling Establishments Across Size Categories

Table 4 presents average values for the dummy variable indicating that the last worker hired is black and for the proportion of applicants to the establishment that are from African-Americans. We present figures for the whole sample, the sample stratified by whether the firm checks criminal backgrounds, the sample stratified by whether the employer is willing to hire, and for the four categories defined by the cross of these two variables. The final row of the table presents the differences in means between firms that are unwilling to hire ex-offenders and firms that are willing, while the final row presents differences in means between establishments that check criminal backgrounds and establishments that do not. Panel A presents figures for the hiring outcome dummy while panel B presents figures for the variable measuring the proportion of applications from blacks.

Beginning with Panel A, there is no discernable overall difference in the likelihood of hiring a black worker between employers who are willing to hire ex-offenders and employers who are

unwilling. There is a large significant difference, however, between employers that check criminal backgrounds and employers that do not. Relative to employers that do not check, employers that check are 8.5 percentage points more likely to have hired an African-American applicant into the most recently filled position. This difference is statistically significant at the one percent level of confidence. Among employers willing to hire ex-offenders this difference is 4.8 percentage points and is marginally significant. Among employers who are unwilling to hire ex-offenders, this difference is 10.7 percentage points and is highly significant. Moreover, the difference between these two-differences (shown in the last row and last column of Panel A) is statistically significant at the 8 percent level. This latter finding indicates that the relatively larger positive effect of background checks for firms that are unwilling to hire ex-offenders is larger and statistically distinguishable from the effect for firms that are willing.

The patterns in Panel B indicate that these findings may be driven by differences in the application rates of blacks across establishments. The percent of applicants from African-American at firms that check criminal background is nearly 13 percentage points greater than the comparable percent at establishments that do not check. While this may reflect a supply-side response on the part of black workers (black applicants apply where they are most likely to be hired), the strong association between the racial composition of the applicant pool and checking qualifies the interpretation of the patterns in Panel A. However, the relationship between checking and the proportion of applicants from blacks is not relatively stronger among firms unwilling to hire ex-offenders (what one would expect if application behavior drives the patterns in Panel A). The difference between firms that check and firms that don't in the proportion of applications from blacks is 12 percentage points for firms that are willing to hire ex-offenders and 13.4 percentage

points for firms that are unwilling. While the point estimate for unwilling firms is slightly higher, the relative difference is small and only half the size of its standard error.

To probe whether the differences in Table 4 are sensitive to adjustment for observable variables, Table 5 presents the results from linear regressions of the dummy indicating that the most recent hire is black on whether the firm checks criminal backgrounds and on the variables listed in Tables 1 through 3. Regression (1) controls for criminal background checks only. Regression (2) adds a dummy variable indicating that the firm is unwilling to hire ex-offenders, three metropolitan area dummies, the variable measuring physical distance from the black community, the variable measuring physical distance from the white community, and six interaction terms between the three metropolitan area dummies and the two distance dummies. The third regression adds to the second the proportion of applications from African-Americans. The final specification adds all of the other covariates listed in Tables 1 through 3 to the specification used in regression (3).¹⁶

Adding the distance effects, the metropolitan area dummies, and the unwilling-to-hire dummy causes a decline in the coefficient on criminal background checks from 0.085 in specification (1) to 0.043 in specification (2). Nonetheless, the effect is still statistically significant at the one percent level of confidence. Directly controlling for the proportion of applications from blacks causes a slight decline in the point estimate to 0.039, though this change is not statistically significant relative to the point estimate from regression (2). The effect is still significant at the 5

¹⁶The sample size changes across regression specifications due to the fact that several of the observations have missing values for one or more of the added explanatory variables. We also estimated separate models constraining the sample to observations with complete information on all explanatory variables. These results are qualitatively similar to those presented in Tables 5 through 8.

percent level of confidence (p-value is equal to 0.033).¹⁷ Adding all of the other control variable in regression (4) eliminates the effect of background checks on the likelihood that the most recently hired employee is black. Sensitivity analysis revealed that the variables that are particularly important in knocking out the effect of background checks include the dummy variables for size, the dummy variables for industry, and the variables indicating the types of employees that the employer will not consider.

Table 6 presents regression models comparable to those in Table 5 that add an interaction term between the dummies indicating employers that use criminal background checks and employers that are unwilling to hire ex-offenders. In these models, the effect of criminal background checks for firms that are willing to hire ex-offenders is given by the coefficient on the criminal background checks variable. The effect of background checks for firms that are unwilling to hire is given by the sum of the coefficients on the background checks variable and the interaction term between the dummies indicating use of background checks and employers that are unwilling to hire ex-offenders. The coefficient on the interaction term measures the difference in the effect of checking between employers that are unwilling and employers that are willing. The statistical significance of the coefficient on the interaction term provides a test for whether the effect for unwilling employers is distinguishable from the effect for willing employers.

The results in regression (1) reproduce the patterns observed in Table 4. There are significant effects of checking criminal backgrounds on the likelihood of hiring an African-American for both

¹⁷The lack of an effect of including the proportion of applications from blacks on the effect of criminal background checks after adjusting for the spatial distribution of the firm is testament to the strong influence of spatial location on African-American supply behavior. For a more detailed analysis of this relationship see Holzer and Ihlanfeldt (1996).

employers that are unwilling and employers that are willing to hire ex-offenders. The larger effect for unwilling employers is statistically distinguishable from the effect for willing employers. Adding the distance variables and the metropolitan area dummies in regression (2) eliminates the base effect of criminal background checks (eliminating the effect for willing employers and reducing the effect for unwilling employers). The relative difference, however, is unaffected by the inclusion of these variables and remains significant at the 10 percent level of confidence. Directly controlling for the racial composition of the applicant pool in regression (3) does not affect the base coefficient on the background checks dummy and slightly diminishes the point estimate on the interaction term (which is now statistically insignificant with a p-value-0.166). Finally, adding all of the other covariates in regression (4) causes a large decline in the base effect of background checks (the coefficient is -0.059 with a p-value of 0.076) and slightly increases the coefficient on the interaction term (which is again significant at the 7 percent level of confidence). The results in the final regression indicate that for firms that are willing to hire ex-offenders, employer access to criminal history records leads to a decrease in the likelihood of hiring African-Americans, holding all variables listed in Tables 1 through 3 constant. On the other hand, among employers who are unwilling to hire ex-offenders, the final regression indicates that employer access to criminal history records leads to a slight increase in the likelihood of hiring African-Americans.

To summarize these findings, the results in Tables 5 and 6 indicate that employer access to criminal history records tends to increase the likelihood that employers hire African-American employees. For all firms pooled, there is a small positive and significant effect of background checks that survives controlling for the establishment's spatial proximity to blacks and whites within the metropolitan area and direct controlling for the racial composition of the applicant pool. While

the effect is eliminated when we control for the remaining observable covariates, adding these additional variable may be over-fitting the model. Specifically, inter-industry and inter-size differences in the rate at which employers hire African-Americans may be due in part to differential use of criminal background checks. Hence, adding these additional controls on top of a direct measure of applicant racial composition may completely eliminate independent variation in the variable indicating employer use of background checks. Nonetheless, the differential effect of criminal background checks by whether the firm is willing to hire ex-offenders survives all of the additional control variables. The magnitude and sign of the relative difference is consistent with the hypothesis that employers who are unwilling to hire ex-offenders are more likely to statistically discriminate and more likely to overestimate the strength of the association between race and criminality.

Estimating Separate Effects by Size Category

The size distributions presented in Tables 1 through 3 indicate that small establishments are disproportionately represented among employers that are unwilling to hire ex-offenders and are also disproportionately represented among employers who do not check criminal backgrounds. In fact, among employers who do not check and who are unwilling to hire ex-offenders, 45 percent had fewer than 20 employees (compared with 32 percent for the sample overall). This uneven size distribution coupled with the fact that smaller firms are not subject to EEOC reporting requirements suggests that the incidence of statistical discrimination may be greatest among smaller firms. In this section, we assess whether the impact of criminal background checks on the likelihood of hiring African-Americans is heterogenous across establishments defined by size categories.

Table 7 presents estimates comparable to those in Table 5 where the sample is stratified into

three size categories: less than 50 employees, 50 to 99 employees, and 100 plus employees. The figures in the table present the coefficients on the background check dummies using the four model specifications from Table 5 estimated separately for each of the size categories. Beginning with specification (1) (no controls added), there are statistically significant effects for establishments with fewer than 50 employees and 50 to 99 employees, with a large positive effect for the intermediate size establishments (12.7 percentage points). In all models that add controls to the specification, we find no effect for the smallest and largest firms (all point estimates are statistically insignificant). However, there are large positive effects of background checks for establishments with 50 to 99 employees. All of these estimates are significant at the 5 percent level and range in magnitude from 11 to 18 percentage points.

Table 8 presents tests for whether the effects of employer background checks vary by employer unwillingness to hire ex-offenders. For the three size categories, the table presents the coefficients estimates for the interaction term between employer unwillingness and use of criminal background checks. Here we use the four specifications employed in the models presented in Table 7 to estimates separate models for each of the three size categories. Beginning with employers with fewer than 50 employees, the interaction effects are positive and significant (at the five percent level) for all four specifications. The magnitudes of these effects indicate that for small employers (under 50) who are unwilling to hire ex-offenders, checking the criminal backgrounds of applicants increases the likelihood of hiring a black applicant by roughly 10 percentage points relative to similarly sized establishments that are willing to hire ex-offenders. For medium and larger employers, we find no evidence of a differential effect of criminal background checks for employers that are unwilling.

Hence, the results by employer size are mixed. The regression results that do not distinguish employers by their willingness to hire ex-offenders indicate that medium-size firms are those most likely to statistically-discriminate in the absence of background checks. The results that allow the effects to vary by employer willingness, however, indicate that the heterogenous pattern one would expect to see exists for smaller employers only.

6. Conclusion

The findings of this study are several. To begin, the empirical estimates indicate that employers who use criminal background checks are more likely to hire black applicants than employers that do not. This positive association remains even after adjusting for an establishment's spatial proximity to black residential areas and for the proportion of applications to the firms that come from African-Americans. In the context of the theoretical arguments discussed above, this positive net effect indicates that the adverse consequence of employer-initiated background checks on the likelihood of hiring African-Americans is more than offset by the positive effect of eliminating statistical discrimination. To be sure, the group of workers who are excluded by a background check are surely different than the group of workers who are harmed by incorrect perceptions regarding their criminal histories. In other words, behind the net changes are two offsetting gross effects that impact the welfare of alternative groups of African-American workers.

In addition, we find that the positive effect of criminal background checks on the likelihood that an employer hires a black applicant is larger among firms that are unwilling to hire ex-offenders. This pattern is consistent with the proposition that employers with a particularly strong aversion to ex-offenders may be more likely to over-estimate the relationship between criminality and race, and

hence, hire too few African-Americans as a result.

While these findings are suggestive, more evidence concerning the effects of more open access to criminal history records is needed before one can draw implications for public policy. Given the likely collateral consequences of more open records policies for ex-offenders attempting to re-integrate into non-institutionalized society, one would want more complete and precise information on the magnitudes of the positive and negative effects of employer access before making a recommendation. One research approach that would be quite helpful in sorting the alternative manners in which background checks affect hiring outcomes would be to conduct audit studies of employers. By matching auditors on observable characteristics, varying race, and varying the scripted criminal histories that could be reported on applications, one could assess which employers are more likely to exclude ex-offenders, which are more likely to ask about criminal histories, and how race and criminal histories interact to impact employer hiring behavior.

References

- Aigner, Dennis J. and Glen G. Cain (1977), "Statistical Theories of Discrimination in Labor Markets," *Industrial and Labor Relations Review*, 30: 175-187.
- Altonji and Pierret (2001), "Employer Learning and Statistical Discrimination," *Quarterly Journal of Economics*, 116(1): 313-350.
- Bates, Timothy (1993), *Banking on Black Enterprise: The Potential of Emerging Firms for Revitalizing Urban Economies*, The Joint Center for Political and Economics Studies: Washington, D.C.
- Bushway, Shawn D. (1998), "Labor Market Effects of Permitting Employer Access to Criminal History Records," Working Paper, University of Maryland.
- Carrington, William J. and Kenneth R. Troske (1998), "Interfirm Segregation and the Black-White Wage Gap," *Journal of Labor Economics*, 16(2): 231-260.
- Craig, Scott R. (1987). "Negligent Hiring: Guilt by Association," *Personnel Administrator*, October 32-34.
- Freeman, Richard (1992), "Crime and the Employment of Disadvantaged Youth," in Peterson, George and Wayne Vroman (eds.) *Urban Labor Markets and Job Opportunity*, Urban Institute: Washington D.C., pp. 171-192.
- Grogger, Jeffrey (1995), "The Effects of Arrest on the Employment and Earnings of Young Men," *Quarterly Journal of Economics*, 110 (1): 51-71.
- Hahn, JM (1991), "Pre-Employment Information Services: Employers Beware," *Employee Relations Law Journal*, 17(1): 45-69.
- Holzer, Harry J. (1996), *What Employers Want: Job Prospects for Less Educated Workers*, Russell Sage Foundation: New York.
- Holzer, Harry J. and Keith R. Ihlanfeldt (1996), "Spatial Factors and the Employment of Blacks at the Firm Level," *New England Economic Review: Federal Reserve Bank of Boston*, May/June: 65-68.
- Holzer, Harry J. and Keith R. Ihlanfeldt (1998), "Customer Discrimination and Employment Outcomes for Minority Workers," *Quarterly Journal of Economics*, 113: 835-868.
- Ihlanfeldt, Keith R. and Madelyn V. Young (1996), "The Spatial Distribution of Black Employment Between the Central City and the Suburbs," *Economic Inquiry*, 34: 693-707.

Kling, Jeffrey (1995), "High Performance Workplaces," *Monthly Labor Review*, August.

Kling, Jeffrey (1999), "The Effect of Prison Sentence Length on the Subsequent Employment and Earnings of Criminal Defendant," Woodrow Wilson School Economics Discussion Paper 208, February

Lundberg, Shelly and Richard Startz (1983), "Private Discrimination and Social Intervention in Competitive Labor Markets," *American Economic Review*, June: 340-347.

Raphael, Steven; Stoll, Michael A. and Harry J. Holzer (2000), "Are Suburban Firms More Likely to Discrimination Against African-Americans?" *Journal of Urban Economics*, 48: 485-508.

Stoll, Michael A. and Steven Raphael "Racial Differences in Spatial Job Search Patterns: Exploring the Causes and Consequences," *Economic Geography*, 76(3): 201-223.

Turner, Susan C. (1997), "Barriers to a Better Break: Employer Discrimination and Spatial Mismatch in Metropolitan Detroit," *Journal of Urban Affairs*, 19: 123-141.

U.S. Bureau of Justice Statistics (1997), "Lifetime Likelihood of Going to State or Federal Prison," Bureau of Justice Statistics Special Report, NCJ-160092.

U.S. Department of Justice (1999), *Compendium of State Privacy and Security Legislation: 1999 Overview*, Washington, D.C.

Figure 1

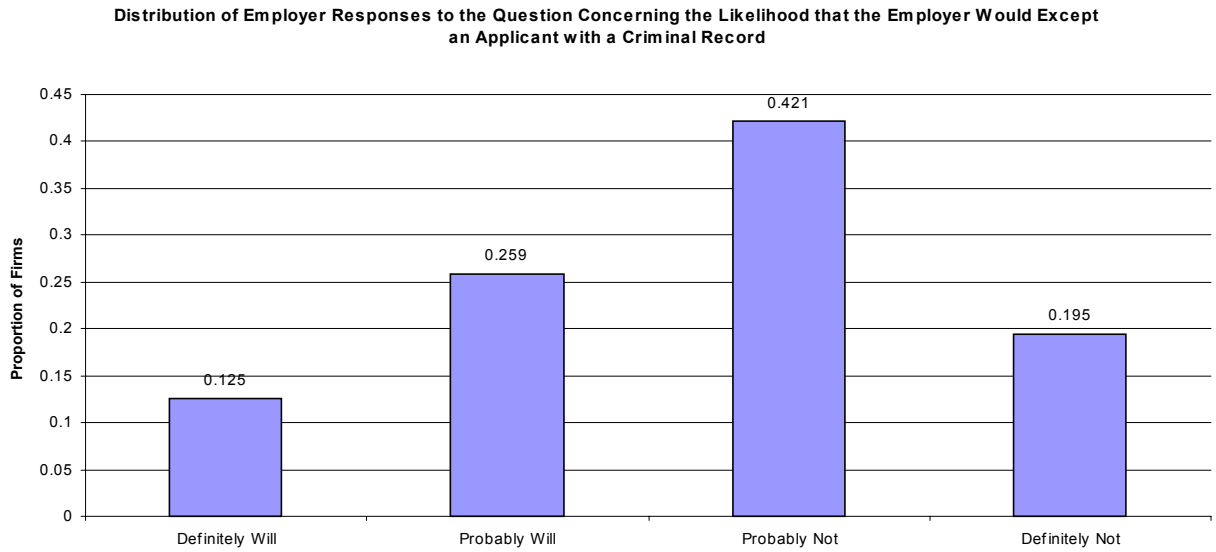


Figure 2

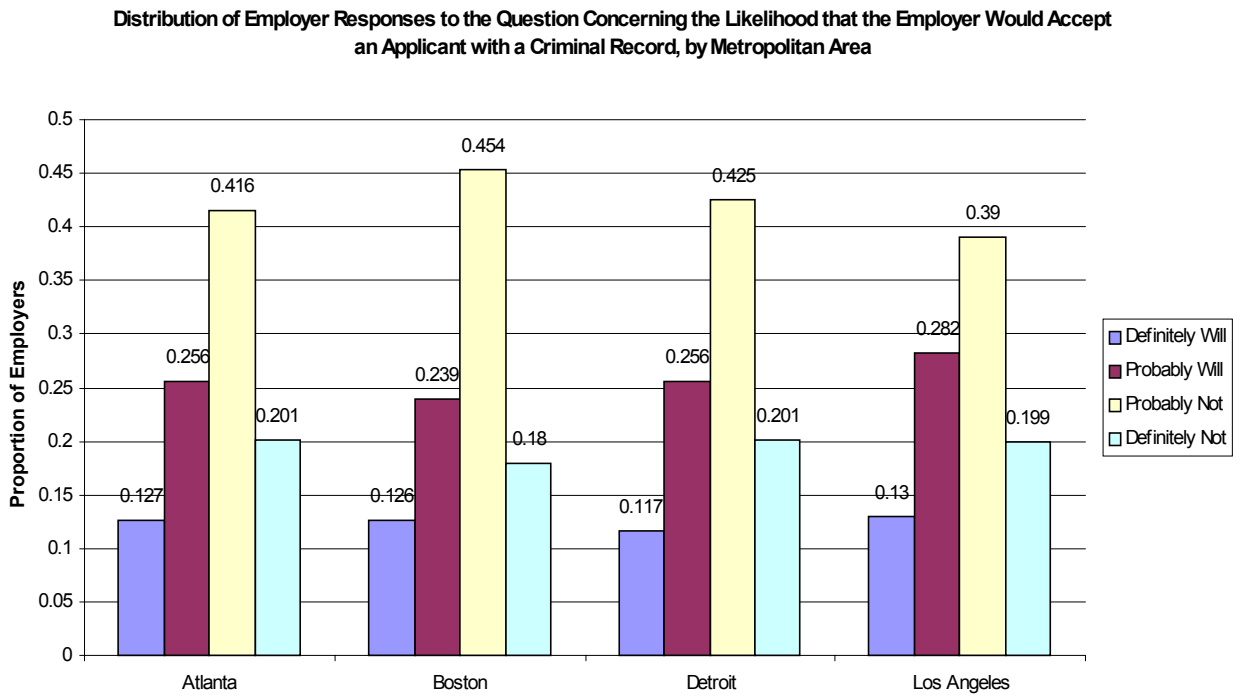


Figure 3

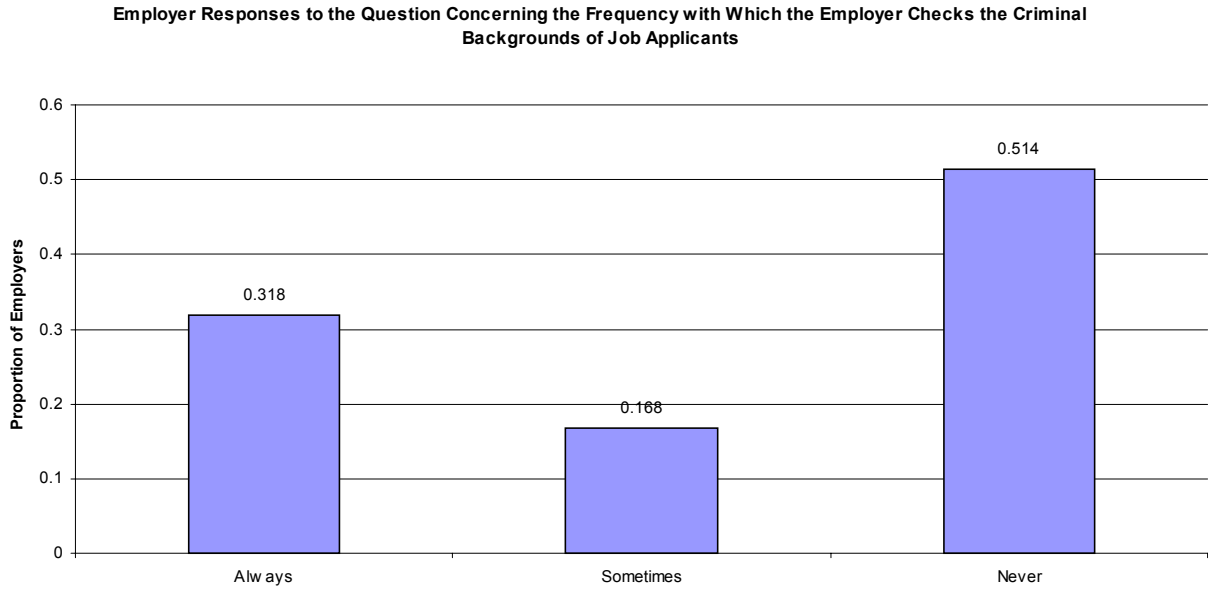


Figure 4

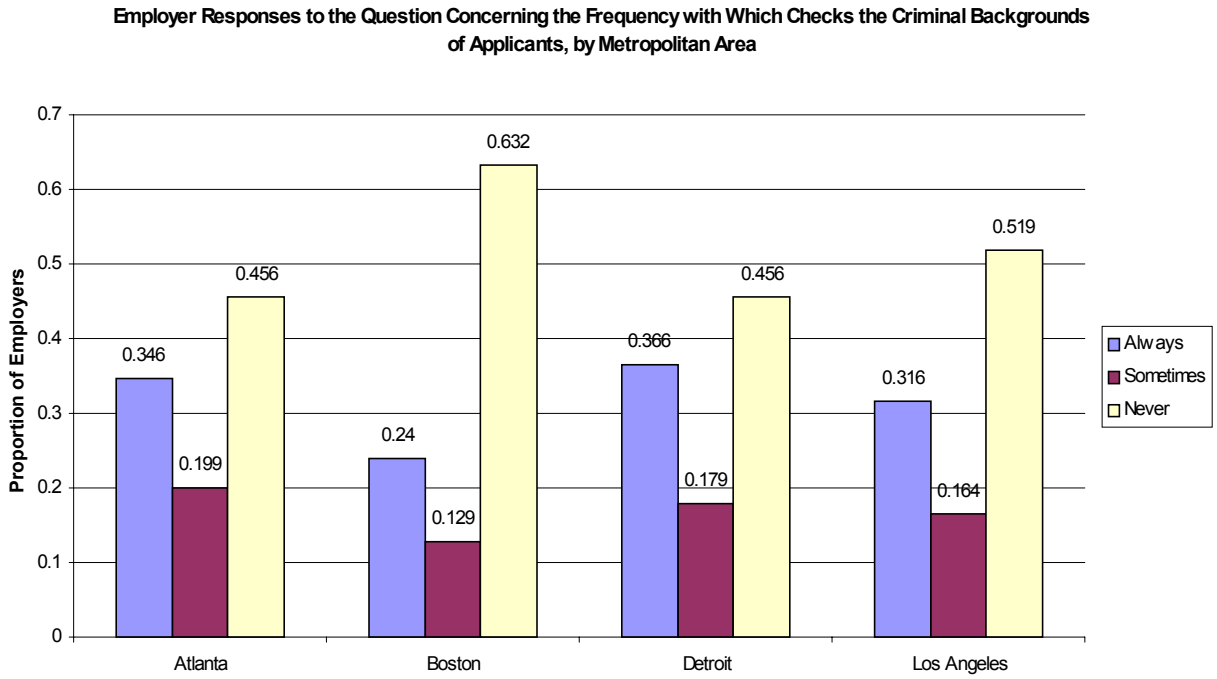


Figure 5

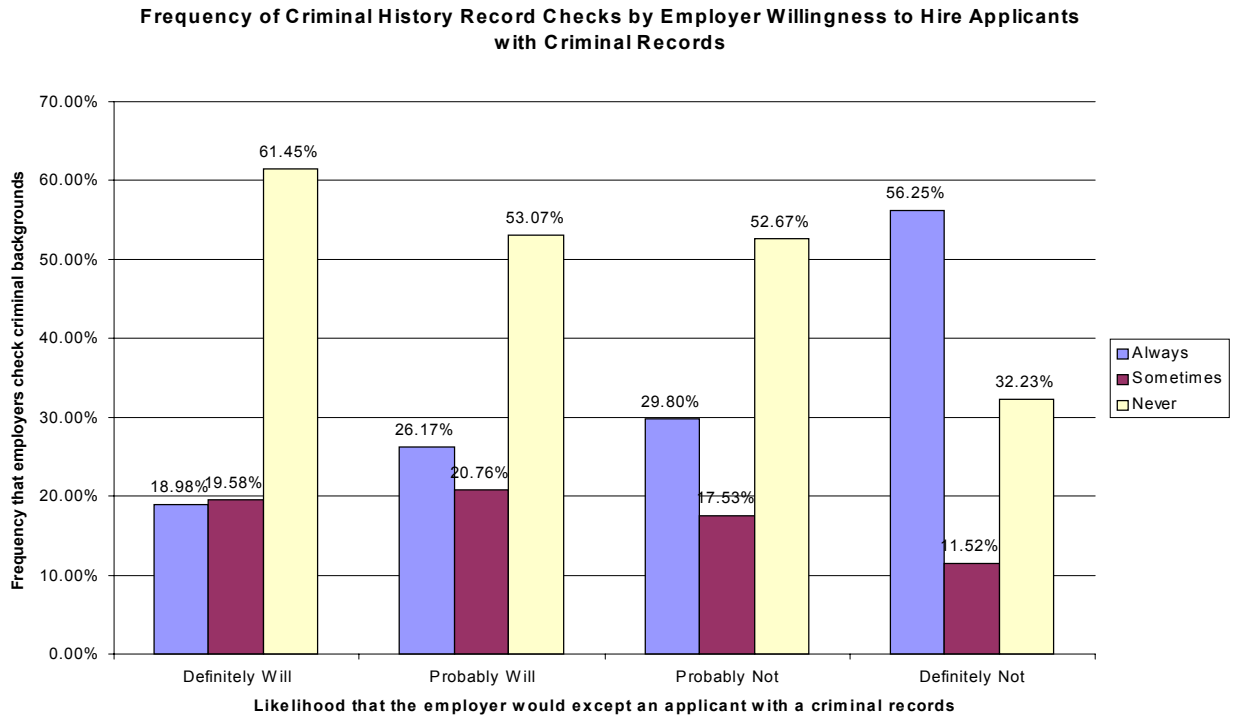


Table 1
Establishment Characteristics by Employer Self-Reported Likelihood of Hiring Applicants with Criminal Backgrounds

	Definitely Will	Probably Will	Probably Not	Definitely Not
Size, Industry, Spatial Location, and Race of hiring Agent				
Size				
< 20 employees	0.26	0.31	0.37	0.36
20-99 employees	0.29	0.33	0.32	0.33
100-499 employees	0.31	0.27	0.23	0.20
500-999 employees	0.06	0.04	0.04	0.03
1000+ employees	0.08	0.05	0.04	0.07
Industry				
Mining	0.00	0.00	0.00	0.00
Construction	0.02	0.03	0.03	0.01
Manufacturing	0.32	0.29	0.18	0.12
TCU	0.05	0.05	0.06	0.06
Wholesale Trade	0.05	0.10	0.09	0.04
Retail Trade	0.20	0.15	0.19	0.17
FIRE	0.02	0.05	0.11	0.16
Services	0.30	0.31	0.32	0.36
%Union	15.94	13.17	12.48	17.67
Central City	0.33	0.27	0.27	0.28
Black Hiring Agent	0.05	0.07	0.06	0.06
Distance Black	17.35	17.97	17.80	17.19
Distance White	22.57	22.63	22.58	22.26
Recruitment Methods Used				
Help Wanted Signs	0.31	0.28	0.24	0.27
Newspaper Ads	0.45	0.46	0.48	0.50
Walk-ins	0.78	0.74	0.67	0.66
Referrals from				
Current Employees	0.84	0.84	0.83	0.81
State Agency	0.46	0.40	0.31	0.30
Private Agency	0.23	0.21	0.21	0.17
Community Agency	0.33	0.26	0.24	0.25
School	0.40	0.34	0.34	0.38
Union	0.08	0.06	0.06	0.06
Uses affirmative action to Recruit	0.61	0.55	0.50	0.56

	Definitely Will	Probably Will	Probably Not	Definitely Not
Screening Methods				
Drug Test/Physical Exam	0.20	0.15	0.15	0.19
Aptitude Test	0.09	0.09	0.14	0.14
Knowledge Test	0.16	0.17	0.16	0.15
Personality Test	0.03	0.05	0.07	0.09
Background Checks				
Criminal Background	0.39	0.45	0.47	0.67
Education	0.66	0.69	0.68	0.70
References	0.92	0.95	0.96	0.97
Daily Job Tasks				
Customer Contact	0.52	0.49	0.60	0.71
Phone Conversations	0.48	0.49	0.55	0.55
Reading	0.53	0.56	0.52	0.58
Writing	0.28	0.29	0.30	0.34
Math/computations	0.63	0.66	0.67	0.64
Computer Work	0.48	0.47	0.54	0.51
Job Qualifications				
High School Diploma	0.57	0.68	0.74	0.79
Recent Work Experience	0.63	0.68	0.70	0.69
Specific Experience	0.55	0.60	0.60	0.62
References	0.69	0.67	0.74	0.78
Vocational Education	0.34	0.40	0.38	0.39
Very Important Requirement of New Employees				
Physically Attractive	0.09	0.10	0.11	0.17
Physical Neatness	0.44	0.45	0.56	0.62
Polite	0.71	0.70	0.80	0.83
Verbal Skills	0.54	0.54	0.64	0.72
Motivation	0.71	0.70	0.76	0.76
Speaks English	0.44	0.47	0.59	0.65
Type of Applicants that Would Probably Not Be Hired				
On Welfare	0.01	0.04	0.10	0.18
With GED	0.01	0.02	0.03	0.11
Spotty Work History	0.21	0.36	0.51	0.46
Unemployed for a Year	0.06	0.13	0.21	0.26

All figures use sample weights.

Table 2
Establishment Characteristics by Employer by the Frequency with Which Employers Check the Criminal Backgrounds of Applicants

	Always	Sometimes	Never
Size, Industry, Spatial Location, and Race of hiring Agent			
Size			
< 20 employees	0.24	0.28	0.38
20-99 employees	0.31	0.31	0.32
100-499 employees	0.28	0.27	0.24
500-999 employees	0.08	0.06	0.03
1000+ employees	0.10	0.09	0.04
Industry			
Mining	0.00	0.00	0.00
Construction	0.02	0.03	0.02
Manufacturing	0.10	0.20	0.27
TCU	0.08	0.04	0.05
Wholesale Trade	0.04	0.10	0.09
Retail Trade	0.15	0.19	0.17
FIRE	0.14	0.08	0.06
Services	0.40	0.34	0.33
%Union	23.65	13.23	11.23
Central City	0.28	0.31	0.26
Black Hiring Agent	0.09	0.07	0.04
Distance Black	17.36	17.59	17.78
Distance White	22.42	22.55	22.42
Recruitment Methods Used			
Help Wanted Signs	0.29	0.30	0.23
Newspaper Ads	0.51	0.50	0.46
Walk-ins	0.72	0.73	0.66
Referrals from			
Current Employees	0.85	0.85	0.80
State Agency	0.40	0.40	0.29
Private Agency	0.22	0.23	0.20
Community Agency	0.32	0.30	0.22
School	0.47	0.35	0.32
Union	0.10	0.08	0.04
Uses affirmative action to Recruit	0.69	0.57	0.48

	Always	Sometimes	Never
Screening Methods			
Drug Test/PhysicalExam	0.24	0.18	0.11
Aptitude Test	0.15	0.13	0.10
Knowledge Test	0.18	0.18	0.15
Personality Test	0.09	0.05	0.06
Background Checks			
Criminal Background	1.00	1.00	0.00
Education	0.83	0.83	0.58
References	0.98	0.98	0.93
Daily Job Tasks			
Customer Contact	0.69	0.62	0.52
Phone Conversations	0.55	0.54	0.54
Reading	0.62	0.56	0.54
Writing	0.38	0.29	0.34
Math/computations	0.65	0.62	0.68
Computer Work	0.54	0.52	0.54
Job Qualifications			
High School Diploma	0.76	0.74	0.68
Recent Work Experience	0.70	0.72	0.69
Specific Experience	0.63	0.60	0.63
References	0.80	0.75	0.69
Vocational Education	0.40	0.42	0.39
Very Important Requirement of New Employees			
Physically Attractive	0.14	0.10	0.10
Physical Neatness	0.55	0.54	0.52
Polite	0.81	0.74	0.77
Verbal Skills	0.70	0.56	0.63
Motivation	0.76	0.73	0.76
Speaks English	0.60	0.53	0.56
Type of Applicants that Would Probably Not Be Hired			
On Welfare	0.09	0.07	0.09
With GED	0.04	0.02	0.04
Spotty Work History	0.40	0.41	0.43
Unemployed for a Year	0.15	0.16	0.20

All figures use the sample weights.

Table 3
Establishment Characteristics by Employer Self-Reported Likelihood of Hiring Applicants with Criminal Backgrounds Crossed with Whether the Employer Checks the Criminal Backgrounds of Job Applicants

	Willing to Hire, Doesn't Check	Willing to Hire, Checks	Not Willing to Hire, Doesn't Check	Not Willing to Hire, Checks
Size, Industry, Spatial Location, and Race of hiring Agent				
Size				
< 20 employees	0.33	0.24	0.45	0.29
20-99 employees	0.33	0.31	0.33	0.32
100-499 employees	0.29	0.27	0.18	0.27
500-999 employees	0.03	0.07	0.02	0.06
1000+ employees	0.03	0.11	0.02	0.07
Industry				
Mining	0.00	0.00	0.00	0.00
Construction	0.03	0.03	0.02	0.02
Manufacturing	0.38	0.19	0.22	0.11
TCU	0.04	0.07	0.05	0.07
Wholesale Trade	0.08	0.08	0.10	0.05
Retail Trade	0.16	0.18	0.20	0.17
FIRE	0.04	0.04	0.09	0.16
Services	0.26	0.36	0.30	0.36
%Union	11.99	17.28	8.22	19.59
Central City	0.26	0.32	0.28	0.27
Black Hiring Agent	0.05	0.08	0.03	0.07
Distance Black	18.21	17.22	17.82	17.45
Distance White	22.89	22.26	22.35	22.60
Recruitment Methods Used				
Help Wanted Signs	0.24	0.34	0.21	0.28
Newspaper Ads	0.43	0.50	0.45	0.53
Walk-ins	0.72	0.80	0.64	0.70
Referrals from				
Current Employees	0.82	0.86	0.80	0.85
State Agency	0.36	0.50	0.24	0.36
Private Agency	0.20	0.25	0.19	0.20
Community Agency	0.23	0.35	0.20	0.28
School	0.31	0.42	0.29	0.41
Union	0.05	0.10	0.03	0.09
Uses affirmative action to Recruit	0.52	0.64	0.43	0.60

	Willing to Hire, Doesn't Check	Willing to Hire, Checks	Not Willing to Hire, Doesn't Check	Not Willing to Hire, Checks
Screening Methods				
Drug Test/PhysicalExam	0.11	0.24	0.11	0.21
Aptitude Test	0.07	0.13	0.13	0.15
Knowledge Test	0.15	0.20	0.15	0.17
Personality Test	0.04	0.06	0.07	0.08
Background Checks				
Criminal Background	0.00	1.00	0.00	1.00
Education	0.57	0.82	0.55	0.81
References	0.91	0.98	0.94	0.98
Daily Job Tasks				
Customer Contact	0.43	0.59	0.57	0.70
Phone Conversations	0.47	0.50	0.58	0.53
Reading	0.55	0.55	0.50	0.58
Writing	0.28	0.28	0.31	0.31
Math/computations	0.65	0.64	0.69	0.63
Computer Work	0.46	0.48	0.55	0.51
Job Qualifications				
High School Diploma	0.60	0.69	0.73	0.77
Recent Work Experience	0.67	0.66	0.68	0.71
Specific Experience	0.60	0.58	0.61	0.61
References	0.62	0.75	0.71	0.78
Vocational Education	0.39	0.39	0.38	0.39
Very Important Requirement of New Employees				
Physically Attractive	0.08	0.12	0.12	0.14
Physical Neatness	0.42	0.49	0.59	0.56
Polite	0.70	0.72	0.82	0.81
Verbal Skills	0.53	0.55	0.65	0.66
Motivation	0.59	0.73	0.78	0.74
Speaks English	0.46	0.47	0.62	0.60
Type of Applicants that Would Probably Not Be Hired				
On Welfare	0.03	0.04	0.15	0.11
With GED	0.01	0.02	0.07	0.04
Spotty Work History	0.30	0.32	0.54	0.45
Unemployed for a Year	0.12	0.10	0.26	0.19

All figures use the sample weights. Employers who answer that they “definitely will” or “probably will” hire applicants with criminal histories are coded as willing. Employer who check criminal background “always” or “sometimes” are coded as checking.

Table 4
Hiring Outcomes for Last Worker Hired and Applicant Racial Composition by Whether the Firm Checks the Criminal Background of Applicants and by the Willingness of the Employer to Hire Applicants with Criminal Backgrounds

Panel A: Last Worker Hired is Black

	All firms	Willing to hire	Not willing to hire	Δ (Not willing - willing)
All Firms	0.199 (0.008)	0.193 (0.013)	0.203 (0.010)	0.010 (0.017)
Checks	0.244 (0.012)	0.223 (0.021)	0.254 (0.015)	0.031 (0.026)
Does not check	0.159 (0.010)	0.175 (0.016)	0.148 (0.013)	-0.027 (0.021)
Δ (Checks - Doesn't)	0.084 (0.016)***	0.048 (0.026)*	0.107 (0.021)***	0.058 (0.033)*

Panel B: Proportion of Applicants that are Black

	All firms	Willing to hire	Not willing to hire	Δ (Not willing - willing)
All Firms	0.300 (0.008)	0.295 (0.014)	0.304 (0.011)	0.008 (0.017)
Checks	0.370 (0.012)	0.369 (0.023)	0.370 (0.016)	0.001 (0.028)
Does not check	0.242 (0.010)	0.250 (0.017)	0.236 (0.014)	-0.014 (0.021)
Δ (Checks - Doesn't)	0.128 (0.016)***	0.120 (0.028)***	0.134 (0.021)***	0.015 (0.034)

Standard errors are in parentheses. Firms that always check or sometimes check criminal backgrounds are coded as checking. Firms that state that they “definitely will” or “probably will” hire a worker with a criminal background are coded as willing to hire, while firms stating “probably not” or “absolutely not” are coded as unwilling to hire.

* Difference significant at the ten percent level of confidence.

** Difference significant at the five percent level of confidence.

*** Difference significant at the one percent level of confidence.

Table 5
Linear Regression Models of the Dummy Variable Indicating that the Last Workers Hired is Black on Whether Establishments Conduct Background Checks and Other Establishment Characteristics

	(1)	(2)	(3)	(4)
Checks Criminal Backgrounds	0.085 (0.016)	0.043 (0.016)	0.039 (0.018)	-0.015 (0.022)
Unwilling to Hire Ex-Offenders	-	-0.001 (0.016)	-0.015 (0.018)	-0.008 (0.021)
Distance Black	-	-0.028 (0.005)	-0.009 (0.006)	-0.004 (0.007)
Distance Black* Atlanta	-	0.007 (0.006)	-0.005 (0.007)	-0.004 (0.009)
Distance Black* Boston	-	0.0123 (0.008)	0.004 (0.009)	-0.001 (0.010)
Distance Black* Los Angeles	-	0.017 (0.008)	0.004 (0.009)	-0.001 (0.010)
Distance White	-	0.017 (0.008)	-0.007 (0.010)	-0.008 (0.011)
Distance White* Atlanta	-	-0.001 (0.009)	0.018 (0.011)	0.016 (0.013)
Distance White* Boston	-	-0.003 (0.011)	0.015 (0.013)	0.021 (0.015)
Distance White* Los Angeles	-	-0.005 (0.011)	0.013 (0.013)	0.020 (0.016)
Atlanta	-	0.026 (0.121)	-0.258 (0.151)	-0.243 (0.171)
Boston	-	-0.321 (0.139)	-0.497 (0.169)	-0.517 (0.193)
Los Angeles	-	-0.328 (0.146)	-0.435 (0.174)	-0.512 (0.205)
% Applicants Black	-	-	0.005 (0.0002)	0.004 (0.0003)
Other Covariates ^a	No	No	No	Yes
R ²	0.011	0.124	0.312	0.367
N	2,441	2,212	1,505	1,210

All regressions include a constant. Standard errors are in parentheses.

a. This includes all other variables listed in Tables 1 through 3.

Table 6
Linear Regression Models Testing for an Interaction Effect Between Checking Criminal
Backgrounds and Unwillingness to Hire Ex-Offenders

	(1)	(2)	(3)	(4)
Checks Criminal Backgrounds	0.048 (0.026)	0.008 (0.027)	0.005 (0.030)	-0.059 (0.033)
Unwilling to Hire Ex-Offenders	-0.027 (0.022)	-0.027 (0.023)	-0.037 (0.025)	-0.041 (0.028)
Checks*Unwilling	0.058 (0.033)	0.057 (0.033)	0.052 (0.037)	0.074 (0.041)
Distance Black	-	-0.028 (0.005)	-0.010 (0.006)	-0.004 (0.007)
Distance Black* Atlanta	-	0.007 (0.006)	-0.005 (0.007)	-0.003 (0.008)
Distance Black* Boston	-	0.013 (0.007)	0.004 (0.009)	-0.001 (0.010)
Distance Black* Los Angeles	-	0.017 (0.007)	0.004 (0.009)	-0.000 (0.010)
Distance White	-	0.017 (0.007)	-0.006 (0.010)	-0.007 (0.011)
Distance White* Atlanta	-	-0.001 (0.009)	0.018 (0.011)	0.015 (0.013)
Distance White* Boston	-	-0.003 (0.011)	0.015 (0.013)	0.019 (0.015)
Distance White* Los Angeles	-	-0.005 (0.011)	0.012 (0.013)	0.018 (0.016)
Atlanta	-	0.025 (0.122)	-0.254 (0.151)	-0.229 (0.172)
Boston	-	-0.321 (0.139)	-0.492 (0.169)	-0.503 (0.193)
Los Angeles	-	-0.328 (0.147)	-0.429 (0.174)	-0.494 (0.205)
% Applicants Black	-	-	0.005 (0.0003)	0.004 (0.0003)
Other Covariates ^a	No	No	No	Yes
R ²	0.012	0.125	0.313	0.367
N	2,441	2,212	1,505	1,210

All regressions include a constant. Standard errors are in parentheses.

a. Other covariates are all other variables listed in Tables 1 through 3.

Table 7
Regression-Adjusted Estimates of the Effect of Criminal Background Checks on the Likelihood of Hiring a Black Worker by Establishment Size

	Less than 50 employees	50 to 99 employees	100 or more employees
Specification (1)	0.059 (0.019)	0.127 (0.048)	0.034 (0.031)
Specification (2)	0.021 (0.019)	0.114 (0.050)	-0.018 (0.032)
Specification (3)	0.004 (0.022)	0.141 (0.057)	-0.003 (0.037)
Specification (4)	-0.035 (0.027)	0.188 (0.087)	-0.049 (0.047)

Standard errors are in parentheses. Estimates provide the coefficient on the variable indicating that the employer checks criminal backgrounds. The four specifications correspond to the specifications used in Table 5.

Table 8
Regression-Adjusted Estimates of the Relative Effect (Unwilling Relative to Willing) of Criminal Background Checks on the Likelihood of Hiring an Black Workers by Establishment Size

	Less than 50 employees	50 to 99 employees	100 or more employees
Specification (1)	0.104 (0.042)	0.120 (0.099)	-0.075 (0.064)
Specification (2)	0.079 (0.041)	0.079 (0.103)	-0.044 (0.063)
Specification (3)	0.097 (0.045)	0.038 (0.118)	0.005 (0.075)
Specification (4)	0.114 (0.051)	-0.044 (0.169)	-0.015 (0.086)

Standard errors are in parentheses. Estimates provide the coefficient on the interaction term between the variable indicating that the employer checks criminal backgrounds and the variable indicating that the employer is unwilling to hire workers with past criminal convictions. The four specifications correspond to the specifications used in Table 6.