I Z A Institute
of Labor Economics
Initiated by Deutsche Post Foundation

DISCUSSION PAPER SERIES

IZA DP No. 13520

Investigation of Employers' Preferences for the Design of Staffing Agency Incentives to Hire Ex-Felons

Priscillia Hunt
Rosanna Smart

JULY 2020

I Z A Institute
of Labor Economics

Initiated by Deutsche Post Foundation

DISCUSSION PAPER SERIES

IZA DP No. 13520

Investigation of Employers' Preferences for the Design of Staffing Agency Incentives to Hire Ex-Felons

Priscillia Hunt
RAND and IZA

Rosanna Smart
RAND

JULY 2020

ISSN: 2365-9793

IZA – Institute of Labor Economics

Schaumburg-Lippe-Straße 5–9
53113 Bonn, Germany

Phone: +49-228-3894-0
Email: publications@iza.org

www.iza.org

ABSTRACT

Investigation of Employers' Preferences for the Design of Staffing Agency Incentives to Hire Ex-Felons

A criminal record can severely damage labor market prospects. While public and private organizations have developed a host of policies to encourage employers to hire people with a record, research suggests some of the policies may have negative unintended consequences. To explore ways to mitigate these consequences, we conducted a discrete-choice experiment in the summer of 2017 with a nationally representative sample of employers. Employers indicated their preferences for incentives offered by staffing agencies to hire individuals with one non-violent felony conviction. These incentives include: a replacement guarantee, more detailed work history, provision of transportation to/from job site, and a fee discount. The baseline incentive involved a staffing agency verifying that the ex-offender did not have safety or rule violations in previous companies and a fee discount worth the same amount as the federal Work Opportunity Tax Credit for ex-felons (WOTC). At baseline, less than half (43%) of employers would consider hiring an individual with this incentive. The likelihood of hiring an individual with a record increased from the baseline by 69 percent if a staffing agency also provided a guarantee of a replacement worker in the event the individual was deemed unsuitable. Employers were 53 percent more likely to hire an individual providing a certificate of validated positive previous work performance history. Having consistent transportation increased the probability of being considered for hire by 33 percent, and doubling the fee discount increased the baseline probability by 42 percent.

JEL Classification: K14, J78, J24

Keywords: employment, choice experiment, stated preference, criminal record

Corresponding author:
Priscillia E. Hunt
RAND
1776 Main St.
Santa Monica, CA 90407
USA

E-mail: phunt@rand.org

1. Introduction

Given the scale and labor market implications of criminal conviction in the United States, exploring ways to address the barriers faced by recently convicted job-seekers could have important economic implications. Approximately 20 million people in the U.S. have at least one felony criminal conviction (Shannon et al., 2011), and nearly half of individuals released from prison remain unemployed up to one year after their release (National Research Council, 2014; Petersilia, 2003; Sabol, 2007; Visher, Debus-Sherrill, & Yahner, 2011). Research shows poor labor market outcomes are due, in part, to statistical discrimination (Agan & Starr, 2017; Decker, Ortiz, Spohn, & Hedberg, 2015a; J. Doleac & Hansen, 2016; Pager, Western, & Sugie, 2009a), so questions have been raised about the extent to which increasing employer access to information on job candidates' previous work performance could increase employment rates of ex-felons in particular. Furthermore, the collateral consequences of criminal penalties, such as revocation of a driver's license, may have direct bearing on available labor market opportunities for individuals with criminal records (Bohmert & DeMaris, 2017; Lichtenwalter, Koeske, & Sales, 2006). This paper uses discrete-choice experiments to identify the relative attractiveness to employers of hypothetical staffing agency policies designed to promote the employment of people with a felony criminal record ("ex-felons").

A criminal record can harm an individual's employability through several mechanisms. First, there are policies, such as Ban-the-Box and local expungements, that seal or prevent employers from having access to criminal history records, which employers use as information in hiring. These policies create a positive externality, but they do not compensate employers for the increased risk associated with a lack of information. Positive work-performance information verified by previous employers might change the perception of potential new employers about whether an applicant has the requisite skills for an available position. However, details of previous work history are difficult to obtain, as most U.S. employers do not provide information beyond dates of employment and job titles (Verkerke, 1998; Cooper, 2001; Finkin and Dau-Schmidt, 2009; Long, 2015). In a 2004 member survey by the Society for Human Resource Management, 53 percent of human resource professionals indicated they refused to provide *any* information on a former employee for fear of litigation (SHRM, 2005).

Second, post-release legal disabilities, such as losing a driver's license or not being allowed to live with someone with a felony criminal record (thereby significantly reducing stable housing), can increase rates of tardiness and absence from work (Chamberlain, Boggess, & Powers, 2016a; Samuels & Mukamal, 2004). Insofar as this is a problem perceived by employers, providing released prisoners with transportation to and from a job site could make them more employable.

Third, safety, legal, and temporary and permanent business closure risks (e.g. closure for an investigation) due to incidents between someone with a record and other employees or customers can also contribute to increasing expected costs to employers of hiring an individual with a criminal record (Albright & Denq, 1996; Giguere & Dundes, 2002; Graffam, Shinkfield, & Hardcastle, 2008; Holzer, Raphael, & Stoll, 2004; Lageson, Vuolo, & Uggen, 2015; Lukies, Graffam, & Shinkfield, 2011). One way of offsetting these risks may be to financially compensate employers (e.g. insurance, bond, subsidy) or provide replacement labor at no cost to employers.

Many existing studies of mechanisms to address employer concerns with hiring individuals with criminal records use methods that suffer from social desirability bias or

are unable to isolate the preferences of employers make specific hiring decisions. Several studies conduct surveys or interviews that directly ask employers about their attitudes toward hiring ex-offenders (Fahey, Roberts, & Engel, 2006; Giguere & Dundes, 2002; Graffam et al., 2008; Haslewood-Pócsik, Brown, & Spencer, 2008; Lukies et al., 2011; Swanson, Langfitt-Reese, & Bond, 2012) or views on programs and policies that employers perceive would best improve labor market outcomes for ex-offenders (Fahey et al., 2006; Giguere & Dundes, 2002; Haslewood-Pócsik et al., 2008). However, evidence suggests that the opinions voiced by employers in survey studies may not align with actual practices (Lageson et al., 2015; Pager & Quillian, 2005). Other evidence comes from correspondence or audit studies whereby fictitious job applications or applicants, which are designed to be identical across all attributes except the feature(s) of interest, are presented to employers, and differences in callback rates are interpreted as evidence of discrimination (Decker, Ortiz, Spohn, & Hedberg, 2015b; Galgano, 2009; Pager, 2003; Pager, Western, & Sugie, 2009b; Uggen, Vuolo, Lageson, Ruhland, & Whitham, 2014). While these strategies overcome issues of social desirability response bias, they require that the experimental features to be varied are observable either in looking at the applicant or at the applicant's resume. Thus, the design does not readily accommodate empirical testing of preferences for different policies.

This study extends the existing literature by using a discrete-choice experiment to investigate how employers involved in hiring (human resource professionals and managers/owners) value various incentive designs in their recruitment decisions for people with a non-violent, felony criminal record. We use the context of a staffing agency offering a fee discount, with a minimum value equivalent to the federal Worker's Opportunity Tax Credit for Ex-Felons (United States of Department of Labor, 2017), to examine the extent to which financial compensation influences hiring decisions. We also consider the role of offering a guarantee replacement worker if the new hire is not a suitable fit, to determine whether aversion to job vacancy affects hiring decisions. Additionally, our experiment tests the relative appeal of information provided by previous employers regarding positive work performance and adherence to company rules and safety through a certificate of rehabilitation[1] (Leasure & Andersen, 2016). Previous literature has suggested, but not tested, the idea that the lack of work-performance information may be especially damaging for people with criminal records (Agan & Starr, 2017; J. Doleac & Hansen, 2016). We recognize there is a catch-22 here: the first post-release job is probably the most challenging to get, and individuals cannot show post-release work history until they can get a job. That said, there are many re-entry and probation programs designed to support a first post-release job. Last, we determine the relative value of consistent transportation to and from work when deciding who to hire. While identifying which incentives work (and do not work) sheds light on what policies can change the minds of employers to hire people with records, it does not tell us the source of their decisions and reluctance to hire, of course. We hope this research is used to further that course of enquiry and prioritize areas for enhanced study.

This study uses a staffing agency setting for several reasons. Each year, approximately 15 million people are employed in a U.S. firm by using a staffing agency, 60 percent of whom are in low-skilled jobs (American Staffing Agency, 2017); thus, these agencies may be an important avenue of employment for people with a criminal record. Additionally,

[1] These certificates, typically administered through a court, substantiate that an individual has shown exemplary behavior and is considered rehabilitated.

during a pre-test phase of our study (discussed in more detail later), some employers revealed that they recruit employees exclusively through staffing agencies. Furthermore, the measures whose efficacy we want to test might plausibly be a feature of a staffing agency. If we should find this measure effective, for example, it might be recommended that people with a criminal record focus on retaining staffing agencies with this policy.

The paper proceeds as follows. Section 2 provides background information on existing public policy levers intended to improve labor market opportunities for ex-offenders that motivated the initial attributes selected for the experiment. Section 3 briefly presents a theoretical framework for employers' hiring decisions, and Section 4 describes the experimental setup and empirical framework. Descriptive statistics for the respondent sample are presented in Section 5. Section 6 presents the main results for the discrete choice experiment and findings, and Section 7 concludes.

2. Background

Experiments show that individuals with a criminal record are less likely to be interviewed and hired than applicants who have identical levels of competence and employability characteristics but no criminal record (Pager, 2003). Therefore, there is something beyond the correlation between a criminal record and productive characteristics that influences employment of ex-offenders.

One explanation for why technically qualified people with a criminal record have poor economic outcomes is that employers have a "taste" for certain groups over others, so even highly qualified people with a criminal record may have difficulties being hired, i.e. taste-based discrimination (Becker, 2010). In this conceptualization of labor market discrimination, the preferences or biases of employers are fixed and concentrated among a subgroup of employers—e.g., "felon-unfriendly industries." Because it is relatively costly to pursue jobs in felon-unfriendly industries, Fryer, Jr., and Levitt (2004) recommend that ex-offenders avoid these employers and only seek jobs with more-accepting hiring policies.

Another explanation is statistical discrimination, in which a criminal record is a signal of poor productivity and reliability that employers use when making hiring determinations. The idea is that they apply the low-cost signal to everyone with a criminal record, regardless of whether it is accurate for an individual or not, because it is challenging for recruiters to know who will be productive and reliable (Spence, 1973). Indeed, evidence shows that limiting criminal record information available to employers may lead to significantly worse outcomes for low-skilled, minority job candidates, regardless of their criminal history (Agan and Starr, 2016; Doleac and Hansen, 2016; Shoag and Veuger, 2016). This result suggests that employers rely on statistical generalizations when making hiring decisions; namely, they assume that low-skilled minorities are more likely to have a criminal record and a criminal record is associated with lower productivity. This would indicate that there is a market for productivity information; changes in policy or firms that could fill this gap may help to correct this market inefficiency.

While it might seem that referencing past employers should fill this information gap, research shows most employers do not provide information beyond dates of employment and job titles (Verkerke, 1998; Cooper, 2001; Finkin and Dau-Schmidt, 2009; Long, 2015). In a 2004 member survey by the Society for Human Resource Management, 53 percent of human resource professionals indicated they refused to provide *any* information on a former employee for fear of litigation (Society for Human Resource Management, 2005). Therefore, other policies may be needed to help correct this market inefficiency. We

describe three policies intended to address this inefficiency in the labor market, each of which plays a role in our experiments.

2.1. Ban-the-Box (BTB)

Recent years have seen a rapid expansion in state and local adoption of "Ban the Box" (BTB) policies, which are intended to limit employers' use of information about criminal history in making hiring decisions. By delaying employers' ability to use a job applicant's criminal history as a signal of low employability, BTB policies aim to encourage ex-offenders to apply for positions (Hlavka, Wheelock, and Cossyleon, 2015) and to increase the likelihood that they are selected for a job interview, providing them with an opportunity to mitigate discrimination through face-to-face contact and, in turn, improve their employment outcomes (Altonji and Pierret, 2001).

Recent research suggests there are negative unintended consequences associated with BTB policies. Evidence shows that employers in states with such policies are less likely to hire black and Hispanic males with low skill sets because these groups have relatively higher criminal conviction rates than whites (Agan and Starr, 2017; J. Doleac and Hansen, 2016).

2.2. Work Opportunities Tax Credit (WOTC) for Ex-Felons

The WOTC, introduced in 1996, is a federal tax credit available to for-profit employers who hire workers from certain populations that have historically faced substantial barriers to employment, including "Ex-felons". The exact size of the tax credit is a function of the wages paid to the employee during the first year of employment and the number of hours worked (U.S. Department of Labor, 2017). For the employer to receive the subsidy, the employee must receive wages for at least 120 hours of work (for a 25-percent wage subsidy up to $1,500 maximum; 400 hours for a 40-percent wage subsidy up to $2,400 maximum), and the credit is granted only for the first year of employment.

The WOTC for hiring ex-felons is designed to improve this group's employment prospects by compensating employers for the perceived risk or perceived lower productivity of this population. To our knowledge, no study has evaluated the effects of the WOTC for ex-offenders specifically, but existing evidence generally shows that the subsidy program has limited impact on increasing employment or earnings for disadvantaged workers (Hamersma, 2003; Hamersma, 2008; Hamersma and Heinrich, 2008). Reasons cited for the limited effects on labor market outcomes include: majority of employers are unaware of the tax credit's availability (Brisman, 2004; Fahey, Roberts, and Engel, 2006); unreliable because the program must be reauthorized annually by Congress (Scott, 2013) and the provision's frequent expiration and relatively short extensions mean the tax credit is often unavailable to employers and financial compensation is not always guaranteed (Taboada, 2016); and the financial incentives may not be sufficient to compensate employers for both the perceived costs of hiring an ex-felon and the administrative costs associated with completing and processing the requisite paperwork to receive the tax credit (Hamersma, 2011). Indeed, one study evaluating the effects of a tax credit expansion for disabled veterans found increasing the tax credit to $4,800 (twice the amount employers can receive for hiring an ex-felon) increased veterans' employment rate by 2 percentage points (Heaton, 2012). Therefore, we might expect that the incentive

amount would need to increase to have a meaningful effect on ex-felons' employment rates.

2.3. Certificates of Employability, Good Conduct, Rehabilitation or Relief (CoR)

A CoR is a judicial order in which, typically, a court determines that an individual has shown exemplary behavior and declares them judicially rehabilitated. Eleven states offer some type of certificate.[2] CoRs vary across jurisdictions, as states differ in their levels of protection, eligibility criteria, and procedures for the certificate. Examples of the types of eligibility criteria include no pending cases and no subsequent felony convictions. There are a number of other more subjective factors that judges consider, including family life, conduct while in prison, and employment and schooling. The CoRs can (1) allow access to state or business licensing, (2) automatically apply an individual for governor's pardon, and/or (3) protect employers from negligent hiring claims—which have the intended benefits of improving individuals' economic and social well-being.

We are aware of one experimental evaluation of the impact of CoRs on labor market outcomes using the Ohio Certificate of Qualification of Employment, which an individual with a felony conviction can apply for in Ohio one year after release or during all periods of supervision after release. Leasure and Andersen (2016) studied the impact of the Ohio certificate using an audit, or experimental-correspondence, approach by sending three sets of fictitious résumés that all had the same professional characteristics except that one set did not indicate a criminal record, a second set indicated a felony drug conviction and the Ohio CoR, and a last set indicated the same criminal record but did not have an Ohio CoR. The authors found that call-back rates for individuals with a felony drug conviction and a CoR (25.4 percent) were not statistically different from individuals without a criminal record (29.0 percent). The call-back rates of these two groups were significantly better than the group with the same criminal record and no CoR (9.8 percent). A related study by Denver, Siwach, and Bushway (2017) in New York found that provisionally hired individuals with criminal records who received a background check clearance had a statistically significant lower likelihood of a subsequent arrest up to three years after their last arrest.[3]

3. Theoretical Framework

We model the decision to hire a worker within an expected utility framework where workers have more information about their productivity than recruiting firms and the presence of a conviction record increases the employer's assigned probability to lower productivity and greater costs. Specifically, we assume that recruiting employers demand more access to information about the productivity of candidates. Therefore, employers find it optimal to base their hiring decisions on certified work performance from previous employers. Furthermore, we suppose that firms want to minimize the safety and liability risks associated with candidates, and they assign greater probabilities to the likelihood of a negative safety- or liability-related event if the candidate has a criminal record. As such,

---

The states offering CoRs are Alabama, Arizona, California, Connecticut, Hawaii, Illinois, Iowa, New Jersey, New York, North Carolina, and Ohio.

[3] The final decision for clearance was based on recommendations from previous employers or evidence of completing a rehabilitation or reentry program.

employers demand certified information on adherence to company rules and code of safe practices to decide who to hire. Employers want to be compensated monetarily for taking on the actual or perceived risks associated with a candidate with a criminal record, so they may assess the amount of the fee discount offered by their staffing agency to make their hiring decision. We expect recruiting employers demand candidates who can reliably supply their labor, so they form their hiring decision on whether a candidate has access to dependable transportation. We assume employers demand a staffing agency minimize their vacancies and resulting production losses. Therefore, employers use the agency's guarantee replacement policy to decide who to hire.

Formally, we assume a recruiting employer maximizes the following expected utility function:

$$U(x, \boldsymbol{i}, y, a, s, d, z, r, k, e) = pf(x(n), a(s), v, y) - w * (1 - d) - zr(h, q),$$

where p is the price of the recruiting firm's product and f is the production function. Production depends on candidates' unobservable productivity, x, reliability of candidates, a, vacancies, v, and the firm's characteristics affecting productivity, y. Since x is unobservable, the employer uses a staffing agency providing verified positive work performance, which can be used as an actual or perceived signal of x. Similarly, the employer cannot observe how reliable a candidate will be, so they use a staffing agency providing transportation, s, to increase the value of a. If a worker is not a suitable fit, the firm cancels a contract, resulting in a vacancy and loss of productivity, v. The employer selects a staffing agency that limits the losses associated with a vacancy by sending a replacement worker quickly. Wages are exogeneous in our model, although the recruiter may use the staffing agency discount, d, to determine who to hire. The cost of a catastrophe is represented by z, and r is the unobservable likelihood of a catastrophe occurring. The likelihood of a catastrophe is a function of an employee's adherence to company rules and safe practices, h, and idiosyncratic firm characteristics, q.. Since the firm does not know r, it chooses a staffing agency providing h to signal r. The employer selects the candidate that maximizes the expected value of $U(x,n,a,s,v,y,d,z,r,h,q \mid n,s,v,y,d,z,r,h,q)$.

4. The Experiment

To elicit employers' hiring preferences, we use a survey-based, modified-discrete choice experiment approach that allows respondents to rank three alternative options: two types of hiring incentives containing four relevant attributes at different levels, and a no-choice option. As recommended by Adamowicz et al. (1998), the no-choice option was included to better resemble the actual hiring process, and thus reduce the potential introduction of systematic bias (Haaijer, Kamakura, & Wedel, 2001). We choose a ranking system because we expect many respondents to select the no-choice option of not hiring an ex-felon and thus learn nothing of value. Instead, by allowing respondents to rank all the options, we can still value their preferences between A and B, even if they would rather not hire an ex-felon at all (choice C). We prefer a ranking approach over having respondents use a rating scale system as contingent rating evaluations rely on strong assumptions related to cardinality of rating scales or comparability of ratings across individuals, and have been shown to yield unreliable preference estimates (Calfee, Winston, & Stempski, 2001). The following sections provide details of the survey procedure, survey content, and experimental design.

4.1. Experiment Planning and Development

We began by developing an initial list of policy features based on existing policies as already described in the previous section, and previous survey literature focusing on employers' preferences (Albright and Denq, 1996; Giguere and Dundes, 2002; Holzer, Raphael, and Stoll, 2004; Graffam, Shinkfield, and Hardcastle, 2008; Lukies, Graffam, and Shinkfield, 2011; Lageson, Vuolo, and Uggen, 2015). Then, as suggested by Coast et al. (2012), we revised the list through pre-studies and pre-tests. Specifically, we conducted an expert interview with a Human Resource representative with experience working at international, large firms. We also tested the instrument with a behavioral economist familiar with cognitive issues in surveys. Based on this testing, we changed some of the instrument language, reduced the amount of text in the narrative, and used a ranking response rather than a single choice response.

We then pilot tested the survey with the same Human Resource representative previously interviewed and a group of foremen at local construction companies. Participants were asked to fill in the paper version of the survey, which provided one example with the narrative, and to read through the table with the rest of the levels. We then discussed the design with the two groups separately. From these discussions, we concluded that: (i) human resource professionals and managers understood the exercise and believed it to characterize a real hiring situation; (ii) participants believed the levels of each attribute represented a realistic offering; and (iii) participants suggested we missed two important features they normally consider-- ability to get to the job on time consistently (transportation) and guarantee to replace an employee offered by temp agencies.

This last point led us to design a choice experiment that began with a narrative about an employer recruiting for an entry-level job and two of their staffing agencies each proposing a candidate with the same technical skills needed for the job and one nonviolent felony conviction. However, the agencies could differ in terms of four attributes (cost, transportation provision, guaranteed replacement worker, information provided by previous employers). This narrative setup was chosen as we believed the attributes of a guarantee replacement worker and transportation provision were realistically offered in the context of a staffing agency.

4.2. Attributes and Levels

In selecting the attributes and their levels, our objective was to include realistic information that would be typically discussed or learned during a job interview. Table 1 displays the attributes and their levels presented to respondents. We include a categorical attribute regarding previous employers' assessment as a post-conviction certificate. This attribute is based on findings of two policies, BTB and CoR, with respect to firms' hiring decisions. Recent years have seen a rapid expansion in state and local adoption of BTB policies, which are intended to limit employers' use of information about criminal history in making hiring decisions. Evidence of the BTB policy suggests less information may do more harm than good, as low-skilled, black and Hispanic males without a criminal record are less likely to be hired in BTB jurisdictions (Agan & Starr, 2017; J. Doleac & Hansen, 2016). Information on previous work performance and adherence to company codes and safe practices could offset the negative aspects of BTB; however, previous work histories are very difficult to obtain, as most U.S. employers do not provide information beyond

dates of employment and job titles (Verkerke, 1998; Cooper, 2001; Finkin and Dau-Schmidt, 2009; Long, 2015). Regarding CoRs, they are currently offered in eleven U.S. states, and vary across jurisdictions as each state differs in their levels of protection, eligibility criteria, and procedures for the certificate. In this study, we use the certificate as a context for verifying previous work behaviors.

The offer of transportation to and from the job in a timely manner is a binary attribute. There has been a relatively recent discussion that limited access to transportation may have negative economic consequences for the ex-offender population. Auto ownership has been shown to increase employment rates (Baum, 2009; Lichtenwalter et al., 2006; Raphael & Rice, 2002), and a criminal conviction may limit access to transportation because of the financial implications of a criminal record or because of a sentence that includes the loss of a driver's license (Samuels & Mukamal, 2004). Employers may be aware that the loss of driving privileges create challenges for commuting (Chamberlain, Boggess, & Powers, 2016b) and be reluctant to hire ex-felons without verifiable, consistent transportation.

A statement of guarantee to replace the employee is based on actual offers from staffing agencies. Although not a policy designed for ex-offenders specifically, most staffing agencies offer a warranty to their business clients (ASA & NAPS, 2005). Usually there is a stated timeframe in which the company must identify whether an employee is not a good fit and request a replacement (e.g. 24 business hours, 30 days). Furthermore, staffing agencies tend to indicate whether or not the business has to pay the staffing agency fee for the new employee that did not work out. Businesses may find this service important for minimizing their costs and maximizing production. We are not aware of any evaluations determining the impact of this service on employment rates. Since agencies tend to be vague about how long before a replacement will arrive, we specify immediately (level 1) or within a business week (level 2).

The amounts of the discount were selected to have a meaningful impact on choice—a 25% or 50% discount on the cost of hiring— but low enough to ensure the cost is not the only factor in deciding which policy to choose. We based the amount off the WOTC, in which companies are generally eligible to receive a tax credit of up to $2,400 for each new individual they hire who has a felony conviction or prison release date within one year of being hired. The financial incentives may not be sufficient to compensate employers for both the perceived costs of hiring an ex-felon and the administrative costs associated with completing and processing the requisite paperwork to receive the tax credit (Hamersma, 2011). Indeed, one study evaluating the effects of a tax credit expansion for disabled veterans found increasing the tax credit to $4800, which is twice the amount employers can receive for hiring an ex-felon, increased veterans' employment rate by two percentage points (Heaton, 2012).

Table 1: Description of Choice Experiment Attributes and Levels

Attribute	Description	Levels
Post-conviction certification requirements	Private employment agency document declaring that an individual is rehabilitated. The declaration is based on employers' assessments within the past year. If incarcerated, corrections officers provide an assessment of work performed.	1. Demonstrate adherence to company rules / code of safe practices 2. Provide consistent work history and verifiable positive employment references 3. Provide consistent work history and verifiable positive employment references AND Demonstrate adherence to company rules / code of safe practices
Transportation provided	Transportation to/from the job in a timely manner is provided by the private employment agency.	1. No 2. Yes
Guarantee statement	Statement issued by a private employment agency to guarantee satisfactory completion of tasks.	1. No guarantee 2. If not a good fit: not billed and replacement sent within 5 days 3. If not a good fit: not billed and replacement sent same or next day
Cost Discount	Reduction in fee paid to the private employment agency for recruitment expenses and statutory mandated costs (e.g. unemployment benefits).	1. 25% of employee's hourly rate (typically, $200 off per month worked) 2. 50% of employee's hourly rate (typically, $400 off per month worked)

All attributes are ordinal except for post-conviction certification requirements in which we cannot determine ex-ante preferences for levels 1 and 2. We considered that many respondents may work in BTB jurisdictions and thus would not know for certain whether a candidate had a criminal record until the interview stage, so the language of the narratives asks respondents whom they would forward "to the next recruitment stage" (see the Appendix Figure 1 for the narrative text).

4.3. Choice Sets

The option set was introduced as a choice between two types of employment agency services that included the relevant attributes (previous employer assessments, guarantee replacement, transportation, cost discount) at different levels, and a no-choice option. In each experiment, the respondent was asked to rank the alternative that renders him/her the highest utility. By ranking policy preferences, the respondent implicitly makes trade-offs between the attributes associated with each policy. The impact from each attribute on the choice of policy is then measured by altering the level of each attribute for the policies A and B. In this survey, respondents are faced with six choice situations.

We initially generated all possible combinations of levels and alternatives (1,296 choice sets). Determining the number of choice sets to present to each respondent is largely a subjective decision, and the optimal number of choice sets to present is debatable. Too many choice sets may result in "tired" respondents (possibly giving habitual or routine response), while too few choice sets may create biased responses, given that the choice may be considered complex and time consuming (Carlsson and Martinsson, 2008; Hensher, Stopher, and Louviere 2001). We assumed that respondents could complete six questions, and decided to include some strictly dominated strategies to validate that respondents were

paying attention and understood the exercise. Approximately 10 percent of respondents received one question (out of six) that included a strictly dominated alternative.

We selected 36 choice sets from the full factorial using the mix-and-match method (Aizaki, 2012). For each question, respondents find that at least one of the attributes differs, with up to all four attributes differing. On average, 1.33 attributes are the same and 2.67 of the attributes differ per question.This study uses a block design of six blocks, with respondents randomly assigned to a block.

For identification, we tested that the levels between attributes were not correlated with one another (orthogonality) and that each level within an attribute appeared an equal number of times (balance). We tested orthogonality and balance for the full array and within each block. The final experimental design consists of a balanced and orthogonal array arranged into six blocks and in which respondents, randomly assigned to one of those six blocks, answer six questions.

4.4. Empirical Approach: Choice Modeling

The theoretical basis for the attribute-based choice method is derived from Lancastrian consumer theory (Lancaster, 1966), which assumes that utilities for goods can be decomposed into separate utilities for their underlying component characteristics (i.e., attributes). Combined with random utility theory (see McFadden, 1974; Hanemann and Kanninen, 1999), which posits that individuals behave rationally and will select the alternative yielding the highest utility, the probability that a respondent will select a given option in the choice experiment will be greater if the utility provided by the attributes of that option exceed the utility provided by the attributes of the alternative options.

For our empirical approach, we first model the choice of the option most preferred relative to all other options using a conditional logit model (McFadden, 1974). For this model, we represent the utility (U_{ij}) an individual *i* receives from a given choice *j* as a linear function of the choice attributes:

$$U_{ij} = Z_{ij}\alpha + \epsilon_i,$$

where Z_{ij} is a vector of attribute levels characterizing choice *j*, ϵ_i is a random error term, and α is a vector of preference weights reflecting the relative contribution of each attribute level to the utility received by respondents. A respondent's choice among the available options (including the status-quo or opt-out alternative) is represented as a function of the characteristics of the alternatives, in contrast to the multinomial logit framework where choice is modeled as a function of respondent characteristics (Hoffman and Duncan, 1988). Assuming that the error terms follow an extreme value distribution and are independent across alternatives (IIA), the probability that individual *i* chooses alternative *j* as the top-ranked preference (P_{ij}) can be represented as:

$$P_{ij} = \frac{\exp\left(Z_{ij}\alpha\right)}{\sum_{k=1}^{J} \exp\left(Z_{ik}\alpha\right)}$$

where Z_{ik} is a vector of characteristics for the *k*th alternative in individual *i*'s choice set and *J* is the number of alternatives available in a given choice set.

To incorporate the additional statistical information obtained from asking respondents to rank their options in order of preference, we also employ a rank-ordered logit model (Beggs, Cardell, and Hausman, 1981; Hausman and Ruud, 1987). The rank-ordered logit

model can be viewed as a sequence of conditional logit models, where for each choice set the top-ranked option is first chosen as preferred relative to all alternatives, and the second-ranked option is then chosen as preferred relative to all remaining items. Based on the IIA assumption, the probability for individual i of a complete ranking $R_i=(r_{i1},\ldots,r_{iJ})$ is thus the product of these conditional logit probabilities, which can be expressed as:

$$\pi(R_i) = \prod_{j=1}^{J-1} \frac{\exp\left(Z_{ir_{ij}}\alpha\right)}{\sum_{m=j}^{J} \exp\left(Z_{ir_{im}}\alpha\right)}$$

where $Z_{ir_{ij}}$ is the vector of attributes for the alternative ranked j in the ordering for individual i. Given the smaller asymptotic variance of the rank-ordered logit relative to the conditional logit, the rank-ordered model has been shown to improve efficiency of parameter estimation (Beresteanu and Zincenko, 2016). As respondents' complete rankings consist of only three choices in our experiments, we anticipate that the rank-ordered logit will produce efficiency gains without introducing substantial bias in the parameter estimates (Beresteanu and Zincenko, 2016; Chapman and Staelin, 1982; Hausman and Ruud, 1987).

For all analyses, the survey data is first transformed so that each respondent's record yields three observations, each observation representing an alternative facing the respondent in a given choice set. For the conditional logit, the dependent variable takes a value of 1 for the top-ranked option (and of 0 otherwise). For the rank-ordered logit, the dependent variable corresponds to the rank that the respondent assigned to each alternative with higher values representing higher-ranked options. Model coefficients are estimated using maximum likelihood with robust standard errors clustered at the respondent level.

4.5. Robustness Checks

We initially included screener questions because we could not be certain the Hoover's database was accurate in terms of job titles/responsibilities of people involved in hiring[4], and we wanted respondents to be individuals who could legally hire people with criminal records. The pilot revealed that the job titles – recruiter, manager, owner – were accurate and relevant as all respondents chose the job titles expected; an open-ended response was permitted and no one provided a title different from than that listed in Hoover's. However, we chose not to screen for the main study and included the question regarding whether one could hire people with criminal records instead as a background question.

To provide a check that employers understood their choices and were exerting appropriate effort when ranking applicants, 10% of the questions included strictly dominated set of attributes. Examining these responses suggests that, in general, the respondents understood the experiment and were considering their answers carefully. In 85 percent of the strictly dominated choices, respondents selected the strictly preferred

[4] When we were randomly selecting survey participants, we noticed that the firms listed for contacts working in establishments with fewer than 5 employees did not seem accurate. To verify this, we randomly selected 10 contacts across industries of <5 employees (as labeled in the Hoover's database) and called the listing asking about firm size. Of those that answered (4), one was a small firm, and the other three were not. Given the margin of error, we chose 2-99 as the smallest establishment size in the Hoover's database and we included a question in the survey regarding company size.

applicant suggesting respondents were indeed paying attention and understood the exercise.

4.6. Additional Survey Questions

In addition to the choice experiment (six questions), the final survey included a set of background questions regarding job title and tenure, firm size, and industry; and a set of follow-up questions regarding professional considerations when hiring ex-offenders and previous experience hiring ex-offenders.[5] The first follow-up question asked whether respondents agreed or disagreed with the following statement: "People with felony records will get more job offers if they can provide detailed information about their previous work performance." Responses were on a 5-point Likert scale of: strongly agree, agree, neutral, disagree, or strongly disagree. The second follow-up question asked respondents to rank from most important to least important the following potential issues of consideration in hiring someone with at least one felony conviction: time since last felony conviction, any violent felony conviction, how they will interact with staff, how they will interact with clients or customers, workplace liability issues, ability to get to the job on time, whether they have the skills to get the job done on time. This list was developed to ensure some overlap with the items we were testing in the experiment. We developed it by drawing from prior surveys or interviews of employers (Albright and Denq, 1996; Giguere and Dundes, 2002; Holzer, Raphael, and Stoll, 2004; Graffam, Shinkfield, and Hardcastle, 2008; Lukies, Graffam, and Shinkfield, 2011; Lageson, Vuolo, and Uggen, 2015) as well as the pretest interviews with human resources professionals and construction supervisors and executives overseeing large public and private construction projects.

5. Data

5.1. Sample Selection

A representative sample of 4000 participant employees was drawn from a listing purchased from Hoover's, Inc., a business research company with information on firms across the country. To obtain a nationally representative sample of employers, we used Bureau of Labor Statistics data from the first quarter in the Quarterly Census of Employment and Wages (2016) to first stratify the Hoover's sample on industry and establishment size. Within these strata, we then randomly selected employees designated by Hoover's as working in managerial positions to contact for the survey.

Given the known challenges with obtaining quality contact details in firms and uncertainties with how participants would respond, we conducted a pilot with 953 potential participants and followed this with the 'main study' of 2,203 participants. In total, a representative sample (according to Hoover's data) of 3,156 participant employees was drawn from the Hoover's listing, and 107 completed responses were obtained.

[5] All instruments and procedures were approved by the RAND Institutional Review Board, and all survey participants were provided informed consent forms and indicated acceptance prior to beginning the survey.

5.2. Survey Implementation

We implemented the questionnaire using *MMIC* (Multimode Interviewing Capability), a RAND-developed online environment for survey research. From June through August of 2017, we emailed the survey to private-sector firms almost exclusively (97 percent). The email contained a unique link and text requesting that the recipient take part in an online survey lasting approximately 10–15 minutes. Respondents were offered $15 for completing the survey, which they could accept as an Amazon egift code or donate to one of three charities (Cancer Research Institute, Children's Defense Fund, or Goodwill). Email reminders were sent twice per week for seven weeks to non-respondents of the pilot and twice per week for three weeks to non-respondents of the main study.

5.3. Descriptive Statistics

We received 107 completed responses, yielding a response rate of 3.4 percent. Table 2 presents descriptive statistics for our sample of respondents. Nearly all respondents had worked over 3 months at the organization (99%). Approximately three-fifths of completed responders are general managers, managing directors, vice president, president, owner or CEO; and two-fifths are human resources or recruitment managers. Most respondents worked in small firms with 61 percent of completed responses from firms with 1-99 employees, and the remainder split evenly between mid-sized firms (100-499 employees) and large firms (over 500 employees). In terms of experience hiring people with records, approximately 58% of completed respondents indicated that they had not hired someone with a criminal record in the past year, 24% had hired someone with a record, and 18% did not know. Eleven respondents (10.3%) reported they were legally prohibited from hiring an individual with a felony record. Relative to the full sample, these respondents were more likely to come from education and health or financial services industries.

Table 2: Summary Statistics of Analytical Sample

Sample Element	Mean (Std. Dev.)	Number of Completed Responses
Job Title		
General manager, managing director	0.28 (0.45)	107
Vice president, president, owner, CEO	0.29 (0.46)	107
Human resource, recruitment manager	0.21 (0.41)	107
Tenure		
<3 months	0.01 (0.10)	107
>3 months	0.99 (0.97)	107
3 months–5 years	0.25 (0.44)	96[a]
5 years +	0.74 (0.44)	96[a]
Establishment size		
<100	0.61 (0.49)	107
100–499	0.20 (0.40)	107
500+	0.20 (0.40)	107
Industry		
Natural resources and mining	0.02 (0.14)	107
Construction	0.07 (0.25)	107
Manufacturing	0.11 (0.32)	107
Education and health services	0.19 (0.39)	107
Leisure and hospitality	0.07 (0.26)	107
Professional and business services	0.18 (0.38)	107
Trade, transportation, and utilities	0.03 (0.17)	107
Other services	0.26 (0.44)	107
Have hired someone with a criminal record in the past year		
No, and legally can	0.48 (0.50)	107
No, and legally cannot	0.10 (0.31)	107
Yes	0.24 (0.43)	107
I do not know	0.18 (0.38)	107

[a] Sample size differs for these characteristics as more detailed questions on tenure were not asked of the pilot sample.

Our final sample of employers is largely representative of the current U.S. Census of businesses in terms of establishment sizes by industry sector (using the two-digit levels of the North American Industry Classification System (Office of Management and Business 2012)). However, as shown in Table 3, there are a few industry-establishment sizes that are overrepresented or underrepresented in our data compared with the national average. Specifically, our sample has a significantly higher proportion of respondents self-reporting working in the “other services” industry across all establishment sizes compared to national statistics. This overrepresentation seems to be offset by underrepresentation of mid-sized (100-499 employees) establishments in the “professional and business services” industry, small and mid-sized establishments in the “financial activities industry”, and all establishment sizes of the “trade, transportation, and utilities” industry. However, given that industry information was self-reported by respondents, the high proportion of individuals in “other services” may reflect overreporting in this catch-all category rather than actual overrepresentation.

Table 3: Difference Between Respondent Sample and Census Data (in percentage points), by Industry and Establishment Size

	Establishment Size		
Industry	**0–99 Employees**	**100–499 Employees**	**500+ Employees**
Construction	1.3%	–0.3%	0.6%
	(0.46)	(0.79)	(0.35)
Education and health services	3.5%	–0.4%	0.8%
	(0.12)	(0.80)	(0.73)
Financial activities	–4.3%	–3.3%	–0.4%
	(0.06)	(0.06)	(0.82)
Information	–0.5%	–0.3%	–1.7%
	(0.66)	(0.78)	(0.17)
Leisure and hospitality	–0.4%	1.8%	1.3%
	(0.83)	(0.06)	(0.06)
Manufacturing	2.2%	–1.7%	–2.1%
	(0.22)	(0.40)	(0.33)
Natural resources and mining	0.1%	0.3%	–0.6%
	(0.93)	(0.68)	(0.44)
Other services	16.9%***	6.2%***	0.9%***
	(0.00)	(0.00)	(0.00)
Professional and business services	4.0%	–5.3%**	–2.8%
	(0.17)	(0.02)	(0.21)
Trade, transportation, and utilities	–8.8%***	–4.4%**	–2.5%
	(0.00)	(0.04)	(0.10)

P-values in parentheses for difference in our sample proportion to the national distribution documented in the Bureau of Labor Statistics first-quarter data of the Quarterly Census of Employment and Wages (2016). **p<0.05, ***p<0.01.

6. Results

6.1. Conditional logit and rank-ordered logit results

Table 4 presents regression results for the modified-choice experiment, shown separately for the conditional logit and rank-ordered logit models. For each attribute, the base level of the attribute is excluded from the model, such that attribute levels are compared relative to the base level. Positive (negative) coefficients indicate that respondents were on average more (less) likely to rank policy options with that attribute level as their top choice relative to the reference attribute level in the conditional logit model or more (less) highly relative to the reference attribute level in the rank-ordered model.

For both model specifications, the estimates are generally signed in the expected direction. A post-conviction certificate that requires provision of consistent work history and verifiable positive employment references as well as demonstration of adherence to company rules and code of safe practices significantly increases the likelihood that an applicant with a felony record is selected relative to a certificate that requires only consistent work history and verifiable employment references ($p<0.001$), and relative to a certificate that requires only demonstration of adherence to company rules and code of safe practices ($p<0.001$). Respondents also derived positive utility from transportation provision, the cost discount, and replacement guarantees. Positive utility for a guaranteed replacement did not significantly differ with respect to whether the replacement was sent within one day or within five days ($p=0.193$ for CL; $p=0.139$ for ROL).

While the coefficient magnitudes presented in Table 4 are not directly interpretable, the relative size of the coefficients offers some meaningful insights. Based on the relative size of the coefficients in the conditional logit model, the most to least important attributes for forwarding an ex-offender to the next recruitment stage are: guaranteed replacement, cost discount, post-certification demonstrating adherence and positive work history, and transportation provision. Results are broadly similar for the rank-ordered logit model.

Table 4: Logit Models of Selecting Individuals with Felony Records to Continue in the Recruitment Process, (Regression Coefficients)

	Conditional Logit	Rank-Ordered Logit
Certificate Attributes (ref: Demonstrate adherence to company rules/code of safe practices)		
Provide consistent work history and verifiable employment refs	0.240	0.262**
	(0.164)	(0.130)
Provide consistent work history/refs and demonstrate adherence	0.933***	0.755***
	(0.203)	(0.150)
Transportation Attributes (ref: No transportation provided)		
Transportation to/from job provided by employment agency	0.580***	0.539***
	(0.172)	(0.133)
Guarantee Attributes (ref: No guarantee)		
If not a good fit: not billed and replacement sent within 5 days	1.255***	0.773***
	(0.186)	(0.159)
If not a good fit: not billed and replacement sent within 1 day	1.499**	0.942***
	(0.208)	(0.168)
Cost Discount (ref: 25% wage discount, typically $200/month worked)		
50% wage discount, typically $400/month worked	0.713***	0.483***
	(0.139)	(0.108)
Indicator for Opt-Out option	0.739***	-0.501**
	(0.279)	(0.215)
Number of observations	1,920	1,721
Number of respondents	107	107

**p<0.05, ***p<0.01. Coefficient estimates for conditional logit or rank-ordered logit regression. Robust standard errors (in parentheses) clustered at the respondent level.

6.2. Predicted Probabilities of Policy Attributes

Because logit results are not directly interpretable, we also estimate the predicted probabilities of ex-offender recruitment for differing combinations of staffing agency policy attributes in Table 5. For each policy feature, we use the magnitudes of the coefficient estimates to compute the predicted probability of employers not opting out of hiring an ex-offender under a given policy regime. Panel A shows the baseline staffing agency package (derived from the choices offered) as a policy providing: a 25-percent wage discount, no transportation, no guarantee replacement, and a post-conviction certification only verifying previous code of conduct or safety. In the next rows, the staffing agency policy attributes are altered in varying combinations. We focus on changes in predicted probabilities as opposed to levels because the predictions are relative to the counterfactual (baseline) set of attributes that cannot be measured using real life data on hiring decisions.

Varying each staffing agency policy attribute individually (Panel B) increases the probability that the ex-offender candidate is forwarded to the next recruitment round from the baseline by between 14.6 percentage points (transportation) to 29.6 percentage points (guaranteed replacement). Panel B also indicates that employers individually valued each of two policy features —access to a consistent work history and verifiable positive work performance or a guaranteed replacement worker within five days if the initial candidate turns out to unsuitable— more than an additional cost discount equivalent to approximately $200 per month per worker. Shown in Panel C, once guaranteed replacement is part of the policy package, adding additional policy features (certification of employer references, transportation provision, or an added cost discount) increases the predicted probability an ex-offender is chosen by between 9 and 11 percentage points. The combined effect of adding all policy attributes is a predicted probability increase of 53.2 percentage points relative to the baseline policy package.

Table 5: Predicted Probabilities of Ex-Offender Recruitment Across Policy Packages

Certification of demonstrated adherence	Certification of employer references	Transportation provision	Guaranteed replacement within 5 days	25% cost discount	50% cost discount	Probability ex-offender chosen
A: Baseline						
1	0	0	0	1	0	42.9%
B: Alter 1 attribute						
1	1	0	0	1	0	65.6%
1	0	1	0	1	0	57.3%
1	0	0	1	1	0	72.5%
1	0	0	0	0	1	60.5%
C: Alter 2 attributes						
1	1	1	0	1	0	77.3%
1	1	0	1	1	0	87.0%
1	1	0	0	0	1	79.6%
1	0	1	1	1	0	82.4%
1	0	1	0	0	1	73.2%
1	0	0	1	0	1	84.3%
D: Alter 3 attributes						
1	1	1	1	1	0	92.3%
1	1	0	1	0	1	93.2%
1	1	1	0	0	1	87.4%
1	0	1	1	0	1	90.6%
E: Alter 4 attributes						
1	1	1	1	0	1	96.1%

6.3. Most- and Least-Preferred Policy Packages

Another way of understanding these results is to consider which policy packages employers preferred the most and least. To rank staffing agency packages, we calculated preference scores for each potential combination of attributes by summing up the model coefficients for the given attribute combination. Table 6 presents the predicted probabilities associated with choosing their top five preferred packages and their five least preferred. Of note, the only attribute that remains consistent across the top five most preferred staffing agency packages is the guaranteed replacement. Among the top five preferred packages, there were no significant differences in preference scores or predicted probabilities.

Among the five bottom-ranked policy packages, none offered a guaranteed replacement and none offered a post-conviction certification that both required verifiable employer references as well as demonstrated adherence to company code of conduct. While not the intention of the choice experiment setup, participants may have viewed the post-conviction certification attribute of, for instance, employer references only as indicating that the ex-offender *did not* demonstrate adherence in light of the existence of post-conviction certification that both verified employment history and showed demonstrated adherence.

Table 6: Top 5 most preferred and top 5 least preferred staffing agency packages

Certification	Transportation Provision	Guaranteed Replacement	Cost Discount	Preference score[a] (95% CI)	Probability[b]	Rank
TOP 5 POLICY PACKAGES						
Employer references & Demonstrated adherence	Yes	Within 1 day	50%	3.72 (2.81, 4.64)	0.11	1
Employer references & Demonstrated adherence	Yes	Within 5 days	50%	3.48 (2.62, 4.34)	0.088	2
Employer references & Demonstrated adherence	No	Within 1 day	50%	3.14 (2.39, 3.90)	0.063	3
Employer references only	Yes	Within 1 day	50%	3.03 (2.19, 3.87)	0.056	4
Employer references & Demonstrated adherence	Yes	Within 1 day	25%	3.01 (2.20, 3.83)	0.055	5
BOTTOM 5 POLICY PACKAGES						
Demonstrated adherence only	No	None	25%	0.00 (0.00, 0.00)	0.0027	1
Employer references only	No	None	25%	0.24 (-0.08, 0.56)	0.0034	2
Demonstrated adherence only	Yes	None	25%	0.58 (0.24, 0.92)	0.0048	3
Demonstrated adherence only	No	None	50%	0.71 (0.44, 0.99)	0.0055	4
Employer references only	Yes	None	25%	0.82 (0.33, 1.31)	0.0062	5

[a]Preference scores calculated by summing up the model coefficients for the given combination of attributes.
[b]Probability of selection was calculated by exponentiating the preference score and dividing it by the sum of all possible preference scores (exponentiated).

6.4. What do employers say are their primary concerns about hiring ex-offenders?

The follow-up question asking employers directly about the potential value of information supported results from the choice experiment. When asked in a set of follow-up questions whether more information from previous employers would improve the likelihood of employment of people with criminal records, most respondents answered that they agreed or strongly agreed (47.6 percent and 41.0 percent, respectively), with very few stating they disagreed or strongly disagreed (1.9 percent and 2.9 percent, respectively), and the remainder replying that they were neutral (6.7 percent).

When employers were asked directly to rank their primary issues of consideration when hiring someone with at least one felony conviction, the top-cited concern was "any violent felony conviction," chosen as the most important issue by 53.3 percent of respondents and as the second most important issue by 24.5 percent of respondents. While this may partially reflect concerns related to negligent hiring liability, workplace liability was presented as a separate option in the ranking system. And, in fact, rankings for workplace liability concerns were much more diverse, with almost 30 percent of respondents citing this as their first or second most important concern but 23 percent citing it as their least important

concern among the options presented. Therefore, there are other reasons that violence is of concern to employers. One possibility is that employers may be seen as irresponsible for hiring someone with a violent past. Another possibility that would be consistent with our results is that they simply receive so many qualified applications that a felony violent conviction is a good reason to weed out an application. And yet another possibility is that people with violent convictions are perceived by the public as more likely to commit future crimes (Denver, Pickett, & Bushway, 2017).

Another primary concern stated by employers was "skills to get the job done," which was ranked as the first or second most important issue to consider by 45.4 percent of respondents. While it is obvious employers seek productive workers, it was not clear how high up the list this item would be reported. Indeed, our results differ from some previous research in which the most common concerns reported by employers are negligent hiring liability, safety (i.e., risk to staff or customers), and lack of social skills (Albright and Denq, 1996; Giguere and Dundes, 2002; Holzer, Raphael, and Stoll, 2004; Graffam, Shinkfield, and Hardcastle, 2008; Lukies, Graffam, and Shinkfield, 2011; Lageson, Vuolo, and Uggen, 2015). These items appeared relatively lower in the ranking than skills.

7. Discussion

When ex-offenders experience poor economic outcomes, they are more likely to engage in criminal activity, which further impacts their job and earnings growth (Cook, 1975; Ehrlich, 1996; Gould, Weinberg, and Mustard, 2002; Weiman, 2007; Wakefield and Uggen, 2010). Designing policies to improve the economic outcomes of ex-offenders could have far-reaching benefits, but it is not an easy task. While policies such as BTB have produced some benefits, they have also resulted in some unintended negative labor market consequences. Providing more information from previous employers might remedy the problem, yet it is well-recognized that employers fear defamation suits and related claims so they provide little more than job titles and dates. Offering money through tax credits, such as the federal WOTC, could help, but statistics show that employers have not responded much to this incentive, either. This leaves stakeholders asking: What can we do?

This study provides evidence from survey-based experiments with employers to understand the relative benefits of policy options for hiring people with a nonviolent felony criminal conviction. Our results are broadly representative of firms across the country in terms of industry sectors at the two-digit level (Office of Management and Business 2012) and company size; however, the midsized (100–499 employees) "professional and business services" industry and all firms in the "trade, transportation, and utilities" industry are underrepresented, and "other services" are overrepresented. Our experimental findings are based on a candidate with one non-violent felony on their record. The most recent data available, from 2009, indicates that 40 percent of felony defendants do not have any prior felony convictions.[6] Of the defendants with a nonviolent felony charge (property, drug, and public order[7]), 24–57 percent had no prior felony convictions, depending on the charge (Reaves, 2013). These individuals with no prior felony convictions tended to be younger (18 to 29 years of age). Therefore, it is likely that our results are relevant for a substantial

[6] Seventeen percent have nonfelony convictions only and 43 percent have at least one prior felony conviction.

[7] *Property* offenses include burglary, larceny/theft, forgery, fraud, and others. *Drug* offenses include trafficking, manufacturing, and others. *Public-order* offenses include unlawful sale of weapons, driving-related crimes, and others (FBI, 2016).

proportion of ex-felons who are young adults (age 20-24), a group with employment rates of 66% in 2017 (Bureau of Labor Statistics, 2018).

Our main results show, of the policy attributes tested, the most preferred policy packages include a replacement guarantee and post-conviction certificate verifying previous work history. Regarding the former attribute, most staffing agencies offer their businesses a refund of some sort (American Staffing Association and National Association of Personnel Services, 2005). An industry survey found that the standard refund policies were: replacement/no money back (61.4%), pro-rated refund (17.6%), full refund/money back (8.4%, as tested in this study), other (10.9%), and no response (Deutsch, 2017). Consequently, while this type of staffing agency could help ex-offenders gain employment, it may be difficult to join a staffing agency with this refund policy since fewer than 1 in 10 offer it and for firms, these agencies may cost more than agencies with other refund policies. Therefore, there may need to be public-private partnerships that focus on how to make the refund policy viable for firms willing to hire ex-offenders.

Regarding the other attribute of a post-conviction certificate (CoR) verifying previous work history, there are only a few jurisdictions with a certificate already, and of these, there are important limitations in some states. While positive results were found in Ohio (Leasure & Andersen, 2016) and in this study, there are concerns about how useful CoRs are in other jurisdictions where the criteria to obtain a certificate are more restrictive (American Bar Association, 2007). For example, in California, an individual cannot apply for a certificate until seven years after release. Yet, the first few years after release are the most challenging to gain employment and can have long-term negative impacts on ex-offenders' labor market opportunities, and thus may represent the period when ex-offenders need the most help. Development of future certificates would consider focusing on criteria for a population convicted and released from jail or prison within the last one or two years, and perhaps offer less substantial 'rewards' than the certificates offered after many years (e.g. pardon). Another aspect of CoRs to consider is to what extent the prevalence of these certificates leads to reduced employment for ex-offenders who do not have a certificate. Employers may believe that an ex-offender without a certificate is not employable, rather than the individual simply has not applied. In our study, all hypothetical candidates had a certificate and we varied the features of the certificate. It would be important to understand how employers interpret those who do not have a certificate.

One question is whether our finding about previous work history is really telling us about particular preferences for people with a felony criminal record. Given survey general findings that previous employers provide very limited information (e.g. only job title and dates of employment), we might expect employers would like more work history information for any job applicant. We debated the trade-offs between survey length, reference biases, and margins at which we could provide results, and selected not to include someone without a record; perhaps we made the wrong decision. What we can say is that at baseline, employers were unlikely to advance a technically qualified job applicant with a criminal record offered by their staffing agency, 43%. This contributes to perhaps relatively large percentage increases in the likelihood of consideration when provided more information or a guarantee. Whether this change is larger than would be expected for someone without a record remains an area for improvement.

An explanation for employer preferences for replacement guarantee and post-conviction certificate might be that this helps protect employers from legal liability concerns if we think they are worried about negligent hiring claims. Under negligent hiring doctrine, an employer is liable for harm its employees inflict on third parties, e.g.

customers, when the employer knew or should have known of the employee's potential risk to cause harm. A criminal record is only relevant if the previous convictions are directly relevant to the job role, e.g. theft from a customer by an employee with a theft record.

While we tested preferences between policy options, we also allowed respondents to opt-out implicitly by deciding not to hire someone with a criminal record and potentially wait to fill the vacancy. In examining respondents' selections across all choice sets, the opt-out option was ranked as the top selection at least once by 29.0% of respondents. And, in 15.8% of all choice sets, employers indicated they would leave the position vacant rather than receive a cost discount and hire someone with a criminal record. Compared to the unemployment rate of young adults of 24%, our opt-out rates seem plausible and lends credibility to our stated-preference experiment. Furthermore, in exploratory analyses, the only employer characteristics that were significantly associated with ever opting out was prior experience having hired an ex-felon. Those who had prior experience hiring an ex-felon were significantly less likely to ever select the opt-out option than those without. Further research would examine which aspects of their experience has led to excluding ex-felons from their recruitment strategy.

Given the finding from our follow-up question that violent convictions are a top concern of employers in making the decision to hire an ex-offender, it is not likely that our experimental results generalize to the population of workers with violent felony records. This is important because people with violent felony convictions likely face particularly large challenges when seeking employment. In addition, our results are not based on people with multiple prior convictions, and again, this may be important given the difficulties those individuals may have in obtaining a job.

This study was done in the U.S. context and there are other contexts from which we may learn of policy ideas to test in the U.S. For example, in Europe, while the details differ across countries, employer requests for criminal background checks on job applicants is less than in the U.S. although increasing (Bushway, Nieuwbeerta et al. 2011). While the accessibility to criminal history information may contribute to fewer barriers to employment in the U.S., there is also demand from employers for this information. Therefore, one avenue of research would be to examine the costs and benefits to society by limiting background checks, such as Clean Slate Initiatives, and the impact on employers' hiring behavior.

7.2. Limitations

Several limitations merit further discussion. First, our response rate of 3.4% warrants further discussion because nonresponse bias may be an important limitation of this study. We provided a $15 reimbursement because the survey took slightly less than 10 minutes to complete and thus worked out to roughly $90 per hour, but it was probably far too low in absolute terms. We tested whether non-respondents differed from respondents in terms of industry-establishment size in our database and found almost no differences. Although they do not differ in terms of these characteristics, there may be other observable characteristics (that we did not collect) and unobservable characteristics that differ between the groups. For instance, one possibility is that respondents had stronger positive or negative attitudes regarding ex-offenders than did non-respondents, and were thus more motivated to complete our survey. If responders had more-negative views of ex-offenders, our results are biased toward opting out of hiring offenders. Conversely, if responders had

more-positive views of ex-offenders, our results are biased against opting out of hiring offenders.

Second, we did not include a baseline level of no discount so we are not able to provide results in terms of the monetary value of attributes. Future research would include this level in order to be able to compare the monetized costs and benefits of implementing these policies. There are likely a large number of variables with respect to implementation needs, target populations, and available local resources that would be worth investigating to understand the return on investment for the policies studied.

Third, we did not ask employers whether they use staffing agencies, so one limitation of this research is our ability to interpret these findings as actual decisions. To understand the magnitude of this issue, we examined the characteristics of our sample and our sample appears to be in industries and of the size of firms that engage with staffing agencies. According to American Staffing Association, of employees finding a job through a staffing agency, 21% work in professional-managerial and 36% work in 'industrial', similar to our sample in which 20% are involved in professional and business services and 20% in construction, manufacturing, and natural resources and mining. Furthermore, given the cost, larger firms are more likely to use a staffing agency. Of the firms in our sample, 40% of our firms employed 100 or more people. We cannot be certain about the number of very small firms (<10 employees); however, very small firms were less likely to have someone designated as an HR professional for us to email. This suggests we might expect most of our firms used a staffing agency, but certainly not all.

Last, of course this is a stated-preference approach so employers did not have to "live with" the decisions they made. We used this approach because it was a feasible, cost-effective, and reliable way to predict future demand for such policy features. Further research is needed to determine whether the hypothetical policy features that employers indicate they value highly—guaranteed replacement workers, certification of previous work performance, and, to a lesser extent, transportation—would indeed increase employment of technically qualified people with a nonviolent felony criminal record. One way to do this would be to partner with a staffing agency to conduct these experiments in the field. Indeed, we are aware of one such subsequent study in progress (Cullen, Dobbie et al. unpublished).

7.3. Conclusion

This study uses a discrete choice experiment approach to estimate the preferences of employers for hypothetical staffing agency policies designed to improve the employment of people with a non-violent criminal record. We find large and significant effects of a replacement guarantee on the probability of hiring an ex-felon. We find suggestive evidence that a post-conviction certificate verifying work performance history was worth as much as increasing a fee discount by approximately $200 per month, double the current value of the Work Opportunity Tax Credit for Ex-Felons. Of the policies tested, providing transportation was the least preferred.

Acknowledgements

The authors acknowledge funding through the RAND-Initiated Research program. We would also like to thank Dionne Barnes-Proby, Katherine Carman, Samantha Cherney, Chandra Garber, David Grant, Flavia Tsang, and Donna White who provided research

assistance or insights with this study. Finally, we would like to thank participants of the 2017 Western Economic Association International and 2018 All-California Labor Economics conferences for their helpful suggestions, and to Professors Jennifer Doleac, Emily Owens, and two other anonymous reviewers at RAND for detailed comments on an earlier version of this paper.

References

Adamowicz, W., Louviere, J., & Swait, J. (1998). Introduction to attribute-based stated choice methods. *NOAA-National Oceanic Athmospheric Administration, Washington, USA*.

Agan, A., & Starr, S. (2016). *Ban the box, criminal records, and statistical discrimination: A field experiment* (Research Paper No. 16-012). University of Michigan Law and Economics.

Agan, A., & Starr, S. (2017). Ban the Box, Criminal Records, and Racial Discrimination: A Field Experiment. *The Quarterly Journal of Economics*. https://doi.org/10.1093/qje/qjx028

Albright, S., & Denq, F. (1996). Employer attitudes toward hiring ex-offenders. *The Prison Journal*, *76*(2), 118–137.

Altonji, J. G., & Pierret, C. R. (2001). Employer learning and statistical discrimination. *Quarterly Journal of Economics*, *116*(1).

American Bar Association. (2007). *Second Chances in the Criminal Justice System: Alternatives to Incarceration and Reentry Strategies*. Washington, D.C.: American Bar Association.

American Staffing Agency. (2017). *Staffing Industry Statistics*. Virginia: American Staffing Association.

ASA, & NAPS. (2005). *Model Recruiting Agreement*. American Staffing Association and National Association of Personnel Services.

Baum, C. L. (2009). The effects of vehicle ownership on employment. *Journal of Urban Economics*, *66*(3), 151–163. https://doi.org/10.1016/j.jue.2009.06.003

Becker, G. (1975). *Human Capital*. New York, NY: Columbia University Press.

Becker, G. S. (2010). *The economics of discrimination*. University of Chicago press.

Beggs, S., Cardell, S., & Hausman, J. (1981). Assessing the potential demand for electric cars. *Journal of Econometrics*, *17*(1), 1–19.

Beresteanu, A., & Zincenko, F. (2016). Efficiency Gains in Rank-ordered Multinomial Logit Models. *Oxford Bulletin of Economics and Statistics*. Retrieved from http://onlinelibrary.wiley.com/doi/10.1111/obes.12190/full

Bohmert, M. N., & DeMaris, A. (2017). Cumulative Disadvantage and the Role of Transportation in Community Supervision. *Crime & Delinquency*, 0011128716686344. https://doi.org/10.1177/0011128716686344

Brisman, A. (2004). Double whammy: Collateral consequences of conviction and imprisonment for sustainable communities and the environment. *Wm. & Mary Envtl. L. & Pol'y Rev.*, *28*, 423–475.

Bureau of Justice Assistance. (2017). Second Chance Act (SCA). Retrieved from https://www.bja.gov/ProgramDetails.aspx?Program_ID=90

Bureau of Labor Statistics. (2018). *Employment Status of the Civilian Noninstitutional Population by Age, Sex, and Race*. Bureau of Labor Statistics, U.S. Department of Labor.

Bushway, S. D., et al. (2011). "The Predictive Value of Criminal Background Checks: Do Age and Criminal History Affect Time to Redemption?" Criminology **49**(1): 27-60.

Calfee, J., Winston, C., & Stempski, R. (2001). Econometric issues in estimating consumer preferences from stated preference data: a case study of the value of automobile travel time. *The Review of Economics and Statistics*, *83*(4), 699–707.

Carlsson, F., & Martinsson, P. (2008). How much is too much? *Environmental and Resource Economics*, *40*(2), 165–176.

Chamberlain, A. W., Boggess, L. N., & Powers, R. A. (2016a). The impact of the spatial mismatch between parolee and employment locations on recidivism. *Journal of Crime and Justice*, *39*(3), 398–420.

Chamberlain, A. W., Boggess, L. N., & Powers, R. A. (2016b). The impact of the spatial mismatch between parolee and employment locations on recidivism. *Journal of Crime and Justice*, *39*(3), 398–420.

Chapman, R. G., & Staelin, R. (1982). Exploiting rank ordered choice set data within the stochastic utility model. *Journal of Marketing Research*, 288–301.

Coast, J., Al-Janabi, H., Sutton, E. J., Horrocks, S. A., Vosper, A. J., Swancutt, D. R., & Flynn, T. N. (2012). Using qualitative methods for attribute development for discrete choice experiments: issues and recommendations. *Health Economics*, *21*(6), 730–741. https://doi.org/10.1002/hec.1739

Cooper, M. D. (2001). Job reference immunity statutes: Prevalent but irrelevant. *Cornell JL & Pub. Pol'y*, *11*, 1.

Cullen, Z. B., et al. (unpublished). "Measuring Labor Demand for Workers with a Criminal Conviction."

Decker, S. H., Ortiz, N., Spohn, C., & Hedberg, E. (2015a). Criminal stigma, race, and ethnicity: The consequences of imprisonment for employment. *Journal of Criminal Justice*, *43*(2), 108–121.

Decker, S. H., Ortiz, N., Spohn, C., & Hedberg, E. (2015b). Criminal stigma, race, and ethnicity: The consequences of imprisonment for employment. *Journal of Criminal Justice*, *43*(2), 108–121.

Denver, M., Pickett, J. T., & Bushway, S. D. (2017). The Language of Stigmatization and the Mark of Violence: Experimental Evidence on the Social Construction and Use of Criminal Record Stigma. *Criminology*, *55*(3), 664–690. https://doi.org/10.1111/1745-9125.12145

Denver, M., Siwach, G., & Bushway, S. D. (2017). A new look at the employment and recidivism relationship through the lens of a criminal background check. *Criminology*, *55*(1), 174–204.

Deutsch, M. (2017). *What Are the Most Popular Types of Recruiter Guarantees?* Top Echelon.

Doleac, J., & Hansen, B. (2016). *Does "Ban the Box" Help or Hurt Low-Skilled Workers? Statistical Discrimination and Employment Outcomes When Criminal Histories are Hidden* (No. NBER Working Paper No. 22469). National Bureau of Economic Research.

Doleac, J. L., & Hansen, B. (2016). *Does "Ban the Box" help or hurt low-skilled workers? Statistical discrimination and employment outcomes when criminal histories are hidden* (Working Paper No. 22469). Cambridge, MA: National Bureau of Economic Research.

Fahey, J., Roberts, C., & Engel, L. (2006). Employment of ex-offenders: Employer perspectives. *Crime and Justice Institute*. Retrieved from http://withconviction.org/wordpress/wp-content/uploads/2012/10/ex_offenders_employers_12-15-06.pdf

FBI. (2016). *Crime in the United States, 2015*. Federal Bureau of Investigation.

Finkin, M., & Dau-Schmidt, K. (2009). Solving the Employee Reference Problem: Lessons From the German Experience. *American Journal of Comparative Law*, *57*(2), 387–418. https://doi.org/10.5131/ajcl.2008.0011

Fryer Jr, R. G., & Levitt, S. D. (2004). The causes and consequences of distinctively black names. *The Quarterly Journal of Economics*, *119*(3), 767–805.

Galgano, S. W. (2009). Barriers to reintegration: An audit study of the impact of race and offender status on employment opportunities for women. *Social Thought & Research*, 21–37.

Giguere, R., & Dundes, L. (2002). Help wanted: A survey of employer concerns about hiring ex-convicts. *Criminal Justice Policy Review*, *13*(4), 396–408.

Graffam, J., Shinkfield, A. J., & Hardcastle, L. (2008). The perceived employability of ex-prisoners and offenders. *International Journal of Offender Therapy and Comparative Criminology*, *52*(6), 673–685.

Haaijer, R., Kamakura, W., & Wedel, M. (2001). The "no-choice" alternative to conjoint choice experiments. *International Journal of Market Research*, *43*(1), 93.

Hagan, J. (1993). The social embeddedness of crime and unemployment. *Criminology*, *31*(4), 465–491.

Hamersma, S. (2003). The work opportunity and welfare-to-work tax credits: Participation rates among eligible workers. *National Tax Journal*, 725–738.

Hamersma, S. (2008). The effects of an employer subsidy on employment outcomes: A study of the work opportunity and welfare-to-work tax credits. *Journal of Policy Analysis and Management*, *27*(3), 498–520.

Hamersma, S. (2011). Why don't eligible firms claim hiring subsidies? The role of job duration. *Economic Inquiry*, *49*(3), 916–934.

Hamersma, S., & Heinrich, C. (2008). Temporary help service firms' use of employer tax credits: Implications for disadvantaged workers' labor market outcomes. *Southern Economic Journal*, 1123–1148.

Hanemann, M., & Kanninen, B. (1999). The statistical analysis of discrete-response data. In I. J. Bateman & K. G. Willis (Eds.), *Valuing Environmental Preferences: Theory and Practice of the Contingent Valuation Method in the US, EC, and Developing Countries*. Oxford: Oxford University Press.

Haslewood-Pócsik, I., Brown, S., & Spencer, J. (2008). A not so Well-Lit Path: Employers' Perspectives on Employing Ex-offenders. *The Howard Journal of Criminal Justice*, *47*(1), 18–30.

Hausman, J. A., & Ruud, P. A. (1987). Specifying and testing econometric models for rank-ordered data. *Journal of Econometrics*, *34*(1–2), 83–104.

Heaton, P. (2012). *The Effects of Hiring Tax Credits on Employment of Disabled Veterans*. Santa Monica, CA: RAND Corporation. Retrieved from http://www.rand.org/pubs/occasional_papers/OP366.html

Hensher, D. A., Stopher, P. R., & Louviere, J. J. (2001). An exploratory analysis of the effect of numbers of choice sets in designed choice experiments: an airline choice application. *Journal of Air Transport Management*, *7*(6), 373–379.

Hlavka, H. R., Wheelock, D., & Cossyleon, J. E. (2015). Narratives of commitment: Looking for work with a criminal record. *The Sociological Quarterly*, *56*(2), 213–236.

Hoffman, S. D., & Duncan, G. J. (1988). Multinomial and conditional logit discrete-choice models in demography. *Demography*, *25*(3), 415–427.

Holzer, H. J., Raphael, S., & Stoll, M. A. (2004). Will employers hire ex-offenders? Employer preferences, background checks, and their determinants. In M. Patillo, D. F. Weiman, & B. Western (Eds.), *Imprisoning America: The Social Effects of Mass Incarceration*. New York, NY: Russell Sage Foundation.

Lageson, S. E., Vuolo, M., & Uggen, C. (2015). Legal ambiguity in managerial assessments of criminal records. *Law & Social Inquiry*, *40*(1), 175–204.

Lancaster, K. J. (1966). A new approach to consumer theory. *Journal of Political Economy*, *74*(2), 132–157.

Leasure, P., & Andersen, T. S. (2016). The Effectiveness of Certificates of Relief as Collateral Consequence Relief Mechanisms: An Experimental Study. *Yale Law & Policy Review Inter Alia*, *35*(11), 11–22.

Lichtenwalter, S., Koeske, G., & Sales, E. (2006). Examining Transportation and Employment Outcomes: Evidence for Moving Beyond The Bus Pass. *Journal of Poverty*, *10*(1), 93–115. https://doi.org/10.1300/J134v10n01_05

Long, A. (2015). The Forgotten Role of Consent in Defamation and Employment Reference Cases. *Florida Law Review*, *66*(2).

Lukies, J., Graffam, J., & Shinkfield, A. J. (2011). The effect of organisational context variables on employer attitudes toward employability of ex-offenders. *International Journal of Offender Therapy and Comparative Criminology*, *55*(3), 460–475.

McFadden, D. (1974). Conditional logit analysis of qualitative choice behavior. In P. Zarembka (Ed.), *Frontiers in Econometrics* (pp. 105–142). New York, NY: Academic Press.

National Research Council,. (2014). *The growth of incarceration in the United States: Exploring causes and consequences of high rates of incarceration*. (J. Travis, B. Western, & F. S. Redburn, Eds.). Washington, DC: National Academies Press.

Pager, D. (2003). The mark of a criminal record 1. *American Journal of Sociology*, *108*(5), 937–975.

Pager, D., & Quillian, L. (2005). Walking the talk? What employers say versus what they do. *American Sociological Review*, *70*(3), 355–380.

Pager, D., Western, B., & Sugie, N. (2009a). Sequencing disadvantage: Barriers to employment facing young black and white men with criminal records. *The Annals of the American Academy of Political and Social Science*, *623*(1), 195–213.

Pager, D., Western, B., & Sugie, N. (2009b). Sequencing disadvantage: Barriers to employment facing young black and white men with criminal records. *The Annals of the American Academy of Political and Social Science*, *623*(1), 195–213.

Petersilia, J. (2003). *When prisoners come home: Parole and prisoner reentry*. Oxford University Press.

Raphael, S., & Rice, L. (2002). Car ownership, employment, and earnings. *Journal of Urban Economics*, *52*(1), 109–130. https://doi.org/10.1016/S0094-1190(02)00017-7

Reaves, B. (2013). *Felony Defendants in Large Urban Counties, 2009 - Statistical Tables* (No. NCJ 243777). Department of Justice.

Sabol, W. J. (2007). Local labor-market conditions and post-prison employment experiences of offenders released from Ohio state prisons. In S. D. Bushway, M. A. Stoll, & D. Weiman (Eds.), *Barriers to Reentry? The Labor Market for Released Prisoners in Post-Industrial America* (pp. 257–303). New York, NY: Russell Sage Foundation.

Samuels, P., & Mukamal, D. (2004). *After Prison: Roadblocks to Reentry*. Legal Action Center.

Scott, C. (2013). *The Work Opportunity Tax Credit (WOTC)*. Washington, DC: Congressional Research Service. Retrieved from http://digitalcommons.ilr.cornell.edu/key_workplace/1017/

Shannon, S., Uggen, C., Thompson, M., Schnittker, J., & Massoglia, M. (2011). Growth in the US ex-felon and ex-prisoner population, 1948 to 2010. Presented at the Annual Meetings of the Population Association of America.

Shoag, D., & Veuger, S. (2016). *No woman no crime: Ban the box, employment, and upskilling* (AEI Working Paper).

SHRM. (2005). *Reference and Background Checking Survey Report*. Society of Human Resource Management.

Spence, M. (1973). Job market signaling. *The Quarterly Journal of Economics*, *87*(3), 355–374.

Swanson, S. J., Langfitt-Reese, S., & Bond, G. R. (2012). Employer attitudes about criminal histories. *Psychiatric Rehabilitation Journal*, *35*(5), 385.

Taboada, S. (2016). Let's Invest in People, Not Prisons: How Washington State Should Address Its Ex-Offender Unemployment Rate. *Seattle Journal for Social Justice*, *14*(2), 577–615.

Uggen, C., Vuolo, M., Lageson, S., Ruhland, E., & Whitham, H. K. (2014). The Edge of Stigma: An Experimental Audit of the Effects of Low-Level Criminal Records on Employment. *Criminology*, *52*(4), 627–654.

United States of Department of Labor. (2017). What does WOTC do? Retrieved from https://www.doleta.gov/business/incentives/opptax/

U.S. Department of Labor,. (2017). Work Opportunity Tax Credit - Employers. Retrieved April 4, 2017, from https://www.doleta.gov/business/incentives/opptax/wotcEmployers.cfm

Verkerke, J. H. (1998). Legal regulation of employment reference practices. *The University of Chicago Law Review*, *65*(1), 115–178.

Visher, C. A., Debus-Sherrill, S. A., & Yahner, J. (2011). Employment after prison: A longitudinal study of former prisoners. *Justice Quarterly*, *28*(5), 698–718.

Appendix

Figure 1: Illustration of Modified-Choice Experiment

Imagine you are currently using two private employment agencies to recruit for an entry-level position in your company.
Employment agencies may:

- certify employability,
- provide a guarantee (e.g. send replacement if needed),
- offer the worker transportation to get to the job, and
- offer discounts for hiring someone with a criminal record.

Now imagine there are two similar candidates of interest, and you're deciding which one will continue to the next recruitment stage.
Both have the same technical skills and work experience needed for the job, as well as one non-violent felony in their criminal history.
The candidates are associated with different agencies as shown below.

If you are unsure about the meaning of any phrase, you can scroll over the 'i' icon with your mouse for more information

Question 1 out of 6	**Agency A**	**Agency B**
Post-conviction certification requirements		
Transportation provided		
Guarantee statement		
Cost statement		

Please rank your choices, with your top choice in the first position.
Drag items from the left-hand list into the right-hand list to order them.

I would choose Agency A. I would choose Agency B. I would not choose either of these agencies.	