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WORKING PAPER

**Labour market discrimination against former
juvenile delinquents: evidence from a field experiment**

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Labour market discrimination against former juvenile delinquents: evidence from a field experiment

Abstract

In view of policy action to integrate ex-offenders into society, it is important to identify the underlying mechanisms of the negative relationship between criminal record on the one hand and later employment and earnings on the other hand. Therefore we identify hiring discrimination against former juvenile delinquents in a direct way. To this end we conduct a field experiment in the Belgian labour market. We find that labour market discrimination is indeed a major barrier in the transition to work for former juvenile delinquents. Labour market entrants disclosing a history of juvenile delinquency get about 22 percent less callback compared to their counterparts without a criminal record. This discrimination is more outspoken among the low-educated.

Keywords: juvenile delinquency, hiring discrimination, field experiments,.

JEL: C93, J2, J71.

1 Introduction

Former contributions have been giving evidence for a causal negative relationship between criminal record on the one hand and later employment and earnings on the other hand (see, e.g., Western, Kling & Weiman, 2001; Graffam, Shinkfield & Hardcastle, 2008). This finding is important as this labour market sanction for crime is an important component of overall punishment (Holzer, 2009). Moreover, limited work opportunities may encourage ex-offenders to return to crime (Needels, 1996; Raphael & Weiman, 2007). In view of policy action to integrate ex-offenders into society, it is important to identify the underlying mechanisms of the aforementioned relationship. Is the negative association between criminal record and later labour market outcomes fully explained by supply side factors such as differences in worker productivity, work interest and work networks between ex-offenders and non-offenders (Waldfogel, 1994; Kling, 2006; Holzer, 2009; Apel & Sweeten, 2010)? Or does it also reflect employer discrimination so that the adverse labour market effects of criminal record are at least partly out of control of the ex-offender? In this paper we identify hiring discrimination against juvenile delinquents in Belgium using a correspondence test.

Former contributions have been giving theoretical grounds for and ethical elaborations on labour market discrimination against former juvenile delinquents. From a theoretical point of view labour discrimination against ex-offenders might be consistent both with taste discrimination as induced by e.g. customer discrimination, co-worker discrimination and prejudices about trustworthiness and with statistical discrimination as induced by potentially lower levels of productivity among offenders (Becker, 1957; Arrow, 1973; Holzer *et al.*, 2007). From an ethical point of view one can discuss the responsibility of the juvenile. (How long) should one hold someone responsible for criminal facts in the past? Some egalitarian theories “consider it legitimate to put individuals in such a situation that they may seriously

suffer from their own decisions” (Fleurbaey, 2005, p.29). Holding people responsible for past choices means that those having worse employment opportunities as a consequence of a criminal background, have no right to help. Such an approach can be criticised as being too harsh as it does not take into account how regretful someone is (or can be) about past decisions (Fleurbaey, 2005). We investigate the probability of getting hired (or the probability of discrimination) when someone is honest about this criminal past. When we would discover a lower hiring probability, the ethical question of responsibility and help (or not) becomes relevant indeed.

Direct empirical evidence on labour market discrimination against ex-offenders is scarce. Recently, the sociologist Devah Pager identified substantial measures of unequal treatment based on criminal record in the United States (Pager, 2003; Pager, Western & Bonikowski, 2009; Pager, Western & Sugie, 2009). In his studies teams of actors were matched and sent to apply for low-wage jobs in New York presenting equivalent resumes and differing only in their (race and) criminal background. We complement their research results by means of a pure correspondence test, in the spirit of Bertrand & Mullainathan (2004). The advantages of using this method are discussed in Section 2. Moreover this section describes our research design in detail. Section 3 presents our research results: the net discrimination rate and the call back ration for different job types. Section 4 concludes and discusses the (policy) implications of our results.

2 Methodology

2.1 Measuring Unequal Treatment by a Field Experiment

Most former contributions on the relationship between criminal history on the one hand and labour market outcomes on the other hand are based on non-experimental data. These non-experimental studies focus mainly on earnings and/or employment differentials by criminal record based on survey or administrative data (Lott, 1990; Grogger, 1995; Needels, 1996; Borland & Hunter, 2000; Western et al., 2001; Kling, 2006; Apel & Sweeten, 2010; Dominguez Alvarez & Loureiro, 2012). In general, they suffer from two important statistical problems: unobserved heterogeneity and sample selection bias. First, job applicants who appear similar (except for their criminal history) to researchers based on standard non-experimental data, may look very different to employers. As long as not all relevant variables taken into account by employers in making their hiring, remuneration and promotion decisions, are controlled by the researcher, no conclusive proof of discrimination can be provided. Second, it is possible that individuals with better economic outcomes – who may be more confident in their interaction both with interviewers and colleagues – are more willing to disclose their status as an ex-offender. This leads to an upwards bias of the measured outcomes of ex-offenders. In addition, the studies focussing on wage differentials may suffer from the non-random selection into employment of employees with and without a criminal history. Wage regressions may understate the full effects of unequal treatment based on criminal history by leaving out the fact that potentially many applicants with such a history are barred from even earning a wage. In order to overcome these methodological problems, field experiments can be conducted. These experimental methods provide a powerful mean of isolating causal mechanisms. Two options are described in the literature: correspondence tests and audit tests (Riach & Rich, 2002; Pager, 2007).

Correspondence experiments to test for hiring discrimination on grounds such as ethnicity, gender, beauty and sexual orientation have been extensively used and refined during the last century (Bertrand & Mullainathan, 2004; Petit, 2007; Rooth, 2009; Drydakis, 2011). Within these correspondence tests, pairs of fictitious written job applications are sent to real job openings. The two applications within each pair are similar, except for the single characteristic that is to be tested. By monitoring the subsequent callback, that is the reaction from the employer side, unequal treatment based on this characteristic can be identified. These field experiments have been widely viewed as providing the most convincing evidence of unequal treatment in hiring decisions (Riach & Rich, 2002). With a correspondence test selection on the basis of individual unobservable characteristics is eliminated since all the information received by the employer is controlled by the researcher. Thereby, strict equivalence between fictitious applicants is ensured and employer discrimination is disentangled from alternative explanations of differential hiring rates such as differential employee preferences and network effects.

A drawback of correspondence tests is that they investigate the first stage in the hiring process only. Since only callback rates for first interviews are measured, one cannot make statements about discrimination in the later stages of the selection process, let alone in wages or promotion opportunities.¹ So called *audit studies* go one step further by sending matched pairs of actors to apply for jobs presenting equivalent resumés and differing only in the discrimination ground. This approach was used in the studies by Pager (2003), Pager, Western & Bonikowski (2009) and Pager, Western & Sugie (2009) in the context of hiring discrimination based on criminal record. However, recently researchers have been criticising this method based on various grounds (Heckman & Siegelman, 1993; Heckman, 1998; Riach & Rich, 2002; Weichselbaumer, 2013). A main critique is that audit studies suffer from the problem that it may be impossible to find and successfully train real-life job applicants so that

they truly represent a perfect match. In addition, auditors may consciously or subconsciously be motivated to prove discrimination and adjust their behaviour accordingly in an interview. Last, from an ethical point of view, the time investment in respect of the employers is substantial in the case of audit tests.² As correspondence tests circumvent the latter problems, we set-up a correspondence test aimed at answering our research question. To the best of our knowledge we are the first to apply this experimental methodology in the context of unequal treatment based on criminal history.

Our experiment was conducted between December 2012 and April 2013 in Flanders, the northern and economically more prosperous half of Belgium. Two fictitious applications of school-leavers, identical except that one mentioned a period of juvenile delinquency, were sent out to each of 486 vacancies for labour market entry jobs. All these vacancies were taken from the database of the public employment service of Flanders (VDAB), which is the major job search channel in Flanders. From this database, we randomly selected vacancies of private employers in three (middle-) low-skilled occupations (manual worker, barkeeper and nanny) and three (middle-) high-skilled occupations (electrical engineer, representative and social worker). Including several occupations rather than just one is important since by focussing on a single occupation, as was done in some of the aforementioned correspondence tests, the researcher may just pick an occupation where discrimination is large. Furthermore, by including on the one hand both jobs in which money handling is on average high (barkeeper and representative) versus low (manual worker, nanny, electrical engineer and social worker) and on the other hand both jobs in which responsibility for (the health and safety of) other people is high (nanny and social worker) versus low (manual worker, barkeeper, electrical engineer and representative), we are able to investigate heterogeneity in unequal treatment along these job characteristics.

2.2 Construction of Fictitious Applications

We created two template types (Type ‘A’ and Type ‘B’) of resumés and cover letters for each of the six occupations listed in Section 2.1, each matching the general requirements of these occupations. Type A and Type B applications were, at the level of the occupation, identical in all job-relevant characteristics but differed in inessential details and in lay-out. Several example applications of the VDAB, with different fonts and layouts, were used and calibrated for our purposes, so that our applications were realistic and representative.

All fictitious applicants were single males, born, living and studying in one of the suburbs of Antwerp, the largest city of Flanders. Low-educated school-leavers were 18 years old and high-educated school-leavers were 21 years old. They all graduated from the same type of school, with a comparable reputation, in June 2012. None of the applicants experienced grade retention. The low-educated applicants applying for the occupations of manual worker, barkeeper and nanny held a secondary education degree in mechanics, tourism and health and welfare sciences respectively. The high-educated applicants applying for the occupations of electrical engineer, representative and social worker held a professional bachelor in electronics, business administration and social work.³

In addition we added to all applications the following features: Belgian nationality, Dutch mother tongue, adequate French and English language skills, driving licence, computer skills and summer employment experience. The cover letters indicated a person who was highly motivated and well organised. For the high-skilled applicants, sports club membership and student leadership were also added. Finally, we appended a fictitious postal address (based on real streets in middle-class neighbourhoods) and a date of birth to all applications. The resumé and cover letter templates are available on request.

2.3 Revelation of Juvenile Delinquency

In Belgium, the anti-discrimination law (2007) stipulates some prohibited grounds for unequal treatment such as gender, race, age and sexual orientation. Having a criminal background is not legally recognised as a prohibited ground, which implies that the legislation ‘allows’ rejecting someone on the basis of a criminal background. Some protection is offered as the applicant is not obliged to mention his criminal past to his future employer. Juvenile delinquency is registered in the Central Criminal Register but does not appear on the extract from the municipal criminal register (an extract that the employer can ask for). Information from the Central Criminal Register cannot be shown to anybody unless the person in question grants permission.⁴

We sent two applications, one of Type A and one of Type B, to each selected vacancy. In one member of each pair the applicant disclosed a history of juvenile delinquency. This was done by including the following clause in the cover letter: “In view of a trustful collaboration I wish to report that during my secondary education career I spent one year at an open detention centre⁵ because of juvenile delinquency. However, this period is for me a thing of the past and I have a certificate of good conduct”. The fact that we mentioned an “open” detention centre is important in view of the school career without grade retention included in the applications. Besides, underlining that the applicant had a certificate of good conduct was needed as lacking this certificate could give the employer an objective ground (in the present) to reject this applicant. In what follows we will point at this applicant as the “former juvenile delinquent”.

In the other member of each pair, we did not mention any information related to criminal record. In what follows we will point at this applicant as the “control applicant”. Of course, this presumably “clean” applicant could also be an ex-offender in disguise who did not want to disclose his criminal record. Therefore, the comparison of the former juvenile delinquent

and the control applicant actually identifies the costs associated with *disclosing* the status of former youth delinquent.

In order to eliminate any possible effect on callbacks of the application type, we alternately assigned the clause disclosing juvenile delinquency to the Type A and Type B applications. Subsequently, we sent the resulting combinations in an alternating order to the employers, each time with about 24 hours in between.

2.4 Measurement of Callback

We registered two email addresses and mobile phone numbers, one for the individual without revealed juvenile delinquency and one for the individual with revealed juvenile delinquency.⁶ All applications were sent to the employer by email. In order to avoid detection, we applied to no more than one vacancy from the same employer.

Callbacks were received by telephone voicemail or email. The content of the responses is available on request. Since we included postal addresses with a nonexistent street number in the applications, we could not measure callback by regular mail. However, several human resource managers confirmed that nowadays employers rarely, if ever, invite job applicants by regular mail for selection interviews. To minimise inconvenience to the employers, we immediately declined invitations to job interviews. All callbacks received later than 30 days after sending out the application were discounted (this, however, turned out to be an unnecessary restriction since we hardly received any positive callback after 30 days). In line with former correspondence experiments aimed at identifying hiring discrimination based on other grounds than criminal history, we define *positive callback* as the situation in which the applicant gets an invitation for a job interview, an alternative job proposal or the request to provide more information or to contact the recruiter.

3 Results

Table 1 presents our main statistical results based on the experimental dataset. In line with Riach & Rich (2002), we provide the reader with two statistical measures: the net discrimination rate and the positive callback ratio. Since two applications were sent to each vacancy there are four possible outcomes: (i) positive callback for neither applicant, (ii) positive callback for both applicants, (iii) positive callback only for the control applicant and (iv) positive callback only for the former juvenile delinquent applicant. Overall, Panel A of Table 1 shows that in 105 of the 486 vacancies at least one applicant received a positive callback. 39 cases resulted in a positive callback for just the control applicant and 20 for the former juvenile delinquent only. The *net discrimination rate* is calculated by reducing the number of applications for which the control applicant was preferred by the number of applications for which the former juvenile delinquent applicant was preferred and this difference is then divided by the number of application pairs in which at least one received a positive callback. Overall this net discrimination rate is 0.18. Based on a standard χ^2 test, the hypothesis that both applicants were equally often treated unfavourably is rejected. In about one out of five applications the applicants disclosing a period of juvenile delinquency could expect to encounter discriminatory acts.

Table 1. Research Results

Occupations	Jobs (No.)	Neither applicant positive callback (No.)	Both applicants positive callback (No.)	Only control applicant positive callback (No.)	Only former juvenile delinquent positive callback (No.)	Net discrimination rate	χ^2	Positive callback ratio	t
A. All observations									
All observations	486	381	46	39	20	0.18**	6.12	1.29**	2.49
B. Heterogeneity by occupation									
Manual worker	79	67	2	6	4	0.17	0.40	1.33	0.63
Barkeeper	80	63	5	10	2	0.47**	5.33	2.14**	2.37
Nanny	80	56	6	11	7	0.17	0.89	1.31	0.94
Electrical engineer	83	57	16	9	1	0.31**	6.40	1.47***	2.62
Representative	80	65	9	3	3	0.00	0.00	1.00	0.00
Social worker	84	73	8	0	3	-0.27*	3.00	0.73*	1.75
C. Heterogeneity by the gender of the recruiter									
Female recruiter	271	203	34	20	14	0.09	1.06	1.13	1.03
Male recruiter	161	132	9	15	5	0.34**	5.00	1.71**	2.27

Note: The net discrimination rate is calculated by reducing the number of applications for which the control applicant was preferred by the number of applications for which the former juvenile delinquent applicant was preferred and this difference is then divided by the number of application pairs in which at least one received a positive callback. The chi-square test for the net discrimination rate tests the null hypothesis that both applicants are treated unfavourably just as frequently. *** indicates significance at the 1% significance level, ** at the 5% significance level and * at the 10% significance level.

Note: The positive callback ratio is calculated by dividing the percentage of applications control applicants received a positive callback by the corresponding percentage for former juvenile delinquent applicants. The t-test for the positive callback ratio tests the null hypothesis that the probability of a positive answer is the same for applicants from both groups. As two applicants contacted the same firm, the probability of the control applicant receiving an invitation was correlated with the probability of the former delinquent receiving one. Therefore, standard errors are corrected for clustering of the observations at the vacancy level. *** indicates significance at the 1% significance level, ** at the 5% significance level and * at the 10% significance level.

Note: The number of jobs with a male or a female recruiter does not equal the total number of jobs as for some vacancies we could not identify the gender of the contact person.

The *positive callback ratio* is obtained by dividing the percentage of applications for which control applicants received a positive callback by the corresponding percentage for the former juvenile delinquent applicants. The value for this statistic presented in Table 1 (Panel A) confirms the finding based on the net discrimination rate. Overall, the positive callback rate is 0.17⁷ for control applicants and 0.14 for former juvenile delinquents. The resulting positive callback ratio is 1.29, indicating that the control applicants got 29% more positive callback compared with their counterparts not revealing a criminal history. This ratio is significantly different from one at the 5% significance level. In conclusion, overall, both the net discrimination rate and the callback ratio point at substantial levels of discrimination of former juvenile delinquents in the occupations tested in the Belgian labour market. As by construction observable characteristics are equal for both applicants for each vacancy, regression analysis leads to the same statistical conclusions.

Next, we break down the net discrimination rate and the callback ratio to the occupation level (Table 1, Panel B). Doing so shows that discrimination against former juvenile offenders is higher than average in the occupations of barkeeper and electrical engineer, and about average (but statistically no longer significant due to the small sample size) in the occupations of manual worker and nanny. For the occupation of representative, we do not find any unequal treatment. Last, for the occupation of social worker we find weakly significant evidence for positive discrimination towards ex-offenders. We believe that this may be related to the fact that employers see juvenile delinquency as an experience that is relevant from the perspective of this job. If we aggregate the positive callback ratio over the low-skilled and high-skilled occupations, we get a higher ratio for the former occupations (1.54) than for the latter occupations (1.13). This finding squares with the general theoretical and empirical evidence for a negative relationship between unequal treatment in hiring and the level of education of the applicant.⁸ Moreover in our specific empirical setup, juvenile delinquency during secondary education is longer ago for higher education. This empirical finding, however, contrasts to some

extent with Waldfogel (1994) who finds, using panel data estimations on administrative data, that the negative effect of conviction on income is especially important for those who are highly educated.

Last, we inspect whether discrimination is heterogeneous by the gender of the contact person in the vacancy (Table 1, Panel C). While among female selection contacts overall no unequal treatment is found, we find significant levels of discrimination against applicants with a background of juvenile delinquency in respect of male recruiters. This finding is consistent with Carlsson & Rooth (2007) providing evidence for higher levels of ethnic discrimination among male recruiters (compared with female recruiters) in Sweden.

4 Discussion and Conclusion

This paper joins in with former evidence for a negative relationship between criminal record and later employment. More concretely, we identify hiring discrimination against juvenile delinquents in Belgium in a direct way. By using a correspondence test we avoid the problem of selection on the basis of characteristics that are unobservable to the researcher using non-experimental data. Two similar applications of labour market entrants, one of both revealing a period of youth delinquency, were sent out each to 486 ads for jobs requiring no experience. Half of them were sent to jobs for relatively low-educated and half of them to jobs for relatively high-educated. Furthermore, as the sources underlying labour market discrimination might be more prominent for some types of jobs than for others, we distinguished between jobs with and without responsibility towards other people and between jobs with and without financial responsibility. By monitoring the callback from the employer side we find that labour market discrimination is indeed a major barrier in the transition to work for former youth delinquents which is more outspoken among the low-educated.

As labour market discrimination based on criminal grounds imposes collateral costs on ex-offenders, on their families and communities and on the society (e.g. direct and indirect costs induced by recidivism), one might consider to explicitly incorporate past criminal record as a prohibited ground for unequal treatment in the labour market, which is for the moment not the case in Belgium and many other OECD countries. However the issue of personal responsibility impedes that this is an obvious decision. On the one hand free individuals can make choices and have to bear the consequences of their choices. In this line of reasoning it should not be seen as problematic that individuals who opted for criminal activities end up with lower employment probabilities. On the other hand real freedom also implies the freedom to change preferences (Vansteenkiste, Devooght & Schokkaert, 2012). Fleurbaey (2005) therefore argues in favour of some ‘forgiveness’ (i.e. the possibility to take a fresh start) for individuals who truly regret past decisions. As the absence of recidivism is an unmistakably indication that the preferences have been modified, there is no moral hazard problem⁹ in this case. One could thus argue in favour of incorporating a past criminal record as a prohibited ground for unequal treatment as a ‘forgiving’ policy.

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¹ However, Bertrand & Mullainathan (2004) argue that to the extent that the selection process has even moderate frictions, one would expect that reduced interview rates would translate into reduced job offers and lower earnings. Moreover, since job interviews are costly, firms invite applicants for an interview only if they have a reasonably high chance of getting the job.

² For an in-depth discussion of the strengths and weaknesses of field experiments aimed at identifying discrimination in the labour market, we refer to Riach & Rich (2002), Bertrand and Mullainathan (2004) and Pager (2007). For an elaboration on the ethical aspects of these kinds of experiments, we refer to Riach & Rich (2004).

³ The former three degrees correspond to the ISCED 3 level, the latter three to the ISCED 5 level. ISCED stands for International Standard Classification of Education.

⁴ There are exceptions for certain public functions.

⁵ Placement in an open detention centre is only possible from the age of 12 years on, for specific situations stipulated by law: (1) crimes that if they were committed by adults would

cause an imprisonment of at least three years or (2) an act categorised as assault and battery (Van Rumst, 2007).

⁶ We chose “Simon De Boeck” and “Bert Vandaele” as the names of the (low- respectively high-educated) control applicants and “Dieter Van Acker” and “Kristof De Muynck” as the names of the former juvenile delinquents. We checked that these names did not represent a difference in socio-economic background based on a study linking the (suffix of the) name Dutch speaking parents choose for their children with their (own) wage (Jobat, 2013).

$$^7 0.17=(46+39)/486.$$

⁸ From a theoretical point of view Taubman & Wales (1974) argue that higher education can act as a prejudices reducing screening device. Recent empirical for this relationship has been given by Bursell (2007), Carlsson & Rooth (2007) and Baert, Cockx, Gheyle & Vandamme (2013).

⁹ In some cases it is not possible to distinguish between those who really changed their preferences and those who say they have changed (see, e.g., Vansteenkiste, Devooght & Schokkaert, 2012 for an elaboration on this idea in the context on an unhealthy lifestyle).