

7-1-2018

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Recommended Citation

Congdon-Hohman, Joshua M., "The Persistent Labor Market Effects of a Criminal Conviction and “Ban the Box” Reforms" (2018). *Economics Department Working Papers*. Paper 177.
https://crossworks.holycross.edu/econ_working_papers/177

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By

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July 2018

COLLEGE OF THE HOLY CROSS, DEPARTMENT OF ECONOMICS
FACULTY RESEARCH SERIES, PAPER NO. 18-08*



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The persistent labor market effects of a criminal conviction and “Ban the Box” reforms*

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Abstract

Past literature has established that individuals who have been incarcerated face difficulties reentering the work force following their release, while finding and keeping a job can significantly reduce recidivism amongst individuals with prior criminal convictions. In attempt to improve employment outcomes, many local and state governments in the United States have initiated “Ban the Box” regulations. These initiatives delay inquiries regarding criminal history on job applications. Versions of ban the box regulations covering public sector employment have been enacted in 31 states and more than 150 local governments. Ban the box laws have included private employers in eleven states and over 30 metropolitan areas including New York, Los Angeles, Chicago, Washington D.C, Philadelphia, San Francisco, and Seattle. This study uses biennial data from November CPS reports from 2004 through 2016 to estimate the impact of ban the box laws on labor market outcomes using a unique proxy to identify individuals with a criminal record. With a few exceptions, the results do not show the intended improvements in employment and other labor market measures for those with a criminal history.

JEL Classification Codes: J15, J18, J78, K31

Keywords: Labor Demand, Labor Market Discrimination, Consequences of Incarceration

*Thanks to Ryan Ghizzoni for his excellent research assistance, and to Robert Baumann, Gregory Colman, Bryan Engelhardt, and Daniel Schwab for their helpful ideas and suggestions. All errors and omissions are my own.

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1 Introduction

The punishment for a criminal conviction can extend well beyond a prison term. In addition to the loss of voting and gun ownership rights in some states in the United States, those with a criminal record can find severe limitations in the labor market. Explicitly, criminal convictions can bar workers from employment in certain fields and inhibit their ability to be properly licensed in various professions. Implicitly, a criminal history makes it very hard to get jobs even when workers are otherwise qualified either due to employer bias or through screening mechanisms that excludes all applicants with a criminal record. To address the latter hindrance, a number of U.S. states, counties, and cities have made policies in the last twenty years limiting when questions regarding a job applicant’s criminal background can be asked. So called “Ban the Box” or “Fair Chance” initiatives require employers to wait to ask job applicants about criminal histories until after initial screenings.¹ Proponents of ban the box policies believe such initiatives improve labor market fairness to those who have completed their sentences and that improved employment opportunities for ex-offenders should lead to lower rates of recidivism.

Ban the box regulations vary dramatically from jurisdiction to jurisdiction, but there are some common themes. Many of these policies apply to only public employment (state, city, or county), though sometimes extended to those vendors that have contracts with the governmental entity. This paper will primarily focus on a broader version which applies to any private employer within the jurisdiction. These laws often include exemptions where certain kinds of criminal records would disqualify potential employees (such as when watching children or working in correctional facilities). Most of these laws do not ban the use of criminal records from employment decisions entirely, but usually only from the initial application screening stage. The hope is that after considering other qualifications and potentially

¹The name “ban the box” comes from the idea of taking a criminal background question off of the initial employment application. This question usual first asks an applicant to check a box for whether they have ever been convicted of a crime, with an open ended space for an explanation if the answer is yes. Proponents of these laws believe a “yes” response to this question will lead to an immediate rejection of the candidate, regardless of the explanation or other qualifications.

meeting the applicant in an interview setting, information about his or her criminal record can be put into the appropriate context.

The impetus for these laws have a strong empirical grounding: ex-offenders have a more difficult time finding gainful employment than those who have not been convicted of a crime and such employment leads to a lower recidivism rate. For example, Schmitt and Warner (2011) found that ex-offenders are less likely to work and Nagin and Waldfogel (1998) found that incarceration has a negative impact on life-time earnings, even if not seen in early years of an ex-offenders career. Similarly, Waldfogel (1994) found a significant decrease in both employment probabilities and earnings following a criminal conviction. The relationship between convictions and future employment is important as Uggen (2000) and others have found strong evidence for the relationship between gainful employment and recidivism. That said, there is some question of causation or correlation when looking at the earnings of ex-offenders. Grogger (1995) found only a modest and short-lived relationship between incarceration and employment while Kling (2006) found no relationship between exogenous variation in the length of incarceration and future earnings. More recently, Yang (2017) and Siwach (2018) have used variation in local labor market conditions to show that better job markets lead to lower recidivism rates, while Schnepel (2018) finds that the abundance jobs in high paying industries are key to this relationship, not just any jobs.

The analysis in this study will look at the effectiveness of state and local ban the box policies both on employment outcomes and employment quality using a unique proxy for those with a prior conviction. Specifically, ex-offenders will be identified using the November Current Population Survey (CPS) supplement designed to identify voting behavior following federal elections. With the exceptions of women and those who are highly educated, the results presented below show that ban the box policies do not have the intended impact of higher employment rates. Additional analysis also fails to find an increase in labor force participation or an improvement in working conditions (as measured by wages and part-time employment) for those thought to have a criminal history. For ban the box laws

focused on public sector employment, there is some weak evidence that laws applying to local governments, but not state, increase the likelihood that someone with a criminal history will work in the public sector. In terms of statistical discrimination, the following analysis finds no evidence that the employment outcomes of African-Americans are negatively impacted by the passage of ban the box laws, while also finding limited evidence that Hispanics may be negatively affected.

The paper proceeds as follows. Section 2 examines recent research on employment and criminal background checks. Section 3 describes the CPS data and validates the use of voting eligibility responses to proxy for past criminal convictions. Section 4 presents the empirical model that will be used to explore the efficacy of ban the box policies. Section 5 presents the results of the empirical analysis. Section 6 concludes.

2 Recent Research

Economic research into the role of criminal background information and employment outcomes is relatively new. Criminal backgrounds have become more widely available with the digitalization of data in many states. Ban the box laws are even more recent and have only become common in recent years. The problem posed for empirical research is the difficulty in identifying those with a criminal record, especially on a national level. In looking at the impact of criminal background checks and ban the box laws, research has predominately looked at small samples of identified ex-offenders in a particular region or, alternatively, large datasets without identifying criminal histories to look for signs of statistical discrimination amongst groups associated with higher rates of criminal activity.² The analysis that follows below will bridge this gap by using a nationally representative sample of likely ex-offenders.

The negative employment implications of a criminal record and the difficulty of finding data identifying criminal records can be seen in the studies that find a negative impact

²Crystal Yang comes very close to a nationally representative sample in a data set composed of administrative data from 43 states, which she uses in Yang (2017) and other papers.

of criminal background checks on employment outcomes. Stoll and Bushway (2008) found that criminal background checks negatively affect the likelihood of hiring someone with a criminal record in Los Angeles, but this effect is primarily found among employers that are required to perform such checks, not those who do so to gain further information about applicants. Using establishment data in four major U.S. cities, Holzer et al. (2006) examined the possibility of statistical discrimination for groups that have high rates of incarceration and found that the use of criminal background checks increases the likelihood that employers hire African-Americans and other stigmatized groups (like those with employment gaps). On the other hand, Finlay (2009) used national data on less than 400 individuals with criminal backgrounds in the National Longitudinal Survey of Youth and found that easier access to criminal records through the Internet worsen the employment of ex-offenders but did not improving the outcomes of non-offenders associated with highly offending groups.

Direct examinations of the impact of ban the box policies for those with criminal records have been very limited. Jackson and Zhao (2017) used individual confidential employment and earnings data to examine the impact of a Massachusetts law restricting access to criminal background information. They found that the law actually decreased employment amongst those with a criminal record, the opposite of the intended result. Rose (2018) conducted a similar analysis using administrative earnings data in Seattle and a local ban the box ordinance. He found no impact of the change on employment or wages.

More research has been done examining potential evidence of statistical discrimination against groups perceived to have higher rates of criminal convictions following ban the box policies. Agan and Starr (2018) conducted an audit study to examine the impact of a ban the box law in the state of New Jersey. Prior to the law, the authors found that applications with a criminal record were less likely to receive a call back than other applications and that applications with distinctively white names had a 7 percent higher chance of receiving a callback than an application with a distinctively black name. After New Jersey's ban the box law took effect, the call back differential increased to 45 percent, indicating that race was

used as a proxy for criminal background. Doleac and Hansen (2016) and Shoag and Veuger (2016) used national data to examine the impacts of ban the box laws on particular groups that are likely associated with higher rates of criminal background. Doleac and Hansen (2016) found that young, low-skilled African-American and Hispanic men see a three to five percent decline in employment following ban the box laws. Shoag and Veuger (2016) found that employment rates increased in neighborhoods associated with high levels of crime. Though their findings suggest that ban the box laws may have been effective, they also found that female employment was hurt by the higher job requirements thought to be invoked by employers who can no longer ask about criminal histories.³

3 Data

One of the most difficult aspects of studying the labor outcomes of individuals with a criminal record is identifying them in common data sources. Few surveys ask respondents for their criminal background, presumably because respondents might find the question invasive or inappropriate and therefore their responses might not be reliable. This study uses a novel proxy for criminal history to avoid this problem. Specifically, the Current Population Survey (CPS) administered by the U.S. Census Bureau and the Bureau of Labor Statistics adds the Voting and Registration Supplement to the basic, monthly survey following each national election for federal office (both congressional and presidential elections). This supplement asks detailed questions regarding a respondent's registration and voting patterns. Importantly for this study, they also ask for the main reason why a respondent did not register to vote. Though the U.S. Constitution establishes the right to vote to all citizens over the age of 17, many states have also put limitations on the voting rights of those who are convicted of a crime. The level of restrictions varies in length and for what offenses trigger restrictions,

³Other studies have found similar evidence of statistical discrimination when employers have been restricted in what information they can gather regarding job applicants. Clifford and Shoag (2016) found a similar result when examining bans on the use of credit scores in employment decisions. Wozniak (2015) found sectors that introduced employee drug-testing increased the rates of employing African-Americans.

with some states having no restrictions. This study will use a sample of CPS respondents which is restricted to only those who are natural born citizens over the age of 19.⁴ These restrictions eliminate most common reasons why one would be ineligible to vote, leaving a past criminal conviction as the most likely reason remaining.

Using a response of “ineligible to vote” as a proxy for criminal background is far from perfect. First, there are other reasons that one might believe themselves to be ineligible. Though the other pre-populated responses to the pertinent question included the possibility of not meeting residency requirements, it is possible that respondents misunderstood the voting eligibility rules in ways not already eliminated with the age and citizenship restrictions.⁵ Second, the question in the CPS Supplement is asking respondents for the primary reason why they did not register to vote, not explicitly whether they are eligible to vote. A respondent with a disqualifying criminal record may believe that other responses better match the “main” reason they did not register to vote and will therefore be misidentified in this study. Third, all states do not have the same severe restrictions on voting rights following a criminal conviction. This implies that in states with less restrictive laws, ex-offenders will not be identified if they have correctly identified themselves as eligible to vote. That said, this policy variation will be used below to support the use of the voter eligibility question as a proxy for criminal records.

For the analysis that follows, respondents to the November Supplements of the 2004, 2006, 2008, 2010, 2012, 2014, and 2016 CPS will be identified as either eligible or ineligible to vote based on their responses to the voter questions. The first group includes all voters and those who did not vote for self-identified reasons other than the belief that they were ineligible to vote. In addition to citizenship and minimum age restrictions, the sample is limited to those below 65 years of age to focus on employment outcomes prior to retirement. Table 1 presents

⁴A disproportionate high share of 18 year olds and naturalized citizens report themselves as ineligible to vote.

⁵Other pre-populated answers for the “MAIN” reason a person didn’t register to vote included missing the registration deadline, not knowing where to register, permanent illness or disability, language barriers, disinterest in the election, and believing one’s vote does not make a difference.

the number of CPS respondents in the sample (and the unweighted percentage) who identify themselves as ineligible to vote. Though the percentage of the sample is low (ranging from 0.7 percent in 2004 to 0.9 percent in 2014 and 2016), the size of the CPS survey identifies a relatively large number of respondents, with over 500 in each year. As a point of reference, Carson (2014) found that the imprisonment rate in 2013 was 0.478 percent.

If the CPS question regarding voter eligibility can be used as a proxy for criminal history, there should be more ineligible voters in states with stricter voting restrictions. Table 2 presents the mean marginal effects of a probit analysis of the likelihood of being identified as ineligible given states' voting restriction policy using the CPS sample. States have been put into three categories based on their voting restrictions: states with no restrictions or restriction only while incarcerated (the control group); states that restrict voting while incarcerated, paroled, or during probation; and states which extend voting restrictions past an individual's incarceration, parole, or probation. The last category has varying lengths to which this restriction might apply. The results in Table 2 show that there is a strong relationship between the severity of voting restrictions and the likelihood that one is identified in the CPS as ineligible. This is true for the full, restricted CPS sample, among only the non-voters, and among the non-voters who are also not registered.

The upper panel of Table 3 compares the demographic characteristics of the two eligibility groups and contains some of the differences one might expect if ineligibility is a good proxy for criminal history. Specifically, ineligible respondents are more likely to be male than eligible respondents (65 percent to 48 percent), less likely to be married (36 percent to 56 percent), and more likely to have low levels of education (25 percent to 7 percent without a high school degree, 42 percent to 30 percent with only high school diploma). Finally, those identified as ineligible are more likely to be Hispanic (19 percent to 7 percent) or African-American (15 percent to 10 percent). Though this study examines those released from prison, these trends roughly line up with imprisonment statistics from the Bureau of Justice Statistics' report on prison populations in 2013 (Carson, 2014). According to this

report, prisoners under the jurisdiction of state or federal correctional facility in 2013 were disproportionately male (93 percent). Though the gender breakdown in Table 3 reflects a much closer rate, it should be noted that the offenses that women were convicted of carried lighter sentences than those for which men are convicted. Even when looking at the same class of offenses (violent, property, drug, etc), women’s sentences are about thirty percent shorter than those of men. In terms of race, Carson (2014) reports that the imprisonment rate for African-Americans and Hispanics are higher than those identified as Caucasian.

On the employment side, the bottom panel of Table 3 shows that ineligible have worse employment outcomes than those who are identified as eligible to vote. Ineligible respondents have an employment-to-population ratio that is almost 15 percentage points lower than eligible respondents. This is partly due to a lower labor force participation rate. Amongst those who are employed, the rate of part-time work is slightly higher for ineligible respondents than eligible ones, though this difference is much bigger if one looks at the rate of working part-time but wanting to work full-time. Finally, ineligible workers earn about thirty percent less per week and work in state or local government at about a third of the rate of eligible workers.

Information about state and local ban the box policies are provided by the National Employment Law Project (NELP) in their frequently updated report by Rodriguez and Avery (2017). The states of Hawaii (1997 for all employers) and Minnesota (2009 for state and local governments, expanded to all employers in 2013) were the first to legislate rules regarding when a criminal record can be examined. Other states followed with California (2010*), Connecticut (2010*), Massachusetts (2010*), New Mexico (2010), Colorado (2012), Illinois (2013*), Maryland (2013), Delaware (2014), Nebraska (2014), Rhode Island (2014*), New Jersey (2015*), New York (2015), Vermont (2015*), Virginia (2015), Louisiana (2016), Missouri (2016), Ohio (2016), Oklahoma (2016), Oregon (2016*), Tennessee (2016), Wisconsin (2016), Arizona (2017), Indiana (2017), Kentucky (2017), Nevada (2017), Pennsylvania (2017), Utah (2017), and Washington (2018*) passing legislation or issuing executive orders

creating rules for state government, local government, and/or private employers in the state. Stars next to the dates in the list above identify states that expand ban the box policies to private employers in the year indicated or a subsequent year. Though many city and county governments have also passed ban the box rules for government employment prior to 2017, a much smaller number have extended regulations to cover private employers. Only the cities of Austin (2016), Baltimore (2014), Buffalo (2013), Chicago (2014), Columbia, MO (2014), Newark (2012), New York (2015) Philadelphia (2011), Portland, OR (2016), Rochester, NY (2014), San Francisco (2014), Seattle (2016), and Washington, D.C. (2014) included private employers.⁶ Similarly, 23 predominately-urban counties passed some form of ban the box law but only two Maryland counties (Montgomery and Prince counties outside of Washington, D.C.) have extended the policy to include private employers.

Table 4 presents the level of coverage over time of the three main forms of ban the box regulations: state government employers, county and local government employers, and private employers. Local and county government regulations are mapped to individual CPS respondents using the Census Bureau’s core-based statistical area (CBSA) codes.⁷ Though this does not perfectly reflect cities or counties, it does represent the employment opportunities that an ex-offender might have in the area in which they live. The pattern shown suggest that much of the ban the box regulation did not pick up steam until after 2006, and then grew steadily in all three categories following that period. By 2016, just over 50 percent of all CPS respondents were in an area where the state or local government did not ask about criminal records on their initial job applications, while over 20 percent of respondents were covered by bans on private employers in their area. When looking at just the portion of CPS respondents who reported being ineligible to vote, the percentages are very similar. This suggests that those with a criminal record are not migrating to areas with ban the box policies, which is consistent with similar findings from Doleac and Hansen (2017) .

⁶Since 2016, two additional cities have added private employer ban the box rules, Los Angeles (2017) and Spokane, WA (2018).

⁷A CBSA is defined by the Census to identify areas anchored by an urban area with “social and economic integration with the core as measured through commuting ties.” (Census Bureau website)

4 Empirical Methodology

To examine the impact of ban the box regulations on those who might have a criminal record and, as an extension, other groups that may be affected by such laws, this study will employ a linear probability model (LPM) and a difference-in-difference approach. The linear probability model's marginal effects in this study are similar to those produced by a probit model and allow for a straightforward estimation of the coefficient on interaction terms. The values of the outcome probabilities are far enough away from the extreme values to avoid concerns about estimates outside of the realistic probability range.

The analysis will examine how employment outcomes are different between areas that adopt ban the box laws and those that do not. Regulations which bar all private employers from asking about criminal records during their initial screenings will be the primary focus of this examination. When looking at the likelihood that an individual is hired by a state or local government, state and local government bans for public employers will also be included.

The LPM model will be estimated using ordinary least squares with robust standard errors. The preferred specification will estimate the following model:

$$E_{irt} = \beta_0 + \beta_1 \text{Ineligible}_i + \beta_2 \text{Ban}_{rt} + \beta_3 \text{Ineligible} \times \text{Ban}_{irt} + \theta X_i + \sigma_1 \text{CBSA_UR}_{rt} + \sigma_2 \text{State}_r + \sigma_3 \text{Year}_t + \varepsilon_i$$

The dependent variable, E_{irt} , represents different measures of employment outcomes for person i in region r at time t . This study will primarily examine employment for those in the labor force, but labor force participation, underemployment, and weekly earnings will also be examined. The X_i represents a vector of characteristics for each CPS respondent i that may be related to employment outcomes. It includes gender, marital status, age, age-squared, indicators for being younger than 24 or older than 54, education attainment (5 categories total), self-identified race, self-identified Hispanic ethnicity, and whether the individual lives

in a metropolitan area. $Year_t$ represents year dummies to capture national time trends in employment outcomes, $CBSA_UR_{rt}$ captures regional differences in the unemployment rate at the CBSA level, and $State_r$ represents state dummies to capture cross-state differences.

The coefficients of interest are those on the variables identifying whether an individual is ineligible to vote ($Ineligible_i$), whether a ban the box rule is currently in effect in the region an individual resides (Ban_{rt}), and the interaction term for the two, ($Ineligible \times Ban_{irt}$). The coefficient on the first captures the difference in employment outcomes for those who are identified as ineligible to vote in the CPS. If this measure is an accurate proxy for criminal history and given the evidence that such a history is a hindrance in the labor market, β_1 should be negative for employment probability, labor force participation, and weekly earnings, while having a positive value for the probability that a respondent is underemployed (as measured as working part-time but wanting to work full-time). The values of β_2 will capture any differences in outcomes for localities after a ban the box policy is enacted. This coefficient both captures any differential trends but will also be used to examine the possibility of externalities from the law when looking at various subsamples based on gender, race, ethnicity, and education levels.

The interaction term in the specification above is the key variable of interest when considering the effect of ban the box laws in this difference-in-difference model. The coefficient on the interaction term between ineligibility and a current ban identifies the impact of the law on ex-offenders, where voter ineligibility proxies for a criminal record. If the law serves its intended purpose of improving the employment outcomes for those who have served their time, this coefficient would be positive when examining good labor market outcomes like employment, labor force participation, and earnings, while being negative when examining part-time employment.

The empirical model is modified slightly when examining the impact of ban the box laws on the likelihood that ex-offenders work for state and local governments. In this case, it is the rules for public employment that are binding, not the private-employer rules. For that

reason, two sets of ban the box indicators and interaction terms are used when examining this outcome. One set uses restrictions of local governments (counties and cities) and the other for state governments. The interpretation of these coefficients will be similar to that for private bans identified above.

5 Results

Table 5 presents the results when an indicator for whether a respondent is employed is used as the dependent variable. The results in column 1 presents the coefficients when using the full CPS sample of labor force participants that are natural born citizens. The coefficient in the LPM for a respondent's ineligibility to vote is negative and statistically significant at the one percent level. The coefficient suggest that labor force participants who are ineligible to vote, presumably due to prior criminal convictions, are over six percentage points less likely to be employed than those who are eligible to vote. This finding is consistent with what one would expect if ineligibility is indeed identifying those with a criminal history. The coefficient on the active ban the box law identifier suggest that there is no statistically significant difference in employment outcomes for the general population following the implementation of these policies. The coefficient for the interaction term is in the expected positive direction but is also not statistically significant. If voting ineligibility has successfully proxied for criminal background, this finding suggests that any positive impact of ban the box policies on the probability of employment is not statistically discernible using this data.⁸ The coefficients of most of the other control variables are also included in Table 5 and have the expected sign.

⁸Since the rules regarding voting eligibility varies across states and this policy is used to identify criminal records, the data may identify different groups of ineligible voters depending on which state the respondent is located in. To address the potential that the results may be driven by this disparity, Appendix Table 1 presents the same results as in column 1 of Table 5 with the sample bifurcated based on each states voter eligibility restrictions at the time of the CPS interview. Column 1 presents the results when only including states that have no voting restrictions based on criminal record and those states that only restrict voting during incarceration. Column 2 presents the results for states that restrict voting eligibility based on an individual's status as on parole, probation, or released followed the conviction of a felony. The results suggest that the relationship between ineligible and employment is similar in both subsamples (as are the coefficients on other controls) with consistent findings regarding the impact of ban the box laws.

Column 2 of Table 5 presents the results when the sample is limited to the subsample of CPS respondents who identified themselves as ineligible to vote. The limited subsample allows the coefficients on the control variables to better match the underlying population and shows some modest changes for a number of controls. Since the entire sample is ineligible to vote, the impact of ban the box laws is now identified by the coefficient on the $Ban_{i,t}$ variable. The positive but statistically insignificant coefficient on this variable is consistent with the value of the interaction term in Column 1. The consistency of this findings suggests that the lack of an impact from the ban the box initiatives is not due to employment modeling differences between ineligible voters and the whole population.

Differences by gender are explored in columns 3 and 4 of Table 5. The analysis suggests there are significant baseline differences and differences in the outcomes following ban the box laws between men and women. The size of the negative employment outcome associated with a criminal record is twice as large for men as for women. This could be due to differences in the severity of criminal offenses, types of employment, or more anti-criminal-record bias against men. Following ban the box laws, ineligible men see no change in their probability of employment while women see a seven percentage point increase that is statistically significant at the six percent level. Though the reason for this discrepancy is not discernible here, the baseline gender differences appear to be augmented when potential employers learn of criminal backgrounds later in the hiring process. This suggests that the ability to discuss a criminal record at a later point in the application process is more beneficial for women.

To further examine the possible implications of ban the box policies, Table 6 shows the linear probability analysis results for the likelihood of employment based on race and ethnicity. The results across groups suggest that the impact of voter ineligibility (and presumably criminal records) most strongly impact the likelihood of employment for those self-reporting their race as “black”. While ineligibility is associated with a four to five percentage point decrease in employment rates for whites and Hispanics, ineligible African-American respondents have an employment rate that is almost 14 percentage points lower. More to the focus

of this paper, the passage of ban the box laws does not have a statistically significant impact on employment rates for ineligible voters in any subsamples. It can be noted that ineligible African Americans and Hispanics have an increase in employment rates by 4 to 5 percentage points following the implementation of ban the box policies, but high standard errors leave this well below traditional thresholds for statistical significance.

The coefficients of the ban the box indicator in Table 6 can be used to test for potential statistical discrimination by employers when criminal record questions are excluded from initial applications. Specifically, employers with a concern about criminal histories may sort applications based on identifiers that are associated with higher crime rates (such as race or ethnicity) if they cannot ask applicants about this topic. If true, we would expect employment rates for groups associated with higher crime rates to decrease following the passage of ban the box policies. As is evident in the third row of Table 6, the employment rates for African Americans do not show a statistically significant decline and therefore do not provide evidence for statistical discrimination on this dimension. That said, there is some evidence that the employment outcomes for Hispanic labor force participants is negative following such policies. The evidence of statistical discrimination is strongest among young, Hispanic men who have not completed high school.⁹

In addition to potential differences across racial and ethnic groups, the impact of ban the box policies may vary in different segments of the labor market. To this end, Table 7 examines the employment rates of subgroups defined by a respondent's highest level of educational attainment. The sample is divided into four groups: those with less than a high school diploma, only a high school diploma, those with some college but not a bachelor's degree (including an associate's degree), and those with a bachelor's degree and above. The results in the top row suggest that being ineligible decreases employment probabilities for all groups, but most severely for those with only a high school degree and least severely for

⁹These results are not presented as they are based on a thin slice of the data. The same examination of young, African-American men with low levels of education do not provide evidence of statistical discrimination and is consistent with the findings in Table 6, though again based on a very thin sample.

those with a bachelor’s or more. The results for the ineligible and post-policy interaction term are consistent with earlier results for all groups except the most highly educated group. The positive and statistically significant results for ineligibles following the passage of ban the box policies suggests that ban the box policies help highly educated workers increase their likelihood of employment. The effectiveness of the policy for the more highly educated group may relate to lesser crimes, an emphasis on credentialing in the types of jobs applied for, or a better ability to explain their criminal history in detail at the interview stage. Alternatively, this result could be due to a statistical aberration based on the small sample size in this subsample.¹⁰

Though ban the box policies cannot be statistically linked to increased employment among individuals with a criminal record, there are other labor market dimensions that these regulations may help the intended group. Specifically, ban the box laws may increase labor market participation for those who might perceive a better chance at employment or it might shift workers into “better” jobs based on full-time status and earnings. Table 8 uses the same specifications as those presented in Table 5, but using the following dependent variables and samples: labor force participation among all CPS respondents; part-time employment, underemployment measured as part-time wanting full-time employment, and weekly earnings amongst those who are working. Again supporting the potential of voting ineligibility as a proxy for criminal history, the labor market outcomes are worse for ineligible voters in all categories. Ineligible voters are almost 7 percentage points less likely to be in the labor force, 4.5 percentage points more likely to work part time overall and about 4 percentage points more likely to report working part time while preferring to work full time, and earn over \$80 less per week, all statistically significant at the one-percent level.¹¹ The coefficients on the

¹⁰Though statistically significant at a high level, it should be noted that there are very few highly educated, ineligible voters in the data (273 total) and even fewer in areas with ban the box policies (28).

¹¹Regression results using log weekly wages as the dependent variable show similar results with a 15% decline in wages for ineligible workers with statistical significance at the 1% level. It should also be noted that the earnings analysis uses a much smaller sample. Earnings questions are only asked to CPS respondents when they are part of the outgoing rotation group, which only occurs in the fourth and eighth months that they are surveyed.

current ban indicator suggests that ban the box laws appear to become policy in places with slightly better labor market outcomes for all workers, as shown in lower rates of part-time work and higher weekly earnings. Using the interaction term to identify the impact of ban the box policies on the intended group, the coefficients show no evidence that the policies positively affect job quality for individuals with a criminal record.

Given that many of the ban the box policy initiatives are focused on employment with state and local governments, Table 9 examines the relationship between these initiatives and the likelihood of public employment. In both column 1 and 2, the dependent variable is a dummy variable for whether a worker is employed by the state, county, or municipal government (excluding employment with the federal government), with column 1 looking at all employed CPS respondents and column 2 examining only those who are ineligible to vote. For the full sample, the coefficient on the ineligible to vote indicator suggests that those with a criminal record are significantly less likely to be publicly employed. The impact of the ban the box policy differs based on which level the policy applies too. State rules are associated with a weakly statistically significant decrease in the likelihood of public employment for ineligibles, though these policies tend to be implemented in states with higher rates of public employment overall. The results are reversed for local governments. Ban the box laws are associated with localities with lower public employment overall, but they are also associated with higher employment of ineligibles following the policy change, with both statistically significant at the 1% level. This difference could be due to the types of positions found in state and local governments. State governments tend have a predominately higher skilled employment while local governments might have lower skilled jobs that would be a better match for those with a criminal record. These effects dissipate when examining only the outcomes for ineligible voters (column 2). This may be due to a better control of the impact of education and other parameters in predicting public employment for ineligibles.

6 Conclusion

According to proponents, the goal of ban the box policies is to give ex-offenders a “fair chance” at employment opportunities and to reduce recidivism through gainful employment. As with the impact of incarceration on employment outcomes, measuring the impact of such laws is made difficult by the lack of identifiable data for those with a criminal history that can be examined for changes over time. The analysis in this study attempted to use a novel identification method that provides a relatively large sample of ex-offenders. With the exception of a few subgroups, the results using this proxy for criminal backgrounds show no significant impact of ban the box laws applied to private employers on the rate of employment, labor force participation, or part-time employment amongst those thought to be ex-offenders. The lack of a positive impact for this group is consistent with the findings of Jackson and Zhao (2017) and Rose (2018). The only signs of effectiveness for ban the box laws comes when looking at groups that may be most able to overcome criminal history bias and for local government employment. Women and highly educated individuals may have lesser offenses on their records that may be more prone to being alleviated in an interview, or simply have less employer bias when not manifested through a simple screen of an application.¹²

These finding suggest that the employment headwinds that individuals with a criminal record face cannot be easily regulated away. Application screening that eliminates those with a criminal record appear to represent employers’ preferences, not simply a convenient way to decrease the number of applications for careful consideration. If the public interest is served through better employment outcomes for those who have been convicted of a crime but are now reentering society, it will be necessary to undertake a more arduous campaign to change employers’ views on hiring formerly incarcerated individuals. Delaying when employers learn about criminal histories does not appear to be enough.

¹²The evidence for statistical discrimination against groups most closely associated with high rates of criminal histories was not found to be as clear as in other studies. The results did not find evidence of statistical discrimination against African-Americans as found in Agan and Starr (2018) and Doleac and Hansen (2016), but did present weak evidence of discrimination against Hispanics, confirming part of the findings in Doleac and Hansen (2016).

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Table 1

CPS respondents self-identifying as ineligible to register to vote

	Number of observed ineligibles	Percent of sample
2004	504	0.68%
2006	598	0.84%
2008	568	0.82%
2010	610	0.87%
2012	572	0.83%
2014	644	0.93%
2016	607	0.91%

CPS data from the November Supplement in 2004, 2006, 2008, 2010, 2012, 2014, and 2016. Sample includes all natural-born citizens between the ages of 18 and 65.

Table 2

Linking ineligibility to state voting restriction

	1	2	3
	Full CPS sample	Only non-voters	Only non-registered respondents
Limits on voting rights of parolees and/or probationers	0.002*** [0.000]	0.006*** [0.001]	0.011*** [0.003]
Limits on voting rights of parolees, probationers, and those with prior convictions	0.006*** [0.001]	0.021*** [0.003]	0.038*** [0.004]
Observations	486,363	154,239	82,526

Mean marginal effects from probit analysis presented above with robust standard errors in brackets. * significant at 10%; ** significant at 5%; *** significant at 1%. Additional controls include local unemployment rate, gender, marital status, age, age-squared, identifiers for under 25 and over 54 years of age, race, hispanic, level of education, urban location, state dummies, and year of survey. CPS data from the November Supplement in 2004, 2006, 2008, 2010, 2012, 2014, and 2016. Sample includes all natural-born citizens between the ages of 18 and 65.

Table 3
Summary Statistics by Voter Eligibility

	Mean for Eligible	Mean for Ineligible
Age	41.9	38.0
Male	48.4%	65.0%
Married	55.6%	35.7%
City Dweller	76.9%	77.6%
Race:		
White	84.7%	75.9%
Black	10.3%	14.7%
American Indian	1.2%	2.3%
Asian	1.6%	4.4%
Hawaiian/Pacific Islander	0.3%	0.7%
Multiple Reported	1.8%	2.1%
Hispanic	6.9%	19.0%
Education:		
Less than High School Diploma	7.1%	24.5%
High School Diploma	30.3%	42.4%
Some College	32.1%	23.7%
College Degree	20.5%	6.8%
More than College Degree	9.9%	2.6%
Census Region:		
Northeast	10.7%	6.5%
Middle Atlantic	8.7%	5.7%
East North Central	12.3%	6.9%
West North Central	12.0%	9.4%
South Atlantic	17.9%	20.6%
East South Central	5.9%	8.2%
West South Central	8.8%	14.0%
Mountain	11.2%	14.5%
Pacific	12.5%	14.2%
Employment Outcomes:		
Employment to Population Ratio	73.5%	59.0%
Part-time to Full-time ratio	17.4%	19.9%
Employed Part-time but want Full-time	4.0%	9.5%
Labor Force Participation	77.6%	68.5%
State or Local Government Employment Rate	13.3%	4.0%
Weekly earnings (2004 \$s)	\$737.14	\$522.50
Observations	485,298	4,103

CPS data from the November Supplement in 2004, 2006, 2008, 2010, 2012, 2014, and 2016. Sample includes all natural-born citizens between the ages of 18 and 65. Weekly earnings are only recorded when respondents are in the fourth and eighth interviews of the CPS.

Table 4

Ban the box laws coverage rate, natural-born citizens 19-64

	2004	2006	2008	2010	2012	2014	2016
State employer ban	1.2%	1.3%	1.4%	13.6%	17.5%	23.7%	46.9%
County/local employer ban	2.8%	3.7%	9.6%	18.5%	32.3%	43.5%	53.6%
Private employer ban	1.2%	1.3%	1.4%	1.4%	8.3%	17.3%	21.9%
Observations	74,038	71,519	69,508	69,865	69,064	69,000	66,407

CPS data from the November Supplement in 2004, 2006, 2008, 2010, 2012, 2014, and 2016.
Sample includes all natural-born citizens between the ages of 18 and 65.

Table 5

Analysis examining employment with various subsamples

	1	2	3	4
	All Labor Force Participants	Ineligible Labor Force Participants	All Male Labor Force Participants	All Female Labor Force Participants
Ineligible to vote	-0.063*** [0.008]		-0.075*** [0.010]	-0.035*** [0.013]
Ban the box policy in effect	0.000 [0.002]	0.024 [0.039]	-0.003 [0.003]	0.003 [0.003]
Ineligible and ban the box policy in effect	0.013 [0.033]		-0.002 [0.043]	0.067* [0.034]
CBSA Unemployment Rate	-0.897*** [0.024]	-1.693*** [0.360]	-0.931*** [0.034]	-0.862*** [0.034]
Male	-0.006*** [0.001]	-0.037** [0.016]		
Married	0.030*** [0.001]	0.063*** [0.016]	0.040*** [0.001]	0.021*** [0.001]
Age	0.005*** [0.000]	-0.012 [0.009]	0.005*** [0.001]	0.004*** [0.001]
Age ² (in 100s)	-0.005*** [0.001]	0.016 [0.011]	-0.006*** [0.001]	-0.004*** [0.001]
Under 25	-0.011*** [0.003]	-0.066* [0.039]	-0.015*** [0.004]	-0.007** [0.004]
Over 55	0.007*** [0.002]	-0.041 [0.049]	0.007** [0.003]	0.006** [0.003]
High school diploma only	0.066*** [0.003]	0.030 [0.023]	0.061*** [0.004]	0.075*** [0.005]
Some college but no 4-year degree	0.087*** [0.003]	0.083*** [0.024]	0.082*** [0.004]	0.094*** [0.005]
Completed 4-year degree	0.099*** [0.003]	0.116*** [0.029]	0.094*** [0.004]	0.107*** [0.005]
Education beyond a 4-year degree	0.102*** [0.003]	0.112*** [0.037]	0.095*** [0.004]	0.112*** [0.005]
Race: Black	-0.045*** [0.002]	-0.137*** [0.027]	-0.050*** [0.003]	-0.041*** [0.002]
Race: Native American	-0.035*** [0.006]	-0.035 [0.061]	-0.026*** [0.009]	-0.044*** [0.009]
Race: Asian	0.002 [0.004]	-0.005 [0.032]	0.003 [0.005]	0.000 [0.005]
Race: Hawaiian or Pacific Islander	-0.016 [0.010]	-0.257* [0.133]	-0.026* [0.016]	-0.005 [0.014]
Race: Multiple Identified	-0.028*** [0.005]	-0.103 [0.065]	-0.031*** [0.007]	-0.024*** [0.006]
Ethnicity: Hispanic	-0.006*** [0.002]	0.002 [0.021]	-0.008*** [0.003]	-0.004 [0.003]
Urban Location	0.000 [0.001]	0.020 [0.022]	0.000 [0.002]	0.001 [0.002]
Observations	379170	2811	194668	184502
R-squared	0.047	0.098	0.053	0.042

Robust standard errors in brackets. * significant at 10%; ** significant at 5%; *** significant at 1%. Additional controls include state dummies and year of survey. CPS data from the November Supplement in 2004, 2006, 2008, 2010, 2012, 2014, and 2016. Sample includes all natural-born citizens between the ages of 18 and 65.

Table 6

Analysis examining employment by race and ethnicity

	1 White Labor Force Participants	2 Black Labor Force Participants	3 Hispanic Labor Force Participants
Ineligible to vote	-0.048*** [0.008]	-0.138*** [0.026]	-0.041** [0.018]
Ban the box policy in effect	-0.001 [0.002]	0.003 [0.008]	-0.018* [0.009]
Ineligible and ban the box policy in effect	-0.003 [0.040]	0.042 [0.091]	0.052 [0.065]
Observations	325,129	36,199	25,459
R-squared	0.035	0.070	0.052

Robust standard errors in brackets. * significant at 10%; ** significant at 5%; *** significant at 1%. Additional controls include local unemployment rate, gender, marital status, age, age-squared, identifiers for under 25 and over 54 years of age, race, hispanic, level of education, urban location, state dummies, and year of survey. CPS data from the November Supplement in 2004, 2006, 2008, 2010, 2012, 2014, and 2016. Sample includes all natural-born citizens between the ages of 18 and 65.

Table 7

Analysis examining employment by educational attainment

	1 No high school diploma or GED	2 High school diploma or GED	3 Some college but no four-year degree	4 Four-year degree or more
Ineligible to vote	-0.039** [0.020]	-0.084*** [0.012]	-0.054*** [0.015]	-0.030* [0.017]
Ban the box policy in effect	-0.012 [0.019]	0.001 [0.005]	0.000 [0.004]	0.002 [0.002]
Ineligible and ban the box policy in effect	-0.029 [0.100]	-0.001 [0.058]	0.013 [0.053]	0.059*** [0.018]
Observations	19,678	111,253	120,982	127,257
R-squared	0.093	0.050	0.026	0.014

Robust standard errors in brackets. * significant at 10%; ** significant at 5%; *** significant at 1%. Additional controls include local unemployment rate, gender, marital status, age, age-squared, identifiers for under 25 and over 54 years of age, race, hispanic, level of education, urban location, state dummies, and year of survey. CPS data from the November Supplement in 2004, 2006, 2008, 2010, 2012, 2014, and 2016. Sample includes all labor force participants who are natural-born citizens between the ages of 18 and 65.

Table 8

Analysis examining other labor market outcomes

	1	2	3	4
	Labor force participation	Part-time work	Part-time but wanting full-time	Weekly earnings in 2004 Dollars
Ineligible to vote	-0.066*** [0.008]	0.045*** [0.009]	0.039*** [0.007]	-80.454*** [19.020]
Ban the box policy in effect	0.000 [0.003]	-0.007** [0.003]	-0.003* [0.002]	36.026*** [9.043]
Ineligible and ban the box policy in effect	0.001 [0.036]	0.004 [0.041]	-0.008 [0.030]	-70.891 [62.322]
Sample	All CPS respondents	Only employed	Only employed	Only employed with earnings data
Observations	486,363	359,011	359,011	80,355
R-squared	0.1	0.105	0.029	0.333

Robust standard errors in brackets. * significant at 10%; ** significant at 5%; *** significant at 1%. Additional controls include local unemployment rate, gender, marital status, age, age-squared, identifiers for under 25 and over 54 years of age, race, hispanic, level of education, urban location, state dummies, and year of survey. CPS data from the November Supplement in 2004, 2006, 2008, 2010, 2012, 2014, and 2016. Sample includes all CPS respondents who are natural-born citizens between the ages of 18 and 65.

Table 9

Analysis examining state and local government employment for those working

	1	2
	All employed CPS respondents	Ineligible, employed CPS respondents
Ineligible to vote	-0.055*** [0.005]	
Ban for state government employers currently	0.009*** [0.003]	-0.002 [0.018]
Ineligible and state government ban currently	-0.027* [0.015]	
Ban for local government employers currently	-0.024*** [0.002]	0.014 [0.017]
Ineligible and local government ban currently	0.053*** [0.015]	
Observations	359,011	2,421
R-squared	0.054	0.048

Robust standard errors in brackets. * significant at 10%; ** significant at 5%; *** significant at 1%. Additional controls include local unemployment rate, gender, marital status, age, age-squared, identifiers for under 25 and over 54 years of age, race, hispanic, level of education, urban location, state dummies, and year of survey. CPS data from the November Supplement in 2004, 2006, 2008, 2010, 2012, 2014, and 2016. Sample includes all CPS respondents who are natural-born citizens between the ages of 18 and 65.

Appendix Table 1

Analysis examining employment by state's voting restriction

	1	2
	Minor Voter Restriction States	States with extended voting rights restrictions based on criminal history
Ineligible to vote	-0.045** [0.019]	-0.067*** [0.009]
Ban the box policy in effect	0.002 [0.004]	-0.001 [0.003]
Ineligible and ban the box policy in effect	-0.01 [0.054]	0.018 [0.041]
Observations	117,476	261,694
R-squared	0.045	0.048

Robust standard errors in brackets. * significant at 10%; ** significant at 5%; *** significant at 1%. Additional controls include local unemployment rate, gender, marital status, age, age-squared, identifiers for under 25 and over 54 years of age, race, hispanic, level of education, urban location, state dummies, and year of survey. CPS data from the November Supplement in 2004, 2006, 2008, 2010, 2012, 2014, and 2016. Sample includes all natural-born citizens between the ages of 18 and 65.