# Diversion in the Criminal Justice System

## Professor Kevin Schnepel

## The University of Sydney

Diversion in the Criminal Justice System

EVALUATING THE CAUSAL IMPACT OF DEFERRED ADJUDICATION ON
REOFFENDING AND EMPLOYMENT OUTCOMES OVER TEN YEARS FOLLOWING THE
FIRST FELONY PROPERTY OR DRUG CHARGE FOR DEFENDANTS IN HARRIS COUNTY
TEXAS USING A FUZZY LOCAL POLYNOMIAL REGRESSION DISCONTINUITY DESIGN!

Professor Kevin Schnepel

Assistant Professor Kevin Schnepel

The University of Sydney

Simon Fraser University

# Evaluating the Causal Impact of Diversion on Reoffending and Employment

Michael Mueller-Smith
*University of Michigan*

**Kevin Schnepel**
*Simon Fraser University
& University of Sydney*

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Our setting: Harris County, TX

- 5th largest MSA in the US (6.8m residents)

- 3rd largest jail system in the US

Our sample: First-time felony defendants

- 30k charged btw 1 Sept. 1992 and 1 Sept. 1996

- 50k charged btw 8 Nov. 2005 and 8 Nov. 2009

# Diversion in the criminal justice system

- Criminal justice diversion programs are a growing strategy in the US and other countries motivated by:
    - a 'triage' strategy to manage criminal offense caseload
    - potential benefits of providing certain defendants a *second chance*

- Diversion has many different shapes and sizes
    - Police (e.g. NSW cautionary schemes)
    - Prosecutors (e.g. pre-trial plea agreement)
    - Courts (e.g. drug courts)

- Harris County: diversion is often accomplished with a *deferred adjudication* case disposition from a judge
    - Defendant admits guilt **but does not have a conviction recorded** unless he/she violates the terms of community supervision imposed (3-5 years of probation)

# Evaluating the impacts of diversion

- A comparison of outcomes between those diverted vs. those not diverted is difficult to interpret due to unobserved confounding factors (e.g. the motivation of defendant to desist from crime may be partially observed by the judge but is not observed by us!)
    - Prior research typically compares diverted to a control group and adjusts for observed factors (e.g. Chiricos et al. 2007 find lower rates of recidivism for those with deferred adjudication of guilt in FL) but there are concerns about a selection bias

- Can we use an experimental methodology?
    - Prior studies measure causal impact of a conviction on employment outcomes randomly varying information on job applications (Agan & Starr 2018, Pager et al. 2009, Pager 2003),
    - Prior studies document causal impact of incarceration using random assignment to more or less strict judges (Bhuller et al. 2015, Mueller-Smith 2015, Aizer & Doyle 2015)

- A sharp change in the probability of diversion that is unrelated to unobserved defendant characteristics provides a *natural experiment* to measure the causal impact of diversion

# Two natural experiments in Harris County, TX

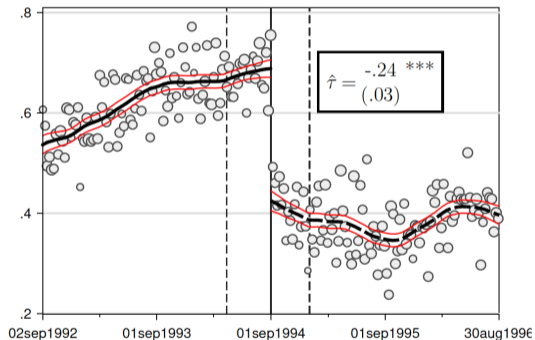- Diversion rate around a criminal code reform effective **1 September 1994**
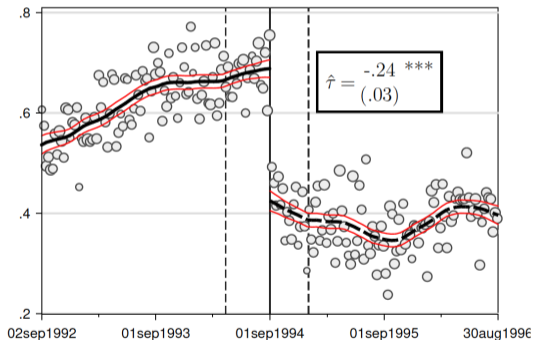
- Diversion rate around a jail expansion ballot defeated on **7 November 2007**



$$\hat{\tau} = \frac{-.24}{(.03)} \text{***}$$



$$\hat{\tau} = \frac{.18}{(.02)} \text{***}$$
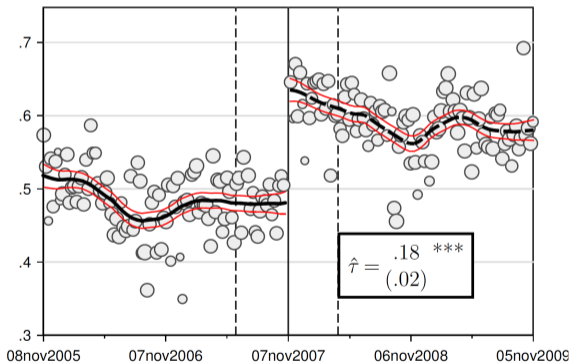
# First natural experiment (1994)

- Diversion rate around a criminal code reform effective **1 September 1994**



- What happened in September 1994?

  - Prosecutors lost ability to enforce violations of diversion agreements for a set of reclassified offense types

  - Offense types included felony drug possession and property offenses less than $20K

  - Those who would have been diverted prior to 1 Sep. are instead convicted and receive a *probated incarceration sentence* (only serve time if violate terms of community supervision.

# Second natural experiment (2007)

- What happened in November 2007?

  - Severe overcrowding concerns in Harris County Jail, but voters narrowly defeated a jail construction bond (50.6 percent to 49.4 percent)

  - Judges responded week following vote by dramatically increasing diversion for first-time, low-risk defendants

  - Those who would have been convicted prior to Nov. 8 instead receive deferred adjudications (or the case is dismissed)

- Diversion rate around a jail expansion ballot defeated on **7 November 2007**
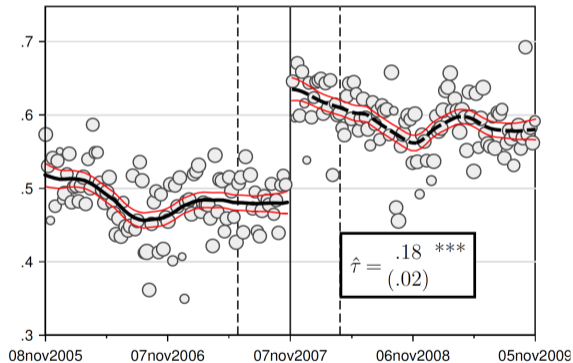


$$\hat{\tau} = \frac{.18}{(.02)}^{***}$$

# Data

**Data** for this project is linked across multiple administrative resources:

- Harris County criminal court records (charge, disposition)
- Unemployment Insurance wage records from Texas Workforce Commission
- Jail/prison records from Harris County Sheriff and Texas Dept. of Criminal Justice
- Statewide convictions database from Texas Dept. of Public Safety

# Empirical Strategy

# Regression Discontinuity (RD) Design
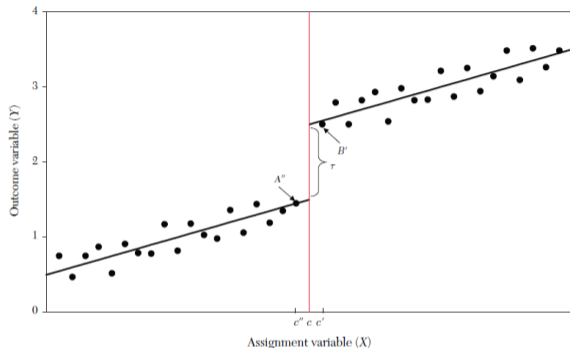


- Use a cutoff rule that discontinously changes the probability of an outcome

- RD is a valid strategy for causal inference if the unobserved determinants of outcomes are continous through threshold

- We estimate changes in outcomes at threshold and then scale this by the change in the probability of diversion to measure impact of diversion vs. the conviction alternative ('fuzzy RD').

# Did number of relevant cases change across thresholds?

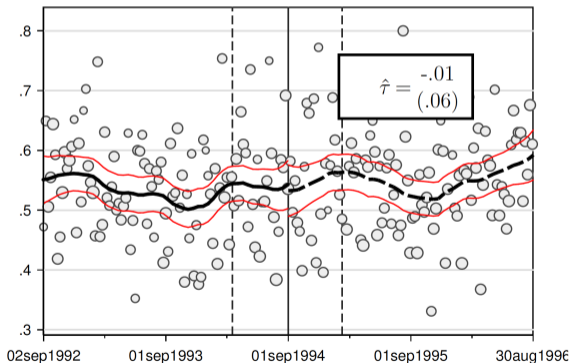- Caseload density by charge date for two years each side of **1 Sept. 1994**
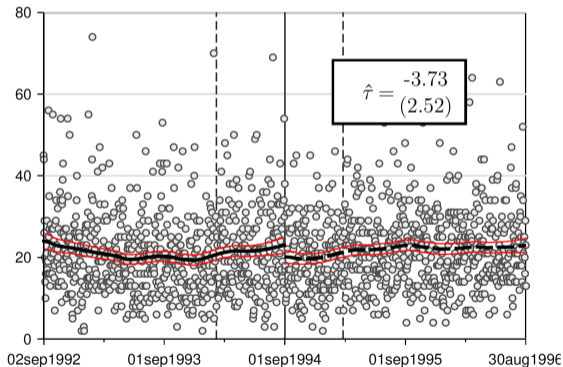
- Caseload density by disposition date for two years each side of **8 Nov. 2007**



$$\hat{\tau} = \begin{matrix} -3.73 \\ (2.52) \end{matrix}$$



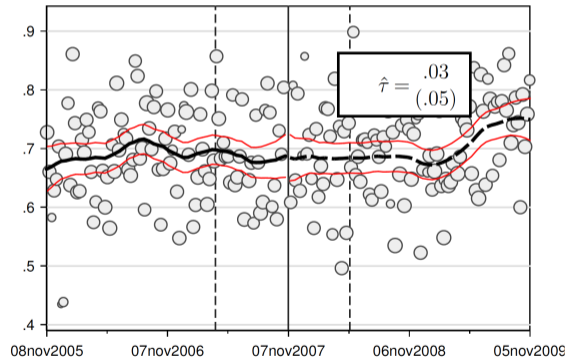$$\hat{\tau} = \begin{matrix} -2.24 \\ (3.57) \end{matrix}$$
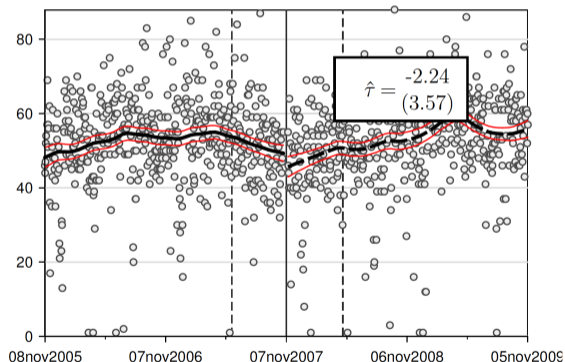
# Are offender characteristics continuous through thresholds?

- *Prior misdemeanor convictions* for defendants two years each side of **1 Sept. 1994**

- *Prior misdemeanor convictions* for defendants two years each side of **7 Nov. 2007**
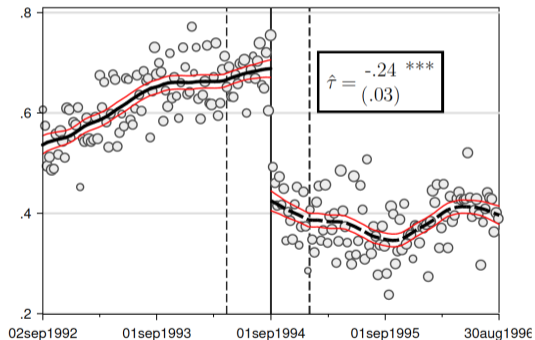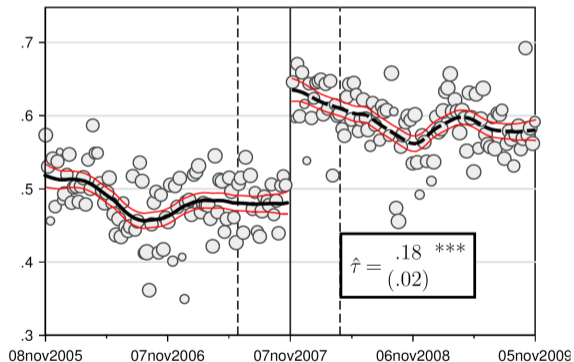


$$\hat{\tau} = \begin{matrix} -.01 \\ (.06) \end{matrix}$$

$$\hat{\tau} = \begin{matrix} .03 \\ (.05) \end{matrix}$$

# Results

# Recall the discontinuous change in treatment
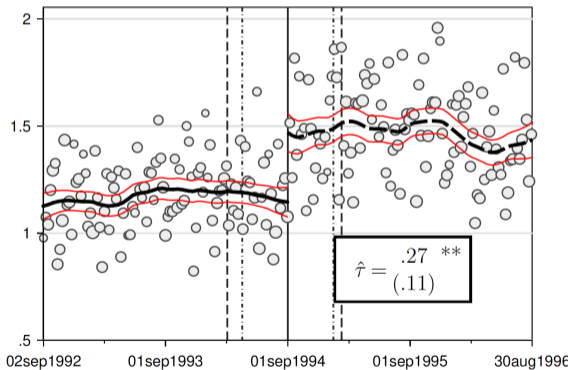
- ≈ 35% decrease in diversion after **1 September 1994**
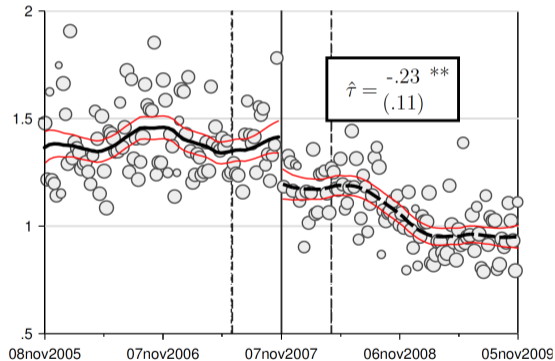
- ≈ 35% increase in diversion after **7 November 2007**

# Future convictions over 10 years

- **1994 threshold**: *Diversion ⇓ 1.6 convictions (⇓ 76%)*

- **2007 threshold**: *Diversion ⇓ 1.3 convictions (⇓ 56%)*



$$\hat{\tau} = \begin{matrix} .27 & ** \\ (.11) \end{matrix}$$

$$\hat{\tau} = \begin{matrix} -.23 & ** \\ (.11) \end{matrix}$$

# Other reoffending results

- Cumulative Impact of diversion on total convictions by year (**1994 experiment**)
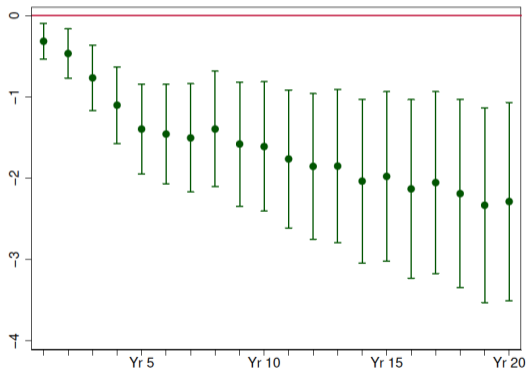


In general, we find diversion reduces other reoffending outcomes including

- county jail bookings (a proxy for arrest)

- charges

- statewide convictions

# Average quarterly employment rate over 10 years
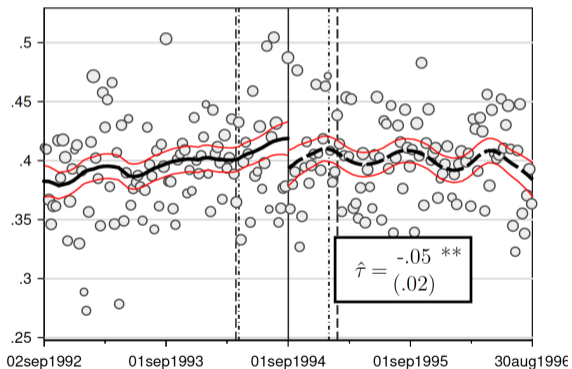
- **1994 threshold**: *Diversion* ⇑ *20 p.p. (⇑ 54%)*

- **2007 threshold**: *Diversion* ⇑ *16 p.p. (⇑ 52%)*
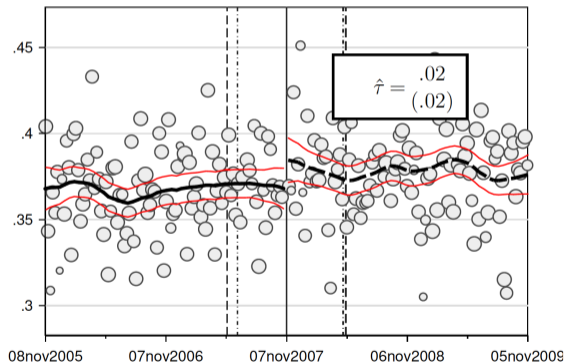
# Other labour market results

- Cumulative Impact diversion on years of employment following charge (**1994 experiment)**
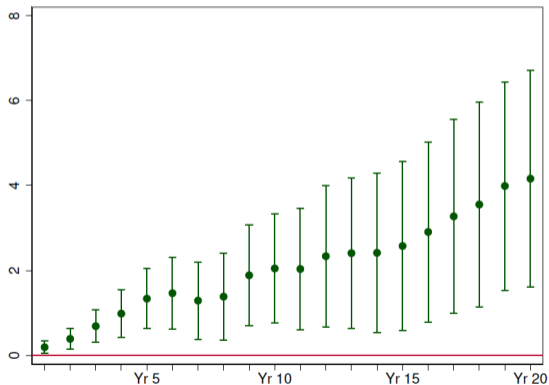


In general, we find diversion improves other labour market outcomes including

- total earnings

- earnings above federal poverty level

- longer spells of employment

# Mechanisms

# What mechanisms explain our results?

Key ways diversion can impact offending and employment:

- general deterrence - diversion lowers the 'cost' of crime for potential offenders

- specific deterrence (e.g. 'scared straight'

- causal impact of incarceration (incapacitation, skills, peers, stigma)

- deterrence from the overhanging punishment

- labelling / stigma

# Effects of diversion on incarceration over 10 year follow-up
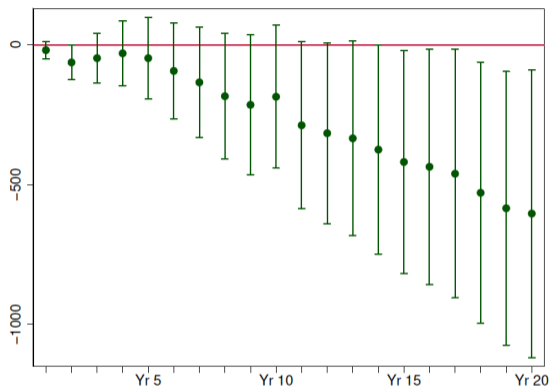


- **1994 experiment**: No significant diffs in incarceration in first 5 years (but large diffs in outcomes in this time period)
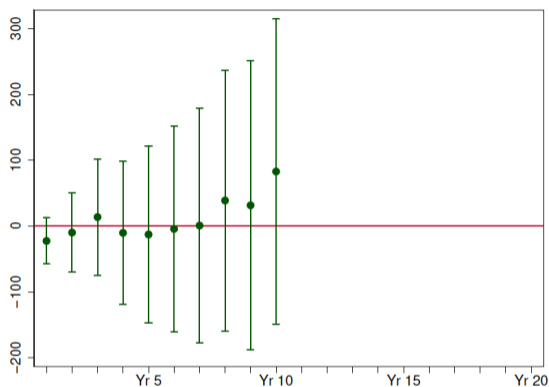
- **2007 experiment**: No significant diffs in incarceration over 10 year follow-up

# Labelling / stigma mechanism

- Less clear benefits for individuals with a prior felony conviction

Table A.9: Comparison between First Time Felony Defendants and Repeat Felony Defendants

|  | 1994 First Time | 1994 Repeat | 2007 First Time | 2007 Repeat |
|---|---|---|---|---|
| Sharp RD: Diversion | -0.24*** (0.028) [0.69] | -0.0061 (0.034) [0.29] | 0.18*** (0.025) [0.49] | 0.12*** (0.025) [0.12] |
| Fuzzy RD: Total Convictions | -1.61*** (0.48) [2.21] | | -1.21* (0.63) [2.16] | 0.31 (2.18) [3.88] |
| Fuzzy RD: Qtrly Employment Rate | 0.20*** (0.078) [0.37] | | 0.16 (0.10) [0.30] | 0.10 (0.14) [0.15] |
| Observations | 31,334 | 15,780 | 52,846 | 26,865 |

- We also find similar benefits associated with court deferral as case dismissal in 2007

# Concluding Remarks

# First, a few other key insights not presented

- We find that defendants with highest predicted risk of recidivism at time of focal case (more likely young, male, African American) benefit the most from diversion

- Joint determination of outcomes: We document large shifts of individuals from *high rates of offending & low employment* to *low rates of offending & high employment*

- There is likely an 'amplification' effect

- Results are robust to a lot of stuff (see paper for 42 pages of figures and tables....)

# Conclusion

- A 'second chance' to avoid a felony conviction record for first-time felony defendants in Harris County TX is associated with large decreases in future interactions with the criminal justice system as well as improvements in labor market outcomes

- The stigma/labelling mechanism appears to be the most important causal mechanism in our context

- What we find most appealing about the type of diversion (deferred adjudication and/or case dismissal) studies is that it can be feasibly implemented without significant investments or changes to current infrastructure, making it a practical solution for criminal justice reform

Thank you!
kevin_schnepel@sfu.ca

# Extra Slides
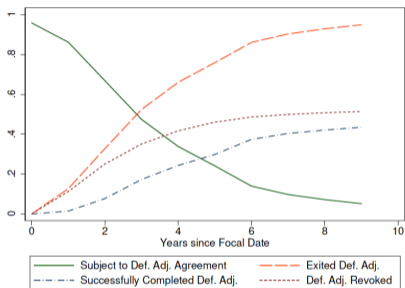
**1994** **2007**

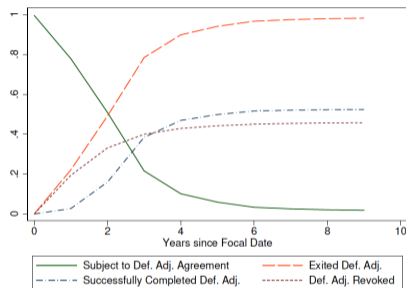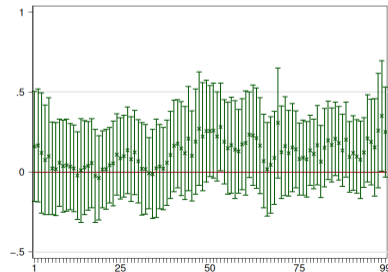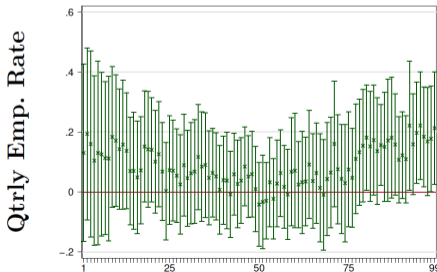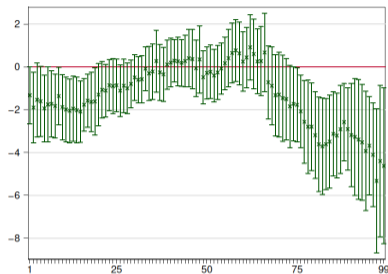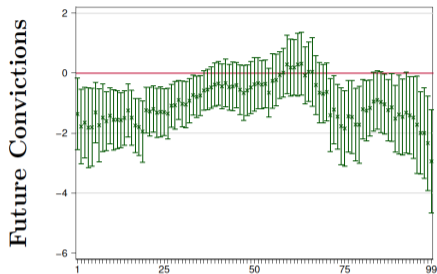Figure 1: Duration of Deferred Adjudication Agreements

# Heterogeneous effects

# Balance test coefficients

| | $\tau^{94}$ | $\tau^{07}$ | $\frac{\tau^{07}-\tau^{94}}{2}$ |
|---|---|---|---|
| Caseload Size | -3.73 | -2.24 | 0.75 |
| | (2.52) | (3.57) | (2.19) |
| | [28.6] | [50.4] | |
| Total Prior Misd. Conv. | -0.0064 | 0.033 | 0.020 |
| | (0.058) | (0.052) | (0.039) |
| | [0.55] | [0.70] | |
| Age at Charge | -0.46 | 0.50 | 0.48 |
| | (0.49) | (0.55) | (0.37) |
| | [28.8] | [29.4] | |
| Sex = Male | 0.044* | 0.023 | -0.011 |
| | (0.027) | (0.020) | (0.017) |
| | [0.68] | [0.73] | |
| Race/Ethn. = Black, not Hisp. | -0.036 | -0.027 | 0.0043 |
| | (0.027) | (0.022) | (0.017) |
| | [0.46] | [0.38] | |
| Race/Ethn. = Hispanic | -0.020 | 0.025 | 0.023 |
| | (0.023) | (0.021) | (0.016) |
| | [0.21] | [0.31] | |
| Crime Type = Property | 0.0031 | 0.0095 | 0.0032 |
| | (0.027) | (0.022) | (0.017) |
| | [0.54] | [0.28] | |
| Crime Type = Drug | 0.000089 | -0.015 | -0.0075 |
| | (0.028) | (0.026) | (0.019) |
| | [0.46] | [0.45] | |
| Crime Type = Violent | – | -0.0064 | – |
| | | (0.014) | |
| | | [0.10] | |
| Recidivism Risk Score | 0.069 | -0.029 | -0.049 |
| | (0.043) | (0.042) | (0.030) |
| | [1.27] | [1.29] | |
| Social Sec. Number Unrecorded | 0.00061 | 0.047** | 0.023 |
| | (0.022) | (0.022) | (0.015) |
| | [0.22] | [0.22] | |
| Observations | 31,254 | 52,701 | . |

# Reoffending coefficients

| | $\phi^{94}$ | $\phi^{07}$ | $\frac{\phi^{94}+\phi^{07}}{2}$ | $H_0 : \phi^{94} = \phi^{07}$ |
|---|---|---|---|---|
| *Panel A: Overall* | | | | |
| Any Convictions | −0.31*** | −0.32** | −0.32*** | 0.013 |
| | (0.12) | (0.14) | (0.091) | (0.18) |
| | [0.70] | [0.64] | | |
| Total Convictions | −1.61*** | −1.29** | −1.45*** | −0.32 |
| | (0.48) | (0.63) | (0.40) | (0.79) |
| | [2.09] | [2.31] | | |
| *Panel B: Crime Type* | | | | |
| Drug Convictions | −0.71*** | −0.19 | −0.45** | −0.52 |
| | (0.26) | (0.24) | (0.18) | (0.35) |
| | [0.80] | [0.63] | | |
| Property Convictions | −0.50** | −0.47 | −0.48** | −0.039 |
| | (0.22) | (0.34) | (0.20) | (0.41) |
| | [0.56] | [0.70] | | |
| Violent Convictions | −0.11 | −0.28* | −0.19** | 0.17 |
| | (0.099) | (0.15) | (0.089) | (0.18) |
| | [0.24] | [0.30] | | |
| *Panel C: Offense Level* | | | | |
| Misdemeanor Convictions | −0.64** | −1.09** | −0.87*** | 0.46 |
| | (0.29) | (0.45) | (0.27) | (0.54) |
| | [0.94] | [1.32] | | |
| Felony Convictions | −1.07*** | −0.51 | −0.79*** | −0.56 |
| | (0.30) | (0.37) | (0.24) | (0.47) |
| | [1.18] | [1.04] | | |
| Observations | 31,131 | 52,792 | | |

# Labour market coefficients

| | $\phi^{94}$ | $\phi^{07}$ | $\frac{\phi^{94}+\phi^{07}}{2}$ | $H_0: \phi^{94}=\phi^{07}$ |
|---|---|---|---|---|
| *Panel A: Employment* | | | | |
| Qtrly Employment Rate | 0.20*** | 0.16 | 0.18*** | 0.047 |
| | (0.078) | (0.10) | (0.065) | (0.13) |
| | [0.37] | [0.31] | | |
| Earn $\geqslant$ 100% Fed. Pov. Level | 0.14** | 0.12 | 0.13** | 0.020 |
| | (0.069) | (0.095) | (0.059) | (0.12) |
| | [0.23] | [0.21] | | |
| *Panel B: Earnings* | | | | |
| Log Total Earnings | 1.45 | 2.21* | 1.83** | −0.76 |
| | (1.02) | (1.34) | (0.84) | (1.68) |
| | [8.73] | [7.87] | | |
| Total Earnings | 82,262** | 40,818 | 61,540* | 41,444 |
| | (38,649) | (53,793) | (33,119) | (66,238) |
| | [91,340] | [101,363] | | |
| *Panel C: Tenure* | | | | |
| Max Employment Spell (Quarters) | 1.51 | 5.81** | 3.66** | −4.31 |
| | (1.57) | (2.76) | (1.59) | (3.18) |
| | [6.25] | [5.88] | | |
| Max Cont. Earning Spell (Quarters) | 3.44 | 6.40* | 4.92** | −2.96 |
| | (2.29) | (3.58) | (2.12) | (4.25) |
| | [9.85] | [8.18] | | |
| Observations | 24,042 | 39,674 | | |