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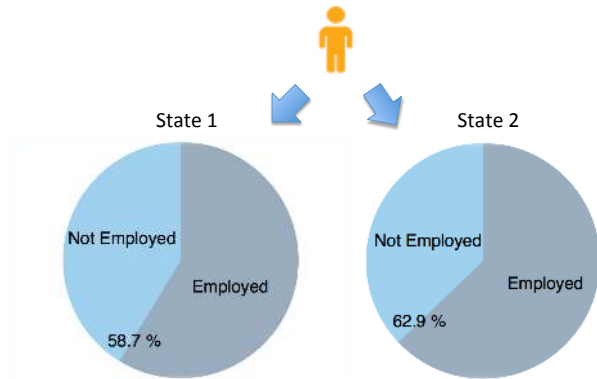
# Good Jobs and Recidivism

Kevin Schnepel

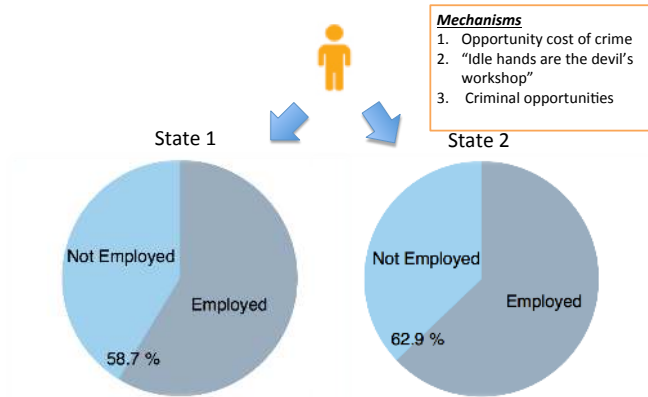
*The University of Sydney*

BOCSAR Applied Research in Crime and Justice Conference  
19 February 2015

# How do local labor market conditions at the time and location of release influence recidivism rates?



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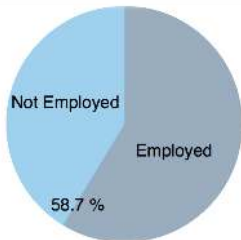
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## Setting

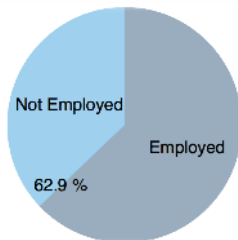
Individuals released from a California state prison, Jan 1993 through Dec 2008, serving a mandatory period of parole supervision.



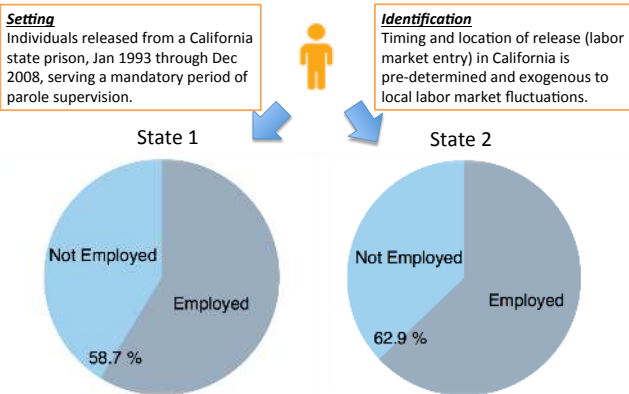
State 1



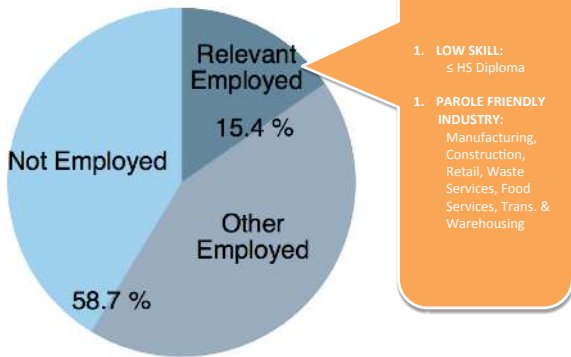
State 2



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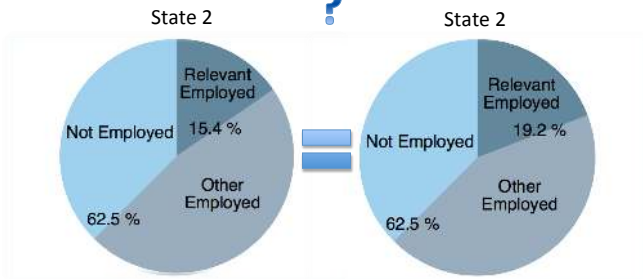


# How do local labor market conditions at the time and location of release influence recidivism rates?

**Scenario A**



**Scenario B**



# Motivation

Nearly 70% of Individuals released from prison in U.S. are rearrested within 3 years.

How do job opportunities affect recidivism?

- ▶ inability to obtain employment is often cited as an important factor
- ▶ 40 percent of \$125 million devoted to the *Second Chance Act Prisoner Reentry Initiative* in 2009 and 2010 in US was spent on employment programs.

but... not a great deal of empirical evidence that local labor market conditions (or randomly assigned employment opportunities) affect rates of recidivism



# Jobs and Recidivism

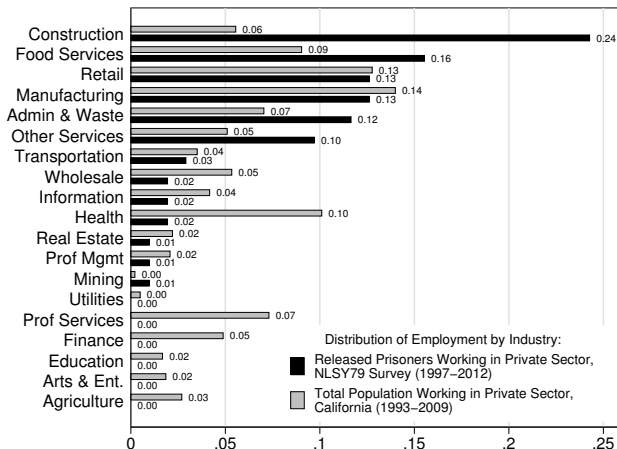
## Prior evidence

- ▶ unemployment rates have a very small impact on changes in recidivism rates (Bolitzer 2005, Raphael and Wieman 2007)
- ▶ RCT evaluations of reentry programs providing minimum-wage jobs find mixed results (Redcross et al. 2011, Jacobs 2012)

This study helps explain these results by demonstrating heterogeneous effects by the *type* of job opportunity

- ▶ *good* jobs influence recidivism rates
- ▶ results consistent with recent evidence from criminology on the relationship between manufacturing and racial gaps in recidivism (Wang et al. 2010; Bellair and Kowalski 2011)

# Which industries employ offenders released from incarceration?



Source: National Longitudinal Survey of Youth 1979 (NLSY79) for the years 1997–2012.

# How much can released offenders expect to earn in relevant industries?



Average monthly earnings by industry for low-skill (high school graduate and less) individuals using statewide California data from the Quarterly Workforce Indicator (QWI) dataset for the years 1993-2009.

# The California Parole System

## Background

- ▶ determinate sentencing with “good time” behavior credits
- ▶ mandatory parole supervision
- ▶ required to return to county of residence
- ▶ usually 3 years of supervision, but approximately 15% released early from parole after 13 months ⇒ *focus on outcomes within 1yr*

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# Offender Data - NCRP

National Corrections Reporting Program (NCRP), 1993-2009

1. prison admissions
2. prison releases
3. parole releases

I combine (2) and (3) and observe whether a person released from prison in CA is returned to prison before completing his parole supervision.

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Average Characteristics of CA  
Prisoners Released, 1993-2008

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*Return Rates*

Return rate (w/in 3 years)	0.68 (0.07)
Return rate (w/in 1 year)	0.53 (0.09)

*Demographic Characteristics*

Male	0.90 (0.02)
Age at prison release	35.23 (1.37)
Black	0.30 (0.16)
Hispanic	0.30 (0.14)
White (non black, non hispanic)	0.40 (0.17)

*Crime and Incarceration Characteristics*

Sentence length (months)	37.93 (4.28)
Percent of sentence served	0.59 (0.07)
Prior felony conviction	0.25 (0.09)
First parole term	0.36 (0.07)

*Type of Crime (most serious)*

Drug	0.33 (0.06)
Property	0.32 (0.04)
Violent	0.23 (0.04)
Observations	1,915,180

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# Labor Market Data

## Quarterly Workforce Indicator (QWI) Data

- ▶ aggregated version of LEHD program (efforts to merge individual census records to administrative employment and earnings data)
- ▶ QWI data include quarterly employment totals, job accession and separation totals, and average earnings by county, industry, and skill level.

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CA Quarterly Labor Market Measures  
by Commuting Zone, 1993-2008

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All New Hires	118.53 (40.22)
Low-Skill New Hires	42.72 (28.75)
High-Skill New Hires	35.91 (9.74)
Construction Low-Skill New Hires	3.57 (1.24)
Manufacturing Low-Skill New Hires	2.29 (1.36)
Food Services Low-Skill New Hires	3.52 (1.18)
Retail Low-Skill New Hires	3.40 (0.94)
Admin/Waste Low-Skill New Hires	3.98 (1.87)
Other Services Low-Skill New Hires	2.08 (1.02)
All Other Low-Skill New Hires	23.15 (28.25)
Unemployment Rate	9.06 (5.04)
Low-Skill Share of Employment	0.36 (0.07)
Female Share of Employment	0.46 (0.03)
Observations	1,020

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# Empirical Methodology

$$\ln(\text{Recid}_{czt}) = \alpha + \beta^k \text{New Hires}_{zt}^{s,k} + \mathbf{X}'_{czt} \Pi + \mathbf{Z}'_{czt} \Gamma + \tau_t + \phi_c + \lambda_{ct} + \epsilon_{czt}$$

- ▶ release cohort:  $c$  indexing the county of release (as proxied by the county of sentencing),  $z$  indexing the commuting zone, and  $t$  indexing the quarter-of-release.
- ▶  $\ln(\text{Recid}_{czt})$ : natural log of the number of former inmates within each release cohort returning to prison within one year.
- ▶  $\text{New Hires}_{zt}^{s,k}$ : the number of workers (per 1000 working-age population) of skill-level  $s$  starting a new job within industry  $k$  and commuting zone  $z$ , during quarter  $t$
- ▶  $\mathbf{X}'_{czt}$ : release cohort characteristics (percent black, percent hispanic, average age, percent with a prior felony conviction, average sentence length, average percent of sentence served, as well as the percent of offenders in each crime category)
- ▶  $\mathbf{Z}'_{czt}$ : county-level characteristics (low-skill and female share of total employment, percent in poverty, median household income (CPI adjusted), the natural log of the police force size, and the arrest clearance rate for total offenses.)
- ▶ fixed effects: year-by-quarter of release ( $\tau_t$ ), county of sentencing, ( $\phi_c$ ) county-specific linear time trend ( $\lambda_{ct}$ )

	(1)	(2)	(3)
New Hires	-0.000 (0.000)	0.000 (0.000)	-0.000 (0.000)
<i>Total Hires by Skill Level</i>			
Low-Skill New Hires	-0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
High-Skill New Hires	0.000 (0.000)	0.000 (0.000)	0.000 (0.001)
<i>Total New Hires by Skill Level and Industry</i>			
Construction Low-Skill New Hires	-0.015** (0.005)	-0.013*** (0.004)	-0.018*** (0.003)
Manufacturing Low-Skill New Hires	-0.004 (0.003)	-0.006* (0.003)	-0.010** (0.004)
Food Services Low-Skill New Hires	0.006 (0.005)	0.002 (0.006)	0.004 (0.009)
Retail Low-Skill New Hires	0.004 (0.005)	0.002 (0.005)	0.000 (0.006)
Admin/Waste Low-Skill New Hires	0.001 (0.002)	0.000 (0.002)	-0.001 (0.001)
Other Services Low-Skill New Hires	0.003 (0.002)	0.002 (0.002)	-0.000 (0.002)
All Other Low-Skill New Hires	0.000 (0.000)	-0.000 (0.000)	0.001 (0.001)
High-Skill New Hires	0.000 (0.001)	0.001* (0.001)	0.002* (0.001)
Observations (cohorts)	2,944	2,944	2,944
Number of Individuals	1,714,664	1,714,664	1,714,664
Average Return Rate	0.573	0.573	0.573
County and Year-Quarter FE	Y	Y	Y
County Linear Trend	Y	Y	Y
County Quadratic Trend	N	Y	Y
County-Quarter FE	N	N	Y

	(1) Hires Prior to Release	(2) Include Crime Rates	(3) Include Lag Dep Var	(4) Dep Var = Ln(Released)
<u>Quarter of Release</u>				
Construction Low-Skill New Hires	-0.015*** (0.003)	-0.016*** (0.002)	-0.016*** (0.003)	-0.002 (0.008)
Manufacturing Low-Skill New Hires	-0.011*** (0.004)	-0.010** (0.004)	-0.009** (0.004)	0.004 (0.004)
Food Services Low-Skill New Hires	0.005 (0.010)	0.003 (0.009)	0.004 (0.009)	-0.004 (0.011)
Retail Low-Skill New Hires	-0.001 (0.006)	-0.002 (0.006)	0.000 (0.005)	0.010* (0.005)
Admin/Waste Low-Skill New Hires	-0.001 (0.002)	-0.001 (0.002)	-0.001 (0.001)	0.000 (0.002)
Other Services Low-Skill New Hires	0.001 (0.003)	0.000 (0.003)	-0.000 (0.002)	0.002 (0.005)
All Other Low-Skill New Hires	0.001 (0.001)	0.000 (0.001)	0.000 (0.000)	0.000 (0.001)
High-Skill New Hires	0.001 (0.001)	0.002* (0.001)	0.002* (0.001)	-0.002** (0.001)
<u>Quarter Prior to Release</u>				
Construction Low-Skill New Hires	-0.003 (0.005)			
Manufacturing Low-Skill New Hires	0.002 (0.004)			
Property Crime Rate		0.001 (0.001)		
Violent Crime Rate		0.000 (0.001)		
Drug Arrest Rate		0.005 (0.004)		
Ln(Recid)			0.084** (0.033)	
Observations (cohorts)	2,898	2,898	2,898	2,898

	(1)	(2)	(3)	(4)	(5)
	Drug	Property	Violent	First	Repeat
Construction Low-Skill New Hires	-0.024*** (0.005)	-0.018** (0.006)	-0.004 (0.007)	-0.019** (0.007)	-0.017*** (0.003)
Manufacturing Low-Skill New Hires	-0.015** (0.006)	-0.009 (0.008)	-0.016** (0.007)	-0.022** (0.009)	-0.008* (0.004)
Food Services Low-Skill New Hires	0.013 (0.015)	-0.000 (0.010)	0.012 (0.012)	0.005 (0.015)	0.006 (0.011)
Retail Low-Skill New Hires	0.005 (0.006)	-0.001 (0.004)	-0.004 (0.009)	-0.004 (0.010)	0.001 (0.005)
Admin/Waste Low-Skill New Hires	-0.004 (0.004)	0.005* (0.002)	-0.007* (0.003)	-0.007 (0.004)	0.001 (0.001)
Other Services Low-Skill New Hires	0.009 (0.007)	-0.003 (0.004)	-0.008*** (0.003)	0.000 (0.005)	0.000 (0.003)
All Other Low-Skill New Hires	0.002*** (0.001)	0.001 (0.001)	-0.000 (0.001)	0.001 (0.001)	0.000 (0.000)
High-Skill New Hires	0.000 (0.001)	0.000 (0.001)	0.002** (0.001)	0.004** (0.002)	0.001 (0.001)
Observations (cohorts)	2,911	2,936	2,923	2,929	2,942
Number of Individuals	555,620	542,247	416,826	572,107	1,142,502
Average Return Rate	0.537	0.647	0.544	0.413	0.652
County and Year-Quarter FE	Y	Y	Y	Y	Y
County Linear Trend	Y	Y	Y	Y	Y
County Quadratic Trend	Y	Y	Y	Y	Y
County-Quarter FE	Y	Y	Y	Y	Y

\* p < 0.1, \*\* p < 0.05, \*\*\* p < 0.01. Standard errors clustered at the CZ level.

	(1)	(2)	(3)	(4)
	Black	Hispanic	White	Female
Construction Low-Skill New Hires	-0.020*** (0.004)	-0.015* (0.008)	-0.014*** (0.004)	-0.004 (0.013)
Manufacturing Low-Skill New Hires	-0.012 (0.008)	-0.025* (0.014)	-0.001 (0.003)	0.014 (0.008)
Food Services Low-Skill New Hires	0.004 (0.010)	0.010 (0.020)	0.006 (0.011)	0.004 (0.029)
Retail Low-Skill New Hires	-0.010 (0.006)	0.009 (0.011)	0.003 (0.007)	0.005 (0.019)
Admin/Waste Low-Skill New Hires	-0.006*** (0.001)	-0.005 (0.006)	0.001 (0.002)	-0.009 (0.008)
Other Services Low-Skill New Hires	0.002 (0.005)	-0.005 (0.009)	-0.002 (0.002)	0.025*** (0.008)
All Other Low-Skill New Hires	0.001* (0.001)	-0.000 (0.001)	0.001 (0.001)	0.002 (0.002)
High-Skill New Hires	0.002** (0.001)	0.003 (0.002)	0.000 (0.001)	-0.002 (0.003)
Observations (cohorts)	2,638	2,686	2,941	2,717
Number of Individuals	511,845	532,680	669,577	182,083
Average Return Rate	0.662	0.490	0.588	0.489
County and Year-Quarter FE	Y	Y	Y	Y
County Linear Trend	Y	Y	Y	Y
County Quadratic Trend	Y	Y	Y	Y
County-Quarter FE	Y	Y	Y	Y

\*  $p < 0.1$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ . Standard errors clustered at the CZ level.

	(1)	(2)	(3)	(4)	(5)
	18 to 25	25 to 35	35 to 45	45 to 55	55 to 65
Construction Low-Skill New Hires	-0.012 (0.009)	-0.018*** (0.006)	-0.019** (0.007)	-0.027* (0.014)	0.031 (0.022)
Manufacturing Low-Skill New Hires	-0.006 (0.009)	-0.012 (0.008)	-0.018*** (0.005)	0.004 (0.008)	-0.009 (0.019)
Food Services Low-Skill New Hires	0.010 (0.014)	0.009 (0.012)	0.001 (0.014)	0.019 (0.017)	-0.053 (0.055)
Retail Low-Skill New Hires	-0.004 (0.012)	0.004 (0.008)	-0.006 (0.007)	-0.000 (0.012)	0.007 (0.040)
Admin/Waste Low-Skill New Hires	-0.001 (0.006)	-0.000 (0.003)	0.000 (0.003)	-0.004 (0.005)	0.001 (0.014)
Other Services Low-Skill New Hires	-0.010 (0.008)	-0.002 (0.003)	0.005 (0.004)	0.002 (0.006)	-0.016 (0.013)
All Other Low-Skill New Hires	0.003** (0.001)	0.000 (0.001)	0.002*** (0.001)	0.000 (0.001)	-0.002 (0.003)
High-Skill New Hires	-0.000 (0.002)	0.001 (0.001)	0.002 (0.001)	0.001 (0.002)	-0.002 (0.005)
Observations (cohorts)	2,837	2,937	2,928	2,829	2,167
Number of Individuals	184,372	607,284	514,209	217,077	37,567
Average Return Rate	0.631	0.580	0.578	0.542	0.530
County and Year-Quarter FE	Y	Y	Y	Y	Y
County Linear Trend	Y	Y	Y	Y	Y
County Quadratic Trend	Y	Y	Y	Y	Y
County-Quarter FE	Y	Y	Y	Y	Y

\*  $p < 0.1$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ . Standard errors clustered at the CZ level.

## Summary

- ▶ results support predictions from standard theoretical models that relate crime to economic incentives
- ▶ released prisoners respond to *certain types* of labor market opportunities
- ▶ results help to explain why prior research does not find significant effects
- ▶ programs that create more *good* job opportunities for individuals searching for work with a criminal record can reduce incarceration rates