

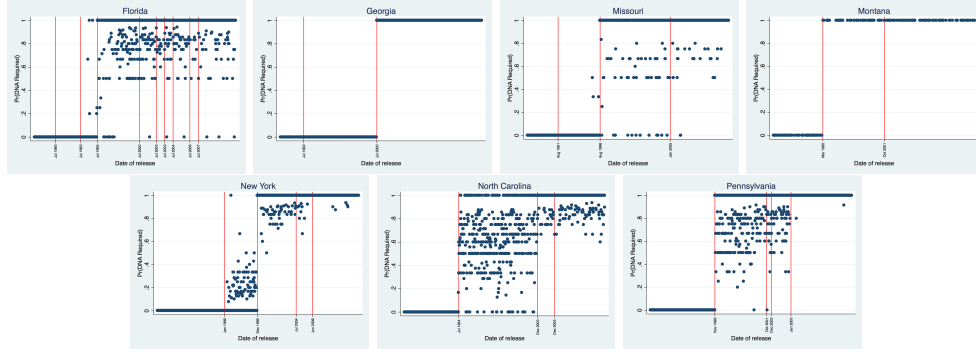
THE EFFECTS OF DNA DATABASES ON CRIME:
Online Appendix

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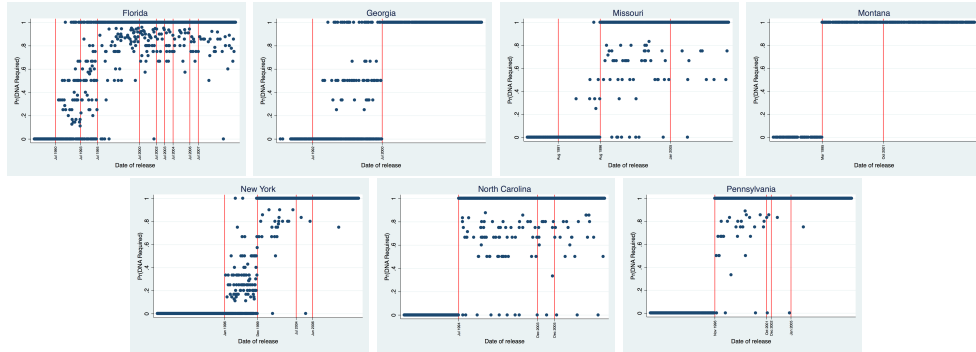
A Supplemental Figures and Tables

Figure A-1: DNA requirement for murder convicts



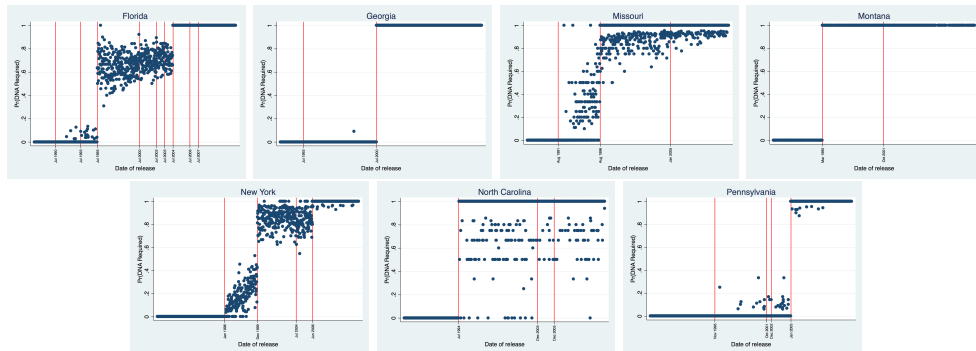
Notes: All graphs show the share of murder convicts released in a given week who were required to submit a DNA sample (based on conviction details and state law). Vertical lines show dates of database expansions. Date range: January 1, 1988, to December 31, 2011. Data source: State DOCs.

Figure A-2: DNA requirement for rape convicts



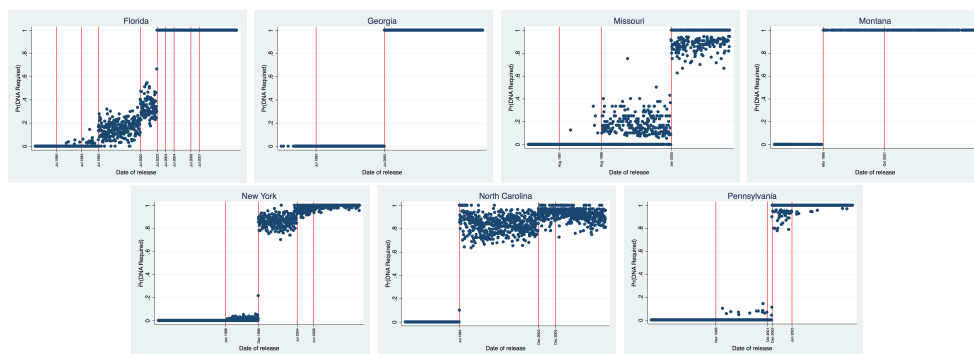
Notes: All graphs show the share of rape convicts released in a given week who were required to submit a DNA sample (based on conviction details and state law). Vertical lines show dates of database expansions. Date range: January 1, 1988, to December 31, 2011. Data source: State DOCs.

Figure A-3: DNA requirement for aggravated assault convicts



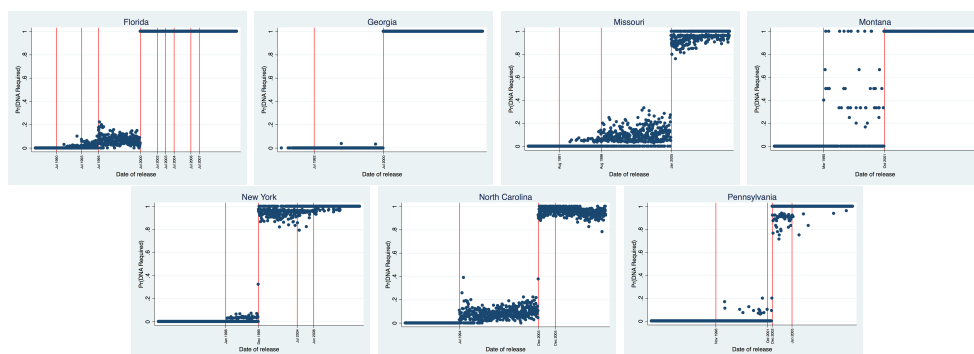
Notes: All graphs show the share of aggravated assault convicts released in a given week who were required to submit a DNA sample (based on conviction details and state law). Vertical lines show dates of database expansions. Date range: January 1, 1988, to December 31, 2011. Data source: State DOCs.

Figure A-4: DNA requirement for robbery convicts



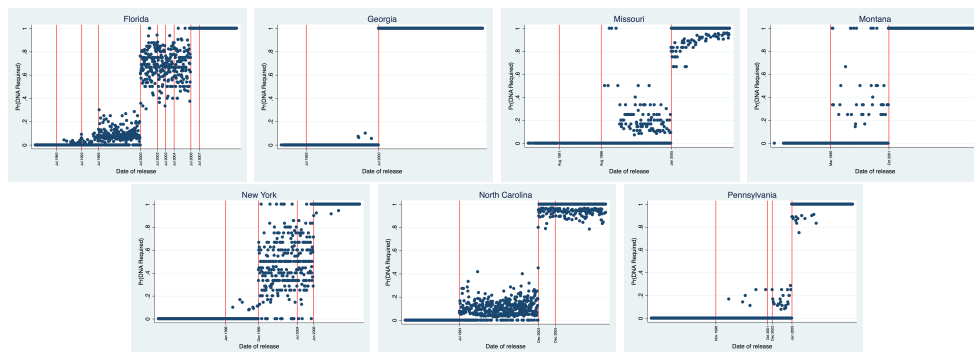
Notes: All graphs show the share of robbery convicts released in a given week who were required to submit a DNA sample (based on conviction details and state law). Vertical lines show dates of database expansions. Date range: January 1, 1988, to December 31, 2011. Data source: State DOCs.

Figure A-5: DNA requirement for burglary convicts



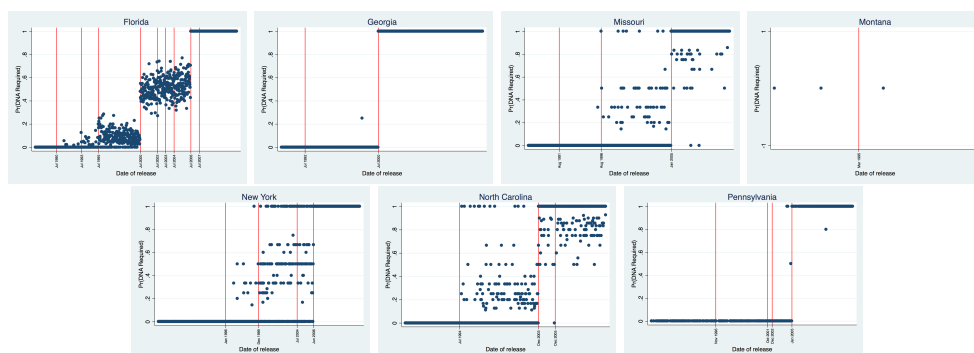
Notes: All graphs show the share of burglary convicts released in a given week who were required to submit a DNA sample (based on conviction details and state law). Vertical lines show dates of database expansions. Date range: January 1, 1988, to December 31, 2011. Data source: State DOCs.

Figure A-6: DNA requirement for larceny convicts



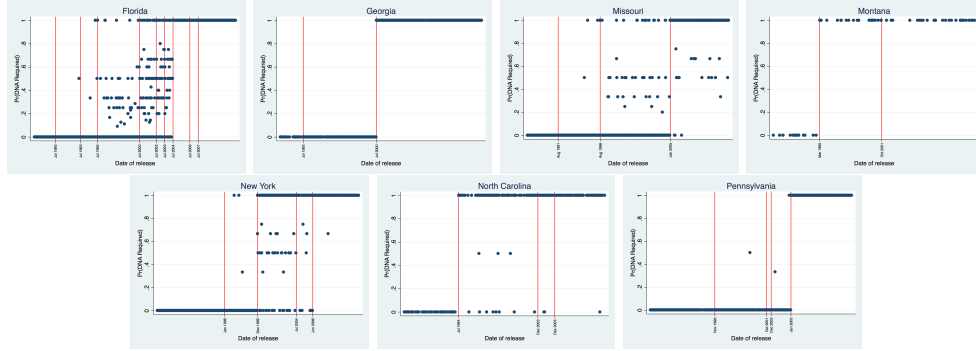
Notes: All graphs show the share of larceny convicts released in a given week who were required to submit a DNA sample (based on conviction details and state law). Vertical lines show dates of database expansions. Date range: January 1, 1988, to December 31, 2011. Data source: State DOCs.

Figure A-7: DNA requirement for vehicle theft convicts



Notes: All graphs show the share of vehicle theft convicts released in a given week who were required to submit a DNA sample (based on conviction details and state law). Vertical lines show dates of database expansions. Date range: January 1, 1988, to December 31, 2011. Data source: State DOCs.

Figure A-8: DNA requirement for arson convicts



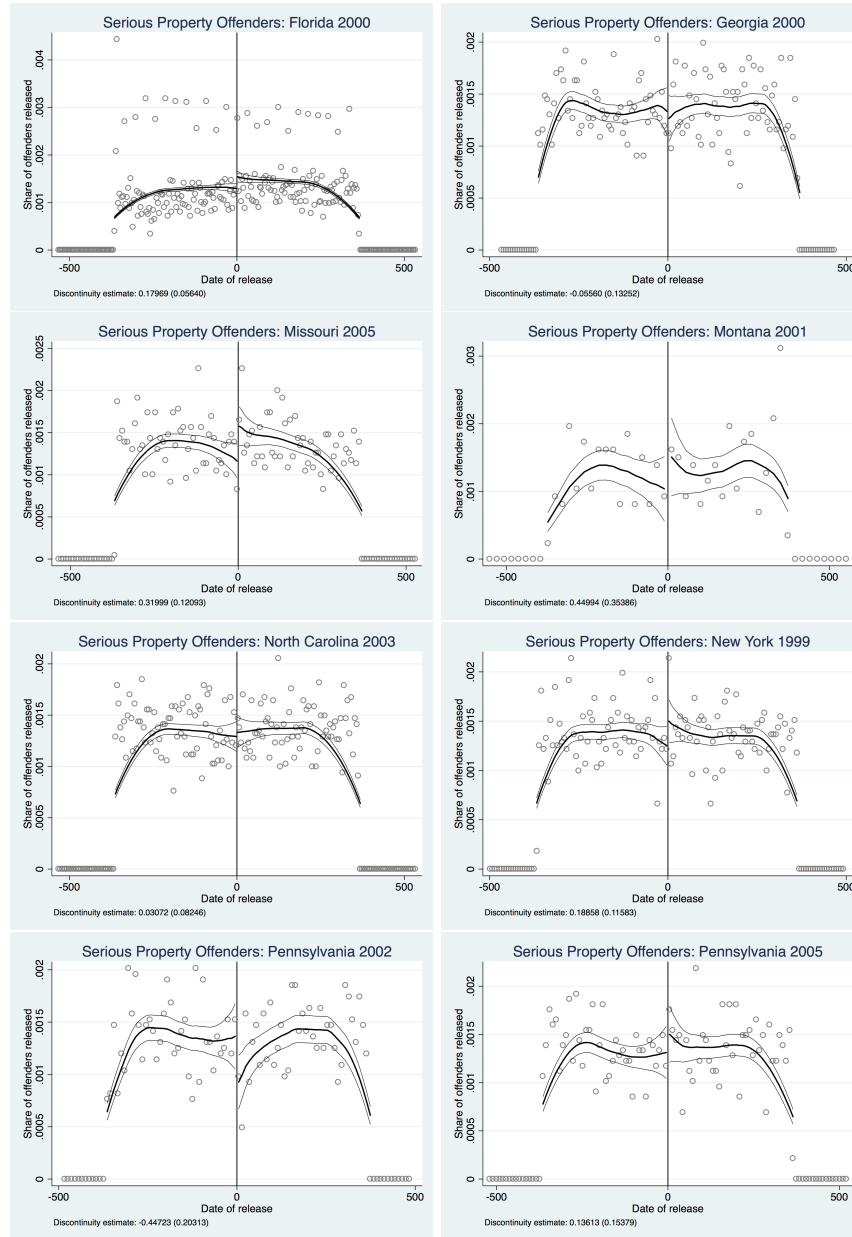
Notes: All graphs show the share of arson convicts released in a given week who were required to submit a DNA sample (based on conviction details and state law). Vertical lines show dates of database expansions. Date range: January 1, 1988, to December 31, 2011. Data source: State DOCs.

Figure A-9: Predicted probability of a new conviction within 5 years, based on observables



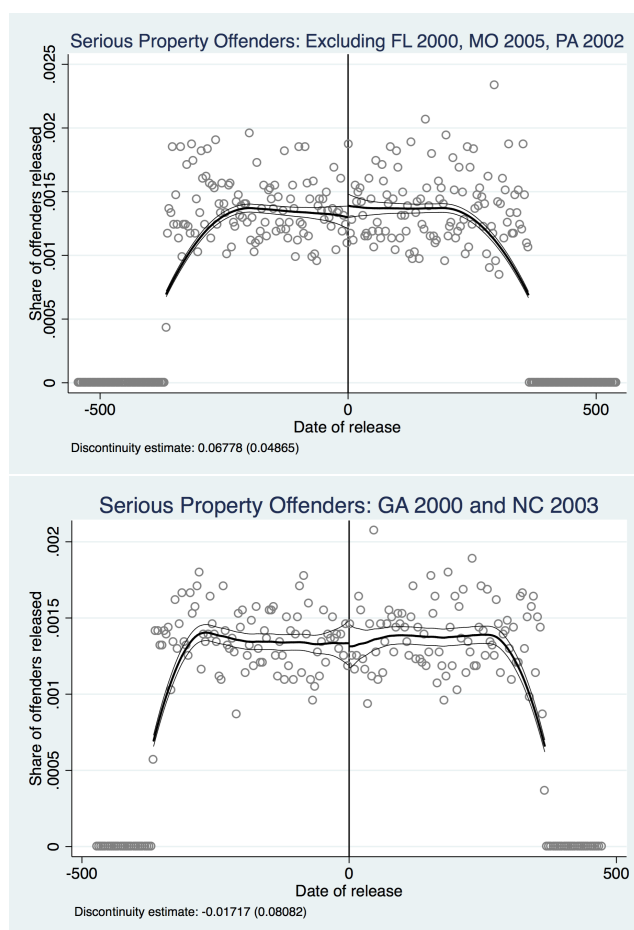
Notes: Bandwidth: 365 days. Date 0 is the date of the relevant database expansion. Data source: State DOCs and author's calculations, as described in the text.

Figure A-10: McCrary test: Serious property offense convicts, by database expansion



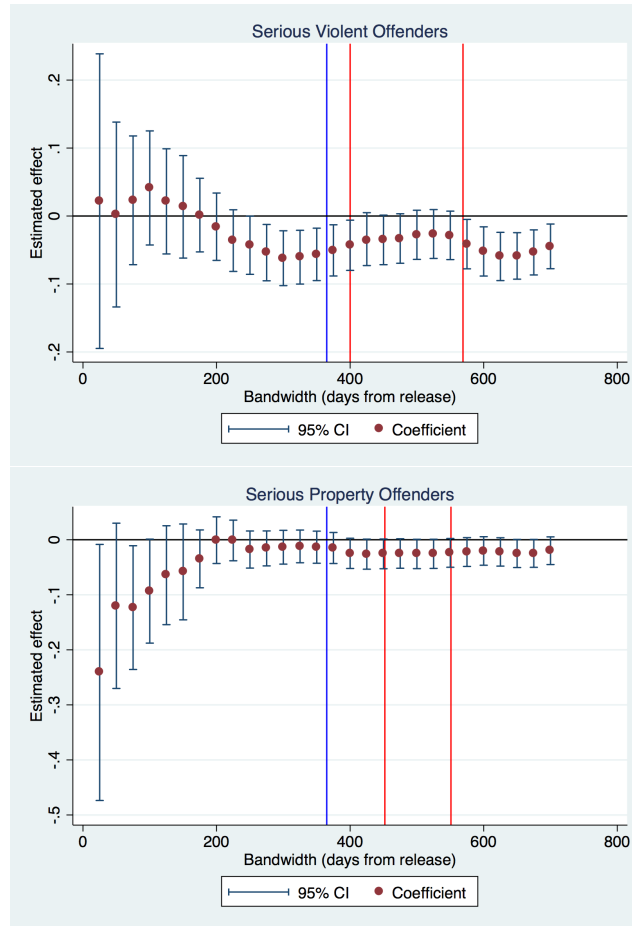
Notes: Date 0 is the date of the relevant database expansion. Bandwidth: 365 days. Data source: State DOCS.

Figure A-11: McCrary test: Serious property offense convicts, robustness samples



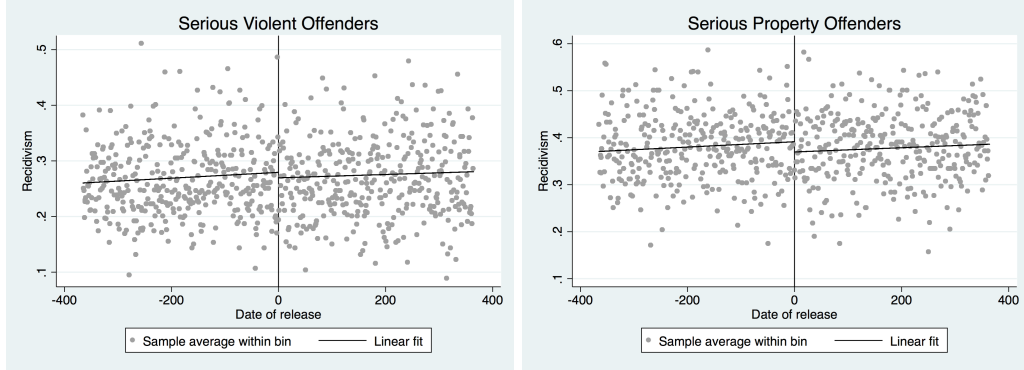
Notes: Date 0 is the date of the relevant database expansion. Bandwidth: 365 days. Data source: State DOCs.

Figure A-12: Estimated effect of DNA requirement on recidivism as bandwidth increases



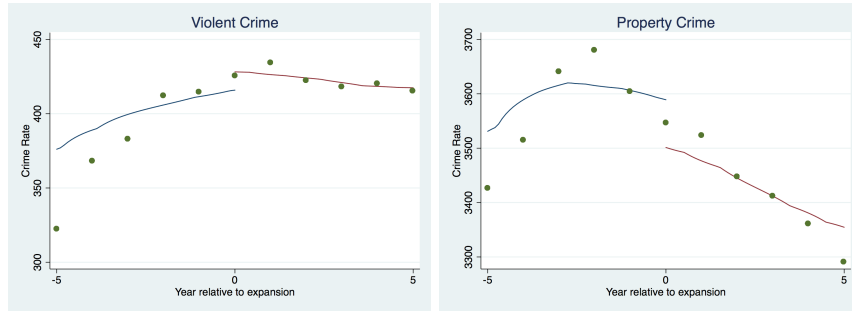
Notes: Date 0 is the date of the relevant database expansion. Blue line is the preferred bandwidth (365 days). The first red line is the IK optimal bandwidth. The second red line is the IK optimal bandwidth for fuzzy RDs. Data source: State DOCs.

Figure A-13: Raw data: Probability of a new conviction within 5 years



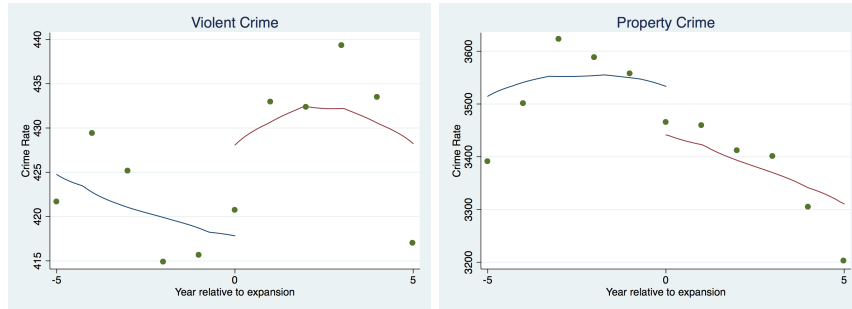
Notes: Bandwidth: 365 days. Date 0 is the date of the relevant database expansion. Data source: State DOCs and author's calculations, as described in the text.

Figure A-14: Crime rates relative to date of "burglary convict" expansion



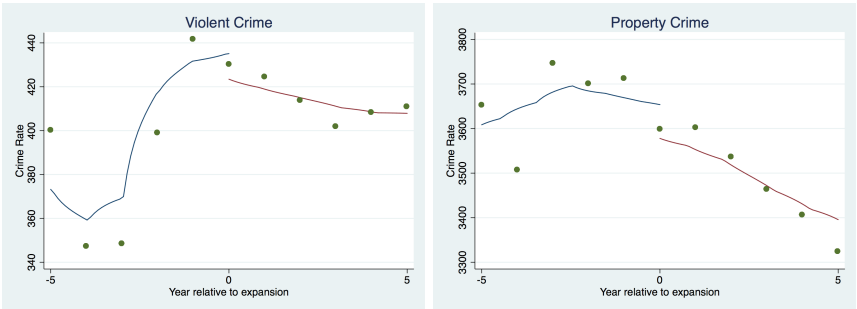
Notes: Year 0 is the year of the relevant database expansion.

Figure A-15: Crime rates relative to date of "all felony convict" expansion



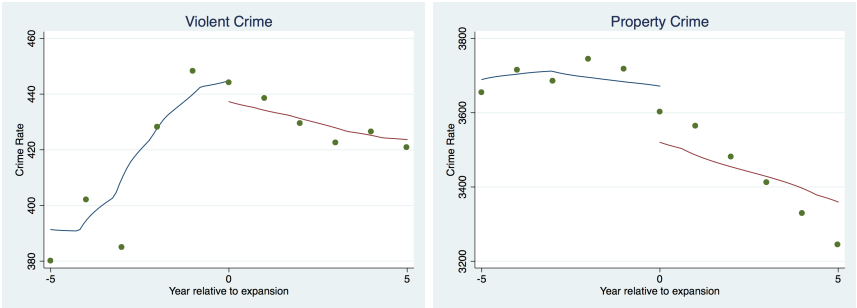
Notes: Year 0 is the year of the relevant database expansion.

Figure A-16: Crime rates relative to date of "violent inmate" expansion



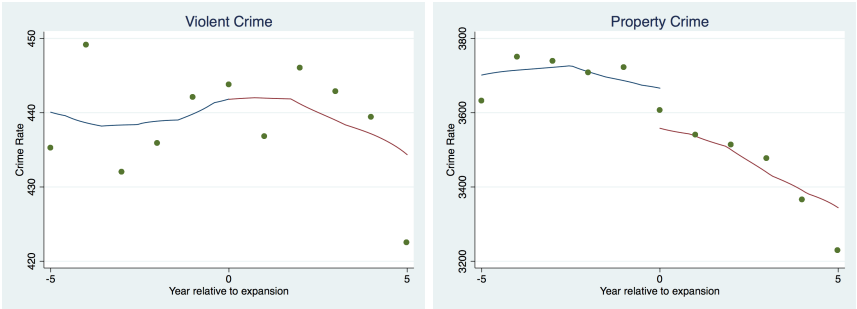
Notes: Year 0 is the year of the relevant database expansion.

Figure A-17: Crime rates relative to date of "burglary inmate" expansion



Notes: Year 0 is the year of the relevant database expansion.

Figure A-18: Crime rates relative to date of "all felony inmate" expansion



Notes: Year 0 is the year of the relevant database expansion.

Table A-1: Effect of DNA requirement on recidivism: Serious property offender samples that satisfy McCrary test

	3-year Recidivism				5-year Recidivism							
	Reduced form (OLS)		Fuzzy RD (2SLS)		Reduced form (OLS)		Fuzzy RD (2SLS)					
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Excluding FL 2000, MO 2005, and PA 2002 expansions												
Post-Expansion	-0.0110	-0.0124	-0.0103				-0.0285*	-0.0272	-0.0243			
	(0.0150)	(0.0166)	(0.0163)				(0.0163)	(0.0182)	(0.0178)			
Post X Release Date	-0.0001	-0.0001	-0.0001				-0.0001	-0.0001	-0.0001			
	(0.0001)	(0.0001)	(0.0001)				(0.0001)	(0.0001)	(0.0001)			
DNA required				-0.0135	-0.0152	-0.0128				-0.0336*	-0.0320	-0.0289
				(0.0171)	(0.0185)	(0.0183)				(0.0185)	(0.0203)	(0.0201)
DNA X Release Date				-0.0001	-0.0001	0.0001				-0.0002	-0.0002	-0.0001
				(0.0001)	(0.0001)	(0.0001)				(0.0001)	(0.0001)	(0.0001)
Observations	17218											
Pre-Expansion Mean	0.2788						0.3780					
GA 2000 and NC 2003 expansions only												
Post-Expansion	0.0036	0.0120	0.0123				-0.0206	-0.0128	-0.0122			
	(0.0194)	(0.0215)	(0.0211)				(0.0203)	(0.0227)	(0.0222)			
Post X Release Date	-0.0001	-0.0001	-0.0000				-0.0001*	-0.0002	-0.0002			
	(0.0001)	(0.0001)	(0.0001)				(0.0001)	(0.0001)	(0.0001)			
DNA required				0.0031	0.0116	0.0121				-0.0230	-0.0144	-0.0135
				(0.0207)	(0.0223)	(0.0219)				(0.0217)	(0.0236)	(0.0231)
DNA X Release Date				-0.0002	-0.0002	-0.0000				-0.0002	-0.0002	-0.0002
				(0.0001)	(0.0001)	(0.0001)				(0.0001)	(0.0001)	(0.0001)
Observations	10736											
Pre-Expansion Mean	0.3628						0.4677					
Controls:												
State X Year FEs	X	X	X	X	X	X	X	X	X	X	X	X
Month FEs		X	X	X	X	X		X	X		X	X
Demographic			X	X	X	X			X		X	X
Criminal History			X	X	X	X			X		X	X

Note: Robust standard errors are shown in parentheses. * $p < .10$, ** $p < .05$, *** $p < .01$. Bandwidth is 365 days. Coefficients show marginal effect of DNA requirement on the probability of a subsequent conviction. Data source: Departments of Correction in Florida, Georgia, Missouri, Montana, New York, North Carolina, Pennsylvania. Sample: Convicts released before 2007 and within the specified number of days (before or after) DNA database expansion. All regressions include state FEs, year FEs, and running variable (recentered released date).

Table A-2: Effect of DNA requirement on recidivism: Dropping individual database expansions

Serious Violent Convicts													
5-year Recidivism: Fuzzy RD (2SLS)													
	Drop	Drop	Drop	Drop	Drop	Drop	Drop	Drop	Drop	Drop	Drop	Drop	Drop
FL 1995	FL 2000	FL 2002	FL 2004	GA 2000	MO 1996	MO 2005	MT 1995	NY 1999	NC 1994	PA 1996	PA 2002	PA 2005	
DNA required	-0.0462** (0.0194)	-0.0355* (0.0200)	-0.0453*** (0.0173)	-0.0511** (0.0234)	-0.0434** (0.0194)	-0.0385** (0.0192)	-0.0468** (0.0192)	-0.0433* (0.0222)	-0.0486** (0.0217)	-0.0468** (0.0192)	-0.0379* (0.0196)	-0.0526*** (0.0195)	
DNA X Release Date	-0.0000 (0.0001)	-0.0001 (0.0001)	-0.0000 (0.0001)	-0.0001 (0.0001)	-0.0000 (0.0001)	0.0000 (0.0001)	-0.0000 (0.0001)	-0.0001 (0.0002)	-0.0000 (0.0001)	-0.0000 (0.0001)	0.0000 (0.0001)	-0.0000 (0.0001)	
Observations	46045	41535	41765	47173	49088	47978	50272	41199	47813	48329	46993	46925	
Pre-Expansion Mean	0.2387	0.2543	0.2541	0.2746	0.2695	0.2715	0.2688	0.3040	0.2676	0.2741	0.2785	0.2812	
Controls:													
State X Year FEs	X	X	X	X	X	X	X	X	X	X	X	X	X
Serious Property Convicts													
5-year Recidivism: Fuzzy RD (2SLS)													
	Drop	Drop	Drop	Drop	Drop	Drop	Drop	Drop	Drop	Drop	Drop	Drop	Keep
FL 2000	GA 2000	MO 2005	MT 2001	NY 1999	NC 2003	PA 2002	PA 2005	PA 2002	FL 2000, MO 2005, PA 2002	GA 2000, NC 2003			
DNA required	-0.0322* (0.0177)	-0.0274* (0.0166)	-0.0248* (0.0144)	-0.0213 (0.0141)	-0.0263* (0.0150)	-0.0222 (0.0149)	-0.0248* (0.0143)	-0.0204 (0.0141)	-0.0336* (0.0185)	-0.0336* (0.0185)	-0.0230 (0.0217)	-0.0230 (0.0217)	
DNA X Release Date	-0.0001 (0.0001)	-0.0001 (0.0001)	-0.0001 (0.0001)	-0.0001 (0.0001)	-0.0000 (0.0001)	-0.0001 (0.0001)	-0.0001 (0.0001)	-0.0001 (0.0001)	-0.0002 (0.0001)	-0.0002 (0.0001)	-0.0002 (0.0001)	-0.0002 (0.0001)	
Observations	22091	30616	31887	34532	30750	28482	33074	32987	17218	10736	10736	10736	
Pre-Expansion Mean	0.3594	0.3923	0.3879	0.3785	0.4079	0.3355	0.3873	0.3886	0.3780	0.4677	0.4677	0.4677	
Controls:													
State X Year FEs	X	X	X	X	X	X	X	X	X	X	X	X	X

Note: Robust standard errors are shown in parentheses. * $p < .10$, ** $p < .05$, *** $p < .01$. Bandwidth is 365 days. Coefficients show marginal effect of DNA requirement on the probability of a subsequent conviction. Data source: Departments of Correction in Florida, Georgia, Missouri, Montana, New York, North Carolina, Pennsylvania. Sample: Convicts released before 2007 and within the specified number of days (before or after) DNA database expansion. All regressions include state FEs, year FEs, and running variable (recently released date).

Table A-3: Effect of DNA requirement on recidivism: Varying the running variable function

5-year Recidivism								
	linear	Reduced form (OLS)				Fuzzy RD (2SLS)		
		quadratic	cubic	quartic	linear	quadratic	cubic	quartic
Serious Violent Convicts								
Post-Expansion	-0.0192** (0.0082)	-0.0127 (0.0115)	0.0091 (0.0152)	0.0182 (0.0189)				
Post X Release Date	-0.0000 (0.0000)	0.0001 (0.0001)	0.0005 (0.0004)	0.0006 (0.0007)				
Post X (Release Date) ²		0.0000 (0.0000)	0.0000 (0.0000)	0.0000 (0.0000)				
Post X (Release Date) ³			0.0000 (0.0000)	0.0000 (0.0000)				
Post X (Release Date) ⁴				0.0000 (0.0000)				
DNA required					-0.0449** (0.0191)	-0.0277 (0.0269)	0.1282 (0.1675)	-0.0271 (0.0603)
DNA X Release Date					-0.0000 (0.0001)	0.0003 (0.0002)	0.0011 (0.0010)	0.0011* (0.0007)
DNA X (Release Date) ²						0.0000 (0.0000)	0.0000 (0.0000)	-0.0000 (0.0000)
DNA X (Release Date) ³							-0.0000 (0.0000)	-0.0000 (0.0000)
DNA X (Release Date) ⁴								-0.0000* (0.0000)
Observations	50465							
Serious Property Convicts								
Post-Expansion	-0.0184* (0.0109)	-0.0150 (0.0154)	-0.0335 (0.0203)	-0.0381 (0.0252)				
Post X Release Date	-0.0000 (0.0001)	0.0002 (0.0002)	0.0004 (0.0005)	-0.0008 (0.0010)				
Post X (Release Date) ²		0.0000 (0.0000)	-0.0000 (0.0000)	-0.0000 (0.0000)				
Post X (Release Date) ³			0.0000 (0.0000)	-0.0000 (0.0000)				
Post X (Release Date) ⁴				-0.0000 (0.0000)				
DNA required					-0.0239* (0.0140)	-0.0190 (0.0199)	-0.0379 (0.0250)	-0.0353 (0.0291)
DNA X Release Date					-0.0001 (0.0001)	0.0003 (0.0002)	0.0005 (0.0006)	0.0004 (0.0006)
DNA X (Release Date) ²						0.0000 (0.0000)	-0.0000 (0.0000)	0.0000 (0.0000)
DNA X (Release Date) ³							0.0000 (0.0000)	-0.0000 (0.0000)
DNA X (Release Date) ⁴								0.0000 (0.0000)
Observations	34917							

Note: Standard errors are shown in parentheses. * $p < .10$, ** $p < .05$, *** $p < .01$. Coefficients show marginal effect of DNA requirement on the probability of a subsequent conviction. Specifications include a linear, quadratic, cubic, or quartic function of the running variable (recentered release date), as specified in the column headings. Data source: Departments of Correction in Florida, Georgia, Missouri, Montana, New York, North Carolina, Pennsylvania. Sample: Convicts released before 2007 and within 365 days (before or after) DNA database expansion. All regressions include state FEs, year FEs, and running variable (recentered released date).

Table A-4: Effective Dates of State DNA Database Expansions

	Sex Offenses		Violent Offenses		Burglary		All Felonies	
	Convicts	Inmates	Convicts	Inmates	Convicts	Inmates	Convicts	Inmates
Alabama	1994	1994	1994	1994	1994	1994	1994	1994
Alaska	1996	N/A	1996	N/A	2001	N/A	2003	N/A
Arizona	1993	1993	2001	2001	2001	2001	2004	2004
Arkansas	1995	1995	1997	1997	2001	N/A	2003	N/A
California	1994	2004	1994	2004	2004	2004	2004	2004
Colorado	1988	2000	2000	2000	2000	2000	2002	2002
Connecticut	1994	1994	2003	N/A	2003	N/A	2003	N/A
Delaware	1994	1994	2003	N/A	2003	N/A	2003	N/A
Florida	1990	1992	1993	1993	2000	2000	2005	2005
Georgia	1992	2000	2000	2000	2000	2000	2000	2000
Hawaii	1991	2005	1991	2005	2005	2005	2005	2005
Idaho	1996	1996	1996	1996	2004	2004	2013	2013
Illinois	1990	1992	2001	2001	2001	2001	2002	2002
Indiana	1996	1996	1996	1996	1996	1996	2005	2005
Iowa	1995	2005	2005	2005	2005	2005	2005	2005
Kansas	1992	N/A	1992	N/A	2001	N/A	2002	N/A
Kentucky	1992	N/A	2003	N/A	2003	N/A	2008	N/A
Louisiana	1999	1999	1999	1999	2003	2003	2003	2003
Maine	1996	N/A	1996	N/A	1996	N/A	2001	N/A
Maryland	1994	N/A	1999	N/A	2002	N/A	2002	N/A
Massachusetts	1998	1998	1998	1998	1998	1998	2004	N/A
Michigan	1995	2001	1996	2001	2001	2001	2001	2001
Minnesota	1990	1992	1998	1998	2000	2000	2002	2002
Mississippi	1996	1996	2003	2003	2003	2003	2003	2003
Missouri	1991	1996	1991	1996	2005	2005	2005	2005
Montana	1995	1995	1995	1995	2001	2001	2001	2001
Nebraska	1997	1997	1997	1997	2006	2006	2010	2010
Nevada	1990	N/A	1995	N/A	1995	N/A	2007	N/A
New Hampshire	1996	1996	2003	2003	2003	2003	2010	2010
New Jersey	1995	1995	2000	2000	2003	2003	2003	2003
New Mexico	1998	1998	1998	1998	1998	1998	1998	1998
New York	1996	2006	1996	2006	1999	2006	2006	2006
North Carolina	1994	1994	1994	1994	2003	2003	2003	2003
North Dakota	1995	1995	2001	2001	2009	N/A	2009	N/A
Ohio	1996	1996	1996	1996	2002	2002	2005	2005
Oklahoma	1996	1996	1996	1996	2001	2001	2006	2006
Oregon	1991	1992	1991	1992	1999	N/A	2002	N/A
Pennsylvania	1996	1996	1996	1996	2002	2002	2005	2005
Rhode Island	1998	N/A	1998	N/A	2001	N/A	2004	N/A
South Carolina	1999	1999	2000	2000	2000	2000	2004	2004
South Dakota	1997	N/A	2000	N/A	2000	N/A	2003	N/A
Tennessee	1991	N/A	1998	N/A	1998	N/A	1998	N/A
Texas	1995	2001	1999	2001	1999	2001	2001	2001
Utah	1996	2002	1996	2002	2002	2002	2002	2002
Vermont	1998	1998	1998	1998	1998	1998	2005	2005
Virginia	1989	1992	1989	1992	1990	1992	1990	1992
Washington	1990	2008	1990	2008	2002	2008	2002	2008
West Virginia	1995	1995	1995	1995	2000	N/A	N/A	N/A
Wisconsin	1993	N/A	1993	N/A	2000	N/A	2000	N/A
Wyoming	1997	1997	1997	1997	1997	1997	1997	1997

"N/A" indicates that the state has not expanded its database to include this type of offender.

Table A-5: Effect of state characteristics on year that state added sex offenders

	Year of Start Date							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Pct w Bachelor's Degree (age 25+)	-0.1119 (0.0925)							0.0492 (0.1481)
Pct in Poverty		0.2203* (0.1247)						0.3687* (0.2062)
Pct Black			0.0023 (0.0420)					0.0031 (0.0656)
Pct Hispanic				-0.0316 (0.0449)				-0.0361 (0.0635)
1999 Murder Rate					-0.1024 (0.1624)			-0.2646 (0.2698)
1999 Rape Rate						-0.0169 (0.0313)		-0.0003 (0.0349)
2000 Democratic Vote Share							-0.0448 (0.0462)	-0.0260 (0.0538)
Observations	50							
	Late Start Date (after median year)							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Pct w Bachelor's Degree (age 25+)	-0.0249 (0.0165)							-0.0019 (0.0253)
Pct in Poverty		0.0306 (0.0227)						0.0593 (0.0352)
Pct Black			-0.0091 (0.0074)					-0.0053 (0.0112)
Pct Hispanic				-0.0075 (0.0080)				-0.0057 (0.0108)
1999 Murder Rate					-0.0483* (0.0285)			-0.0661 (0.0460)
1999 Rape Rate						-0.0030 (0.0056)		0.0005 (0.0060)
2000 Democratic Vote Share							-0.0154* (0.0081)	-0.0090 (0.0092)
Observations	50							

Table A-6: Effect of state characteristics on year that state added violent offenders

	Year of Start Date							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Pct w Bachelor's Degree (age 25+)	-0.0030 (0.1257)							-0.0653 (0.2053)
Pct in Poverty		0.0400 (0.1721)						0.0001 (0.2859)
Pct Black			0.0534 (0.0556)					0.1429 (0.0910)
Pct Hispanic				-0.0058 (0.0604)				0.0642 (0.0881)
1999 Murder Rate					-0.0815 (0.2180)			-0.5676 (0.3740)
1999 Rape Rate						0.0040 (0.0421)		0.0246 (0.0484)
2000 Democratic Vote Share							0.0040 (0.0421)	0.0074 (0.0746)
Observations	50							
	Late Start Date (after median year)							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Pct w Bachelor's Degree (age 25+)	0.0186 (0.0168)							0.0274 (0.0272)
Pct in Poverty		0.0069 (0.0233)						0.0301 (0.0379)
Pct Black			0.0082 (0.0075)					0.0168 (0.0121)
Pct Hispanic				0.0038 (0.0082)				0.0062 (0.0117)
1999 Murder Rate					-0.0048 (0.0295)			-0.0585 (0.0496)
1999 Rape Rate						-0.0011 (0.0057)		0.0017 (0.0064)
2000 Democratic Vote Share							0.0070 (0.0084)	0.0003 (0.0099)
Observations	50							

Table A-7: Effect of state characteristics on year that state added burglars

	Year of Start Date							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Pct w Bachelor's Degree (age 25+)	-0.0117 (0.1095)							-0.0525 (0.1801)
Pct in Poverty		-0.0418 (0.1499)						0.0324 (0.2508)
Pct Black			-0.0327 (0.0487)					0.0218 (0.0798)
Pct Hispanic				-0.0361 (0.0523)				0.0032 (0.0773)
1999 Murder Rate					-0.2879 (0.1856)			-0.3934 (0.3281)
1999 Rape Rate						-0.0185 (0.0366)		0.0022 (0.0424)
2000 Democratic Vote Share							-0.0159 (0.0543)	-0.0044 (0.0654)
Observations	50							
	Late Start Date (after median year)							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Pct w Bachelor's Degree (age 25+)	0.0013 (0.0168)							0.0058 (0.0281)
Pct in Poverty		-0.0126 (0.0230)						-0.0070 (0.0391)
Pct Black			0.0007 (0.0075)					-0.0029 (0.01243)
Pct Hispanic				-0.0078 (0.0080)				-0.0104 (0.0120)
1999 Murder Rate					-0.0016 (0.0292)			0.0218 (0.0511)
1999 Rape Rate						0.0012 (0.0056)		0.0012 (0.0066)
2000 Democratic Vote Share							-0.0013 (0.0083)	-0.0006 (0.0102)
Observations	50							

Table A-8: Effect of state characteristics on year that state added all felons

	Year of Start Date							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Pct w Bachelor's Degree (age 25+)	-0.1118 (0.1193)							-0.2825 (0.1769)
Pct in Poverty		-0.0368 (0.1672)						-0.0232 (0.2562)
Pct Black			-0.0723 (0.0509)					-0.1168 (0.0807)
Pct Hispanic				-0.0143 (0.0548)				-0.0262 (0.0775)
1999 Murder Rate					-0.1843 (0.2033)			-0.0160 (0.3257)
1999 Rape Rate						-0.0115 (0.0387)		0.0012 (0.0422)
2000 Democratic Vote Share							0.0555 (0.0595)	0.1327* (0.0696)
Observations	46							
	Late Start Date (after median year)							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Pct w Bachelor's Degree (age 25+)	-0.0257 (0.0161)							-0.0444* (0.0261)
Pct in Poverty		0.0144 (0.0226)						-0.0043 (0.0364)
Pct Black			0.0002 (0.0074)					-0.0016 (0.0116)
Pct Hispanic				-0.0062 (0.0079)				-0.0015 (0.0112)
1999 Murder Rate					-0.0113 (0.0287)			-0.0277 (0.0476)
1999 Rape Rate						-0.0032 (0.0055)		-0.0005 (0.0062)
2000 Democratic Vote Share							0.0071 (0.0081)	0.0157 (0.0095)
Observations	50							

Table A-9: First Stage: Effect of Instrument on Profiles

	DNA Profiles in Database						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Predicted qualifying offenders	0.0523*** (0.0111)	0.2684*** (0.0486)	0.3425*** (0.0611)	0.4163*** (0.0777)	0.5448*** (0.0988)	0.4519*** (0.0639)	0.5867*** (0.1043)
Observations	344	344	344	344	344	344	344
F-statistic	22.325	30.565	31.452	28.679	30.420	50.058	50.943
Instrument:							
IV = reported crimes	X						
IV = arrests		X	X				
IV = convicts				X	X		
IV = released convicts						X	X
IV = Under age 40			X		X		X

Note: Coefficients show the effect of the simulated IV (predicted qualifying offenders) on database size. Standard errors in parentheses. * $p < .10$, ** $p < .05$, *** $p < .01$. Specification includes year fixed effects, state fixed effects, and police officers per capita. Standard errors are clustered by state. Simulated instrument and profiles are per 100,000 state residents.

Table A-10: Effect of DNA Database Size on Crime Rates

Effect of a marginal DNA profile per 100,000					
	OLS (1)	Simulated IV			
		(2)	(3)	(4)	(5)
Violent Crime Rate					
DNA Profiles	-0.0083 (0.0126)	-0.0263 (0.0403)	-0.0301 (0.0398)	-0.0289 (0.0397)	-0.0102 (0.0404)
(DNA Profiles) ²	-0.0000 (0.0000)	-0.0000 (0.0000)	-0.0000 (0.0000)	-0.0000 (0.0000)	-0.0000 (0.0000)
Property Crime Rate					
DNA Profiles	-0.1990 (0.1715)	-0.3838* (0.2125)	-0.4396** (0.1917)	-0.4250** (0.1954)	-0.4094** (0.2004)
(DNA Profiles) ²	0.0000 (0.0000)	0.0000 (0.0001)	0.0000 (0.0000)	0.0000 (0.0000)	0.0000 (0.0000)
Observations	344				
Instrument:					
IV = reported crimes		X			
IV = arrests			X		
IV = convicts				X	
IV = released convicts					X

Note: Standardized standard errors in parentheses. * p<.10, ** p<.05, *** p<.01. Each coefficient indicates the change in the crime rate (per 100,000 residents) resulting from an increase in the number of DNA profiles (per 100,000 residents) in the state database. Instrumental variables are the simulated stock and flow of qualifying offenders. Crime rate and police officer data source: FBI UCR. Sentenced prisoner data source: BJS, Prisoner series.

Table A-11: Effect of DNA Database Size on Crime Rates

Effect of a marginal DNA profile per 100,000							
	OLS (1)	(2)	(3)	Simulated IV			
				(4)	(5)	(6)	(7)
Violent Crime Rate	-0.0139 (0.0090)	-0.0402** (0.0170)	-0.0515*** (0.0189)	-0.0521*** (0.0189)	-0.0487*** (0.0186)	-0.0500*** (0.0187)	-0.0456*** (0.0163)
<i>2010 mean</i>	<i>369.2</i>						
Property Crime Rate	-0.0667 (0.0937)	-0.3097** (0.1296)	-0.3278*** (0.1208)	-0.3275*** (0.1196)	-0.3278*** (0.1247)	-0.3281*** (0.1228)	-0.3236*** (0.1152)
<i>2010 mean</i>	<i>2860.4</i>						
Murder Rate	-0.0000 (0.0001)	-0.0005*** (0.0002)	-0.0004*** (0.0002)	-0.0005*** (0.0002)	-0.0005*** (0.0002)	-0.0005*** (0.0002)	-0.0004** (0.0001)
<i>2010 mean</i>	<i>4.24</i>						
Rape Rate	-0.0010 (0.0009)	-0.0039** (0.0016)	-0.0043** (0.0017)	-0.0044*** (0.0017)	-0.0042** (0.0017)	-0.0043** (0.0017)	-0.0041*** (0.0015)
<i>2010 mean</i>	<i>31.5</i>						
Assault Rate	-0.0106 (0.0074)	-0.0266* (0.0143)	-0.0356** (0.0157)	-0.0361** (0.0157)	-0.0333** (0.0155)	-0.0343** (0.0155)	-0.0324** (0.0138)
<i>2010 mean</i>	<i>243.9</i>						
Robbery Rate	-0.0023 (0.0017)	-0.0092*** (0.0026)	-0.0111*** (0.0030)	-0.0112*** (0.0030)	-0.0107*** (0.0029)	-0.0109*** (0.0029)	-0.0101*** (0.0024)
<i>2010 mean</i>	<i>89.6</i>						
Burglary Rate	0.0024 (0.0168)	-0.0193 (0.0213)	-0.0208 (0.0212)	-0.0207 (0.0211)	-0.0207 (0.0215)	-0.0205 (0.0214)	-0.0192 (0.0198)
<i>2010 mean</i>	<i>669.8</i>						
Larceny Rate	-0.0388 (0.0641)	-0.2067** (0.0906)	-0.2123** (0.0845)	-0.2107** (0.0837)	-0.2147** (0.0872)	-0.2127** (0.0859)	-0.2091*** (0.0812)
<i>2010 mean</i>	<i>1984.1</i>						
Vehicle Theft Rate	-0.0302 (0.0183)	-0.0837*** (0.0230)	-0.0947*** (0.0224)	-0.0962*** (0.0223)	-0.0924*** (0.0227)	-0.0948*** (0.0226)	-0.0977*** (0.0210)
<i>2010 mean</i>	<i>206.5</i>						
F-statistic		18.627	13.847	11.757	11.429	11.828	20.760
Observations	344						20.762
Instrument:							
IV = reported crimes		X					
IV = arrests			X				
IV = convicts				X		X	
IV = released convicts							X
IV = Under age 40				X		X	X
IV = cubic function		X	X	X	X	X	X

Note: Standardized standard errors in parentheses. * p<.10, ** p<.05, *** p<.01. Each coefficient indicates the change in the crime rate (per 100,000 residents) resulting from an increase in the number of DNA profiles (per 100,000 residents) in the state database. Instrumental variables are the simulated stock and flow of qualifying offenders. Crime rate and police officer data source: FBI UCR. Sentenced prisoner data source: BJS, Prisoner series.

Table A-12: Effects of IV leads and lags on crime rates

		Effect of a marginal DNA profile per 100,000									
Violent Crime Rate											
IV, year t	-0.0024** (0.0009)	-0.0070** (0.0027)	-0.0142*** (0.0046)	-0.0379** (0.0143)	-0.0213*** (0.0071)	-0.0582** (0.0221)	-0.0217*** (0.0072)	0.0300 (0.0646)			
IV, year t-3		-0.0005 (0.0006)		-0.0026 (0.0034)		-0.0041 (0.0052)		-0.0054 (0.0040)			
IV, year t-2		0.0004 (0.0006)		0.0008 (0.0040)		0.0017 (0.0058)		0.0015 (0.0058)			
IV, year t-1		0.0024 (0.0015)		0.0135* (0.0078)		0.0208* (0.0120)		-0.0062 (0.0062)			
IV, year t+1		0.0072 (0.0043)		0.0395* (0.0229)		0.0602* (0.0352)		-0.0640 (0.0479)			
IV, year t+2		-0.0027 (0.0062)		-0.0167 (0.0317)		-0.0242 (0.0491)		0.0637 (0.0488)			
IV, year t+3		-0.0016 (0.0032)		-0.0062 (0.0159)		-0.0109 (0.0248)		-0.0350 (0.0272)			
Violent Crime, year t-1		0.6816*** (0.0633)		0.6581*** (0.0631)		0.6655*** (0.0631)		0.6541*** (0.0669)			
Property Crime Rate											
IV, year t	-0.0171* (0.0085)	-0.0094 (0.0153)	-0.0863** (0.0398)	-0.0328 (0.0834)	-0.1345** (0.0631)	-0.0588 (0.1278)	-0.1443** (0.0602)	-0.1901 (0.2824)			
IV, year t-3		-0.0041 (0.0032)		-0.0209 (0.0146)		-0.0331 (0.0231)		-0.0454** (0.0190)			
IV, year t-2		0.0050* (0.0028)		0.0245 (0.0152)		0.0387* (0.0228)		0.0421* (0.0231)			
IV, year t-1		-0.0002 (0.0117)		-0.0140 (0.0644)		-0.0146 (0.0983)		0.1023 (0.1522)			
IV, year t+1		0.0217 (0.0180)		0.1117 (0.1006)		0.1727 (0.1687)		0.2244 (0.3780)			
IV, year t+2		0.0000 (0.0198)		-0.0101 (0.1119)		-0.0102 (0.1094)		-0.0600 (0.4019)			
IV, year t+3		-0.0216 (0.0135)		-0.1012 (0.0718)		-0.1614 (0.1094)		-0.1464 (0.1939)			
Property Crime, year t-1		0.6946*** (0.0710)		0.6971*** (0.0680)		0.6960*** (0.0686)		0.6762*** (0.0625)			
Observations		344									
Instrument:											
IV = reported crimes	X	X									
IV = arrests			X								
IV = convicts				X							
IV = released convicts					X						

Standard errors are shown in parentheses. * p<.10, ** p<.05, *** p<.01.
Baseline specification includes year fixed effects, state fixed effects, police per capita.
SEs clustered by state.

Table A-13: Effect of DNA Database Size on Probability of an Arrest

	Effect of a marginal DNA profile per 1000				
	OLS	Simulated IV			
	(1)	(2)	(3)	(4)	(5)
Probability of Arrest for Violent Crimes					
DNA profiles	-0.0022*** (0.0008)	-0.0007 (0.0011)	-0.0013 (0.0011)	-0.0011 (0.0011)	-0.0013 (0.0011)
<i>2000 mean</i>	<i>0.3724</i>				
Observations	1,942,560				
F-statistic		992	1236	1222	1899
Probability of Arrest for Property Crimes					
DNA profiles	-0.0005 (0.0004)	-0.0000 (0.0007)	-0.0003 (0.0007)	-0.0002 (0.0007)	-0.0003 (0.0007)
<i>2000 mean</i>	<i>0.1097</i>				
Observations	15,338,026				
F-statistic		1022	1271	1234	1836
Instrument:					
IV = reported crimes		X			
IV = arrests			X		
IV = convicts				X	
IV = released convicts					X

Note: Standardized standard errors in parentheses. * p<.10, ** p<.05, *** p<.01.

Each coefficient indicates the change in the probability of arrest resulting from an increase in the number of DNA profiles (per 1000 residents) in the state database. Instrumental variables are the simulated stock and flow of qualifying offenders. Arrest rate and police officer data source: FBI. Sentenced prisoner data source: BJS, Prisoner series.

Table A-14: Effect of DNA Database Size on Probability of an Arrest

	Effect of a marginal DNA profile per 1000				
	OLS (1)	(2)	Simulated IV (3)	(4)	(5)
Probability of Arrest for Murder					
DNA profiles	-0.0028 (0.0020)	-0.0026 (0.0031)	-0.0042 (0.0033)	-0.0037 (0.0032)	-0.0033 (0.0030)
<i>2000 mean</i>	<i>0.5875</i>				
Observations	19,970				
F-statistic		793	826	867	1204
Probability of Arrest for Rape					
DNA profiles	-0.0028*** (0.0008)	-0.0013 (0.0013)	-0.0017 (0.0013)	-0.0016 (0.0013)	-0.0021 (0.0014)
<i>2000 mean</i>	<i>0.2688</i>				
Observations	391,081				
F-statistic		1415	1561	1571	2402
Probability of Arrest for Assault					
DNA profiles	-0.0027*** (0.0009)	-0.0014 (0.0012)	-0.0019 (0.0012)	-0.0018 (0.0012)	-0.0019 (0.0012)
<i>2000 mean</i>	<i>0.4654</i>				
Observations	1,059,694				
F-statistic		1154	1542	1483	2265
Probability of Arrest for Robbery					
DNA profiles	-0.0007 (0.0009)	0.0015 (0.0011)	0.0009 (0.0012)	0.0011 (0.0011)	0.0007 (0.0011)
<i>2000 mean</i>	<i>0.2042</i>				
Observations	482,031				
F-statistic		448	488	512	758
Probability of Arrest for Burglary					
DNA profiles	-0.0007*** (0.0002)	-0.0003 (0.0003)	-0.0004 (0.0003)	-0.0004 (0.0003)	-0.0005** (0.0002)
<i>2000 mean</i>	<i>0.0880</i>				
Observations	3,360,394				
F-statistic		863	1082	1056	1800
Probability of Arrest for Larceny					
DNA profiles	-0.0004 (0.0005)	0.0001 (0.0009)	-0.0001 (0.0009)	-0.0000 (0.0009)	-0.0002 (0.0009)
<i>2000 mean</i>	<i>0.1174</i>				
Observations	10,951,843				
F-statistic		1070	1308	1271	1817
Probability of Arrest for Vehicle Theft					
DNA profiles	-0.0006** (0.0003)	-0.0006 (0.0004)	-0.0007 (0.0004)	-0.0007 (0.0004)	-0.0007* (0.0004)
<i>2000 mean</i>	<i>0.0933</i>				
Observations	1,364,586				
F-statistic		1069	1283	1275	1493
Instrument:					
IV = reported crimes		X			
IV = arrests			X		
IV = convicts				X	
IV = released convicts					X

Note: Standardized standard errors in parentheses. * p<.10, ** p<.05, *** p<.01. Each coefficient indicates the change in the probability of arrest resulting from an increase in the number of DNA profiles (per 1000 residents) in the state database. Instrumental variables are the simulated stock and flow of qualifying offenders. Arrest rate and police officer data source: FBI. Sentenced prisoner data source: BJS, Prisoner series.

B Data Appendix

B.1 Longitudinal Criminal Histories

For the individual-level analysis, I obtained longitudinal criminal history data from seven states.

Data for Missouri¹ and North Carolina² are available for download from government websites, though the downloadable data for North Carolina do not include offenders' ages. I hired computer programmers via the website oDesk.com to write scripts that collected publicly-available data from online databases for Florida³ and New York⁴, and age data from the online database for North Carolina. I submitted requests for criminal history data (often via formal research agreement requests) to all other states. The Departments of Correction (DOCs) in Georgia, Montana, and Pennsylvania provided criminal history data on all offenders under DOC custody on or after January 1, 1990.

Some offender data do not include birthdates, and so I created an *age missing* variable. I also code as *age missing* anyone whose age at release, based on administrative data, was less than 15 or greater than 105. (Because these ages were very likely incorrect, this reduces the noisiness of the *age* variable, but otherwise does not affect the results.)

Several of these datasets did not include precise release dates, but "max release" dates based on sentencing. DOC officials explained that offenders who were released on parole would remain on parole until that max release date. All seven of these states include individuals under DOC supervision (i.e., those on parole as well as currently incarcerated), so the max release date is in fact the relevant date for determining who was "released" prior to the database expansion. To determine when an individual is ultimately free to reoffend, I merge all overlapping sentences into a single incarceration period. (This is not ideal, and may introduce noise, but should not bias the results.)

B.1.1 Florida

Table B-1 presents summary statistics for the Florida data. These data include felony convictions only.

Discontinuity dates — Murder: July 1, 1995. Rape: July 1, 1995. Aggravated Assault: July 1, 1995, and July 1, 2004. Robbery: July 1, 2002. Burglary: July 1, 2000. Larceny: July 1, 2002, and July 1, 2006. Vehicle Theft: July 1, 2000, and July 1, 2006. Arson: July 1, 2000, and July 1, 2004. Serious Violent: July 1, 1995; July 1, 2002; and July 1, 2004. Serious Property: July 1, 2000, and July 1, 2006.

¹Available at: http://doc.mo.gov/Sunshine_Law/

²Available at: <http://www.doc.state.nc.us/opi/downloads.do?method=view>

³Available at: <http://www.dc.state.fl.us/AppCommon/>

⁴Available at: <http://nysdoccslookup.doccs.ny.gov/>

Table B-1: Summary statistics: Individual Offenders in Florida

	N	Mean	Std. Dev.	Min.	Max.
Number of Convicts	307,868				
Number of Convictions	1,587,344				
Number of Incarceration Spells	569,279				
<i>Incarceration spells of each conviction type:</i>					
Murder	11,756				
Sexual Assault	10,598				
Aggravated Assault	48,355				
Robbery	69,261				
Burglary	133,848				
Larceny	42,076				
Vehicle Theft	45,454				
Arson	3,351				
Any UCR Violent Crime	125,598				
Any UCR Property Crime	178,989				
Both Violent and Property Crime	26,295				
<i>For incarceration spells ending before 2012:</i>					
Age at release	502,780	33.08	10.20	15.06	91.78
Black	502,790	0.549	0.498	0	1
White	502,790	0.426	0.494	0	1
Hispanic	502,790	0.023	0.149	0	1
Sentence Year	502,790	1998.5	8.072	1970	2011
Release Year	502,790	2000.6	7.998	1970	2011
Length of Incarceration (years)	502,790	2.143	2.634	0	41.03
Reoffend 3 yrs	502,790	0.322	0.467	0	1
Reoffend 5 yrs	502,790	0.406	0.491	0	1

B.1.2 Georgia

Table B-2 presents summary statistics for the Georgia data. These data include felony convictions only.

Discontinuity dates — Murder: July 1, 2000. Rape: July 1, 2000. Aggravated Assault: July 1, 2000. Robbery: July 1, 2000. Burglary: July 1, 2000. Larceny: July 1, 2000. Vehicle Theft: July 1, 2000. Arson: July 1, 2000. Serious Violent: July 1, 2000. Serious Property: July 1, 2000.

B.1.3 Missouri

Table B-3 presents summary statistics for the Missouri data. These data include both felony and misdemeanor convictions.

Discontinuity dates — Murder: August 28, 1996. Rape: August 28, 1996. Aggravated Assault: August 28, 1996. Robbery: January 1, 2005. Burglary: January 1, 2005. Larceny: January 1, 2005. Vehicle Theft: January 1, 2005. Arson: January 1, 2005. Serious Violent: August 28, 1996, and January 1, 2005. Serious Property: January 1, 2005.

Table B-2: Summary statistics: Individual Offenders in Georgia

	N	Mean	Std. Dev.	Min.	Max.
Number of Convicts	233,235				
Number of Convictions	383,005				
Number of Incarceration Spells	284,307				
<i>Incarceration spells of each conviction type:</i>					
Murder	8,744				
Sexual Assault	3,199				
Aggravated Assault	27,536				
Robbery	25,172				
Burglary	38,134				
Larceny	18,000				
Vehicle Theft	2,292				
Arson	969				
Any UCR Violent Crime	64,328				
Any UCR Property Crime	58,712				
Both Violent and Property Crime	1,085				
<i>For incarceration spells ending before 2012:</i>					
Age at release	216,189	35.61	10.24	15.02	101.9
Black	216,201	0.636	0.481	0	1
White	216,201	0.350	0.477	0	1
Hispanic	216,201	0.010	0.101	0	1
Sentence Year	216,201	1996.9	6.756	1970	2011
Release Year	216,201	2002.2	6.144	1973	2011
Length of Incarceration (years)	216,201	5.259	4.369	0	38.6
Reoffend 3 yrs	216,201	0.139	0.346	0	1
Reoffend 5 yrs	216,201	0.182	0.386	0	1

Table B-3: Summary statistics: Individual Offenders in Missouri

	N	Mean	Std. Dev.	Min.	Max.
Number of Convicts	266,826				
Number of Convictions	828,038				
Number of Incarceration Spells	347,123				
<i>Incarceration spells of each conviction type:</i>					
Murder	5,767				
Sexual Assault	3,935				
Aggravated Assault	16,480				
Robbery	17,460				
Burglary	40,210				
Larceny	14,079				
Vehicle Theft	5,002				
Arson	2,126				
Any UCR Violent Crime	39,814				
Any UCR Property Crime	54,114				
Both Violent and Property Crime	6,797				
<i>For incarceration spells ending before 2012:</i>					
Age at release	278,019	34.81	10.83	15.16	99.35
Black	277,685	0.287	0.452	0	1
White	277,685	0.709	0.454	0	1
Hispanic	N/A				
Sentence Year	278,044	1992.0	9.218	1970	2011
Release Year	278,044	1996.5	9.929	1971	2011
Length of Incarceration (years)	278,044	4.519	3.361	0	40.52
Reoffend 3 yrs	278,044	0.147	0.354	0	1
Reoffend 5 yrs	278,044	0.198	0.399	0	1

B.1.4 Montana

Table B-4 presents summary statistics for the Montana data. These data include felony convictions only.

Discontinuity dates — Murder: March 27, 1995. Rape: March 27, 1995. Aggravated Assault: March 27, 1995. Robbery: March 27, 1995. Burglary: October 1, 2001. Larceny: October 1, 2001. Vehicle Theft: (none; sample too small). Arson: October 1, 2001. Serious Violent: March 27, 1995. Serious Property: October 1, 2001.

Table B-4: Summary statistics: Individual Offenders in Montana

	N	Mean	Std. Dev.	Min.	Max.
Number of Convicts	12,555				
Number of Convictions	30,180				
Number of Incarceration Spells	22,581				
<i>Incarceration spells of each conviction type:</i>					
Murder	457				
Sexual Assault	797				
Aggravated Assault	928				
Robbery	679				
Burglary	2,133				
Larceny	2,358				
Vehicle Theft	4				
Arson	81				
Any UCR Violent Crime	2,683				
Any UCR Property Crime	3,992				
Both Violent and Property Crime	294				
<i>For incarceration spells ending before 2012:</i>					
Age at release	20,176	34.41	10.64	15.64	92.73
Black	20,182	0.021	0.142	0	1
White	20,182	0.744	0.436	0	1
Hispanic	20,182	0.033	0.179	0	1
Sentence Year	20,182	1999.8	6.302	1971	2011
Release Year	20,182	2001.5	5.945	1988	2011
Length of Incarceration (years)	20,182	1.696	2.431	0	35.15
Reoffend 3 yrs	20,182	0.401	0.490	0	1
Reoffend 5 yrs	20,182	0.452	0.498	0	1

B.1.5 New York

Table B-5 presents summary statistics for the New York data. These data include both felony and misdemeanor convictions. However, New York law mandates that most non-violent offenders be excluded from the online database if they have not been under DOC custody for at least five years. (Full criminal history is available if the individual is later convicted of another crime.)

Discontinuity dates — Murder: December 1, 1999. Rape: December 1, 1999. Aggravated Assault: December 1, 1999. Robbery: December 1, 1999. Burglary: December 1, 1999. Larceny: December 1, 1999 and June 23, 2006. Vehicle Theft: December 1, 1999. Arson: December 1, 1999 and June 23, 2006. Serious Violent: December 1, 1999. Serious

Property: December 1, 1999.

Table B-5: Summary statistics: Individual Offenders in New York

	N	Mean	Std. Dev.	Min.	Max.
Number of Convicts	277,319				
Number of Convictions	397,830				
Number of Incarceration Spells	365,366				
<i>Incarceration spells of each conviction type:</i>					
Murder	19,912				
Sexual Assault	7,837				
Aggravated Assault	37,048				
Robbery	99,597				
Burglary	54,380				
Larceny	14,956				
Vehicle Theft	3,272				
Arson	2,172				
Any UCR Violent Crime	152,644				
Any UCR Property Crime	71,709				
Both Violent and Property Crime	13,405				
<i>For incarceration spells ending before 2012:</i>					
Age at release	292,786	35.26	9.926	16.90	100.3
Black	290,810	0.543	0.498	0	1
White	290,810	0.270	0.444	0	1
Hispanic	290,810	0.281	0.450	0	1
Sentence Year	292,806	1994.0	10.06	1970	2011
Release Year	292,806	1998.4	9.476	1971	2011
Length of Incarceration (years)	292,806	4.361	4.461	0	39.5
Reoffend 3 yrs	292,806	0.124	0.329	0	1
Reoffend 5 yrs	292,806	0.187	0.390	0	1

B.1.6 North Carolina

Table B-6 presents summary statistics for the North Carolina data. These data include both felony and misdemeanor convictions.

Discontinuity dates — Murder: July 1, 1994. Rape: July 1, 1994. Aggravated Assault: July 1, 1994. Robbery: July 1, 1994. Burglary: December 1, 2003. Larceny: December 1, 2003. Vehicle Theft: July 1, 1994, and December 1, 2003. Arson: July 1, 1994. Serious Violent: July 1, 1994. Serious Property: December 1, 2003.

B.1.7 Pennsylvania

Table B-7 presents summary statistics for the Pennsylvania data. These data include felony and misdemeanor convictions.

Discontinuity dates — Murder: November 28, 1996. Rape: November 28, 1996. Aggravated Assault: January 29, 2005. Robbery: December 16, 2002. Burglary: December 16, 2002. Larceny: January 29, 2005. Vehicle Theft: January 29, 2005. Arson: January 29, 2005. Serious Violent: November 28, 1996; December 16, 2002; and January 29, 2005. Serious Property: December 16, 2002, and January 29, 2005.

Table B-6: Summary statistics: Individual Offenders in North Carolina

	N	Mean	Std. Dev.	Min.	Max.
Number of Convicts	344,507				
Number of Convictions	1,243,088				
Number of Incarceration Spells	637,735				
<i>Incarceration spells of each conviction type:</i>					
Murder	15,065				
Sexual Assault	6,522				
Aggravated Assault	5,045				
Robbery	44,659				
Burglary	84,193				
Larceny	31,339				
Vehicle Theft	6,620				
Arson	464				
Any UCR Violent Crime	67,980				
Any UCR Property Crime	111,134				
Both Violent and Property Crime	7,439				
<i>For incarceration spells ending before 2012:</i>					
Age at release	410,266	31.91	10.54	15.01	98.48
Black	611,234	0.559	0.497	0	1
White	611,234	0.399	0.490	0	1
Hispanic	N/A				
Sentence Year	611,234	1993.9	10.80	1970	2011
Release Year	611,234	1995.7	10.65	1970	2011
Length of Incarceration (years)	611,234	1.759	3.254	0	41.94
Reoffend 3 yrs	611,234	0.315	0.464	0	1
Reoffend 5 yrs	611,234	0.387	0.487	0	1

Table B-7: Summary statistics: Individual Offenders in Pennsylvania

	N	Mean	Std. Dev.	Min.	Max.
Number of Convicts	163,772				
Number of Convictions	203,667				
Number of Incarceration Spells	188,932				
<i>Incarceration spells of each conviction type:</i>					
Murder	13,006				
Sexual Assault	5,600				
Aggravated Assault	14,695				
Robbery	22,972				
Burglary	15,046				
Larceny	7,627				
Vehicle Theft	2,448				
Arson	1,197				
Any UCR Violent Crime	55,556				
Any UCR Property Crime	25,987				
Both Violent and Property Crime	913				
<i>For incarceration spells ending before 2012:</i>					
Age at release	140,249	36.04	10.40	16.64	92.77
Black	140,275	0.477	0.499	0	1
White	140,275	0.401	0.490	0	1
Hispanic	140,275	0.117	0.321	0	1
Sentence Year	140,275	1998.4	7.031	1970	2011
Release Year	140,275	2002.8	6.147	1989	2011
Length of Incarceration (years)	140,275	4.467	4.528	0	40.27
Reoffend 3 yrs	140,275	0.080	0.272	0	1
Reoffend 5 yrs	140,275	0.122	0.328	0	1

B.2 DNA Database Sizes

Typically, states can easily report how many offender profiles are in their databases at the current time, but they cannot easily report historical data. This was the primary challenge in collecting the data for the crime rate analysis, and I addressed it as follows:

To collect data on the size of state DNA databases over time, I employed three strategies: (1) I searched government and crime lab websites for historical information on the state database; (2) I mailed written requests for this information to relevant state agencies and crime labs; and (3) I conducted web and Nexis searches for news articles about state databases, looking for data on the size of the database at the time of publication. When multiple reports were found for a particular state in a particular year, I used the one closest to the end of the year.

If the above strategies were unsuccessful, I used data reported from the FBI on profiles uploaded from the state databases to CODIS, to impute state database size. I was able to find these FBI data for all states only for years 2003, 2008, 2009, and 2010, though additional state-specific data were occasionally available in media reports. While the state and FBI numbers are highly correlated ($\text{corr} = 0.95$), not all state profiles are necessarily uploaded to CODIS, because of differences in the types of offenders allowed as well as differences in technical standards. To create a more accurate estimate for the number of state profiles, I performed a simple regression to estimate the proportion of state profiles that were uploaded: $CODISProfiles = \beta_1 + \beta_2 * StateProfiles + e$. (This regression was based on 76 state-year observations where both state and CODIS data were available.) I then imputed this number for all state-year observations where data from CODIS were available but data from the state were not.

The result was: 219 observations using state data and 125 imputed observations using CODIS data, for a total of 344 state-year observations.