



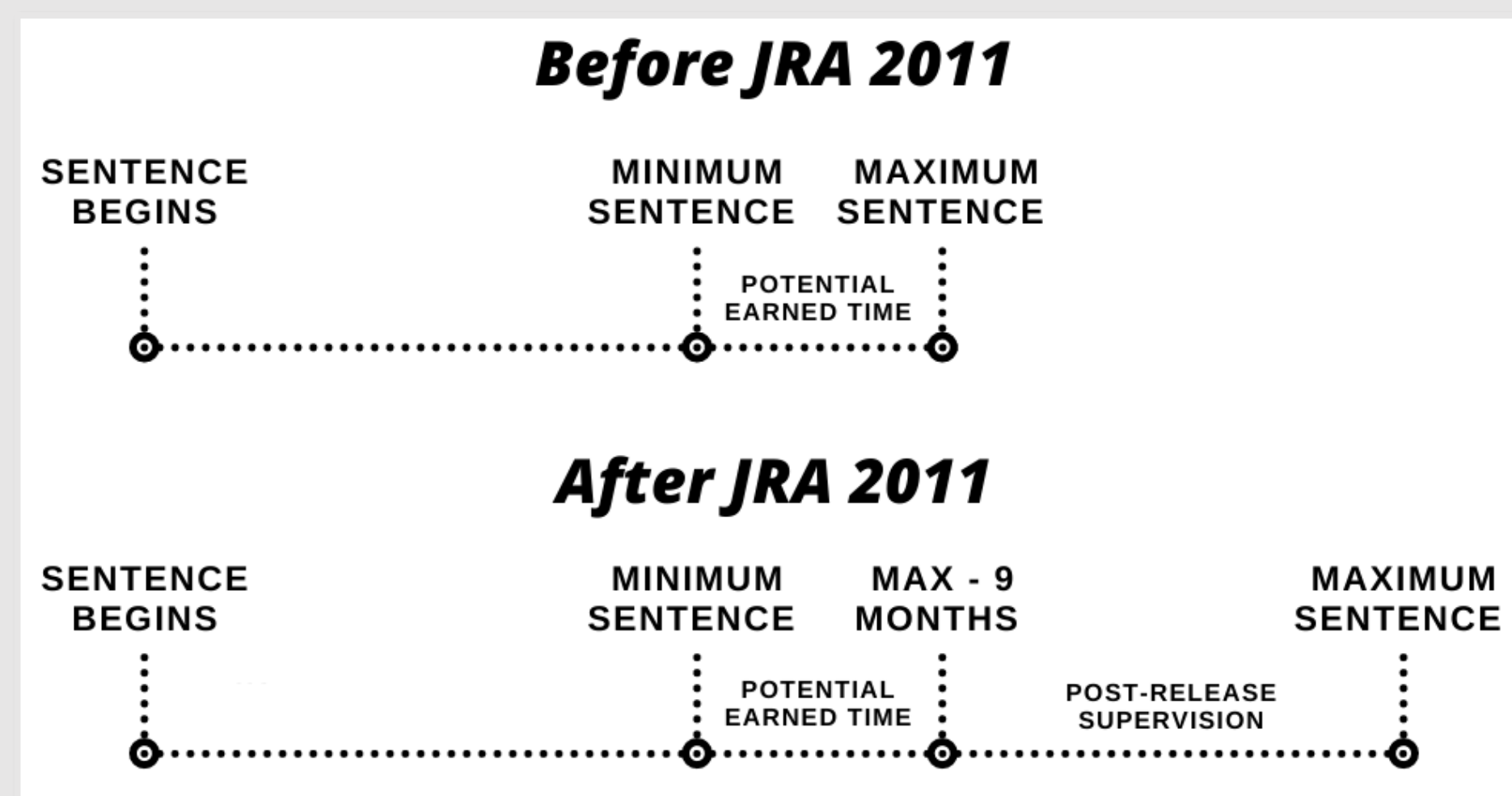
The Effects of Post-Release Supervision on Crime and Recidivism



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Justice Reinvestment Act of 2011

- **Crime Committed Before December 1, 2011:** Individuals were released from prison without supervision or restrictions
- **Crime Committed On or After December 1, 2011:** Individuals were automatically given nine months of post-release supervision
 - If they violated the terms of their supervision, they were sent back to prison for three to nine months depending on the severity of their violation
 - These violations could be technical violations or criminal violations



Research Questions

- How does post-release supervision impact recidivism?
- Which types of crimes, if any, are affected by post-release supervision?
- Does post-release supervision create incapacitation and/or deterrent effects?
- Is the post-release supervision program cost effective?

Empirical Approach

Regression Discontinuity in Time Model:

$$Outcome_i = \alpha_0 + \beta PRS_i + f(Crime Date_i) + X_i\alpha_1 + \epsilon_i$$

- $Outcome_i$ is the criminal outcome for individual i upon their release from prison.
- PRS_i indicates whether the individual was given post-release supervision.
- $f(Crime Date_i)$ is a polynomial function of the crime date.
- X_i is a set of controls that include race, gender, age, prior record level, crime category, felony crime classification, and special sanctions.
- Standard errors are clustered at the crime date level.

First Stage Results: Changes to Sentencing

Table 1. Regression Discontinuity First-Stage Results

	(1)	(2)	(3)
<i>Sentence Length</i>			
Maximum Sentence	294.314*** (22.776) [70.452]	270.843*** (16.891) [87.452]	282.142*** (20.211) [135.550]
Minimum Sentence	41.302** (18.530) [62.559]	16.301 (11.814) [93.141]	24.261* (14.288) [135.332]
Days Incarcerated	44.511** (18.253) [72.595]	32.315** (14.272) [84.345]	27.118* (16.010) [145.979]
<i>Special Sanctions</i>			
Curfew	0.185*** (0.013) [109.400]	0.186*** (0.013) [105.471]	0.183*** (0.018) [116.116]
No Association	0.207*** (0.014) [91.905]	0.212*** (0.014) [101.271]	0.211*** (0.018) [142.467]
Substance Testing	0.200*** (0.013) [100.579]	0.212*** (0.013) [113.663]	0.211*** (0.017) [155.660]
Warrantless Search	0.201*** (0.014) [98.580]	0.215*** (0.013) [112.970]	0.207*** (0.017) [149.168]
<i>Specification Information</i>			
Polynomial Controls	Linear No	Linear Yes	Quadratic Yes

Note: Standard errors are in parentheses. Bandwidths are listed in brackets. The data are from the North Carolina Department of Public Safety. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

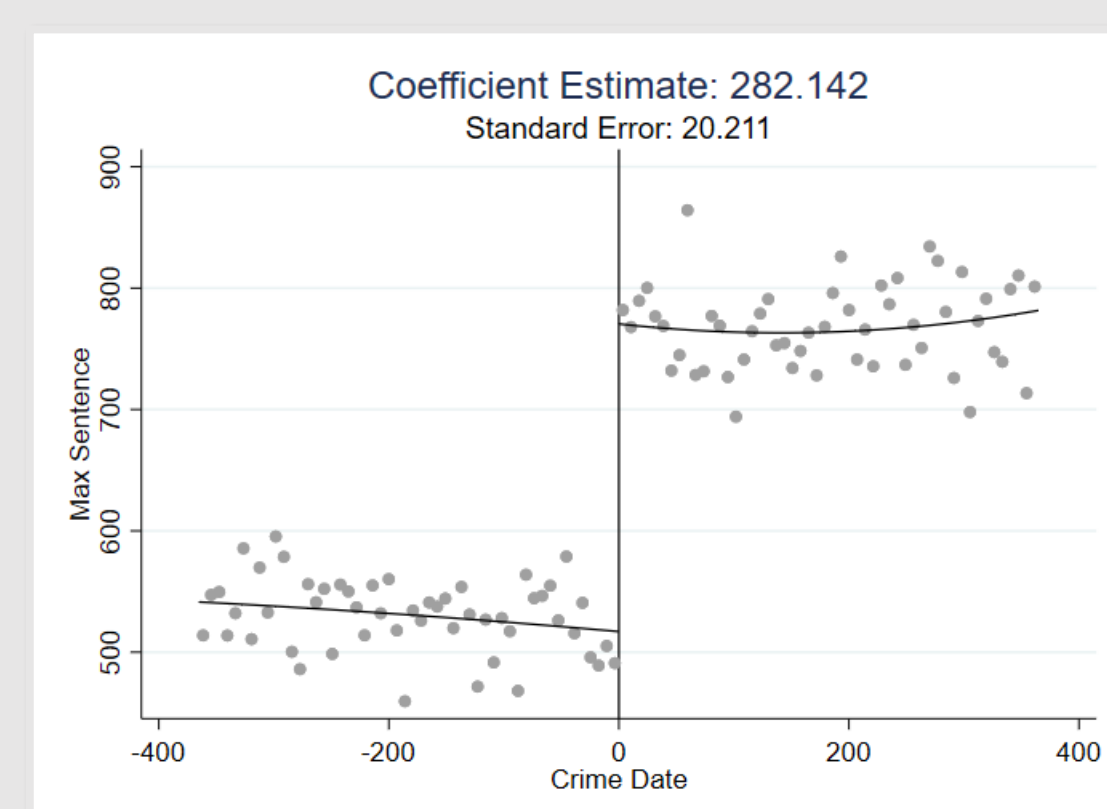


Figure 1. Maximum Sentence

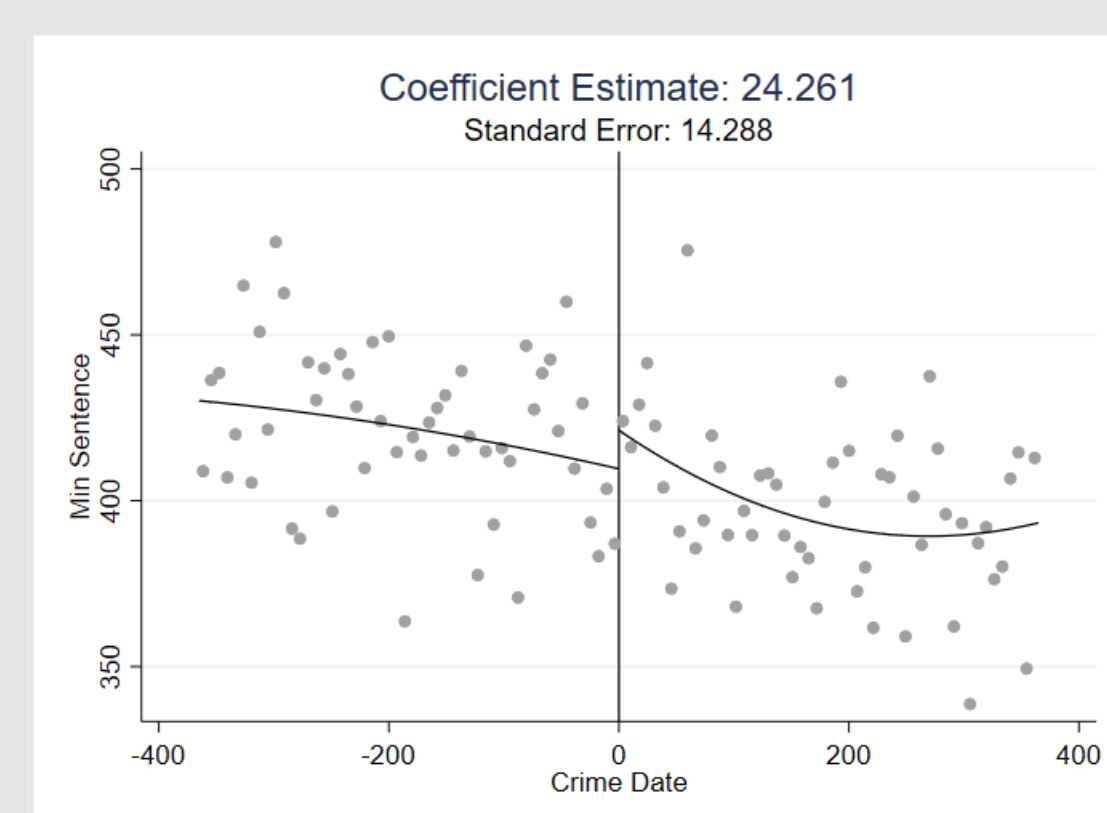


Figure 2. Minimum Sentence

KEY TAKEAWAY: Judges increased maximum sentences by nine months to include post-release supervision and assigned more supervision related sanctions, which were expected changes due to the Justice Reinvestment Act of 2011.

Main Results: Recidivism

Table 2. Regression Discontinuity Recidivism Results

	(1)	(2)	(3)
<i>Return to Prison within 0 to 9 Months</i>			
Any Reason	0.068*** (0.023) [81.457]	0.076*** (0.020) [94.564]	0.039 (0.029) [83.010]
Technical Violation	0.125*** (0.014) [75.140]	0.136*** (0.014) [78.092]	0.108*** (0.020) [85.861]
<i>Binary New Crime within 0 to 9 Months</i>			
Any	-0.072*** (0.017) [111.981]	-0.063*** (0.021) [76.229]	-0.071*** (0.025) [101.064]
Violent	-0.025** (0.011) [77.143]	-0.027*** (0.010) [83.651]	-0.029*** (0.011) [164.250]
Property	-0.059*** (0.013) [84.094]	-0.052*** (0.014) [71.963]	-0.060*** (0.017) [96.897]
<i>Specification Information</i>			
Polynomial Controls	Linear No	Linear Yes	Quadratic Yes

Note: Standard errors are in parentheses. Bandwidths are listed in brackets. The data are from the North Carolina Department of Public Safety. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

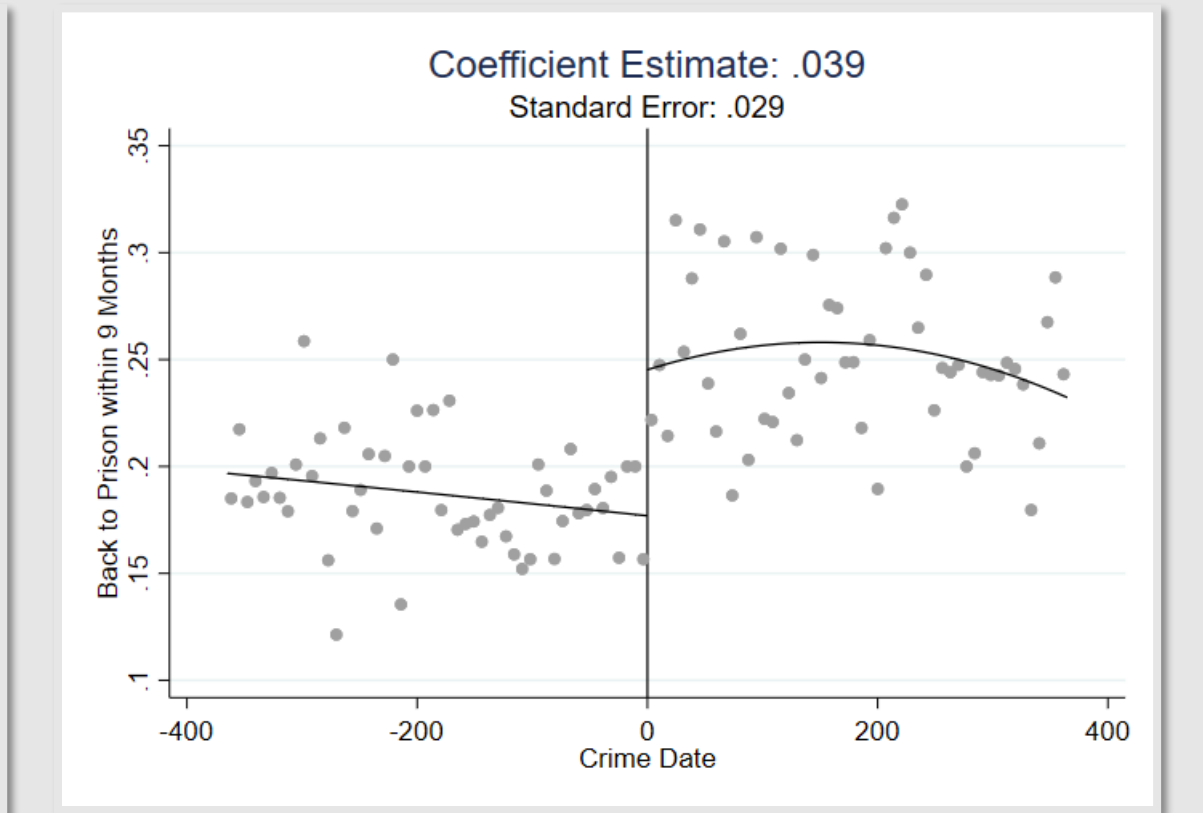


Figure 3. Return to Prison

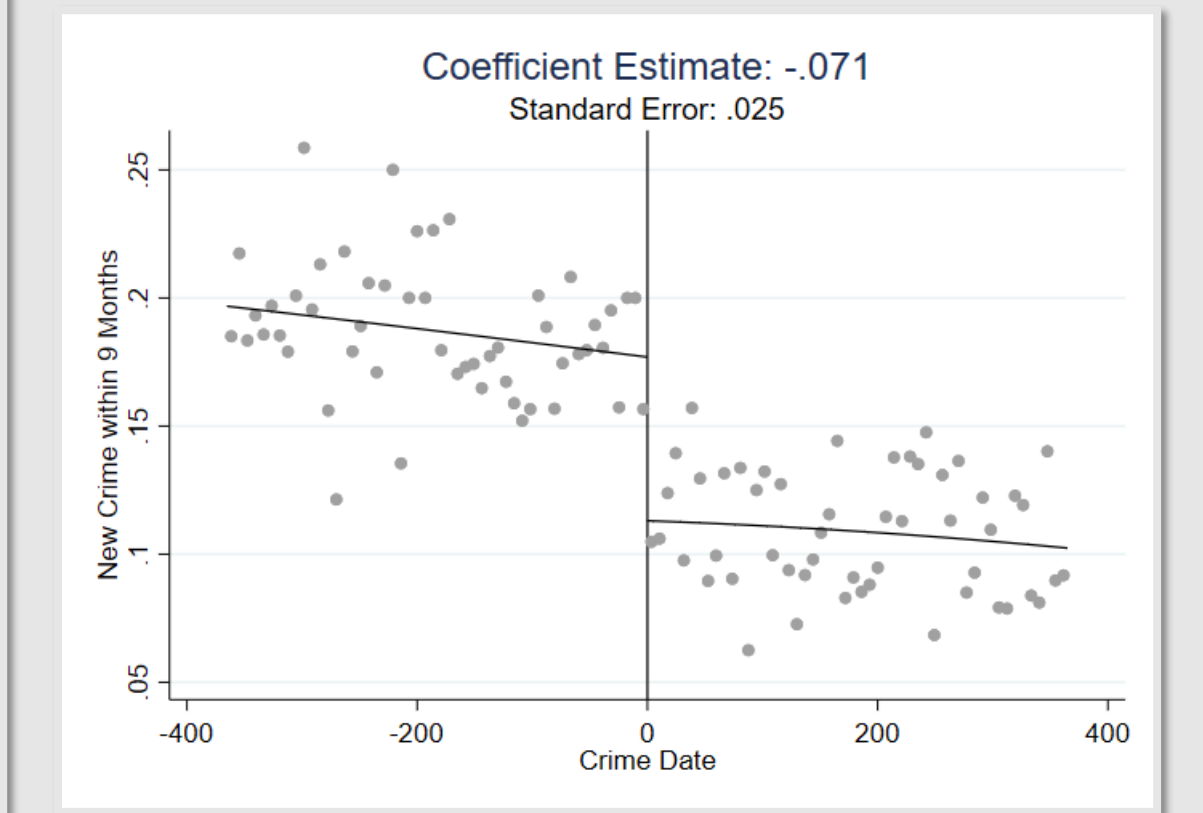


Figure 4. Any New Crime

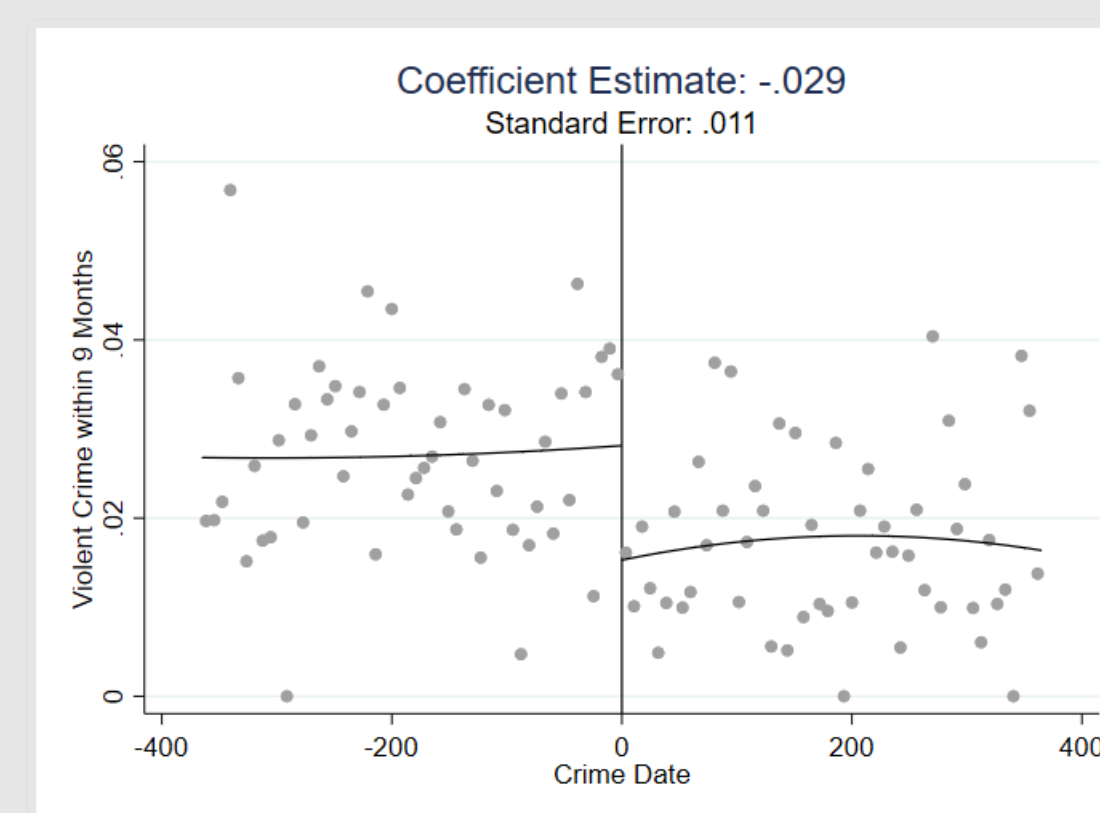


Figure 5. New Violent Crime

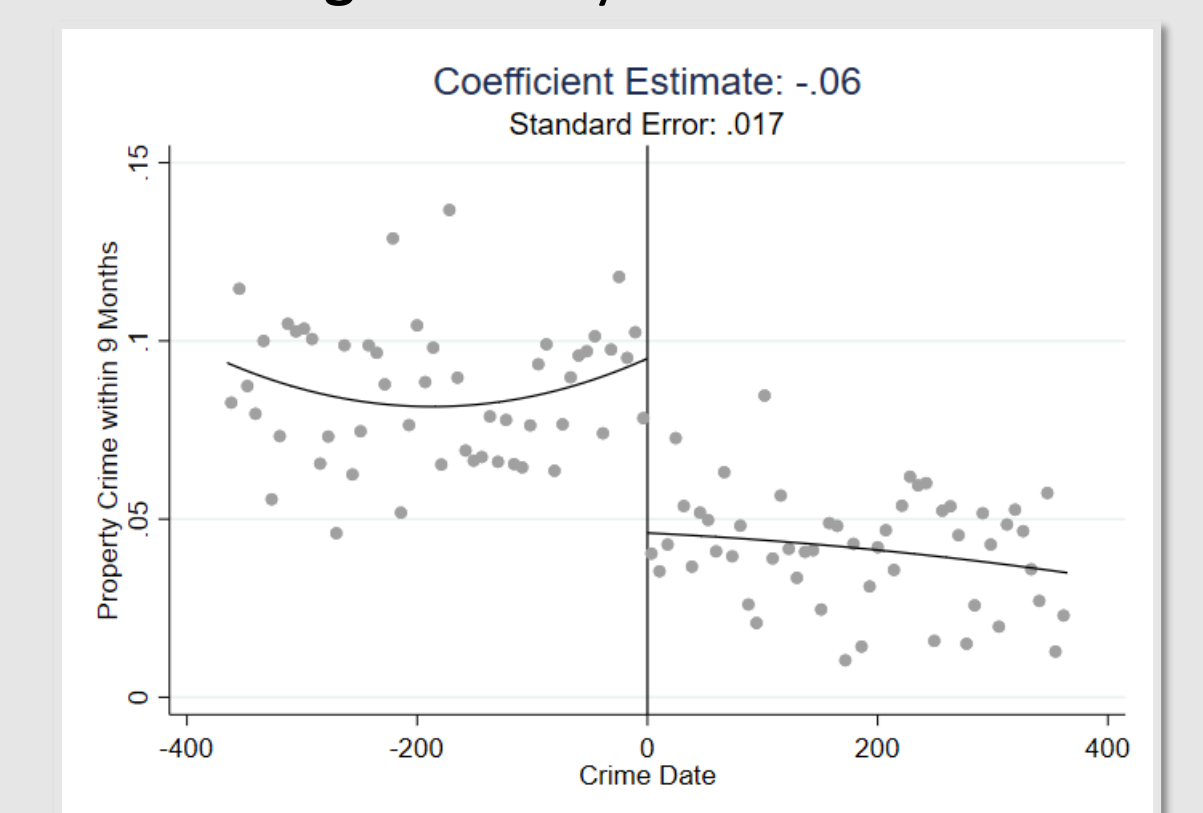


Figure 6. New Property Crime

KEY TAKEAWAY: Post-release supervision causes individuals to return to prison more, but this is driven by technical violations. Supervision reduces crime during the period of supervision; specifically, violent crime and property crime.

Mechanisms: Incapacitation & Deterrence

Table 3. Bounding Exercise to Estimate Potential Mechanisms

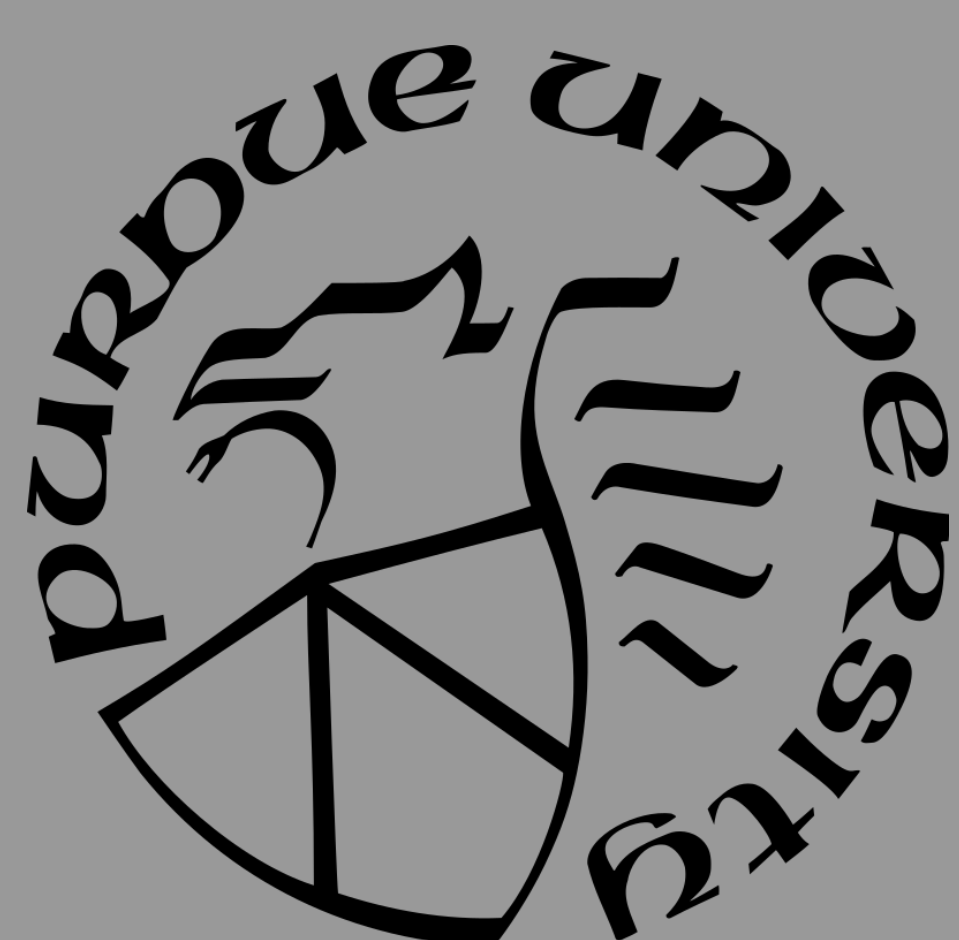
	(1)	(2)	(3)
	Upper Bound	Lower Bound	Weighted Average
<i>Average short-run (0-9 months) new crime estimates</i>			
Hypothetical world without PRS	0.187	0.109	0.136
Actual world with PRS	0.109	0.109	0.109
<i>Estimate Differences: Hypothetical - Actual</i>			
Difference	0.078	0	0.027
<i>Incapacitation vs Deterrent Effects</i>			
Incapacitation Effects (%)	100	0	34.3
Deterrent Effects (%)	0	100	65.7

- **Upper Bound:** Assume the post-policy mean of committing a new crime during the first nine months out of prison would have been the same as the pre-policy mean
- **Lower Bound:** Assume all the people who returned to prison for technical violations would not have committed a new crime
- **Weighted Average:** Assume the pre-policy mean of committing a new crime during the first nine months out of prison would have been the same for the people who only went back to prison for technical violations

KEY TAKEAWAY: Post-release supervision creates larger deterrent effects relative to incapacitation effects.

Program Cost-Benefit Analysis

KEY TAKEAWAY: Back-of-the-envelope calculations suggest that post-release supervision (\approx -\$2,004.87 per offender) is a loss-minimizing program when compared to alternatives such as incarcerating individuals for an additional nine months (\approx -\$21,817.44 per offender) or not having post-release supervision (\approx -\$2,455.45 per offender).



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