NBER WORKING PAPER SERIES

THE IMPACTS OF PAROLE SUPERVISION

Luke D. Brinkman
Andrew Jordan
Derek Neal

Working Paper 34663
http://www.nber.org/papers/w34663

NATIONAL BUREAU OF ECONOMIC RESEARCH
1050 Massachusetts Avenue
Cambridge, MA 02138
January 2026, revised February 2026

We thank workshop participants at Dartmouth and Yale. We also thank Jens Ludwig, Crystal Yang, and members of the NBER Crime Working Group for their feedback. We owe special thanks to Steve Mello and Evan Rose for generous feedback. We also owe thanks to many people who gave generously of their time to help us better understand how the criminal courts in Cook County and the Illinois Department of Corrections operate and record activities. We thank Jordan Boulger, Jennifer Dohm, Katie Hill, Ian Jantz, Gywn Troyer, Matthew Bonanno, Sharon Shipinski, and Sarah Staudt. This project is supported by a grant from Arnold Ventures. The views expressed herein are those of the authors and do not necessarily reflect the views of the National Bureau of Economic Research.

At least one co-author has disclosed additional relationships of potential relevance for this research. Further information is available online at http://www.nber.org/papers/w34663

The Impacts of Parole Supervision
Luke D. Brinkman, Andrew Jordan, and Derek Neal
NBER Working Paper No. 34663
January 2026, revised February 2026
JEL No. J18, K0, K14

ABSTRACT

We study the impacts of a reform to parole supervision in Illinois. The reform reduced the term of supervision for some parolees from 12 months to 6 months. Using a standard difference-in-differences estimator, we find clear evidence that the reform reduced prison re-entry rates. Sharp drops in technical revocation rates drove these reductions. Rates of prison re-admissions linked to new crimes did not change. Cook County Court records also show no evidence that the reform increased crime rates among parolees. The reform reduced both the cost of incarceration and the cost of parolee supervision without creating harms to public safety.

Luke D. Brinkman
Washington University in St. Louis
ludbrinkman@gmail.com

Andrew Jordan
Washington University in St. Louis
Department of Economics
awjordan@wustl.edu

Derek Neal
University of Chicago
Department of Economics
and NBER
n9na@uchicago.edu

At the end of 2021, roughly 1 in 69 adults in the US were under some form of community supervision. Almost three million persons were on probation, and just over 800,000 were on parole.[1] Convicted offenders assigned to terms of probation or parole serve all or part of their prison sentences in the community under the supervision of probation or parole officers. Probation supervision often serves as an alternative to incarceration. Parole supervision shortens the time that sentenced offenders spend in prison by allowing them to serve the remaining portions of their sentences in their communities.

Carson and Kluckow (2022) report that, in 2022, more than 112,000 sentenced prisoners entered a state or federal prison directly from some form of community supervision.[2] However, more than half of persons who enter prison from parole and just under half of those who enter prison from probation have not been charged with a new crime. Existing research indicates that more than 60,000 of the 112,000 persons who entered prison in 2022 from community supervision had not committed a crime while under supervision but instead had violated a rule that governed the conditions of their supervision.[3]

These types of prison admissions are known as technical revocations of parole or probation, and they occur for many reasons. Persons under community supervision face the possibility of revocation when they fail to pay fines, fail to secure suitable housing, fail to complete rehabilitation programs, or fail to comply with any number of conditions that the state imposes on their supervision.[4]

In the next section, we discuss several recent studies that raise questions about the value of supervision in general and technical revocations in particular as tools for improving public safety. Some studies also raise concerns about racial disparities in the sanctions generated by existing community supervision practices.

We study a recent reform to the supervision of released prisoners in Illinois. Sentences in Illinois are determinate. The length of each prisoner's incarceration term is almost completely determined by the details of his sentence, and no parole board has the power to release a prisoner early based on his prospects for rehabilitation or good behavior. Further, each prisoner must serve a term of Mandatory Supervised Release (MSR) when he leaves prison, and the length of each prisoner's MSR term is determined by the class of the crime he committed. Legally, MSR terms are not parole terms because MSR begins when a prisoner has completed serving a determinate sentence. However, for ease of exposition, we will use the term parolees when discussing persons under MSR supervision.

[1] See Kaeble (2023), Table 1 and Table 4.

[2] See Table 8 in Carson and Kluckow (2022). The term "sentenced prisoner" refers to a person who is entering prison or entered prison before being paroled because a court sentenced him to at least one year in prison.

[3] Bushway et al. (2025) estimate that roughly 87 percent of parole revocations are technical. The 2019 report *Confined and Costly*, released by the Council of State Governments, reports that just less than two-thirds of parole revocations are technical and just less than one-half of probation revocations are technical.

[4] In Illinois, these conditions require parolees to check in regularly with parole officers, submit to searches, submit to drug testing, reside in approved housing, avoid possession of guns, avoid possession of narcotics, and avoid contact with known gang members.

In Illinois, crimes fall into one of five classes: X, 1, 2, 3, and 4. Class X is the most serious. Class 4 is the least serious. In 2022, Illinois implemented the SAFE-T Act, which halved the length of supervision terms for most released prisoners. Here, we study the impacts of an amendment to this reform that targeted only class 3 and 4 prisoners. Before December 6, 2022, the state assigned almost all class 3 and 4 prisoners who left prison to one year of supervision, but from this day forward, the state assigned similar prisoners to 6 months of supervision. In contrast, during the 6 month periods before and after December 6, 2022, the state assigned many class 1 and 2 prisoners who left prison to one year of supervision.

We study the impacts of this amendment to the SAFE-T Act on post-release outcomes among class 3 and 4 prisoners using a standard difference-in-differences design that employs class 1 and 2 prisoners as our control group. Among prisoners released between June 6, 2022 and June 5, 2023, we study the first return to prison that we observe for each parolee, and we code each initial return to prison as either a technical revocation or new-crime admission to prison.

Among class 3 and 4 parolees, the December 6, 2022 amendment reduced typical terms of MSR supervision from 12 months to 6 months, and this change reduced prison re-entry rates. Over horizons of 11 to 15 months, the reform reduced reincarceration rates by roughly 10 percentage points or 45 percent of the one-year return rate at baseline. Reductions in technical revocation rates drove these results. The reform had little impact on the incidence of new-crime admissions to prison.

We also conduct analyses on a subsample of released offenders from Cook County. For these persons, we are able to see both their court records and their prison records. This allows us to find cases where the court convicted a recently released offender but sentenced the offender to probation and did not return him to prison. In this sample, we again find that the reform generated large reductions in rates of prison re-entry primarily because the reform produced sharp drops in technical revocation rates. Further, we still find no evidence that the reform increased crime rates among parolees.

In addition, we present results from an empirical model that specifies returns to prison for technical revocations and returns to prison linked to new crimes as competing risks. These results also indicate that shorter terms of post-release supervision substantially reduce prison returns by reducing technical revocation rates, and once again, our results provide no evidence that shorter terms of supervision generate higher recidivism rates.

The results from our competing risks models allow us to conduct several simulation exercises. We simulate post-release outcomes for class 3 and 4 offenders given three different terms of post-release supervision: 3 months, 6 months, and 12 months. We find that reducing supervision terms from 12 months to 3 months

instead of 6 months would have reduced 15-month reincarceration rates by more than half. Technical revocation rates would have declined by roughly 13 percentage points or more than 80 percent, and rates of returns to prison associated with new crimes would not have increased at any horizon.

In the next section, we review the literature on the impacts of post-release supervision. We then describe the implementation of the SAFE-T Act reforms to parole supervision. In section 3, we describe our data, the construction of key variables, and key patterns in our data. Next, we present the empirical models that produce our key results. In section 4, we present results from our main difference-in-differences specifications, and we compare these results to those from models that highlight simple pre vs post comparisons among the sample of class 3 and 4 offenders. In the following section, we present results based on a sample of IDOC prisoners paroled to Cook County whom we are able to match to Cook County court records. In section 6, we present results from a competing risks model, and we use these results to simulate the impacts of setting supervision term lengths to 12, 6, or 3 months. In our concluding section, we discuss the potential public savings that various reforms to community supervision could generate.

1 Related Work

Unlike Illinois, most states in the US operate discretionary parole systems, and many existing studies examine the impacts of variation in time served in prison versus time served under parole supervision among sets of offenders who receive comparable initial prison sentences. See Arbour and Marchand (2025), Kuziemko (2013), Macdonald (2024), Meier et al. (2025), and Zapryanova (2020). These studies exploit rules that assign judges to cases, rules that assign parole board members to hearings, and the details of hearing and sentencing rules to isolate plausibly exogenous variation in the fraction of sentences that are served in prison versus on parole.[5]

As we note above, Illinois operated a determinate sentencing system with fixed terms of post-release supervision both before and after the reform we study. Thus, our paper contributes more directly to existing work that holds time served in prison constant and explores the consequences of policies that alter released prisoners' exposure to the risk of returning to prison as punishment for violations of supervision conditions.

Lofstrom and Raphael (2016) analyze a 2011 reform to parole supervision in California that was part of a broader effort to reduce prison overcrowding. The reform greatly restricted the ability of parole officials to

[5] Lee (2023) examines the tradeoff between time in halfway houses versus standard parole supervision.

send parolees back to prison as punishment for technical violations of parole rules and also assigned low-level released offenders to local probation supervision rather than the state parole system. Following the reform, prison populations declined sharply in less than one year, but Lofstrom and Raphael (2016) found little evidence that crime rates increased. The reform also generated differences among counties in their relative exposure to larger populations of released offenders, but Lofstrom and Raphael (2016) show that this variation does not predict county-level changes in violent crime rates.

Sakoda (2023) analyzes a reform in Kansas that eliminated post-release supervision for persons convicted of minor offenses who had entered prison because they violated a technical condition of their probation supervision. He constructs a control group of persons convicted of similar low-level offenses who were not affected by the reform and finds that eliminating post-release supervision for the treated offenders substantially reduced overall rates of prison re-entry. Further, Sakoda (2023) concludes that the reform did not increase returns to prison associated with a new conviction. Finally, the reform significantly reduced racial disparities in rates of return to prison following release.

Hyatt and Barnes (2017) report the results of an experiment conducted in Philadelphia. The experiment assigned 447 probationers to Intensive Supervised Probation (ISP). The new ISP program involved more face-to-face office meetings between probationers and probation officers, more home visits, more phone contacts, and more drug testing. On all these dimensions, ISP involved at least double the interactions that control subjects experienced in the regular probation system. However, after 12 months, Hyatt and Barnes (2017) observe no difference in offense rates between the treatment and control samples. LaForest-Tucker (2024) uses data from the state of Pennsylvania to assess the impacts of supervision intensity and special parole conditions on post-release outcomes. He concludes that more intense supervision produces more parole violations but has little impact on arrest rates.

The results in Banan and Macdonald (2025) are most closely related to our work. The authors examine a 2011 reform in NC that required nine months of parole supervision for a group of lower level prisoners who would have been released without any post-release supervision if they had been initially arrested and charged prior to the reform. Using a regression discontinuity design they conclude that the introduction of supervision for these released offenders created a 15 percentage-point increase in the one-year rate of prison re-entry. The reform reduced returns to prison associated with new convictions, but roughly one-fourth of those newly subject to supervision returned to prison as punishment for violating a condition of their supervision.[6]

[6]They also find that the introduction of post-release supervision creates higher rates of technical revocations among Black offenders versus white offenders. However, the impacts of supervision on overall rates of return to prison vary little by race.

Here, we analyze the Illinois SAFE-T Act reform, which reduced the length of post-release supervision for a group of low-level offenders from 12 months to 6 months. We find that reducing exposure to supervision by six months reduced the one-year rate of prison re-entry by roughly 10 percentage points, and we find that this reduction is driven almost entirely by a sharp decline in one-year technical revocation rates. We find no evidence that reducing post-release supervision terms by six months changed the rate of returns to prison associated with new crimes.

Our paper, and the papers we discuss above examine parole supervision, but one study of a reform to probation rules is also related to this work. Rose (2020) studies a reform in North Carolina that restricted the ability of probation officials to send persons under their supervision to prison as punishment for violating technical conditions of their supervision. Rose constructs a group of control offenders who are similar on many dimensions to those affected by the reform. However, the control offenders were never at risk of being sanctioned with imprisonment as punishment for violating supervision rules. He finds that the reform generated large reductions in the rate of technical revocations and small increases in arrest rates. He also finds that the reform significantly reduced racial disparities in revocation rates while having trivial impacts on racial disparities in arrest rates.

2 The SAFE-T Act

On February 22, 2021, Illinois passed the SAFE-T Act. The law went into effect on July 1, 2021. The act contained numerous changes to criminal justice laws. We study the impacts of changes to the parole system in Illinois.

Since 1978, Illinois has employed a determinate sentencing system. The state abolished the Parole Board and replaced it with the Prisoner Review Board (PRB). The determinate sentencing approach grants the PRB little discretion over when inmates leave prison. Inmates complete their sentences in prison before release, and as a result, released inmates are not technically on parole. They are serving a term of Mandatory Supervised Release (MSR).[7] Nonetheless, for ease of exposition, we refer to persons under post-release supervision as parolees.

Before the SAFE-T Act, the PRB had almost no discretion over the length of MSR terms. The class of the offense committed by an inmate almost always determined the length of his MSR term. Over the years, a small number of parolees have received shorter MSR terms, most likely because they served part of their

[7] If the PRB revokes MSR and sends a released inmate back to prison, decisions about the length of his stay in prison are tied to the remaining time on his MSR term. See https://icjia.illinois.gov/ for more information.

MSR term in prison while trying to arrange approved housing. Further, among those convicted of crimes in a few designated categories, e.g. certain sex crimes, the law has always mandated longer MSR terms.

The SAFE-T Act shortened baseline MSR terms for many parolees and also granted the PRB limited discretion over the MSR terms assigned to some parolees. The SAFE-T Act reduced the standard MSR term from two years to one year for the vast majority of prisoners sentenced to prison for class 1 and 2 crimes after July 1, 2021. At the start of 2021, almost all class 3 and 4 prisoners faced one-year MSR terms, but the SAFE-T Act stated that, when class 3 and 4 inmates sentenced after July 1, 2022 completed their prison time, the PRB could assign them any MSR term between zero days and one year.

After July 1, 2022, the PRB rarely used its discretion over MSR terms for class 3 and 4 parolees. As a rule, the PRB continued to assign one-year MSR terms to all class 3 and 4 parolees regardless of their sentencing date. Then, on December 6, 2022, the state amended the SAFE-T Act. The amendment did not change MSR terms for class 1 and class 2 offenders, but the amendment fixed the standard MSR term for class 3 and 4 offenders at 6 months.[8]

The provisions in the amendment differed from those in the original bill in two important ways. First, the amendment mandated that the new class 3 and 4 MSR rules were to be applied to class 3 and 4 prisoners released on or after the enactment of the new law regardless of their sentencing date. Second, these new rules took effect immediately, i.e. on December 6, 2022. As a result, the default MSR term for all class 3 and 4 inmates released after December 6, 2022 became 6 months.

We discuss MSR rules in more detail below, but the key observation is that, during the period we study, maximum MSR terms served as default MSR terms. On December 6, 2022, the default MSR terms for released inmates convicted of class 3 or 4 crimes dropped from 12 months to 6 months. However, among all class 1 and 2 inmates sentenced after July 1, 2021, the standard MSR term stood at 12 months both before and after December 6, 2022. This contrast is the key to our research design. We have studied the SAFE-T Act and other related legislation, and we found no other changes in policy during our sample period that impact post-release supervision. In the next section, we explain how we construct a control group from class 1 and 2 inmates that allows us to produce difference-in-differences estimates of the impacts of the change in MSR terms for class 3 and 4 offenders created by the December 6, 2022 amendment.

When researchers study reforms to one part of the criminal justice system, they often explore ways that actors in other parts of the system respond. Some readers may conjecture that prosecutors changed how

[8]The amendment also required that, 45 days after a class 3 or 4 inmate leaves prison, the PRB must review and may alter the length of his MSR term, but IDOC does not post information about these review hearings. Further, our FOIA requests to the PRB for information about individual hearings have been denied. We have found no patterns in the stock files we possess that suggest such modifications were common.

aggressively they charged lower-level offenders when they learned on December 6, 2022 that class 3 and 4 prisoners would no longer serve a full year of MSR after leaving prison. However, even if prosecutors did respond in this way, these responses should not impact our results. Our sample includes prisoners released from prison between June 6, 2022 and June 5, 2023. The minimum possible prison sentence for a felony in Illinois is one year, and the rules that govern credits for time-served in jail or prison imply that it should typically take six months or more for someone to be arrested, convicted, sentenced to prison, and released to MSR. Thus, any person arrested and charged after December 6, 2022 is not likely to appear in our sample. In fact, among the almost 1,800 persons in our sample whom we are able to match to Cook County court records, we found only six who were charged after December 6, 2022.

3 Data

Here, we describe two different data sources. We describe files posted by the Illinois Department of Corrections (IDOC) that characterize prison populations in Illinois, and we then describe a subset of these data that we are able to link to sentencing records from criminal courts in Cook County, Illinois. This matched data set allows us to view court cases brought against released offenders in the months after they exit prison.

3.1 IDOC Data

Appendix B.1 discusses how we clean and use the files that IDOC posts concerning admissions to prison, exits from prison, current inmate status, and current parole status.[9]

We employ data posted by IDOC since the beginning of 2014 when the exit records begin. The admission records begin in 2018. We combine these records with the MSR and IDOC stock reports to build IDOC histories for each person who was in an IDOC prison in 2014 or has entered an IDOC prison since 2014. These histories allow us to create summary measures of each inmate's history of imprisonment and MSR experiences.

We build our main analysis sample in several steps. To begin, we use the 2022 and 2023 exit files to create a sample of prisoners released to MSR from prison between June 6, 2022 and June 5, 2023. Next, we drop all class X prisoners and all those convicted of offenses not covered by the SAFE-T Act amendment.[10] We

[9] See https://idoc.illinois.gov/reportsandstatistics/populationdatasets.html.
[10] For example, the amendment did not reduce MSR terms for persons serving time for many sex crimes.

then drop all class 1 and 2 prisoners sentenced before July 1, 2021, and we also drop class 1 and 2 prisoners sentenced after July 1, 2021 who were sentenced to less than two years or more than four years in prison. The minimum statutory sentence for class 2 offenders is three years, and sentences shorter than two years are quite rare among class 1 and 2 offenders. While judges have some discretion, a class 1 or class 2 sentence shorter than two years may be a signal that the offense class in the IDOC record is incorrect. We do not include class 1 and 2 offenders sentenced to more than four years, because we want a sample of inmates who could have reasonably expected to be released in our observation window when they entered prison.[11]

Finally, we drop all exiting prisoners who received MSR terms that exceed 400 days. Given our sample selection rules, no class 1 through 4 prisoner in our sample should receive more than one year of MSR. However, we see a small number of cases where such prisoners receive 2, 3, and even 4 years of MSR. When these prisoners are sentenced in Cook County, Illinois, we are often able to examine their case records, and we have found that these prisoners are typically supposed to receive 2, 3, or 4 years of MSR because they were convicted of both a Class X offense and a less serious offense, but IDOC recorded the class for the less serious offense. In addition, others receive multiple-year MSR terms because they were sentenced for a particular type of crime, e.g. certain sex offenses, that the state exempts from the standard MSR term schedule and designates for longer MSR terms.

In the end, we have a sample of exits to MSR among class 1 and 2 prisoners whom we expect to receive 12-month MSR terms and, in practice, IDOC data report that they almost always do. Further, we have a sample of class 3 and 4 prisoners who, in the vast majority of cases, receive 12-month MSR terms if they exit before December 6, 2022 but receive 6-month terms if they exit after December 31, 2022.

We are not sure how to characterize the MSR terms of those class 3 and 4 offenders who exit between December 6, 2022 and December 31, 2022. The 2022 IDOC exit files and the 2023 March MSR stock files indicate that the state assigned these prisoners one year of MSR supervision, which appears to be in violation of the December 6, 2022 amendment to the SAFE-T Act. However, these same prisoners are not present in the June 30, 2023 MSR files, and this indicates that they were not required to serve more than 6 months of MSR. Given this pattern, we have no way of knowing when these parolees or their supervisors learned that they were not required to serve 12 months on MSR. Since horizon effects may impact how

[11] Given the standard day-for-day time-served credits granted for jail time as well as standard credits for satisfactory time-served while in prison, the vast majority of class 1 and 2 offenders sentenced after July 1, 2021 to more than four years in prison should not have expected to be released until after June 05, 2023. As a robustness check, we have estimated our main difference-in-differences models, see section 4.2 below, using the full sample of class 1 and 2 offenders sentenced after July 1, 2021, and the results are quite consistent with the results we present below. Here, the reductions in returns to prison generated by the amendment to the SAFE-T Act are slightly larger than those we report in our main results, and we still see no increase in new-crime returns to prison.

parolees respond to supervision, these parolees are partially but not fully treated. Therefore, we do not include them in our estimation sample.

We employ IDOC data posted through September 30, 2025. Since the last prison release in our sample occurs in early June of 2023, we are able to measure post-release custody outcomes for roughly 28 months or more for all prisoners released in our sample. We do not attempt to measure post-release outcomes over horizons beyond 15 months after exiting prison. Our empirical models require that we distinguish between returns to prison that result from convictions that produce new prison sentences and returns to prison that result from technical violations of supervision conditions.[12] Each admission record contains an admission type. For most returns to prison in our sample, the type is technical revocation. For a smaller set, the type is new-sentence admission. However, we learn with a lag that many of the admissions marked technical revocation are associated with new court cases. The following scenario illustrates this point: Parolee A is arrested for a new crime, and the local sheriff reports the arrest to IDOC. IDOC then transports Parolee A from the county jail to an IDOC facility, and IDOC records A's return to prison as a technical revocation of supervision. The PRB then holds a hearing and revokes Parolee A's supervision. In the coming months, IDOC transports A back and forth to the local courthouse for his trial, and eventually, the local court convicts Parolee A and sentences him to a new prison term. At this point, IDOC records the new sentencing date in the prison population files, and we are able to determine that a new court case likely created the admission that IDOC originally recorded as technical revocation. The roughly 13-month interval between the end of our 15-month outcome window and the end of our almost 28-month observation window helps us to code these cases correctly. We use the term "new-crime admission" to denote all admissions that IDOC marks as a new-sentence admission plus all technical revocations that we are able to link to a court case.

3.2 Cook County Court Records

We employ docket data from the Cook County Circuit Court. These data cover cases filed between the start of 2010 and September 2025. These records include charging and sentencing information for each misdemeanor and felony case brought before the court. They also include fingerprint numbers that allow us to track unique defendants across multiple cases.

We match our IDOC data to the Cook County court data using names and the sentencing dates associated

[12] Our IDOC data do not contain the dates of final revocation hearings or the rulings in these hearings. Thus, some of the parolees who return to prison in the category of technical revocation leave prison when the PRB holds a hearing and decides not to revoke their supervision. Based on information we can piece together from viewing revocation hearings, studying hearing schedules, and examining exit records, we feel certain that vast majority of persons in this category still spend at least two weeks in prison waiting for their hearing.

with the prison sentence that created the period of incarceration that ended with a release to MSR during our sample window: June 6, 2022 through December 6, 2022 plus January 1, 2023 through June 5, 2023. We declare a match if we find records that satisfy two criteria. Both first and last names in the IDOC and court data must match, and the sentencing dates in the two records must differ by no more than 7 days. We found matches for 94 percent of the IDOC prison spells that both end as release events in our IDOC sample and begin as prison admissions from Cook County.[13]

Once we have identified the defendants in these matched records, we search court records during the months following each defendant's release from prison for new cases brought against each defendant. We restrict attention to court cases that begin within 15 months of the defendant's release from prison. If there are multiple court cases, we keep the one with the most serious outcome. We then place each defendant in one of five categories: No Case, Misdemeanor, Felony with No Conviction, Felony Conviction but no prison sentence, and Felony Conviction with a prison sentence.[14]

4 Results

Here, we present results from several different models that employ our sample of IDOC records for the entire state of Illinois. We then present complimentary results derived from the sample of IDOC parolees that we match to sentencing records in the Cook County court records.

4.1 Descriptive Statistics

Table 1 presents descriptive statistics for four samples of offenders. Panel A describes the outcomes we analyze. Panel B provides information on the characteristics of released inmates. The far left column presents results for the sample of class 1 and 2 offenders released between June 6, 2022 and December 5, 2022. The next column presents results for class 3 and 4 offenders released in the same period. The final two columns present parallel results for offenders released between January 1, 2023 and June 5, 2023. In all samples, the releases that we examine are the first releases from prison for a given offender in the period June 6, 2022 to June 5, 2023.[15]

[13] We allow either first or last name to match phonetically by soundex but not both. If we require letter-perfect matches on first name and last name and an exact match on sentencing date, our match rate falls to 87 percent.

[14] We do not attempt to distinguish between misdemeanor acquittals and convictions because misdemeanor defendants in Cook County commonly have their cases stricken in return for adhering to certain conditions. There is no reliable way to know whether these stricken cases are functionally dropped charges or plea bargains that require the defendant to tolerate supervision, perform community service, etc.

[15] Almost five thousand sentenced prisoners exit Illinois prisons during our sample period whom we do not include in our sample. Roughly 90 percent completed sentences for Class X offenses, sentences linked to crimes not covered by the MSR

The rows of Panel A present mean custody outcomes for each sample of releases. We construct three sets of indicator variables. Each marks a different type of return to prison, and we measure each type of return over fixed observation windows that follow an offender's release from prison. The first indicator is Any Return to Prison. The second is Technical Revocation, which equals one if the first return to prison results from a technical revocation of supervision. New-Crime Admission equals one if the first return to prison is linked to a new sentence for a new crime.

Several patterns in Panel A are noteworthy. Among our class 1 and 2 offenders, 20.6 percent of those released before December 6, 2022 return to prison within 12 months, and 22.4 percent of those released in 2023 return to prison within 12 months. Among class 3 and 4 prisoners, 22.2 percent of those released before December 6, 2022 return to prison within one year, but here the corresponding rate among those released in 2023 is only 15.2 percent. This drop in the rate of returns to prison is statistically significant, and it is driven almost entirely by a corresponding drop in the rate of returns to prison that result from technical revocations of MSR. This one-year rate drops from 14.8 percent to 8.4 percent, and this change is also significant. Among class 1 and 2 offenders, the one-year rate of technical revocation among those released in 2023 is just over three percentage points higher than the rate between June 6, 2022 and December 5, 2022. However, this change is not statistically significant. The patterns we observe at the 15-month horizon are quite similar.

In the sections that follow, we demonstrate that the December 6, 2022 amendment to the SAFE-T Act drove the sharp 2023 drop in total returns to prison among class 3 and 4 prisoners. We also show that the reform had minor impacts on returns to prison associated with new criminal charges. The amendment reduced prison re-entry rates because it reduced technical revocation rates.

Panel B of Table 1 presents demographic characteristics of these released defendants in each sample. Few differences are noteworthy. Class 1 and 2 parolees have about one additional prior admission for a conviction linked to a crime in class X, 1, or 2. This is not surprising given that their last admission resulted from either a class 1 or class 2 conviction. The class 3 and 4 sample is just over 50 percent Black, while the class 1 and 2 sample is roughly 55 percent Black. On other dimensions, the prisoners in these four samples are quite comparable.

In the next section, we present results from three different types of empirical models. Our main specification is a difference-in-difference model of the impacts of the change in maximum MSR terms among class 3 and 4 prisoners using class 1 and 2 prisoners as a control group. We also present

reforms, or sentences that began before the original implementation of the SAFE-T Act. These parolees face 15-month re-entry rates that are roughly three percentage points higher than the rates in our sample because they face higher revocation rates.

instrumental variables estimates of the changes in outcomes associated with a 6-month increase in the length of MSR terms. We then present results from a simple pre-post regression model that employs only data on class 3 and 4 prisoners.

4.2 Difference-in-Differences Models

Let $Y(M)$ denote a potential, post-release outcome for a released prisoner who exits under a prison regime where M is the maximum MSR term that prisoners may receive, $M \in \{6, 12\}$. In our context, maximum terms are also default terms.

Our main empirical models provide estimates of $E(Y(6) - Y(12))$ for 42 different potential outcomes. We estimate effects on our three outcome indicators: Any Return to Prison, Technical Revocation, and New-Crime Admission. Further, we measure these outcomes over 14 different monthly horizons, starting at 2 months and running through 15 months following release from prison.

We use the admission type information in the admission files to classify returns to prison as either the result of a technical violation or the result of a new criminal case. As we note above, we use admission information as well as sentencing information in the stock files to recode some admissions that were originally recorded as technical revocations violations but later linked to new court cases. We also use custody dates in the admission records to mark the date that released offenders who were re-admitted to prison for new crimes were taken into either IDOC custody or the custody of a local sheriff. We mark these dates as the beginning of offenders' re-incarceration spells.

For each of our three outcome types, we estimate 14 regression models that take the following form

$$y_{is} = [\text{treat*post}]_i \theta_s + \sum_c c_i \alpha_{cs} + \sum_t t_i \gamma_{ts} + X_i \beta_s + e_{is} \tag{1}$$

where

- y_{is} is an indicator variable for the observation of a specific type of event, e.g. a return to prison associated with a technical revocation, during a period of $s \in \{2, 3, ..., 15\}$ months following prisoner i's exit from prison to MSR.
- $[\text{treat*post}]_i$ equals one if prisoner i is a class 3 or 4 prisoner who leaves prison in 2023. These prisoners face a maximum MSR term of 6 months. All other prisoners in our sample face a maximum MSR term of 12 months.

- c_i is an indicator that equals one if prisoner i belongs to class $c \in \{1, 2, 3, 4\}$.
- t_i is an indicator that equals one if prisoner i exits prison in period $t \in \{1, 2, .., 6, 8, 9, .., 12\}$.
- X_i is a vector of demographic and criminal history variables that characterize prisoner i. See Panel B of Table 1.
- e_{is} captures unobserved factors that influence an outcome for prisoner i.

We assume that $E(e_{is}|X_i, c_i, t_i) = 0 \ \forall i$. This implies that $E(Y_s(6) - Y_s(12)|X, c, t) = \theta_s$ for each type of outcome measured at all horizons s.

We present results for three sets of indicator variables that mark the observation of a specific type of event, e.g. a return to prison due to a technical revocation, over a set of different monthly observation windows, e.g. 12 months following release from prison.

We define time periods that date release from prison, t, using calendar months. We divide the June 6, 2022 to December 5, 2022 period into 6 one-month periods. Period 7 is the period from December 6, 2022 to December 31, 2022. We explain in the previous section that we omit prisoners released during this period from our main analyses because their treatment status is uncertain. Periods 8 through 11 are monthly periods that mark the first four months of 2023. Period 12 is May 1, 2023 to June 5, 2023.

Since maximum MSR terms are determined by the intersection of class and time, and our specification contains a full set of class and time indicators, $\hat{\theta}_s$ is a difference-in-differences estimator of the impact of reducing maximum MSR terms from 12 to 6 months among class 3 and 4 offenders. Our model uses class 1 and 2 offenders as a control group for these class 3 and 4 offenders. By assuming that $E(e_{is}|X_i, c_i, t_i) = 0 \, \forall i$, we impose a standard parallel trends assumption. Given other observed prisoner characteristics, expected outcomes among prisoners released in the same month who are convicted of crimes in different classes differ by the constants, α_{cs}. The time effects, γ_{ts}, are common to prisoners from all classes.

To test the assumption of parallel trends, we estimate versions of equation 1 that contain a full set of interactions between release-time and treatment eligibility rather than a single set of time effects. Figure 1 plots the estimated coefficients on these interaction terms from these regression models. Each panel presents results for a specific outcome measured over the 12-month window following release from prison. We present standard F-tests for the null hypotheses that the interaction terms in each panel are zero during periods one through 6, i.e. the 6 months before December 6, 2022.

Panels A, B, and C present the results for Any Return to Prison, Technical Revocation, and New-Crime Admission. In all three cases, the figures offer no evidence of differences in pre-trends between our treatment sample of class 3 and 4 offenders and our control sample of class 1 and 2 prisoners. The p-values on the three F-tests are all greater than .788.[16]

We now turn to our estimates of θ_s for each of our three outcomes measured at different horizons s. Figure 2 presents these results. Each dot on these graphs is an estimate of θ_s from one of our regressions. For each outcome, we plot $\hat{\theta}_s$, where $s = 2, 3, .., 15$ is the number of months in the observation window that follows a prisoner's release from prison. We plot 95-percent confidence intervals around these estimates.[17] As before, Panel A presents results for Any Return to Prison. Panel B presents the Technical Revocation results, and Panel C presents the New-Crime Admission results.

Panel A shows no statistically significant impact on returns to prison within observation windows less than 6 months following release from prison. However, by 6 months, we see that the reform lowers the rate of return to prison by 5.2 percentage points, and the sizes of the estimated reductions in rates of return to prison grow steadily as we move from the 6-month observation window to the 11-month horizon. At 11 months, our results imply that the reform reduced the rate of return to prison by 10 percentage points, and the top of the 95-percent confidence interval is associated with a 4.6 percentage point reduction in the rate of prison re-entry. For the horizons of 12, 13, 14, and 15 months, our estimates of the impacts of the reform on returns to prison imply reductions in return rates that range from 9.7 to 10.9 percentage points. Table 1 reports that the 15-month return rate among class 3 and 4 parolees released in the six months before the SAFE-T Act amendment is 24.3 percent.

Panel B shows that the results in Panel A are primarily driven by the impact of the reform on returns to prison associated with technical revocations of MSR. For horizons of 8 to 11 months, the implied reductions in returns to prison resulting from technical revocations of MSR are quite close to the corresponding reduction in total returns to prison. For horizons of 12 months or more, the reductions in returns to prison for technical violations are slightly larger in the magnitude than the corresponding reductions in total returns to prison, but the largest difference is 0.6 percentage points. In sum, Panels A and B present impact estimates that are quite similar.

Some readers may wonder why the impact of the reform on technical revocations is roughly one percentage-point larger at the 13-month horizon compared to the 12-month horizon. No parolee in our sample is assigned a supervision term greater than 12 months, so these parolees should not be under

[16] We construct 95-percent confidence intervals using Huber-White standard errors.
[17] We use Huber-White standard errors.

supervision in month 13. However, parolees may be held in custody by local authorities while they are on MSR, either due to arrest or because there is a warrant from IDOC alleging that they violated the conditions of their supervision. Since these parolees do not receive MSR credit for the time they spend in local custody, some return to prison as technical revocation admissions after the date of their expected exit date from MSR.

Panel C shows that the reform had no statistically significant impacts on rates of return to prison associated with new crimes. Further, the largest point estimate in magnitude is the 0.7 percentage point increase at the 14 month horizon. Total returns to prison are the sum of technical revocations and new-crime admissions, and Panels A and B show that changes in technical revocations account for almost all of the changes in total returns to prison attributable to the reform.

The results in Panel C may seem puzzling to some readers. If the reform reduced the one-year rate of return to prison for technical violations by 10 percentage points, the reform reduced the fraction of released prisoners who were incapacitated at some point during the first year following their release from prison. Although periods of incarceration associated with technical revocations often last only a few months, this reduction in the number of incapacitated parolees should increase overall offending rates among parolees, all else equal.

However, all else is not equal. We are not studying a reform that holds the scheduled duration of supervision constant while changing rules that govern the capacity of parole officials to return persons to prison for technical reasons. We are studying a reform that reduces scheduled exposure to supervision. If supervision has direct impacts on the rate that new crimes are detected by police or if supervision hampers rather than aids the efforts that released offenders make to engage in activities that are legal and productive, then reduced exposure to supervision may also directly reduce the rate at which released prisoners face new charges.[18]

4.3 Instrumental Variables

In Figure 2, we report the average impacts of releasing prisoners under a regime that limits MSR terms to 6 months instead of twelve months. Here, we use this change in maximum MSR terms as an instrument for the change in assigned MSR terms at the individual level. For the standard instrument monotonicity

[18] See Lofstrom and Raphael (2016) and Rose (2020) for work on these types of reforms. In his study of probation supervision in North Carolina, Rose (2020) calculates accuracy rates that measure the probabilities that different types of persons who were not revoked under the new rules but would have been revoked in the previous regime are arrested while on probation. We do not follow the Rose (2020) approach because we believe that, while the precise rules that trigger technical revocation may have no impact on the arrival of new charges, the length of supervision terms likely does.

condition to hold in our setting, we must assume that lowering the maximum allowed MSR term never increases the assigned MSR term. When assessing this condition, readers may recall from Section 2 that, before December 6, 2022, existing law gave the PRB the option to assign any MSR term less than one year to class 3 and 4 prisoners sentenced after July 1, 2022 and released before December 6, 2022. If the PRB had ever used this discretion to assign MSR terms of less than 6 months to these offenders, they would have assigned a term shorter than the 6-month term required by law after December 6, 2022. However, we find no case that fits this description. The December 6, 2022 reform not only lowered the maximum MSR term for all class 3 and 4 offenders, it lowered the assigned MSR term for all class 3 and 4 offenders who entered MSR.[19]

We estimate three sets of 2SLS models. The outcome equations in these models are just like equation 1 above except we replace post*treat$_i$ with msr_i, the number of days of MSR supervision assigned to prisoner i, and we employ post*treat$_i$ as an instrument for msr_i.

Figure 3 presents the results. Each panel presents estimates of the impacts of increasing assigned MSR terms from 6 months to 12 months. As a result, they are opposite in sign when compared to the corresponding difference-in-differences results in Figure 2.

Nonetheless, the results in Figure 3 are quite comparable in magnitude to the corresponding results in Figure 2. For example, at horizons of 12 months or more, Panel A reports that increasing supervision terms from 6 to 12 months increases total returns to prison, on average, by roughly 10.9 percentage points. By comparison, Panel A of Figure 2 reports that, over the same horizons, the average impact of reducing the maximum MSR term from 12 months to 6 months is an absolute reduction in total returns to prison of just less than 10.4 percentage points.

In our sample period, the PRB assigns the maximum possible MSR term to over 98 percent of released prisoners, so the strong correlation between the absolute magnitudes of the estimates in Figures 2 and 3 is expected. We see the same strong correlations in Panels B and C, which present results for impacts on technical revocations and returns to prison resulting from new charges.

4.4 Pre-Post Comparisons

We also estimate simple pre-post regressions that take the form

[19] There is one case with an assigned MSR term of 24 days, but this is likely to reflect credit for time-served in prison waiting for a suitable housing placement.

$$y_{is} = \text{post}_i \theta_s + \sum_{c \in \{3,4\}} \text{c}_i \alpha_{cs} + X_i \beta_s + e_{is} \tag{2}$$

Here, we identify each θ_s using differences in mean outcomes in the post-reform versus pre-reform period among class 3 and 4 offenders only. We condition on crime class and our vector of observed case and offender characteristics, X_i, but the results are quite similar if we just take raw differences in means. Figure 4 presents these results. Qualitatively, they follow the same patterns we see in Figure 2. However, the absolute magnitudes of the implied reduction in total returns to prison and returns associated with technical revocations are typically 3.5 to 5 percentage points smaller in magnitude at longer horizons.

Appendix Figure 1 presents results from a similar model that includes a linear trend in date of release from prison. The standard errors on our estimates of the reform impacts are larger given the time-trend control. Nonetheless, at longer horizons, the reductions in total returns to prison and returns due to technical revocations remain statistically significant and similar in magnitude. Further, at horizons greater than 10 months, reductions in technical revocations attributable to the reform are 2 to 3 percentage points larger than the corresponding impacts reported in Figure 4.

4.5 Results By Race

We have estimated our main difference-in-differences models separately on samples of Black vs Non-Black parolees. The results for both samples are quite similar to those for the full sample, but the standard errors are larger, so all of the statistically significant impacts are for horizons of ten months or greater. None of the differences by race in any of our three outcomes at any horizon are noteworthy in absolute levels or relative to the relevant confidence intervals.

5 Results from Matched IDOC-Court Records

IDOC records indicate that the SAFE-T Act amendment created a sharp reduction in returns to prison associated with technical revocations of supervision without creating an increase in prison admissions linked to new criminal charges. However, our IDOC data do not provide a complete record of all court cases brought against the parolees in our sample. Here, we describe results that we produce by matching IDOC parolees with their court records from Cook County. These results provide a more complete accounting of how the SAFE-T Act amendment affected recidivism. We begin by describing the relevant

information in these records.

We know from work on this project and previous work with Cook County Court records[20] that there are cases where a parolee faces a technical revocation around the time a felony case against him appears in court, and then sometime later, the court convicts the parolee and hands down a new prison sentence.[21] We have searched our IDOC records for these events, and we code returns to prison as new-crime admissions when we find such cases. However, if IDOC has not updated all technical revocation admissions that are later associated with a new sentence or if we have not found all the relevant revisions to IDOC records, our new-crime admission measure may miss some felony convictions that produced new prison sentences.[22] Court records allow us to better measure these convictions.

Further, some parolees face charges that lead to felony convictions but not returns to prison. These offenders receive probation sentences and also avoid technical revocations. Our IDOC data provide no information about these recidivism events, but our court data allow us to identify them.[23]

Section 3.2 above describes how we create a sample of parolees released to Cook County and then match these offenders to their court records. For these offenders, we see all of their IDOC records, and we see the following court records: (i) the prison sentence that led to the prison spell that ended during our sample period (ii) any new cases, new convictions, and new prison sentences that follow each parolee's release from prison.

Our IDOC data contain 1,896 parolees from Cook County. We are able to match 94 percent of these parolees to Court records in Cook County. Appendix B.2 provides more details about these data and how we construct variables that describe court outcomes. Appendix Table 1 compares the characteristics of our matched sample and the 6 percent of Cook parolees that we are not able to match. The 112 parolees that we do not match are less likely to be Black (.63 vs .76) and more likely to be class 1 parolees (.07 to .03), but they are similar on other dimensions.

Table 2 describes the outcomes we observe for the sample of 1,784 released prisoners that we match to Cook County court records. The rows describe the most serious outcome we observe in the court data. The columns describe the outcomes we observe in IDOC data. Each cell contains the count of persons in the

[20] See Jordan et al. (2025).

[21] These defendants are often held in IDOC facilities while their cases proceed through court, and IDOC transports them back and forth between the prison and court for hearings.

[22] Among class 3 and 4 parolees, the frequency of felony convictions associated with technical revocations in the IDOC records may be greater before the December 6, 2022 reform. After the reform, parolees are less exposed to technical revocation risk, and new court sentences are the only path to prison once they have completed 6 months of post-release supervision. Thus, our results in Panel C of Figure 2 may overstate crime rates among treated offenders in the post-period relative to the pre-period.

[23] This outcome occurs for less than two percent of our Cook County parolees. We have no way to measure these events in other counties.

cell and the row percentage. For example, 1,240 persons or 70 percent of our sample are not present in the Cook County court records during the first 15 months following their release. However, 87 persons or 7 percent of this group nonetheless enter prison as new-crime admissions. This outcome is not shocking because parolees released to Cook County may be arrested, convicted, and sentenced to prison in any county in the state, and many urban areas surround Cook County.[24]

Given these data, we define a new recidivism indicator. Any New Crime equals one if the court reports a felony conviction for the parolee or IDOC records a new-crime prison admission. This recidivism measure captures all felony convictions in Cook County and all felony convictions in other counties that result in a new-crime admission.

We estimate two versions of our standard difference-in-differences model using the matched Court-IDOC sample. First, we use just the IDOC records for parolees in this sample to create estimates of the impacts of the SAFE-T Act amendment on our standard measure of new-crime admissions to IDOC. Panel C of Figure 2 above presents these results for our full IDOC sample. Panel A of Figure 5 presents parallel results for our Cook County sample. In both figures, we see small and positive impact estimates at horizons greater than 12 months. However, none of these effects are statistically significant. Both sets of results indicate that the amendment to the SAFE-T Act did not impact post-release, new-crime admissions to prison, and this result holds at all horizons in both figures. Appendix Figure 2 presents difference-in-differences estimates of the impacts of the reform on total prison re-admissions and technical revocation rates among Cook County parolees, and these results are also similar to the full sample results presented in panels A and B of Figure 2.[25]

Panel B of Figure 5 presents parallel results for Cook County that employ Any New Crime as the recidivism outcome. The SAFE-T Act amendment has no significant impacts on this measure of recidivism either. Here, the point estimates imply that, at longer horizons, the SAFE-T Act amendment generated a small reduction in recidivism rates. Nonetheless, at each horizon, the estimated treatment effects in both Panels A and B of Figure 5 are not statistically significant, and at every horizon of 6 months or greater, our estimates of the impacts of the reform on Any New Crime are slightly more negative than the corresponding impacts on new-crime admissions to prison.

For several reasons, we do not treat the one-half of all felony cases that fail to produce a conviction as recidivism events. Many patterns in the court data are consistent with the view that a non-trivial number

[24] DuPage, Kane, McHenry, Lake, and Will are the most populous Illinois counties other than Cook, and they all border Cook.

[25] Here, the impact estimates imply long-term reductions in revocation rates and overall prison re-entry rates that are slightly larger.

of felony cases are weak.[26] Further, existing research shows that, conditional on facing a felony charge, receiving a felony conviction has additional negative consequences for the defendant.[27]

However, to give readers an exhaustive understanding of the patterns in our data, we present parallel results for a more comprehensive recidivism indicator. Any New Charge equals one if Any New Crime equals one or if a felony charge is brought against the defendant that does not result in a conviction. Appendix Figure 3 presents difference-in-differences estimates of the impact of the reform on this outcome. The results are quite similar to those for Any New Crime in Panel B of Figure 5. The point estimates imply that the felony charge rate falls by 5 percentage points at the one-year horizon and by 1 percentage point at the 15-month horizon, but neither of these results or any of the impact estimates at other horizons are statistically significant.

We do not count misdemeanor charges as recidivism events for several reasons. First, Cook County courts frequently drop or dismiss the charges. Further, it is often difficult to determine whether cases that end with minor supervision requirements are effectively dropped charges or plea bargains.[28] In addition, Appendix Table 2 provides the information in Table 2 for four subsamples defined by treatment status and pre vs post reform release dates, and the four panels of this table show that the reform did not change the rate of misdemeanor filings among treated or control parolees. In both the treatment and control samples, the pre-post difference in the rate of misdemeanor filings is less than one percentage point and neither difference is close to statistically significant.[29]

The results from our matched IDOC-Court Sample provide no evidence that the SAFE-T Act amendment harmed public safety. We note above that our matched sample is not a random sample of Cook County parolees, but it is crucial to note that we do match 94 percent of this target sample. In potential outcomes notation, our difference-in-differences estimate of the impact of the SAFE-T Act amendment on new crime events among Cook County parolees at horizon s is an consistent estimator for $E\big[Y_s(6) - Y_s(12)|C = 1\big]$. Here, $C = 1$ means that we are able to match the parolee's records to court records, and $Y_s(M)$ is our indicator for Any New Crime measured over the first s months following release from prison in a policy regime where the maximum MSR term is M months. Given our 94 percent match rate, the following holds for the population of Cook County parolees:

[26] When police file non-drug charges, the charges do not become a felony case unless they survive an initial review by prosecutors. However, even given this initial review, only 65 percent of cases produce a conviction, in large part, because prosecutors drop or the court dismisses many cases without a trial. Drug cases do not require an initial review by prosecutors, and here, only 21 percent of felony cases generate a conviction. See (Jordan, 2024) for more details.

[27] Felony convictions lead to both formal collateral consequences, such as exclusion from certain professions and loss of access to public benefits, and informal difficulties finding employment (Pager, 2003; Uggen et al., 2014).

[28] Prosecutors in Cook County often make non-conviction a part of misdemeanor plea deals (Jordan, 2025).

[29] Among the four samples defined by the intersection of indicators for treatment and the post period, the rate of misdemeanor filings ranges from 9.8 to 10.8 percent.

$$E\big[Y_s(6) - Y_s(12)\big] = E\big[Y_s(6) - Y_s(12)|C = 1\big] * .94 \; + \; E\big[Y_s(6) - Y_s(12)|C = 0\big] * .06$$

Figure 5 reports that when $s = 15$ months and Y is our indicator for Any New Crime, $\hat{E}\big[Y_s(6) - Y_s(12)|C = 1\big] = -.018$. If we substitute this sample moment into the equation above, we conclude that as long as $E\big[Y_s(6) - Y_s(12)|C = 0\big] \leq .28$, we have the population result $E\big[Y_s(6) - Y_s(12)\big] \leq 0$ for $s = 15$. Since the mean of Any New Crime is just over .16 in our matched sample, an increase of .28 seems unlikely. In sum, we view our results as strong evidence that, among Cook County parolees, the SAFE-T Act did not increase crime rates during the first 15 months following release from prison.[30]

6 Competing Risks Analysis

Results from our regression models establish that, by reducing MSR terms from 12 months to 6 months, the SAFE-T Act amendment reduced rates of prison re-entry among class 3 and 4 prisoners. Further, this reduction in returns to prison is driven by a reduction in returns to prison associated with technical revocations. The reform had little impact on the likelihood that released inmates returned to prison because they committed a new crime.

However, because technical revocations and new-crime admissions are competing risks, these results provide no direct evidence about the impact of supervision on the latent risk of revocation or the arrival rate of new criminal charges. For example, it is possible that active supervision increases the arrival rate of new charges against released offenders, but we do not see new-crime admissions drop after the reform because the reduction in revocations reduced the number of parolees who were incapacitated and therefore increased the number exposed to the risk of facing a new charge.

In this section, we estimate a competing-risks model. We model the risk of technical revocation and the risk of new-crime prison admissions. We cannot measure the direct impact of active supervision on these risks because IDOC data do not provide complete information about the presence or absence of MSR supervision. In rare cases, parolees may receive early release from supervision, but IDOC does not record these events. Further, the PRB may extend periods of supervision as punishment for minor rules violations, and IDOC does not record these decisions.[31]

[30] Note that $.28 * .06 = .0168$ and $-.018 * .94 = -.0169$. Similar calculations point to similar conclusions for all horizons from 6 months through 14 months.

[31] The PRB has denied our FOIA requests for hearing information.

Given these measurement challenges, we estimate how the lengths of scheduled terms of supervision impact behavior. We model the arrival of the first failure event, which is either a prison admission due to a technical revocation or a re-incarceration due to a new crime. We maximize the following likelihood function

$$
\begin{aligned}
L = \Pi_i \, [\, [(F_{rv}(\tau_i + 1|\tilde{X}_i) - F_{rv}(\tau_i|\tilde{X}_i)] * [1 - F_{nc}(\tau_i|\tilde{X}_i)] \,]^{rv_i*(1-R_i)} \; * \\
[\, [(F_{nc}(\tau_i + 1|\tilde{X}_i) - F_{nc}(\tau_i|\tilde{X}_i)] * [1 - F_{rv}(\tau_i|\tilde{X}_i)] \,]^{nc_i*(1-R_i)} \; * \\
[\, [1 - F_{rv}(\tau_i|\tilde{X}_i)] * [1 - F_{nc}(\tau_i|\tilde{X}_i)] \,]^{R_i}
\end{aligned} \tag{3}
$$

As before, i indexes individuals. We adopt the following notation:

- τ_i is the observed survival time for i.
- $\tilde{X}_i = \{X_i, c_i, t_i, k(msr_i)\}$ – we define X_i, c_i and t_i as in section 4.2. msr_i is the term of supervision assigned to released offender i. $k(msr_i)$ is a vector of terms that describe parolee i's supervision status. The omitted category involves active supervision that is scheduled to last at least another month. The first indicator marks the last month of scheduled supervision. The next indicator marks the first month after scheduled supervision ends. The final indicator equals one for all future months.
- rv_i – is an indicator that equals one if the first failure for i is a return to prison due to revocation.
- nc_i – is an indicator that equals one if the first failure for i is a return to prison associated with a new crime.
- $F_{rv}(\cdot|\tilde{X}_i)$ – is the conditional distribution of arrival times for technical revocation events.
- $F_{nc}(\cdot|\tilde{X}_i)$ – is the conditional distribution of arrival times for returns to prison linked to new criminal charges.
- R_i – is an indicator for whether the post-release spell for prisoner i is right-censored.

Conditional on $\tilde{X}_i$, we treat the two types of failures as independent events, and we treat both failure events as draws from continuous-time distributions. However, we record failure events at 15-day

intervals.[32] The first term in the likelihood is the probability of observing a revocation failure after τ_i but before $\tau_i + 1$. This is the product of the τ_i-specific hazard rate of new revocation failures and the probability that neither failure occurs before τ_i. The second term is the analogous expression for new crime failures between τ_i and $\tau_i + 1$. The final term is the probability that neither event occurs between the date that offender i is released and September 30, 2025.

We estimate the model using a proportional hazards specification. We include controls for crime class and several other defendant characteristics. Table 3 presents our estimates of the impacts of these characteristics on the hazard rates of revocations events and returns to prison associated with new crimes. Persons with more prior prison admissions face higher risks of both technical revocation and new criminal sentences to prison. Males are also more likely to experience both failures. The revocation rate for Black parolees is 24 percent greater than the revocation rate for comparable parolees who are neither Black nor Hispanic. However, both Black and Hispanic parolees face much lower risks of returning to prison for new crimes than comparable parolees who are neither Black nor Hispanic.[33]

We control for duration dependence using a step function in months since release from prison. In the revocation hazard, we also include three controls that describe current duration relative to the scheduled release date from MSR. The first equals one if the offender has less than one month of scheduled MSR remaining. The second equals one if the offender is in the first month following his scheduled MSR release date. The third equals one if the offender is more than one month past the end of his scheduled MSR term. We include the first indicator to address the possibility that parolees are more careful to follow MSR rules when they know that they can soon earn release by avoiding violations. We include the two indicators that divide the period after scheduled MSR ends because, as we explain above, supervision may extend for short periods after the scheduled MSR release date if the PRB extends supervision to sanction rules violations or if parolees are held in local jails during their scheduled period of supervision.[34]

We find that, holding defendant characteristics constant, the risk of technical revocations falls sharply after the scheduled term of MSR supervision ends. The risk of revocation falls by 80 percent during the first month after a parolee's scheduled MSR release date and then drops further to 10 percent of the baseline revocation risk, and both effects are statistically significant. The risk of new-crime admissions also falls by about half when scheduled supervision ends, but these effects are not statistically significant.[35]

[32] We could have estimated the model using days as our observation windows. We adopt the current approach to ease computational burdens. The likelihood function above implicitly assumes that the two different types of failure events never occur in the same 15-day interval.

[33] This failure rate is 26 percent lower among Hispanics and 16 percent lower among Black parolees.

[34] Jail time does not count as time served under MSR supervision.

[35] The p-values on the revocation hazard changes are both less than .01. The p-values for both new-crime admission effects are .12.

Since we model both latent risks, we can simulate expected total returns to prison as well as returns due to new-crimes and technical violations given various counterfactual policies that mandate different maximum lengths for MSR terms. The panels of Figure 6 present results from three such simulations. We use the estimated coefficients from our model to simulate failure events for the set of Class 3 and 4 offenders in our sample. For each horizon following release from prison, we simulate the fractions of the sample that return to prison for any reason, that return due to revocation, and that return due to new crimes. Further, we create these results under three different policy scenarios: 12, 6, and 3 months of scheduled MSR.

Figure 6.A demonstrates that shorter MSR terms dramatically reduce expected rates of prison re-entry. The 15-month re-entry rates are 10, 14.6, and 24 percent. Our results indicate that reducing default MSR terms from 12 months to 3 months would reduce the fraction of parolees who return to prison within 15 months by 14 percentage points or almost 60 percent. As a point of comparison, Banan and Macdonald (2025) report that introducing nine months of parole supervision for low-level offenders in North Carolina increased 15-month prison re-entry rates by just under 15 percentage points.

Figure 6.B demonstrates that reductions in technical revocations drive the results in Figure 6.A. The 15-month technical revocation rates are 2.5, 7, and 15.4 percent respectively, given the 3-month, 6-month, and 12-month MSR regimes. Figure 6.C also demonstrates that rates of prison re-entry due to new criminal charges are slightly smaller given shorter MSR terms, i.e. assigning 3 months of supervision instead of 12 reduces the 15-month rate of new-crime admissions from 8.5 to 7.5 percent.[36]

In these figures, the outcome differences associated with 6 vs 12 months of MSR are well within the confidence intervals surrounding our 2SLS estimates of the expected impacts of increasing assigned MSR terms from 6 to 12 months. These simulations also indicate that further reducing MSR terms for class 3 and 4 parolees to three months instead of 6 would likely generate additional reductions in prison admissions without harming public safety.

The model that produced the results in Figure 6 does not incorporate unobserved determinants of failure risks. However, the two risks are correlated because the variables in $\tilde{X}$ impact both risks. Given the correlations among the X variables, the correlation between the two baseline hazards is .77. We have also estimated a version of this model that incorporates unobserved heterogeneity and further employs previous MSR spells for parolees in our sample period who were also released to MSR between 2014 and 2018. We chose this period because the policies that governed prison admissions and exits changed dramatically during the COVID pandemic. We estimate this model using the semi-parametric method developed in

[36] We remind the reader that this drop primarily reflects estimates of impacts of the removal of active supervision on new-crime events that are not statistically significant.

Heckman and Singer (1984). We were able to observe a prior MSR spell for roughly 20 percent of our sample. We tried several different specifications for the mixing distribution, but none of the models produced precise estimates of the mixing parameters. Appendix Figure 4 presents our simulation results. These figures are nearly identical to the corresponding figures in the three panels of Figure 6. We have also estimated our competing risks model on this larger sample without any controls for unobserved heterogeneity in risk types, and once again, the outputs from the resulting simulations are remarkably similar to those in Figure 6.

7 Conclusion

The reduction in MSR terms mandated by the December 6, 2022 amendment to the SAFE-T Act sharply reduced rates of prison re-entry among class 3 and 4 parolees. Sharp drops in rates of technical revocation drove this result, and we find no evidence that affected parolees were convicted of more crimes following the reform. Further, the simulations from our competing risks models indicate that further reductions in MSR term lengths would likely further reduce rates of prison re-entry during parole without creating harms to public safety.

The standard MSR term for class 3 and 4 offenders is now 6 months, and the standard term for class 1 and 2 offenders is one year. The policy simulations in Figure 6.B suggest that reducing terms from 12 to 6 months cuts revocation rates by more than one-half, and reducing terms from 6 to 3 months again cuts revocation rates by more than one-half.

Let us suppose that we could halve revocation rates by reducing the MSR term for class 3 and 4 prisoners to 3 months and reducing the term for class 1 and 2 prisoners to 6 months. How much money would Illinois taxpayers save? Roughly 70 percent of the existing stock of persons on MSR are class 1-4 parolees, and the state spends 43.36 million dollars on parole services. If class 1-4 parolees spend half as long on MSR, the state could save roughly 35 percent of 43.36 million dollars, or roughly 15 million dollars.

However, the more important savings would come from reduced incarceration costs. On September 30, 2025, IDOC housed 1,819 class 1 to 4 prisoners whose last admission was associated with a technical revocation of supervision. This total represents 6 percent of the prison population. If we assume that cutting revocation rates in half would lead to a new steady-state population of technically revoked prisoners that is half as large,[37] the new steady-state prison population would shrink by just over 900 persons or just

[37]Since our results imply that the fraction of parolees who return to prison with new sentences does not change, this should be a conservative rule of thumb. A formal steady-state simulation must account for the fact that reductions in initial technical

over three percent of the state prison population. The state corrections budget for 2025-2026 is 2.19 billion dollars.[38] Three percent of this budget is more than 65 million dollars. Since prison systems involve fixed costs, we also consider the cost savings associated with closing one prison. Jacksonville Correctional Center houses just under 900 prisoners, and the state spends 50 million dollars per year to operate this facility.

These are back of the envelope calculations, but if the state cuts existing class 1-4 MSR terms in half, the state could expect to save at least 15 million dollars in MSR costs and another 50 million dollars in incarceration cost, which implies total savings of 65 million dollars. Further, this figure includes no benefits that parolees enjoy because they are incarcerated less. The minimum wage in Illinois is $15 per hour, and there are 8,760 hours in a year. If we price the time that parolees spend incarcerated at the minimum wage, a steady-state reduction of 900 prisoners equals a 118.3 million dollar per-year reduction in lost parolee time.

If we sum the savings for taxpayers and our estimate of the value of the time returned to parolees, we conclude that reducing current class 1-4 MSR terms by half would likely create more than 180 million dollars in annual benefits. Further, our results imply that reducing MSR supervision terms in Illinois would create no harms to public safety.

Future research on parole should address the design of supervision policies and procedures. Parole officers always face the possibility of public shame or work discipline if they fail to revoke a parolee who violates rules of supervision and then later commits a serious crime. While we have found evidence that some states are experimenting with systems that allow parole officers to not only punish rules violations but also reward parolees for good outcomes,[39] we have found no state where parole officers receive bonus pay or public recognition linked to metrics of parolee success, e.g. what fraction of parolees remain employed and in stable housing for N years following release.

Economists may make valuable contributions to policy development in this area by exploring alternative mechanisms that not only allow parole officers to reward parolees for good behavior but also reward parole officers for parolee success. Research is needed to describe an optimal mechanism that correctly addresses the alignment of incentives and the delegation of decision rights among the persons tasked with promoting successful post-release transitions, but the need for such work is clear. In Illinois, shorter supervision terms save money without harming public safety, and this reality strongly suggests that the existing rules and practices that govern post-release supervision are not optimal.

---

revocations also reduce the flow of revoked inmates back to MSR supervision, which should then reduce the incidence of multiple technical revocations within a single MSR term.

[38] See IL HB3898: introduced on February 25, 2025. Spending on parole services is detailed here as well.

[39] See https://www.ncsl.org/civil-and-criminal-justice/incentives-for-supervision-compliance

References

Arbour, William and Marchand, Steeve. (2025), Can Parole Reduce Both Time Served and Crime, Technical report, working paper.

Banan, Abigail and Macdonald, David. (2025). 'The Missing Middle: The Disparate Impact of Post-Release Supervision on Returns to Prison and Reconviction', Available at SSRN 5938894 .

Bushway, Shawn, Jordan, Andrew, Neal, Derek and Raphael, Steven. (2025). 'Understanding Racial Disparities in Criminal Court Outcomes', The Russel Sage Foundation Journal of the Social Sciences 11(3), 86–135.

Carson, E. Ann and Kluckow, Rich. (2022), Prisoners in 2022, Technical report, Bureau of Justice Statistics.

Heckman, James and Singer, Burton. (1984). 'A method for minimizing the impact of distributional assumptions in econometric models for duration data', Econometrica: Journal of the Econometric Society pp. 271–320.

Hyatt, Jordan M and Barnes, Geoffrey C. (2017). 'An experimental evaluation of the impact of intensive supervision on the recidivism of high-risk probationers', Crime & Delinquency 63(1), 3–38.

Jordan, Andrew. (2024), Racial Patterns in Approval of Felony Charges. SSRN Working Paper 4093128.

Jordan, Andrew. (2025), Relaxing Charging Restrictions in Narcotics Cases. Washington University in St. Louis Working Paper.

Jordan, Andrew, Karger, Ezra and Neal, Derek. (2025). 'Heterogeneous impacts of sentencing decisions', Journal of Labor Economics 43(4).

Kaeble, Danielle. (2023). 'Probation and parole in the United States, 2021', Washington, DC: Bureau of Justice Statistics (BJS), US Department of Justice, and Office of Justice Programs .

Kuziemko, Ilyana. (2013). 'How should inmates be released from prison? An assessment of parole versus fixed-sentence regimes', The Quarterly Journal of Economics 128(1), 371–424.

LaForest-Tucker, Michael. (2024), Parole Supervison on the Margins, Technical report, George Washington University.

Lee, Logan M. (2023). 'Halfway home? residential housing and reincarceration', American Economic Journal: Applied Economics 15(3), 117–149.

Lofstrom, Magnus and Raphael, Steven. (2016). 'Incarceration and crime: Evidence from California's public safety realignment reform', The ANNALS of the American Academy of Political and Social Science 664(1), 196–220.

Macdonald, David C. (2024). 'Truth in sentencing, incentives and recidivism', Review of Economics and Statistics pp. 1–46.

Meier, Armando, Levav, Jonathan, Meier, Stephan and Avnaim, Liora G. (2025). 'Early Release via Parole and Recidivism'.

Pager, Devah. (2003). 'The Mark of a Criminal Record', American Journal of Sociology 108(5), 937–975.

Rose, Evan K. (2020). 'Who Gets a Second Chance? Effectiveness and Equity in Supervision of Criminal Offenders', Quarterly Journal of Economics .

Sakoda, Ryan T. (2023). 'Abolish or Reform? An Analysis of Post-Release Supervision for Low-Level Offenders'.

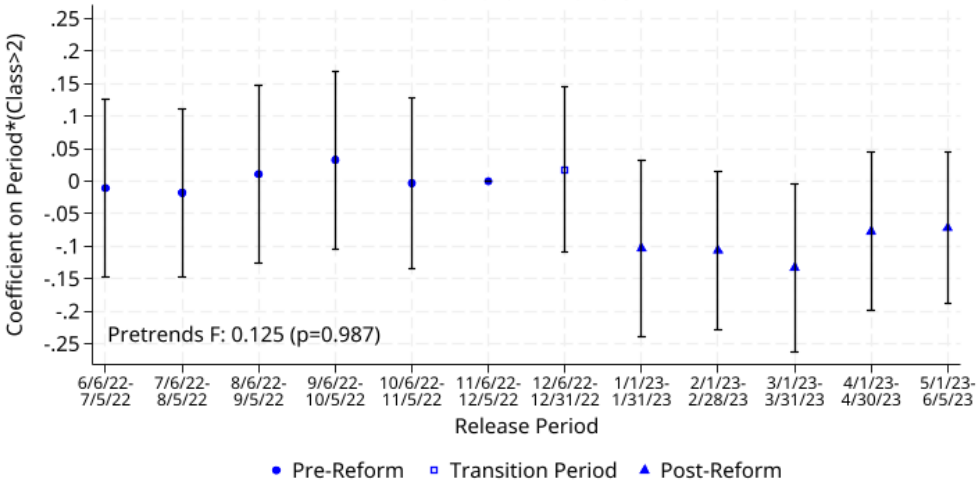
Uggen, Christopher, Vuolo, Mike, Lageson, Sarah, Ruhland, Ebony and K. Whitham, Hilary. (2014). 'The Edge of Stigma: An Experimental Audit of the Effects of Low-Level Criminal Records on Employment', Criminology 52(4), 627–654.

Zapryanova, Mariyana. (2020). 'The effects of time in prison and time on parole on recidivism', The Journal of Law and Economics 63(4), 699–727.

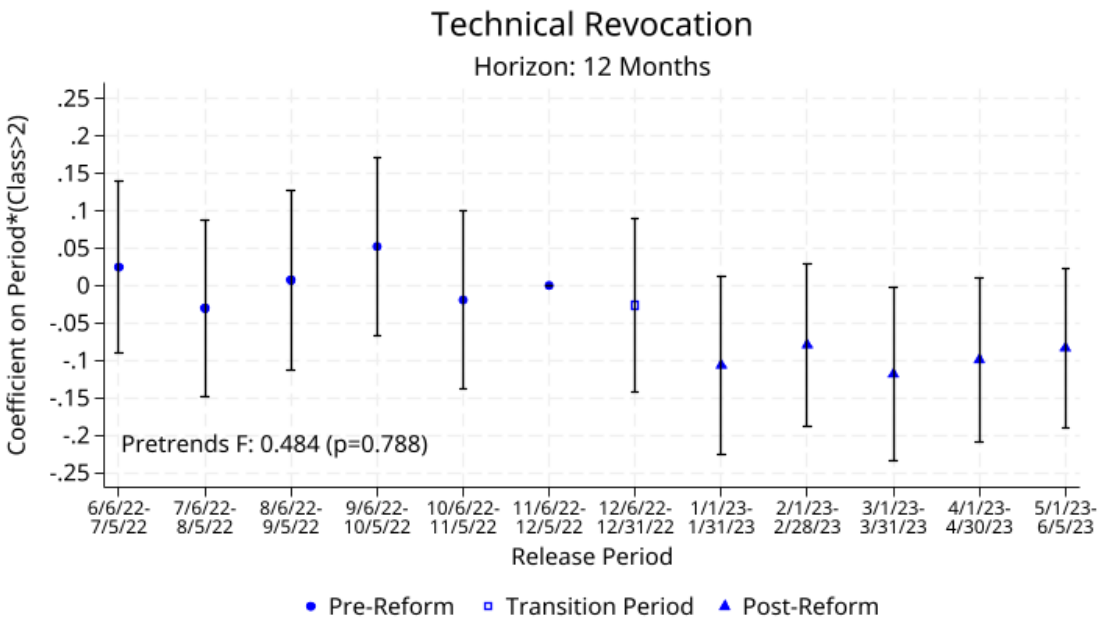
8 Figures

Figure 1 - Pre-Trends Tests

Panel A



Panel B

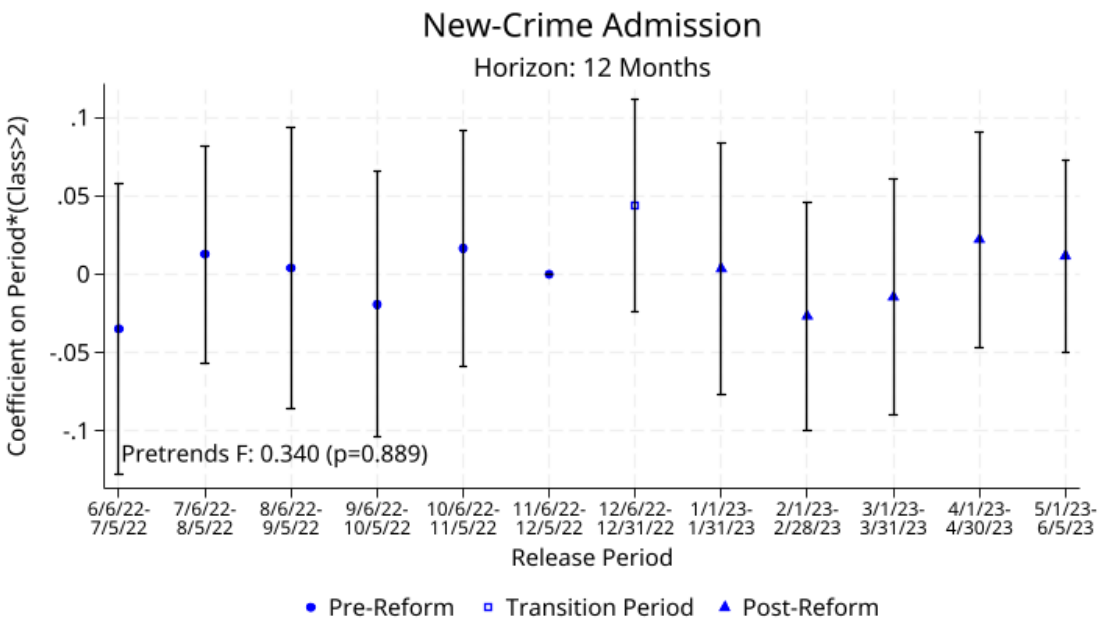


See notes below Panel C.

Figure 1 continued

Pre-Trends Tests

Panel C

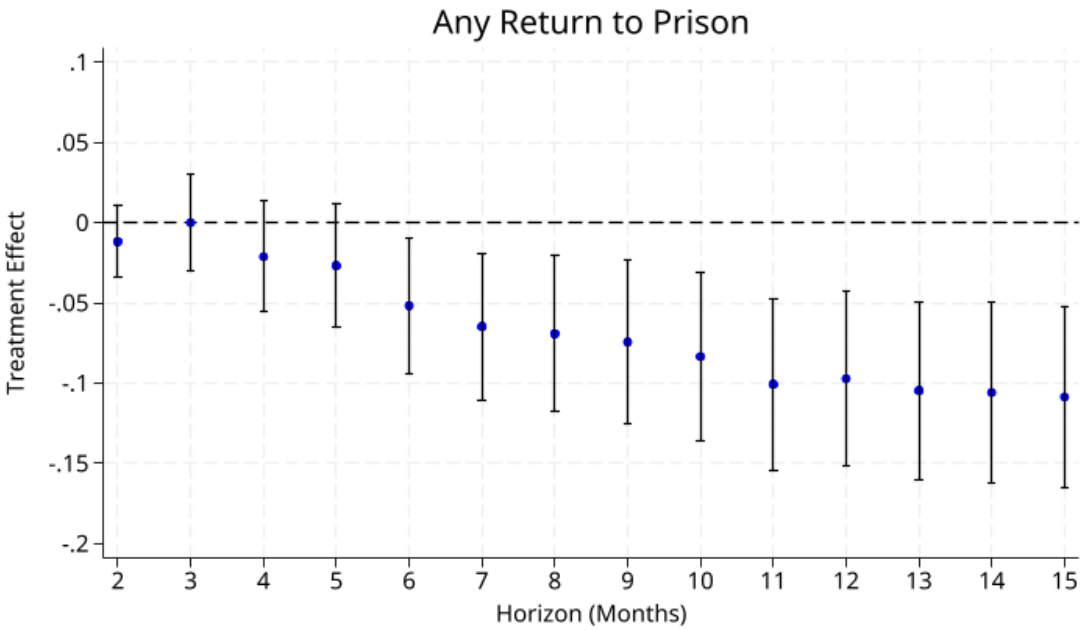


Note: These figures present the results of tests for parallel trends. We start with the model presented in equation 1 and fully interact period of release with treatment. The omitted release period is month 6, or November 6, 2022 to December 5, 2022. We test the null that all interaction terms for months 1 through 5 are zero. The figures include 95-percent confidence intervals for each interaction term that we derive from Huber-White standard errors. The sample includes only persons who were initially released from a spell of prison that began as an admission associated with a criminal sentence. Here, we present tests for outcomes measured at the 12 month horizon, but conduct the same F-tests for parallel models that measure outcomes at horizons of 3, 6, 9, and 15 months. We never reject the null. Among the 15 tests, the smallest p-value is .26 and only two p-values are less than .5.

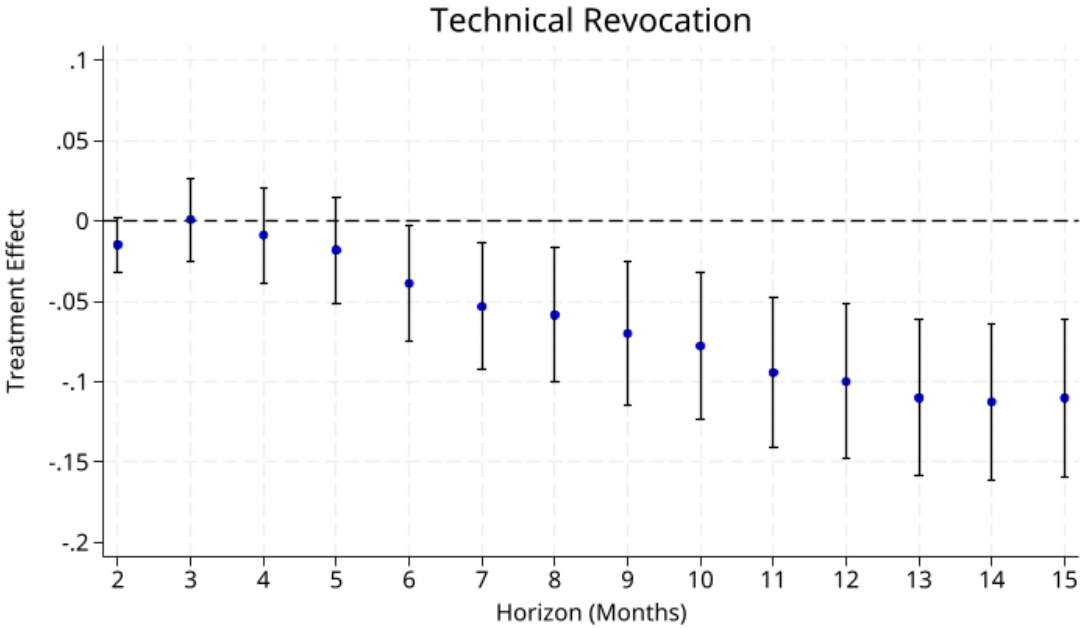
Figure 2

Diff-in-Diff Impacts

Panel A



Panel B

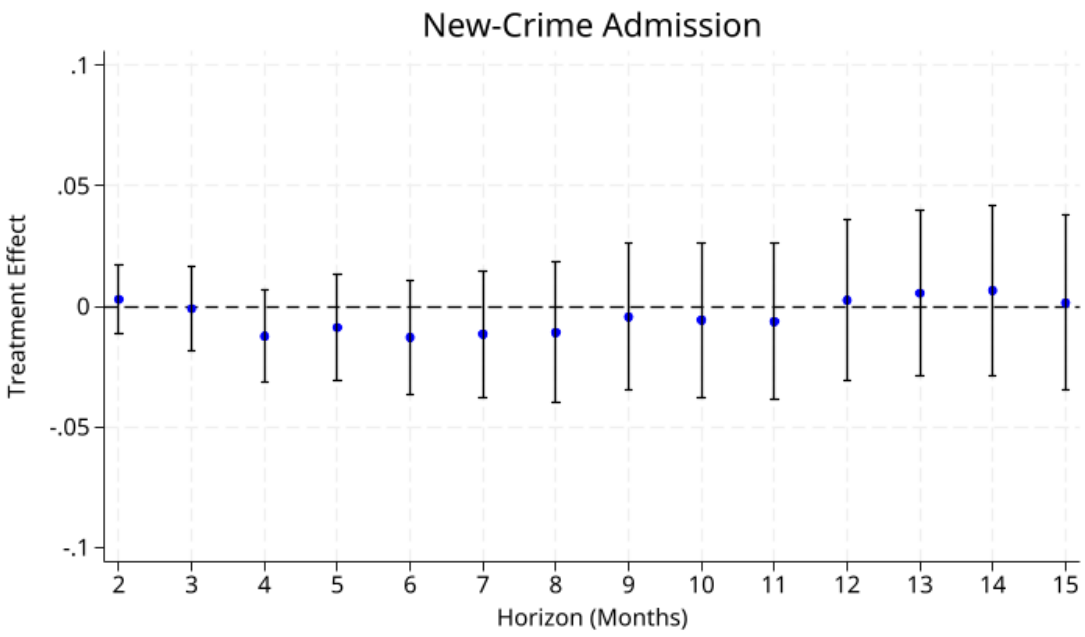


See notes below Panel C.

Figure 2 continued

Diff-in-Diff Impacts

Panel C

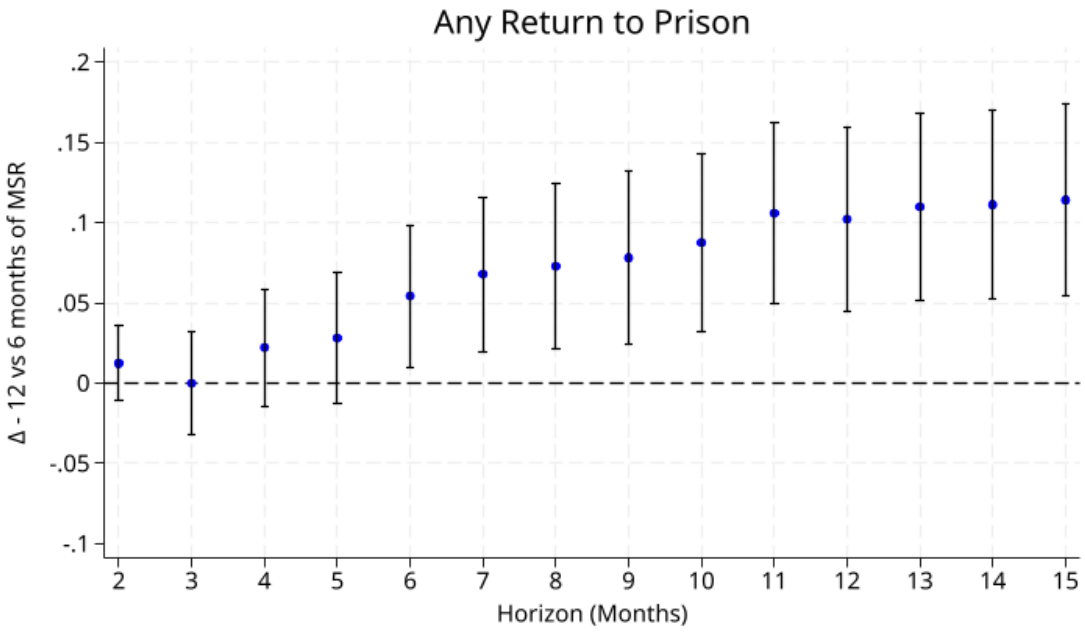


Note: These figures present the results from our main difference-in-differences model. See equation 1 and the discussion in section 4.2. The outcome variables are indicators for specific types of prison re-admission events. Panel A presents results for the outcome Any Return to Prison. Panel B presents results for the outcome Technical Revocation, and Panel C presents results for New-Crime Admission. The figures present results for horizons of 2 to 15 months following initial release from prison. The figures include 95-percent confidence intervals for each estimated treatment effect. We use Huber-White standard errors. The sample includes only persons who were initially released from a spell of prison that began as an admission associated with a criminal sentence.

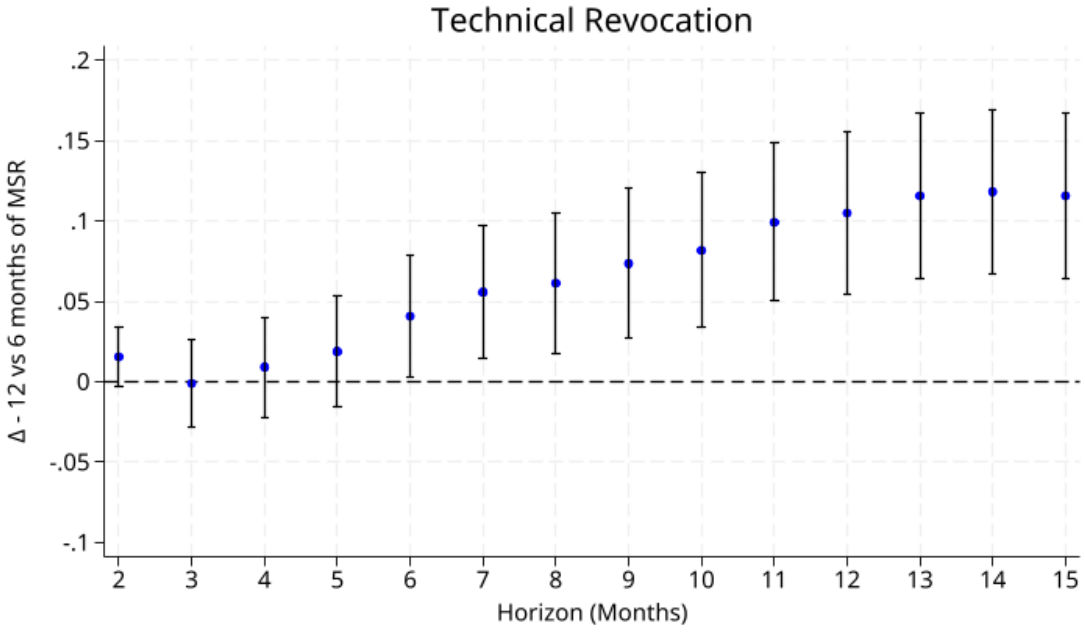
Figure 3

IV Estimates of Impact of MSR Duration

Panel A



Panel B

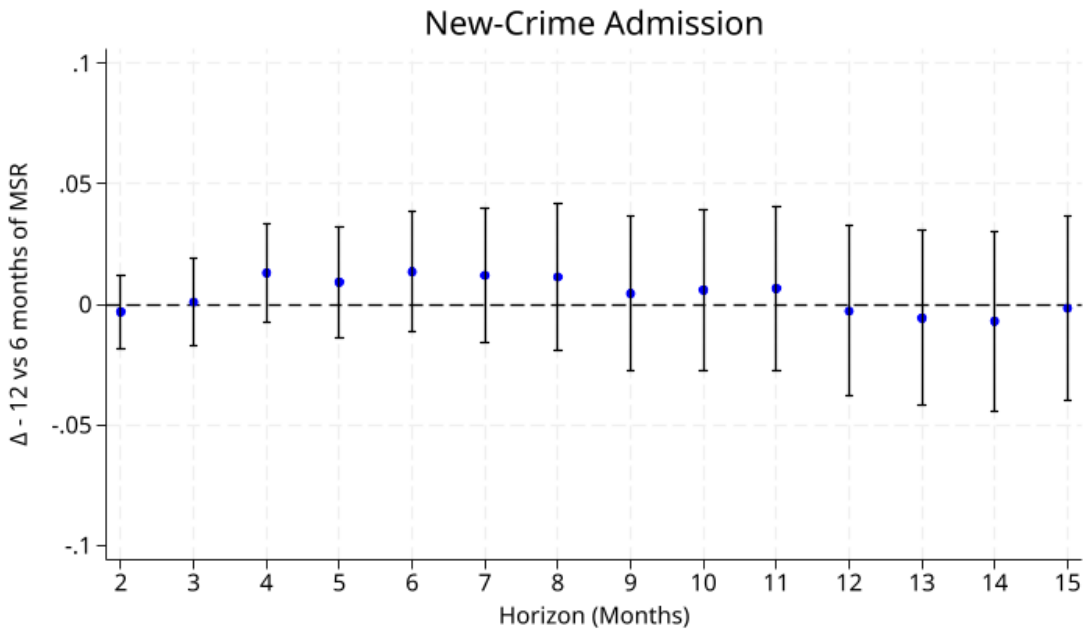


See notes below Panel C.

Figure 3 continued

IV Estimates of Impact of MSR Duration

Panel C

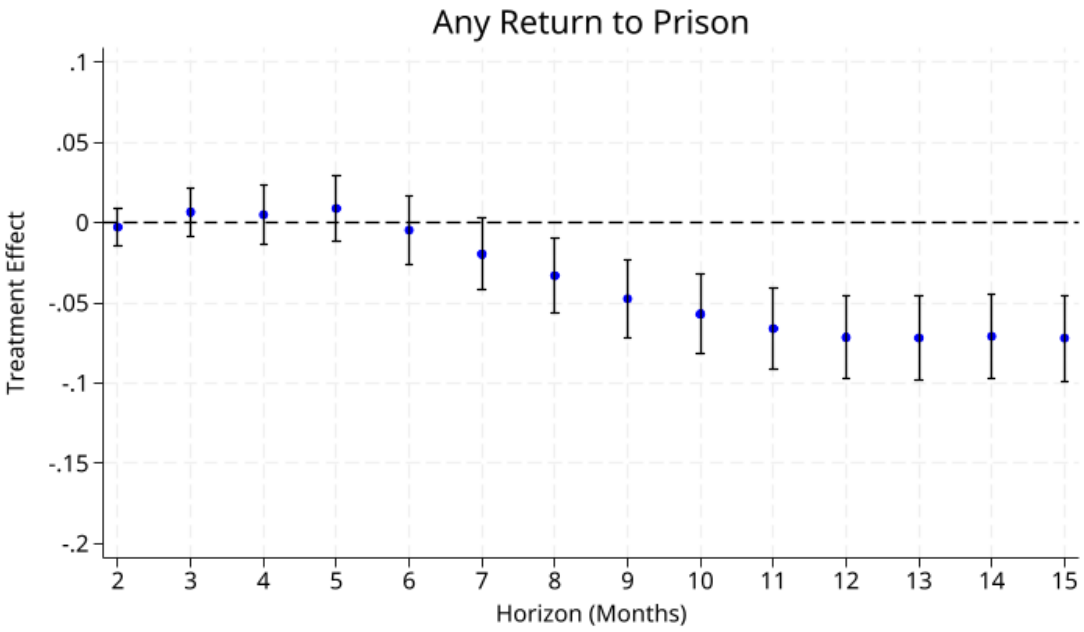


Note: These figures present the results from instrumental variable regressions that estimate changes in custody outcomes associated with an increase in MSR terms from 6 months to 12 months. See the discussion in section 4.3. The outcome variables are indicators for specific types of prison re-admission events. Panel A presents results for the outcome Any Return to Prison. Panel B presents results for the outcome Technical Revocation, and Panel C presents results for New-Crime Admission. The figures present results for horizons of 2 to 15 months following initial release from prison. The figures include 95-percent confidence intervals for each estimated treatment effect. We use Huber-White standard errors. The sample includes only persons who were initially released from a spell of prison that began as an admission associated with a criminal sentence. Each reported impact is the change in the outcome associated with increasing the length of MSR supervision from 6 months to twelve months. Thus, the impacts have the opposite sign of the impacts reported in Figure 2.

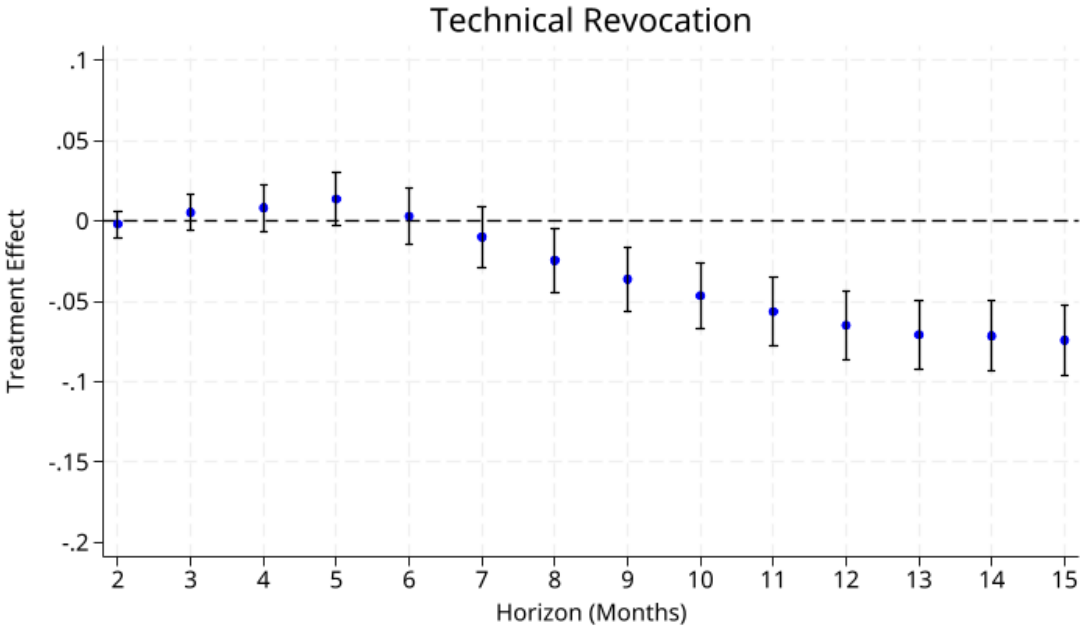
Figure 4

Post vs Pre Impacts

Panel A



Panel B

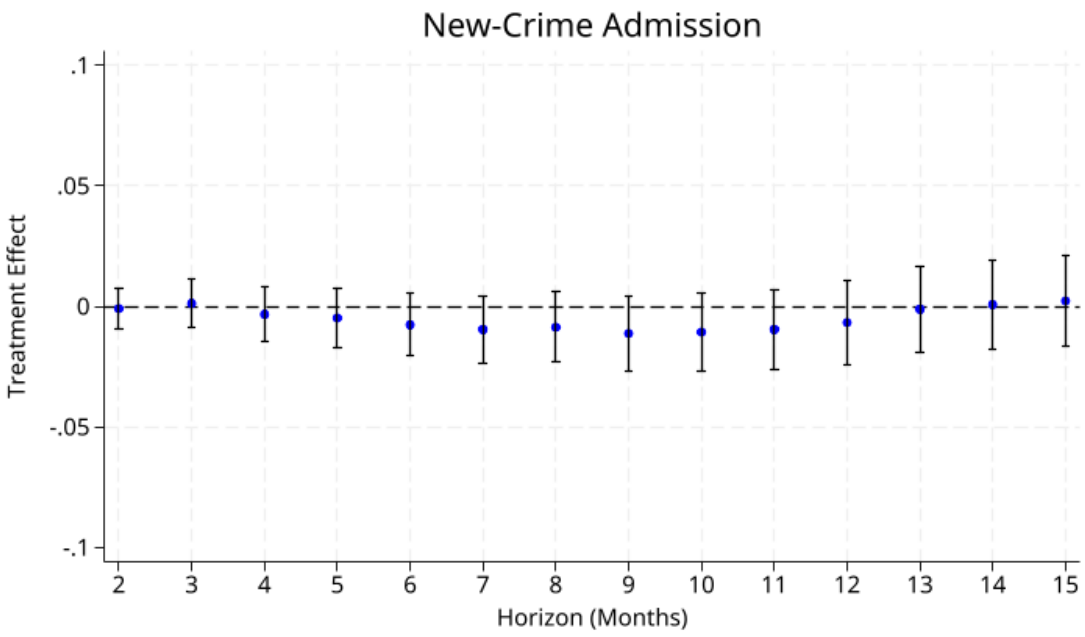


See notes below Panel C.

Figure 4 continued

Post v Pre Impacts

Panel C

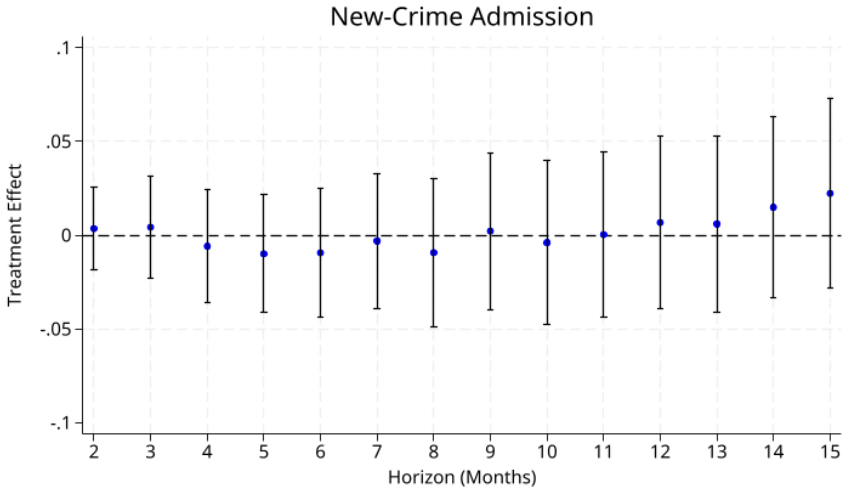


Note: These figures present the results from basic regressions that exploit pre versus post-reform variation in custody outcomes among class 3 and 4 offenders. See equation 2 and the discussion in section 4.4. The outcome variables are indicators for specific types of prison re-admission events. Panel A presents results for the outcome Any Return to Prison. Panel B presents results for the outcome Technical Revocation, and Panel C presents results for New-Crime Admission. The figures present results for horizons of 2 to 15 months following initial release from prison. The figures include 95-percent confidence intervals for each estimated treatment effect. We use Huber-White standard errors. The sample includes only persons who were initially released from a spell of prison that began as an admission associated with a criminal sentence. We have also estimated versions of these models that contain linear time trends, and we get similar results. However, the reductions in technical revocations associated with the reform are slightly large given this specification. See Appendix Figure 1.

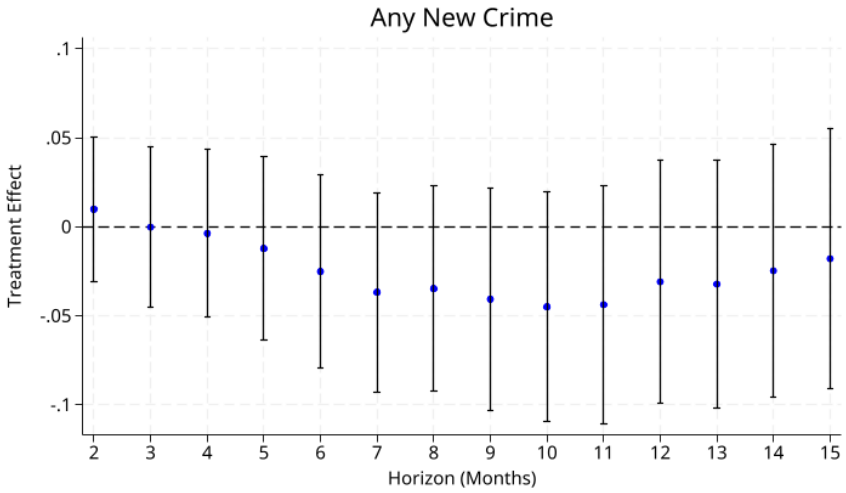
Figure 5

Diff-in-Diff Impacts In Matched Court-IDOC Sample

Panel A



Panel B



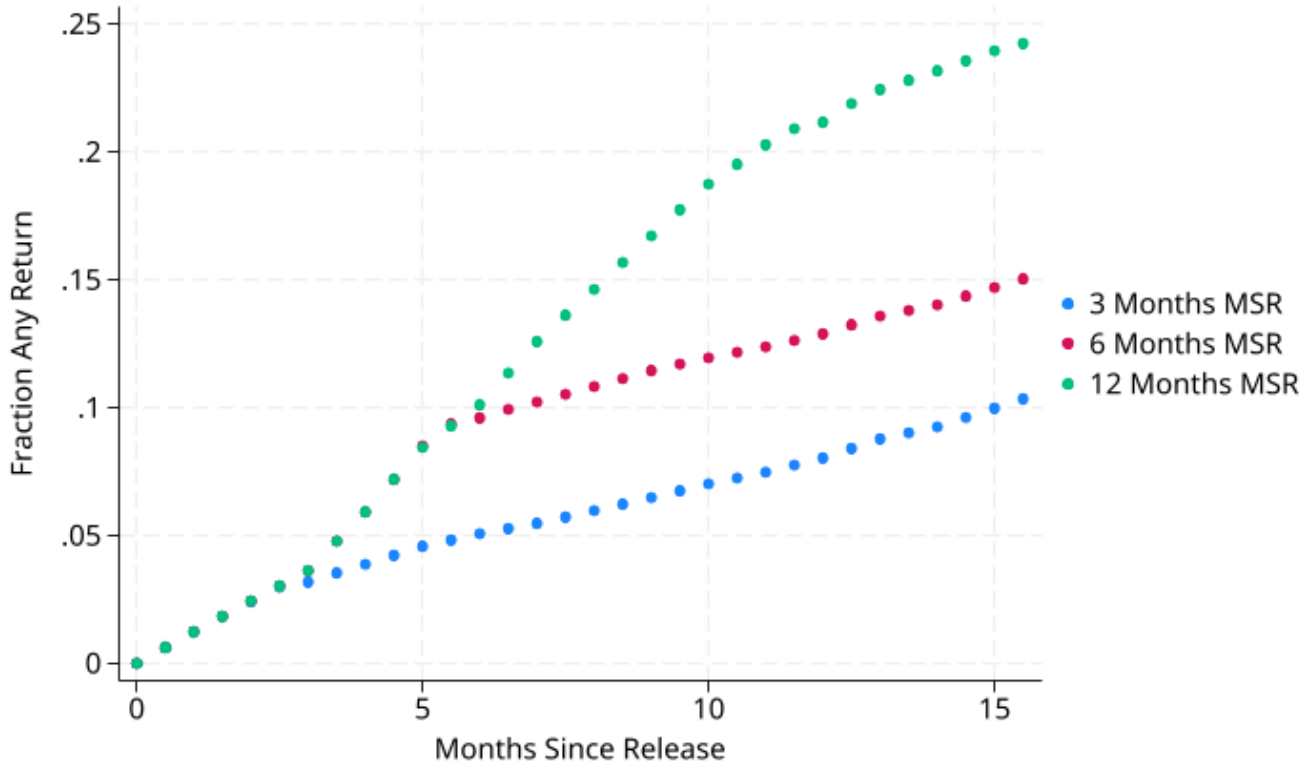
Note: These figures present the results of two difference-in-differences models. See equation 1 and the discussion in section 4.2. The sample is the set of parolees that we are able to match to Cook County court records. See Table 2. Panel A presents results for the outcome New-Crime Admission. See Panel C of Figure 2 for parallel results for the full-sample of parolees. Panel B presents results for the indicator Any New Crime which equals one if New-Crime Admission equals one or the parolee receives a felony conviction. The two figures present results for horizons of 2 to 15 months following initial release from prison. The figures include 95-percent confidence intervals for each estimated treatment effect. We use Huber-White standard errors. We perform the same parallel trends tests described in the notes for Figure 1 for both outcomes measured at 3, 6, 9, 12, and 15 months. We never reject the null of common differences between treatment and control parolees prior to the reform. Among the 10 tests, the smallest p-value is .23, and eight p-values are greater than .4.

Figure 6

Simulated Impact of MSR-term length on Cumulative Failures

Panel A

Any Return to Prison

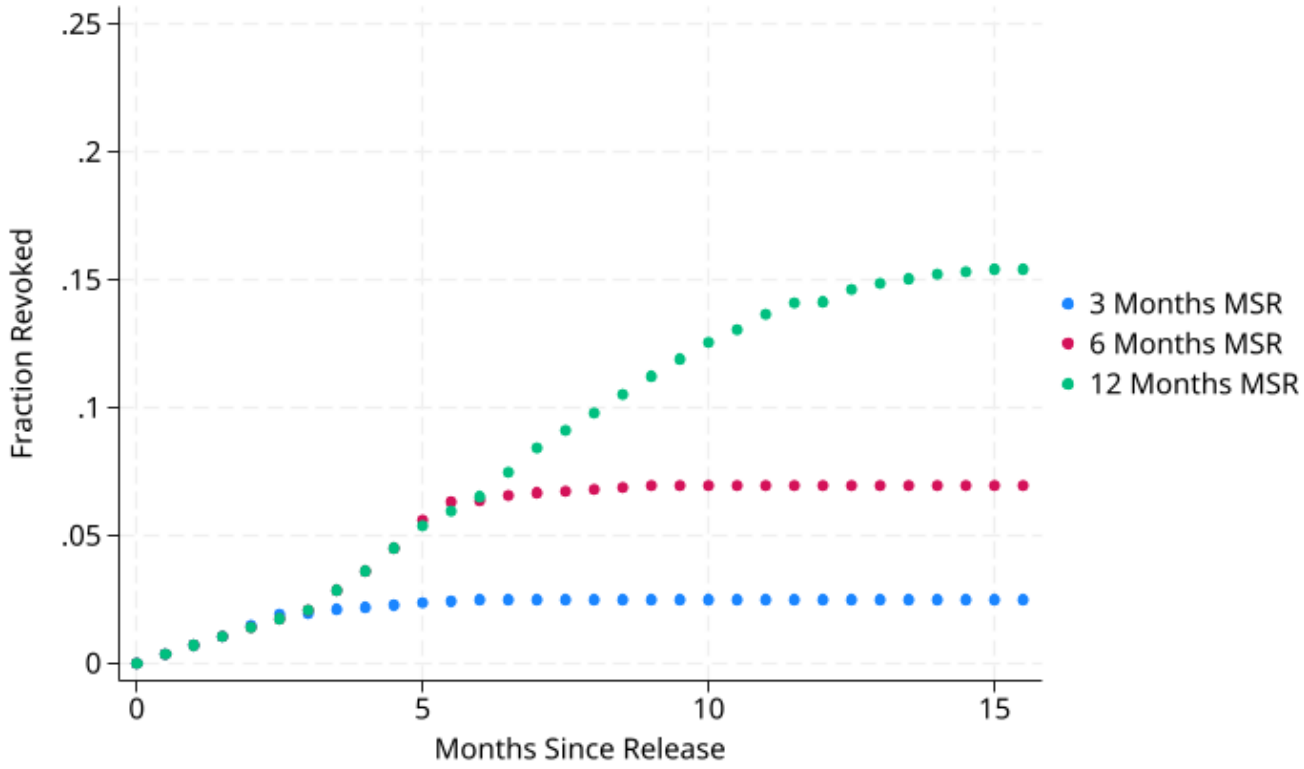


See notes below Panel C.

Figure 6 continued

Panel B

Technical Revocations

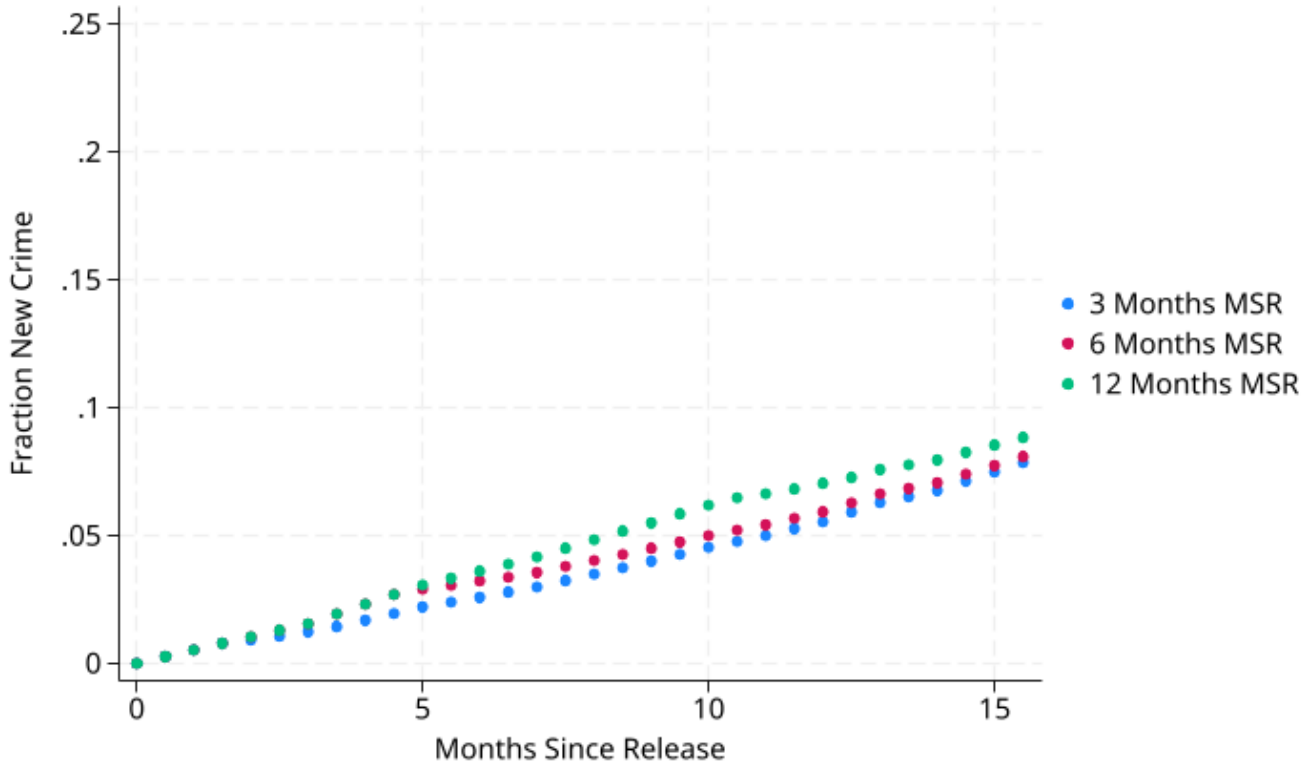


See notes below Panel C.

Figure 6 continued

Panel C

New-Crime Admission



Note: These figures present the results of three simulation exercises. For all class 3 and 4 inmates in our sample who are released between June 6, 2022 and June 5, 2023, we use the estimated coefficients from the competing risks model presented in equation 3 to simulate the fractions of parolees who experience any return to prison, a return to prison due to a technical revocation, and a return to prison due to a new criminal sentence. Again, we plot results over 15 months following release. This version of the model treats the latent risks of a New-Crime Admission and Technical Revocation as independent events, given the observed characteristics of offenders. However, the risks are correlated through the controls in our model. See Table 1. The correlation between the two baseline hazards is .77.

9 Tables

Table 1

Panel A

Descriptive Statistics: Outcomes

	Pre-Control	Pre-Treat	Post-Control	Post-Treat	Overall
Any Return to Prison - 6m	.082	.115	.123*	.111	.112
Any Return to Prison - 12m	.206	.222	.224	.152*	.197
Any Return to Prison - 15m	.221	.243	.251	.173*	.219
Any Return to Prison - Total	.273	.291	.302	.220*	.267
Technical Revocation - 6m	.056	.072	.094*	.076	.075
Technical Revocation - 12m	.141	.148	.172	.084*	.130
Technical Revocation - 15m	.150	.160	.182	.087*	.138
Technical Revocation - Total	.152	.164	.185	.089*	.141
New-Crime Admission - 6m	.026	.043	.029	.036	.037
New-Crime Admission - 12m	.065	.074	.052	.068	.068
New-Crime Admission - 15m	.072	.083	.069	.086	.081
New-Crime Admission - Total	.121	.127	.116	.131	.126
Survival Time (days)	897.2	880.0	724.2*	781.1*	828.1
Spell Length (completed spells)	315.3	282.3	272.8	268.6	280.7
N	461	1,877	593	1,435	4,366

Note: This table provides descriptive statistics for key outcomes. A * indicates that the value in the post period, for either the treatment or control sample, is statistically different from the corresponding value for the pre-period given a significance level of .05. The data describe outcomes for persons released from an IDOC prison between June 6, 2022 and June 5, 2023. See section 3 for more details.

Table 1

Panel B

Descriptive Statistics: Parolee Characteristics

	Pre-Control	Pre-Treat	Post-Control	Post-Treat	Overall
Prior Admissions	1.68	1.68	1.70	1.72	1.70
Serious Prior Admissions	1.24	.238	1.28	.293*	.504
Prior Violations	.304	.300	.293	.298	.299
Long Sentence	.358	.140	.388	.121	.190
Black	.555	.508	.540	.504	.516
Hispanic	.113	.095	.079	.098	.096
Male	.872	.878	.890	.873	.877
Age	35.1	36.3	36.0	36.5	36.2
Class 1	.156	0	.153	0	.037
Class 2	.844	0	.847	0	.204
Class 3	0	.425	0	.459	.333
Class 4	0	.575	0	.541	.425
N	461	1,877	593	1,435	4,366

Note: This table provides descriptive statistics for the offender characteristics we employ in our empirical models. A * indicates that the value in the post period, for either the treatment or control sample, is statistically different from the corresponding value for the pre-period given a significance level of .05. The data describe outcomes for persons released from an IDOC prison between June 6, 2022 and June 5, 2023. See section 3 for more details.

Table 2

Outcomes In Matched Court-IDOC Records

	IDOC Outcome			
	No Failure	Technical	New-Crime	Total
Court Outcome				
No Court Case				
Frequency	1,096	57	87	1,240
Percent	88.39	4.60	7.02	100.00
Misdemeanor				
Frequency	115	66	15	196
Percent	58.67	33.67	7.65	100.00
Felony - No Conv				
Frequency	90	71	13	174
Percent	51.72	40.80	7.47	100.00
Felony Conv - No IDOC				
Frequency	28	10	2	40
Percent	70.00	25.00	5.00	100.00
Felony Conv - IDOC				
Frequency	12	67	55	134
Percent	8.96	50.00	41.04	100.00
Total				
Frequency	1,341	271	172	1,784
Percent	75.17	15.19	9.64	100.00

Note: This table describes the outcomes we observe in the sample of parolees that we match to Cook County Court records. Each of these parolees was released after serving a term in prison that resulted from a prison sentence announced in a Cook County Court. The 1,784 parolees in the sample are 94 percent of the Cook County parolees in our full IDOC sample. Section 3.2 and Appendix B.2 describe our matching procedures and the structure of the court data. The five rows are five outcomes we create using court records. We measure outcomes that occur during the first 15 months following release from prison. If we see more than one of these events, we code the most serious outcome. The columns describe the outcomes we observe in IDOC data. Technical denotes technical revocation of supervision. New Crime denotes New-Crime admissions to prison. The percentage entries are row percentage, e.g. 50 percent of the 134 parolees sentenced to prison in Cook County during the first 15-months after their release from prison entered prison as technical violators.

Table 3

Proportional Hazard Results

Competing Risks: Technical Revocation vs New-Crime Admission

	Revocation	p-value	New Crime	p-value
Black	1.24	0.03	0.84	0.18
Hispanic	1.05	0.77	0.74	0.16
Male	1.40	0.04	2.17	0.00
Total Prior Admissions	1.33	0.00	1.26	0.01
Total Prior Class X-2 Admissions	0.93	0.24	0.99	0.88
Total Prior MSR Violations	1.10	0.32	1.13	0.37
Age 20-22	0.65	0.30	0.62	0.19
Age 23-25	0.57	0.18	0.20	0.00
Age 26-30	0.37	0.02	0.20	0.00
Age 31-35	0.37	0.01	0.14	0.00
Age 36-40	0.38	0.02	0.16	0.00
Age 40+	0.29	0.00	0.13	0.00

Note: This table presents results from estimating a proportional hazards version of the competing risks model expressed in equation 3. The results are presented as hazard ratios, e.g. all else equal, the hazard rate of revocations for technical violations is 24 percent higher among Black parolees than among non-Black parolees. The model also includes indicators for crime class and month of release. The model further includes a monthly step function in duration and several indicator variables that code whether the current duration is within one month of the offender's scheduled MSR release date, within the month after his scheduled MSR release, or more than one month after his scheduled release date. Less than 20 is the omitted age category. The sample is the set of 4,366 offenders released between June 6, 2022 and June 5, 2023.

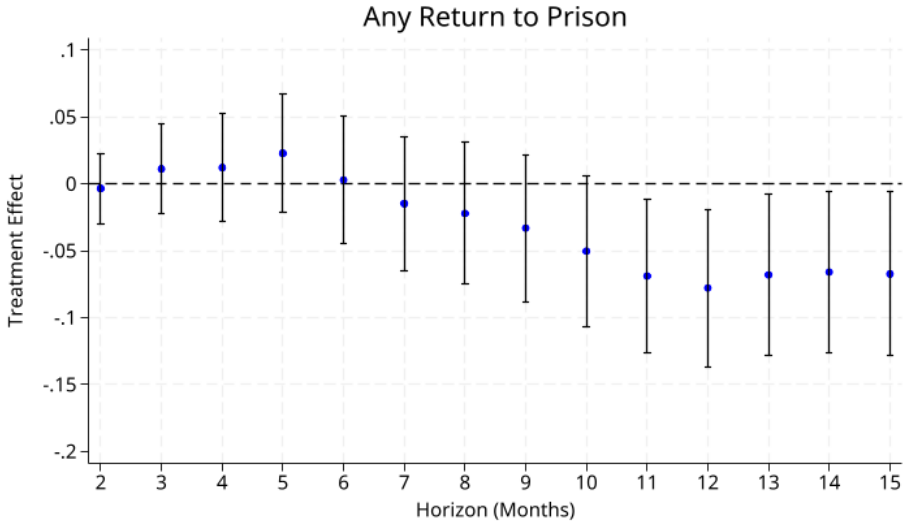
APPENDIX FIGURES

Appendix Figure 1

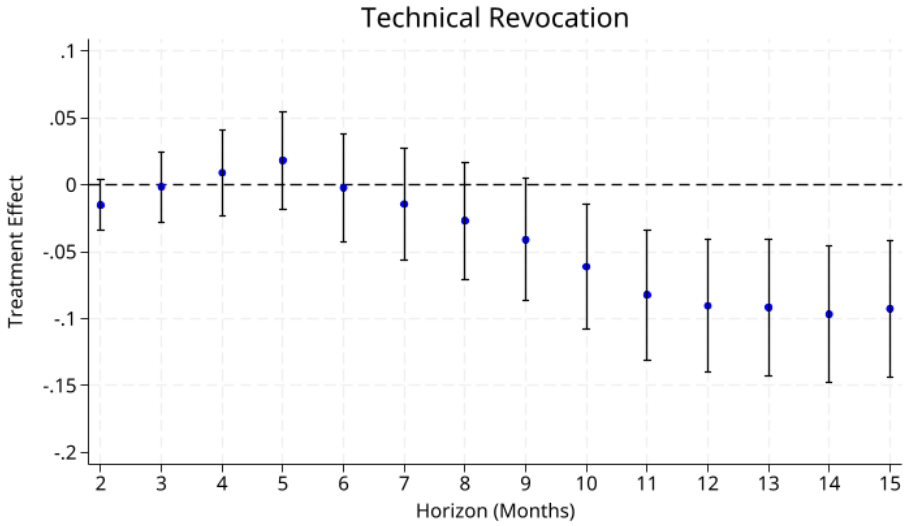
Post vs Pre Impacts

w/ Linear Trend in Release Date

Panel A



Panel B

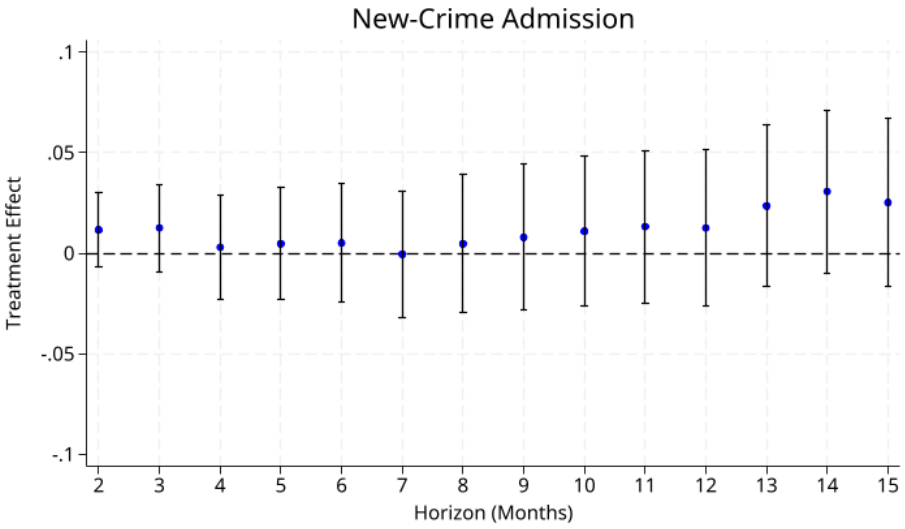


See notes below Panel C.

Appendix Figure 1 continued

Post v Pre Impacts

Panel C

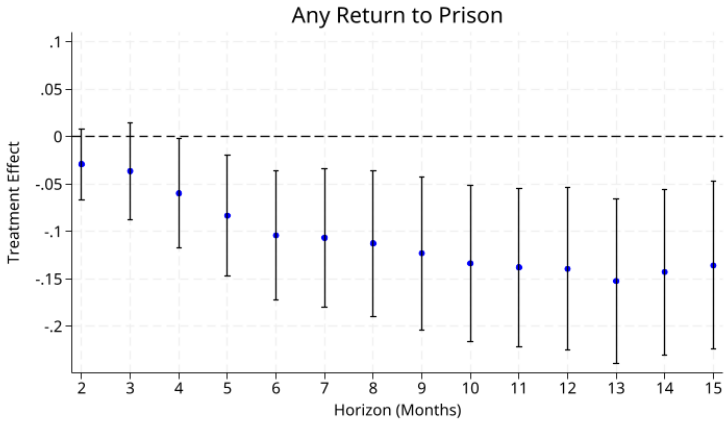


Note: These results employ only the sample of class 3 and 4 parolees. The results come from simple pre-post regressions like the ones that produces the results presented in Figure 4. See section 4.4, but here each model includes a linear trend in date of release from prison. See notes below Panel C of Figure 4 for more details.

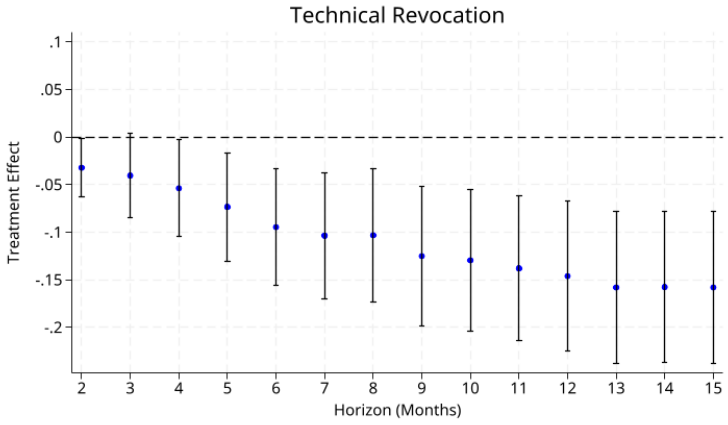
Appendix Figure 2

DND Results - Matched Sample of IDOC-Court Records

Panel A



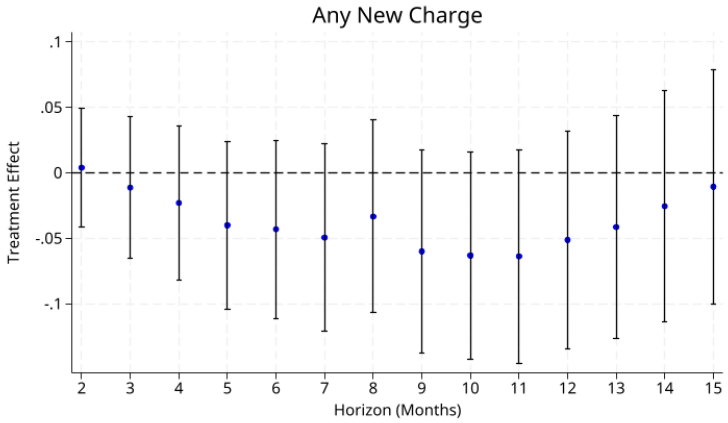
Panel B



Note: These figures present the results of two difference-in-differences models. See equation 1 and the discussion in section 4.2. The sample is the set of parolees that we are able to match to Cook County court records. See Table 2. Panel A presents results for the outcome Any Return to Prison. Panel B presents results for the indicator Technical Revocation. See Panels A and B of Figure 2 for parallel results for the full-sample of parolees. The two figures present results for horizons of 2 to 15 months following initial release from prison. The figures include 95-percent confidence intervals for each estimated treatment effect. We use Huber-White standard errors. We perform the same parallel trends tests described in the notes for Figure 1 for both outcomes measured at 3, 6, 9, 12, and 15 months. We never reject the null of common differences between treatment and control parolees prior to the reform. Among the 10 tests, the smallest p-value is .16, and half of the p-values are greater than .49.

Appendix Figure 3

DND Results - Matched Sample of IDOC-Court Records



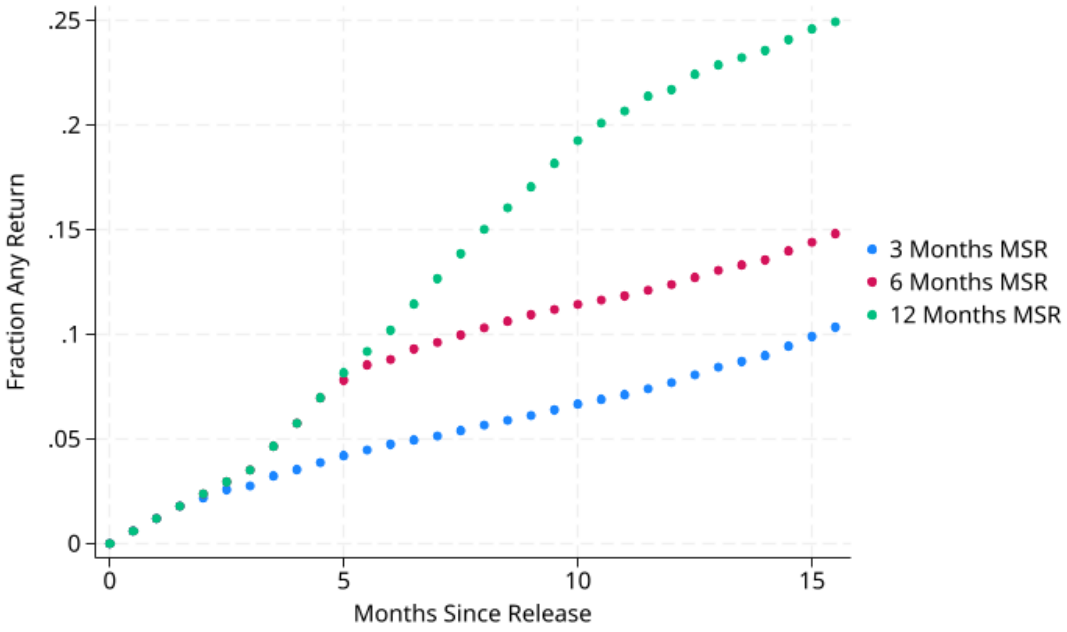
Note: This figure presents results from a difference-in-differences model. See equation 1 and the discussion in section 4.2. The sample is the set of parolees that we are able to match to Cook County court records. See Table 2. The outcome variable is Any New Charge. This indicator equals one if the parolee experiences a New-Crime Admission or faces a felony charge in court, i.e. this indicator equals one even if the charge does not produce a conviction. The figure present results for horizons of 2 to 15 months following initial release from prison. The figure includes 95-percent confidence intervals for each estimated treatment effect. We use Huber-White standard errors. We perform the same parallel trends tests described in the notes for Figure 1 for the outcome measured at 3, 6, 9, 12, and 15 months. Here, for the 9 and 15 month horizons, we do reject the null that the outcome difference between treatment and control parolees is constant over the first five months of parolee releases. Both p-values are just over .03. However, when we examine graphs of these results, we see no evidence of growing or shrinking treatment impacts over the release months prior to December 6, 2022. In both graphs, the impacts of treatment status for those released in months 1 and 3 are positive compared to the impact in month 6, the reference month, but the opposite holds for months 2 and 4. The p-values for the tests at the other horizons of 3, 6, and 12 months are .33, .13, and .24 respectively. We are pleased to provide the graphs that display all five sets of results upon request.

Appendix Figure 4

Simulated Impact of MSR-term length on Cummulative Failures

Panel A

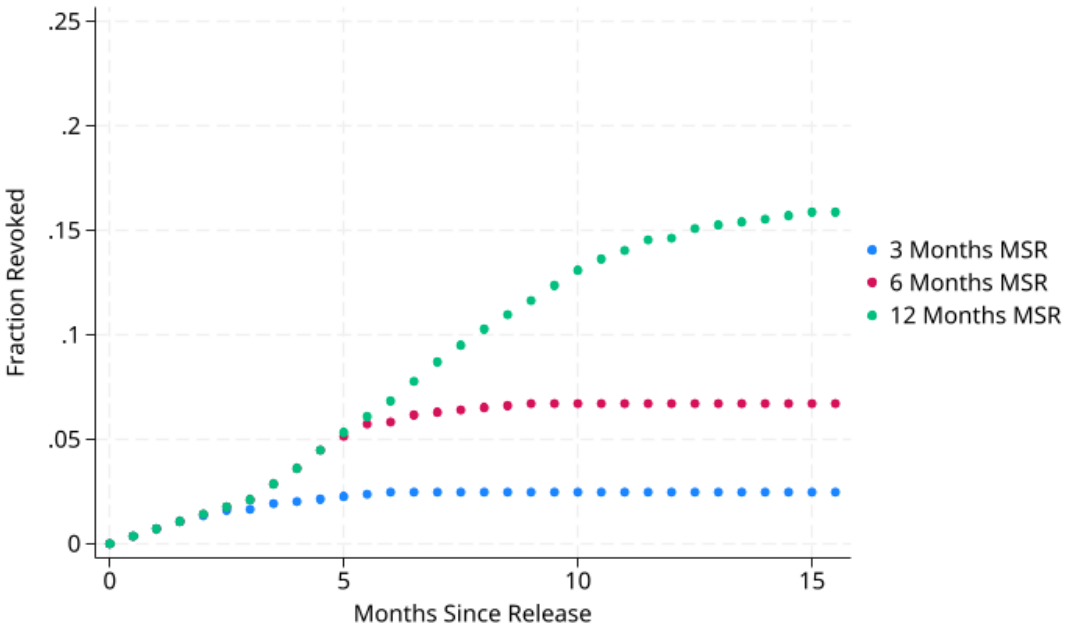
Any Return to Prison



See notes below Panel C.

Panel B

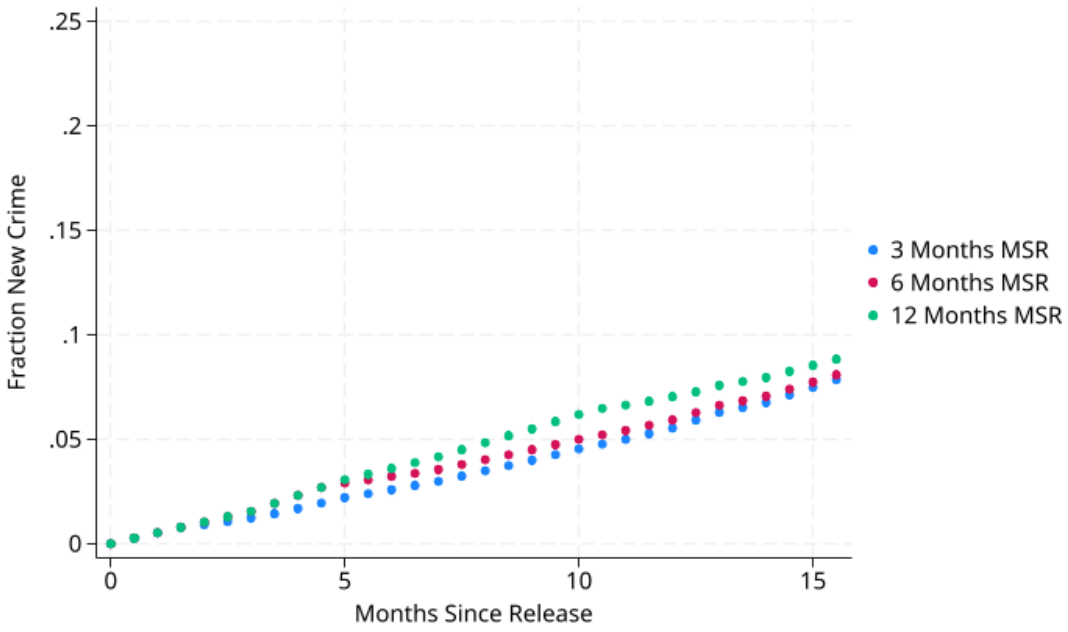
Technical Revocations



See notes below Panel C.

Panel C

New-Crime Admission



Note: These figures present the results of three simulation exercises. For all class 3 and 4 inmates in our sample who are released between June 6, 2022 and June 5, 2023, we use the estimated coefficients from the competing risks model presented in equation 3 to simulate the fractions of parolees who experience any return to prison, a return to prison due to a technical revocation, and a return to prison due to a new criminal sentence. We plot results over 15 months following release. The model takes the same form as the model we estimate to produce the simulation results in Figure 6, but here we add a discrete mixture distribution that provides controls for unobserved risk types. Further, for roughly one-fifth of the sample, we are able to include a second MSR spell associated with a release to MSR between 2014 and 2018. We follow the method developed in Heckman and Singer (1984).

A Appendix Tables

Appendix Table 1

Characteristics of Matched vs Not-Matched Samples

IDOC - Cook Court Records

	Match to Court		
	Match = No	Match = Yes	Total
Frequency	112	1784	1896
Mean			
Prior Admissions	1.804	1.813	1.813
Serious Prior Admissions	0.554	0.589	0.586
Prior Violations	0.366	0.356	0.357
Long Sentence	0.161	0.154	0.155
Black**	0.634	0.758	0.751
Hispanic	0.170	0.135	0.137
Male	0.929	0.940	0.939
Age	37.062	35.071	35.189
Class 1*	0.071	0.026	0.029
Class 2	0.179	0.235	0.232
Class 3	0.223	0.237	0.236
Class 4	0.527	0.501	0.503

Note: This table present descriptive statistics for two samples. According to IDOC, all of the parolees in both samples were released after serving a term in prison that resulted from a prison sentence announced in a Cook County Court. The first sample contains the 112 Cook County parolees that we are not able to match to Cook County Court records. The second sample contains the 1,784 that we are able to match. A * indicates that the two sample means are statistically different given a .05 significance level. A ** indicates that the two sample means are different given a .01 significance level.

Appendix Table 2

Panel A: Control Sample Outcomes for Matched Cook-IDOC Sample

Pre-Period

	IDOC Outcome			
	No Failure	Technical	New Crime	Total
Court Outcome				
No Court Case				
Frequency	143	7	11	161
Percent	88.82	4.35	6.83	100.00
Misdemeanor				
Frequency	17	8	1	26
Percent	65.38	30.77	3.85	100.00
Felony - No Conv				
Frequency	12	11	1	24
Percent	50.00	45.83	4.17	100.00
Felony Conv - No IDOC				
Frequency	1	2	1	4
Percent	25.00	50.00	25.00	100.00
Felony Conv - IDOC				
Frequency	1	7	3	11
Percent	9.09	63.64	27.27	100.00
Total				
Frequency	174	35	17	226
Percent	76.99	15.49	7.52	100.00

Post-Period

	IDOC Outcome			
	No Failure	Technical	New Crime	Total
Court Outcome				
No Court Case				
Frequency	140	5	11	156
Percent	89.74	3.21	7.05	100.00
Misdemeanor				
Frequency	15	10	1	26
Percent	57.69	38.46	3.85	100.00
Felony - No Conv				
Frequency	11	17	3	31
Percent	35.48	54.84	9.68	100.00
Felony Conv - No IDOC				
Frequency	1	2		3
Percent	33.33	66.67		100.00
Felony Conv - IDOC				
Frequency	2	18	5	25
Percent	8.00	72.00	20.00	100.00
Total				
Frequency	169	52	20	241
Percent	70.12	21.58	8.30	100.00

See notes below Panel B.

Panel B: Treated Sample Outcomes for Matched Cook-IDOC Sample

Pre-Period

	IDOC Outcome			
	No Failure	Technical	New Crime	Total
Court Outcome				
No Court Case				
Frequency	480	39	35	554
Percent	86.64	7.04	6.32	100.00
Misdemeanor				
Frequency	38	35	9	82
Percent	46.34	42.68	10.98	100.00
Felony - No Conv				
Frequency	28	31	4	63
Percent	44.44	49.21	6.35	100.00
Felony Conv - No IDOC				
Frequency	8	4		12
Percent	66.67	33.33		100.00
Felony Conv - IDOC				
Frequency	5	33	20	58
Percent	8.62	56.90	34.48	100.00
Total				
Frequency	559	142	68	769
Percent	72.69	18.47	8.84	100.00

Post-Period

	IDOC Outcome			
	No Failure	Technical	New Crime	Total
Court Outcome				
No Court Case				
Frequency	333	6	30	369
Percent	90.24	1.63	8.13	100.00
Misdemeanor				
Frequency	45	13	4	62
Percent	72.58	20.97	6.45	100.00
Felony - No Conv				
Frequency	39	12	5	56
Percent	69.64	21.43	8.93	100.00
Felony Conv - No IDOC				
Frequency	18	2	1	21
Percent	85.71	9.52	4.76	100.00
Felony Conv - IDOC				
Frequency	4	9	27	40
Percent	10.00	22.50	67.50	100.00
Total				
Frequency	439	42	67	548
Percent	80.11	7.66	12.23	100.00

Note: The four tables in Panels A and B describe the outcomes we observe in the sample of parolees that we match to Cook County Court records. Each table presents results for a subsample defined by the intersection of an indicator for class 3 and 4 (treatment) and an indicator for release after December 6, 2022 (post). Each of these parolees were released after serving a term in prison that resulted from a prison sentence announced in a Cook County Court. Section 3.2 and Appendix B.2 describe our matching procedures and the structure of the court data. In each table, the five rows are five outcomes we create using Court records. We measure outcomes that occur during the first 15 months following release from prison. If we see more than one of these events, we code the most serious outcome. The columns describe the outcomes we observe in IDOC data. Technical denotes technical revocation of supervision. New Crime denotes New-Crime admissions to prison. The percentage entries are row percentages.

B Data Appendix

This appendix describes how we construct our data sets. We first describe data from the Illinois Department of Corrections (IDOC). We then describe data from the Circuit Court of Cook County and the process we employ for merging court and IDOC records.

B.1 IDOC Data

We construct our dataset from public records posted on IDOC's website.[40] Our sample combines four distinct types of data: quarterly snapshots of all prison inmates, quarterly snapshots of parolees who are participating in Mandatory Supervised Release (MSR), biannual reports that record all prison admissions during the last 12 months, and biannual reports that record all exits from prison during the past twelve months.

First, we read in the raw files. The prison stock files begin in 2006. From 2006 through 2017, IDOC created these files in June and December. From 2018 forward, IDOC posted stock files each quarter. The MSR stock files begin in 2016. The exit files begin in 2014, and the admission files begin in 2018. The admission and exit files are posted twice each year. On December 31, IDOC posts records for the past calendar year. On June 30, IDOC post records for the past fiscal year. For this paper, we only use data from files posted in 2014 and future years.[41]

Inmates who exit prison typically transition from prison to MSR. However, for numerous reasons, some inmates spend no time on MSR and leave prison under no supervision. When inmates transition to MSR, we say that they are released from prison. When they exit with no supervision, we say they are discharged from prison. When parolees finish their term of MSR, we say they are discharged from supervision.

We append all the records into a single dataset and harmonize the formats for event dates. IDOC formats dates differently in different data series, and IDOC date formats may also vary within a given data series. Each record contains the name of the relevant prisoner or parolee and an internal identification number, the **docnbr** for the parolee. We use an individual's docnbr to link his records among different data sets. We also create an event date for each record. For admission and exit records, the event date is the date a prisoner entered or left the IDOC system.

Next, we clean the data. We top-code sentence length to a maximum of 99 years. We fill in missing records, e.g. birth dates, by gathering information from records in other files that share the same docnbr.

[40] See https://idoc.illinois.gov/reportsandstatistics/populationdatasets.html.

[41] The September 2019 MSR stock files are corrupt. Thousands of records are obviously wrong. We do not use the records.

We clean sets of records that are duplicates, and we adjust records that appear to occur in the wrong chronological order. For example, suppose IDOC records specify that John Doe entered IDOC on June 1, 2022, resided in an IDOC prison on June 30, 2022, is absent from the prison stock records on September 30, 2022, and again resides in an IDOC prison on December 31, 2022. We code John Doe as in prison on September 30, 2022 - as long as no exit record provides evidence to the contrary. We consulted IDOC staff and policy researchers who work with these data to formulate our cleaning rules.

Two types of events require special attention in our cleaning procedures. First, an auto-revocation of MSR occurs when a prisoner is scheduled to leave prison and enter MSR but stays in prison. These events typically arise because the inmate in question has not secured MSR-approved housing. Second, in-out events occur when a defendant is sentenced to prison but enjoys days of credit for time-served in jail that are greater than his prison sentence. Such persons typically check in at an IDOC facility, receive an MSR assignment, and leave as parolees.[42]

When we observe two admissions and an exit that occur on a single day, we assume that the individual received a prison sentence shorter than his days of credit for jail time, but he cannot leave the IDOC facility because he has not secured MSR-approved housing. In these cases, we preserve one admission record and delete the other two records.

We also observe discharges from the IDOC system that occur just before the same defendant is released to MSR from a different institution. In such cases, we drop the first event. In addition, we observe cases of two releases that are close in time, with the admission date on the later release record matching the release date of the earlier one. Here, the first instance represents an auto-revocation, and we drop it and back-date the admission date on the second record to match the information from before the auto-revocation. When we observe both a release from IDOC and a discharge from IDOC on the same day, we drop the release. Finally, we observe some instances of near-duplicate exits records with differing admission dates. Here, we keep the record with the earlier admission date.

Next, we impute admissions from before 2018. All of the records in our dataset include an associated admission date, regardless of the record's type. We privilege exit records as the source of imputed admissions.

We also impute missing records in the MSR stock files. If we observe a parolee on MSR on June 30th of given year and December 31st of the same year but not on September 30th of that year, we assume that the parolee remained on MSR on September 30th - as long as no information from other files contradict this assumption. We also impute MSR discharge dates using the expected discharge dates in MSR files and exit

[42] In rare cases, the sentenced defendant has accumulated so much credit for jail-time that IDOC discharges him, and he avoids MSR completely.

files.

Given the cleaning steps described so far, we still have some days where two different types of records exist for the same docnbr. First, we may see an admission and exit on the same day. These records may represent auto-revocations or in-out events. If the most recent record before the date in question marks the docnbr as free or on MSR, we assume the date contains an in-out event. If the prior and following events involve prison stock records, we assume an auto-revocation occurred. Second, when a prison stock record falls on the same date as an admission or exit record, we shift it by a day, either backward or forward in time. When we see an MSR stock record and free record on the same day, we drop the MSR record because these pairings only occur when the parolee's MSR discharge date is the same day. When we see prison and MSR stock records on the same day, we keep the one that makes sense given the preceding record (e.g. if the last record is an exit, we keep the MSR record).

We fix the remaining 1,266 instances of multi-record days based off of manual inspection.[43] Some occur because we have imputed records and original records for the same event on a given day. Some follow patterns similar to the auto-revocation and in-out events described above, but include an extra record type (e.g. when we see an admission, an exit, and an MSR stock file on the same day, we consider it an in-out to MSR event).

The following chart describes the data that remain.

Event Counts in 1/2014 to 9/2025 Sample

	Count
Admission	115,341
Exit	230,313
MSR Stock	716,051
Prison Stock	1,358,151
Free (MSR Stock Available)	7,198,511
Free (No MSR Stock Available)	874,453
In-Out Event	15,879
Auto-Revocation	7,582
Imputed Exit	86,973
Imputed Discharge from MSR	85,432
Imputed Prison Stock	5,810
Imputed Prison Stock (pre-Admission Files)	4,617
Total	10,699,113

[43] This may seem like a large number, but our final sample contains over 10 million records.

Section 3 describes our sample selection rules and how we construct key variables. In most cases, the process is straightforward, but one variable-coding task deserves special attention. We must distinguish between MSR violations that are technical in nature versus revocations for new criminal charges. The admission and stock files contain fields that record the reason for an admission. However, court cases are often resolved after a parolee returns to prison as a technical violator. We identify such cases in two ways. First, if future exit or stock files claim that the same prison spell has an admission type involving a new sentence, we recode the admission from a technical revocation to a new-sentence admission. Second, if we see changes in the sentencing dates in the IDOC stock files that indicate that a new sentence followed a technical revocation, we also recode the admission to a new-sentence admission.

In parallel to the program described in the preceding paragraph, we create a dataset containing the same variables, but for all releases between January 1, 2014 and December 5, 2017. We use these data in the competing risk analysis that we present in Appendix Figure 4.

B.2 Cook County Court Data

We use docket data from the Circuit Court of Cook County. These data cover January 1, 2010 to September 19, 2025. Criminal cases can be divided into two broad categories: misdemeanors and felonies. Misdemeanors are offenses that are punishable by less than one year in the local jail. Felonies are punishable by one year or more in state prison. Misdemeanor cases in Cook County are handled entirely in municipal courts spread over the city. Felony cases begin in a municipal court and are transferred to a criminal court after the prosecutor shows probable cause and the case is arraigned.

Formal convictions in misdemeanor cases are rare. In the sample of cases we match to IDOC data, 85% of subsequent misdemeanor cases have no formal sentence attached. This is because when prosecutors in Cook County plea bargain with misdemeanor defendants, they typically offer non-conviction as an incentive. In these cases, the defendant agrees to participate in some program (e.g. community service, anger management, or drug treatment), and the prosecutor strikes the case with leave to reinstate the case if the defendant does not honor his end of the bargain.

We detect formal convictions in felony cases by checking for any sentence associated with the case. We also note whether the sentence is a sentence to probation or to state prison. Some effective sentences may be quite short because the defendant has already accumulated substantial time served in jail waiting for the case to resolve. We follow each parolee for 15 months after their prison release. Thus, we only count court cases filed before September 7, 2024. However, we are able to look for case outcomes through September 19,

2025. Thus, we have a minimum of one year and a maximum of over three years to follow cases after filing.

We match parolees returned to Cook County to the court record of the sentence that caused the prison spell that preceded their release to MSR. We fail to match 6% of Cook County parolees to their Cook County Court data. These failures likely reflect the fact that we are matching based on name, and names are inconsistently recorded across the Court and IDOC data. We know from the internal person identifiers available in each data source that names are not recorded consistently across records even when it is clear from these identifiers that the records apply to the same person. Second, of the 134 cases where we observe a subsequent sentence to IDOC in the Court data, we observe 12 (9%) with no subsequent admission in the IDOC data. Two of these cases involve long jail spells, and in these cases, IDOC may not have recorded in-out admission events. We have not discovered a likely reason for the other 10 failures.

Finally, the table below presents the distribution of felony classes for each of the subsequent felony cases we observe in our data. Non-conviction is more common among class 3 and 4 cases. Conditional on conviction, prison sentences are more common when parolees face conviction for more serious offenses. In fact, no Class X convictions produce probation sentences.

Felony Class Distribution of Court Outcomes

	Felony Class					
	Class X	Class 1	Class 2	Class 3	Class 4	Total
Court Outcome						
Felony - No Conv						
Frequency	55	11	22	25	61	174
Percent	50.46	42.31	28.57	64.10	62.89	50.00
Felony Conv - No IDOC						
Frequency		3	11	6	20	40
Percent		11.54	14.29	15.38	20.62	11.49
Felony Conv - IDOC						
Frequency	54	12	44	8	16	134
Percent	49.54	46.15	57.14	20.51	16.49	38.51
Total						
Frequency	109	26	77	39	97	348
Percent	100.00	100.00	100.00	100.00	100.00	100.00