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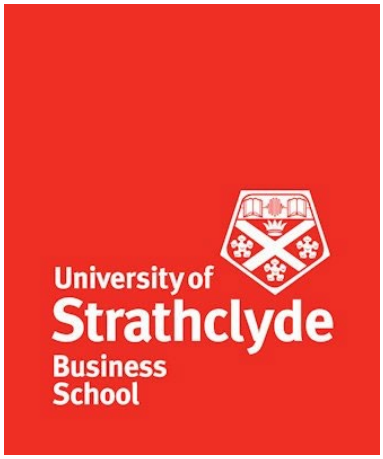

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Abstract

Many criminal offenders are managed in the community. We combine a natural experiment with administrative data from England and Wales to assess a key community correctional policy: post-release supervision. We find that supervision reduces re-offending in the first four weeks after prison release by 15%, in part due to the incapacitation of prolific offenders who are recalled to prison for violations of their probation terms. Supervision also causes a 5.5% reduction in re-offending three years after release. This effect persistence, which is even stronger for first-time prisoners, suggests that post-release supervision is a cost-efficient way to induces genuine behavioural change.

Keywords: Crime; Re-Offending; Probation; Supervision
JEL: H50; J18; K14; K42

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1 Introduction

Modern criminal justice systems increasingly rely on releasing prisoners before the end of their sentence, replacing continued incarceration with some form of post-release supervision in the community. This raises two key questions: does supervision reduce re–offending; and does supervision have a lasting effect on criminal behaviour even after it has ended? Despite its widespread use and growing importance amid prison capacity issues in many countries, there is limited causal evidence on how supervisory arrangements affect offending and through which mechanisms it operates.

In practice, post-release supervision typically requires offenders to comply with a set of conditions and to engage regularly with a probation officer, combining monitoring with the threat of sanctions for non-compliance. While such arrangements are substantially less costly than incarceration, their effectiveness depends on whether supervision induces genuine behavioural change or simply incapacitates offenders through prison recalls and other enforcement actions. Distinguishing between these channels is crucial for assessing whether supervision can serve as an effective and efficient substitute for incarceration.

The importance of this distinction is underscored by persistently high rates of re-offending following release from prison. In many jurisdictions, a large share of criminal activity by prison leavers occurs shortly after release, and recidivism remains high even several years later. For example, in England and Wales, over half of adults released from custodial sentences of less than one year are re-convicted within a year (MoJ, 2024), with substantial social and fiscal costs. These patterns raise the question of whether post-release supervision can generate lasting reductions in offending, and whether they can help prevent first–time offenders from becoming repeat-offenders.

In this article, we study the effect of post-release supervision on offenders' propensity to re-offend. We also investigate the mechanisms through which supervisory arrangements can lower recidivism rates. For identification, we turn to England and Wales, where post-release supervision for offenders released from short prison sentences was introduced in 2015. The

Offender Rehabilitation Act (ORA) mandated a 12-month post-release supervision period for all offenders who, on or after 1st February 2015, committed an offence that resulted in a custodial sentence of less than 12 months. All such offenders became subject to seven technical rules - so-called "licence conditions" - requiring them to, among other things, report to probation officers and receive home visits, meet residency requirements, and be of good behaviour. Drug tests, curfews, and/or participation in rehabilitation programmes could also be mandated in addition to these standard requirements. Individuals who committed similar offences prior to 1 February 2015, on the other hand, were released without supervision.

We exploit this natural experiment by way of a regression discontinuity design. Intuitively, we compare the universe of adult offenders in England and Wales who served short prison spells for offences committed just after 1 February 2015 with the full population of English and Welsh offenders who committed identical offences just before this cutoff date. Because we find that neither offenders nor courts alter their behaviour in anticipation of the legislation, this comparison yields the causal effect of post-release supervision on recidivism.

Our results suggest that post-sentence supervision is effective in reducing re-offending. Compared to offenders who were released unconditionally, offenders under supervision are 2.4 percentage points less likely to have committed an offence resulting in a re-conviction within 4 weeks of their release. They also commit fewer offences, with the magnitude of this effect corresponding to a 15% reduction relative to the control group mean. We provide evidence that at least some of these short-run crime-reducing effects of supervision are driven by individuals being recalled to prison for violating their probation terms. 14% of offenders are recalled to prison after release, around two thirds of which is for non-compliance with licence conditions. Recalls are typically fixed at 14 days for short-sentenced prisoners in England and Wales, far shorter than the technical revocations common in the United States, which often result in much longer periods of re-incarceration. We show that the largest drops in short-run re-offending among the supervised group are concentrated in the weeks immediately following release, when many members of the treatment group have been recalled to prison

and are thus incapacitated.

However, we also find persistent long-term reductions in re-offending due to post-release supervision. One year after release, and therefore long after prison recalls can occur, supervised offenders commit an average 0.33 fewer re-offences than unconditionally released offenders. This is a 7.7% reduction at the intensive margin. The extensive margin, that is the probability of committing any re-offence, sees a 2.3% reduction. These effect sizes persist in the long-run with similarly sized reductions observable 3 years after release. This persistence implies that these reductions in recidivism are not driven by the initial incapacitation effect of prison recalls. Instead, supervision induces genuine change in behaviour.

We further show that reductions in reoffending are concentrated in low level offence groups, such as theft, that do not typically result in re-incarceration. By contrast, we find no supervision-induced reductions in offences that result in re-incarceration. Our subgroup analysis further shows that offenders with longer licence periods - the early part of the probation period when supervision is closer and more consequential - experience larger reductions in re-offending rates. This suggests that a higher intensity of supervision is also more effective.

We also uncover that first-time prisoners exhibit the largest reductions in long-term reoffending. For them, a short period of supervision induces important behavioural change, not only during the licence period but for years afterwards. Two years after supervision has ended, they have 5% lower re-offending rates than in an unsupervised counterfactual. By contrast, offenders with several previous prison spells only experience short-run reductions in reoffending, mainly because of their higher propensity for prison recalls and thus additional days spent incapacitated.

Our cost-benefit analysis suggests that the benefits of reduced crime and recidivism exceed the supervision costs induced by the 2014 ORA legislation by a factor of more than two. We estimate the reform entailed net social benefits of approximately £8,295 ($\approx$ \$11,000) per released offender.

Our key finding that post-release supervision has substantial and persistent crime-reducing effects in England and Wales stands in contrast to various studies from the U.S., most of which conclude that higher levels of supervision have either no effects (Turner et al. (1992); Turner and Petersilia (1992); Lane et al. (2005); Barnes et al. (2012); Boyle et al. (2013); Georgiou (2014); Hyatt and Barnes (2017)) or even adverse effects on recidivism (Hennigan et al. (2010)). However, even though many of these studies use robust methods such as randomised controlled trials (RCTs), they are often based on small samples of a few hundred observations.

A key exception is Sakoda (2024) who uses data on parolees who served community sentences in Kansas. He concludes that the elimination of post-release supervision for some offenders in fact reduced felony re-convictions. In contrast, Rose (2021) documents that reducing the use of prison punishment for the violation of probation conditions in North Carolina increased re-arrests but at the same time closed the black-white gap in re-imprisonment for probation violations. Ongoing work also for North Carolina by Banan and Macdonald (2025) studies the supervision of felons using a research design similar to ours. They document heterogeneities but find that on aggregate supervision does not lower re-offending. However, while Banan and Macdonald (2025) emphasises the role of incapacitation due to release revocations - which in North Carolina result in far longer prison recalls - our study shows that in England and Wales lower re-offending rates are driven by genuine behavioural change.

Most importantly, we show that supervisory arrangements have persistent crime-reducing effects. Put differently, supervision appears to be one of the few measures that "works" for rehabilitating incarcerated offenders (Doleac (2023); Alsan et al. (2025)). We also show for whom supervision works, namely non-prolific offenders released from short prison spells. Most of the previous literature tends to only identify effects for offenders who had been incarcerated for felonies, often repeat offenders. We thus grow an important evidence base suggesting that first-time offenders' behaviour may still be alterable, not only by prison

punishment (Jordan et al., 2025) but also by post-release conditions. Such a breakdown by offender group is only rendered possible by the unique availability of population-level data to study offender supervision. Lastly, our focus on offenders released from short prison sentences, often for low-level offences (rather than felonies), is particularly timely and policy-relevant. Prisoners released from short prison sentences have very high re-offending rates (see Figure A1 in the Appendix of this paper) and are a major cause of England and Wales' prison overcrowding crisis. Our findings suggest that investments into supervision for offenders released from short sentences are a cost-effective way to reduce crime and to support offender rehabilitation.

The remainder of this paper is organised as follows. The next section provides more detail on the ORA reform and the criminal justice system in England and Wales. Section 3 introduces the novel, linked administrative data provided by the UK Ministry of Justice that we use for our analysis. Section 4 lays out our local randomisation regression discontinuity design. Section 5 presents our main results, along with evidence on mechanisms, heterogeneity, and the role of supervision intensity. In Section 6 we conduct a series of robustness checks. We conduct a cost benefit analysis in Section 7 and conclude in Section 8.

2 Background and Institutional Setting

2.1 Overview: Criminal Justice in England and Wales

England and Wales feature 43 territorial police forces which are in charge of investigating crime. Either the police or the Crown Prosecution Service will charge suspects, with the latter doing so for more serious crimes. Cases where the suspect is an adult start in a Magistrates' Court but may be transferred to the Crown Court for trial or sentencing. Magistrates' Courts are local courts, typically staffed by 2-3 trained volunteers sitting with a legally trained clerk as an advisor. They mainly handle less serious offences (so called "summary offences") and

can impose custodial sentences of up to 6 months. More serious offences are handled by the Crown Court where trials are held with a jury of 12 randomly selected jurors under the guidance of a professional judge who will pass a sentence if the jury issues a guilty verdict.

Sentencing is guided and monitored by the Sentencing Council. In 2023, Magistrates' Courts and Crown Court issued 886,190 fines, 70,664 community orders, and 115,479 custodial sentences of which 43,734 were suspended. Since 2013, the number of fines has approximately held constant whereas community sentences have dropped by about 43% and sentences to immediate custody have decreased by about 23% (CJS, 2024). His Majesty's Prison and Probation Service runs and oversees 109 of 124 prisons in England and Wales (15 are privately run) which in 2023 housed a total prison population of 84,372 (Beard, 2023). With very few exceptions, incarcerated offenders serve only half their sentence in custody and are then automatically released into the community. This automatic release rule normally applies to determinate sentences and does not involve a parole board.[1]

Recidivism rates are high. Ministry of Justice statistics show that 25.8% of offenders are proven to re-offend within 12 months (MoJ, 2024). Re-offending rates have historically been higher for juveniles and adults released from short custodial sentences. For instance, 57.9% of adults released between April 2012 and March 2013 from prison sentences of less than 12 months were proven to have re-offended within a year of their release from prison (MoJ, 2014).

2.2 The 2014 Offender Rehabilitation Act (ORA)

In response to stubbornly high re-offending rates, in particular among offenders who had served short prison spells, the UK Parliament passed the Offender Rehabilitation Act (ORA) in March 2014 as part of its wider "Transforming Rehabilitation" programme . The legislation was enacted with the explicit intention to reduce re-offending by prisoners released from short prison sentences who were responsible for around 85,000 crimes per year (GOV,

[1]There are rare exceptions to automatic releases, for example for terrorism-related offences. Note also that since July 2024, offenders are automatically released after serving 40% rather than 50% of their sentence.

2014). Starting in February 2015, the ORA ensured that all incarcerated offenders would receive at least 12 months of supervision upon release from custody.

The ORA mainly affected adult offenders who had been sentenced to short (more than 1 day but less than 12 months) custodial sentences. Before February 2015 these offenders were released unconditionally - that is, with no post-release supervision - at the halfway point of their sentence. Following the ORA's introduction, offenders continued to be released at the halfway point of their sentence but now had to comply with a series of licence conditions in the community, starting on the day of release and lasting for 12 months.

This 12 month supervisory period is split into 2 phases: a licence period and a period of post–sentence supervision (PSS). The licence period lasts until an offender's sentence has expired. This means that offenders with longer sentences have longer licence periods. The PSS period then extends the licence period so that post-release supervision always totals 12 months. Figure 1 illustrates this split. For example, an offender serving a 6 month custodial sentence will typically be released at the halfway point of their sentence after 3 months in custody. They then serve the remaining 3 months of their sentence on licence in the community, and a further 9 months under PSS, thus ensuring a full 12 month period of post-release supervision.

During the licence period, all offenders are subject to seven standard licence conditions: to be of good behaviour, not re–offend, keep in touch with their supervisor (in accordance with instructions), receive visits from their supervisor (in accordance with instructions), reside permanently at an approved address, remain in the UK, and not undertake work unless approved. These requirements are, on the one hand, intended to support rehabilitation and help offenders reintegrate into society. On the other hand, they also serve as a monitoring device that ensure that an ex-offenders whereabouts are known to probation officers. Indeed, the creation of "a safer society with fewer victims of crime" was stated as the main rationale for the ORA by then Justice Secretary Chris Grayling (GOV, 2014).

If the supervisor assesses that the standard conditions are not sufficient to assist the

offender's successful rehabilitation or protect the public, then they can apply additional conditions from a pre-set list. These include drug testing (including for class B drugs), electronic monitoring, curfews, attending programmes meant to address known risky behaviours (e.g. substance abuse, gambling etc), attending medical appointments, exclusion zones, daily supervision, disclosure of certain information (e.g. relationship changes or motor registration details) and alcohol monitoring. During the PSS period, offenders are subject to supervision requirements that are identical to the standard licence requirements, but they are typically not required to comply with any additional requirements (with the exception of drug testing, if applied during the licence period).

An important difference between the licence and PSS period are the consequences for technical breaches. A breach of conditions in the PSS period leads to either a warning or, in more serious cases, a referral to the courts, which can result in a variety of outcomes such as further warnings, fines, unpaid work, curfews, or a return to prison. For a breach of conditions in the licence period, on the other hand, supervisors can issue so–called "prison recalls" - an immediate re-incarceration for 14-days.[2] With discretion delegated to them rather than courts, probation officers tend to issue recalls swiftly and often have them enforced within hours of licence breaches.

Supervisors frequently make use of prison recalls. During our period of analysis, 11.6% of offenders were recalled to prison at least once, of which around one third were recalled because of a fresh offence (which will ultimately be sanctioned by a court) and the remaining two thirds for a breach of their licence conditions. Recalls have become increasingly common over time and are arguably a strong contributor to the current prison overcrowding issues in England and Wales.

Following changes made within the Transforming Rehabilitation Programme, responsibility for post-release supervision was delegated to 21 private community rehabilitation companies which were procured by the government to supervise low-risk offenders. They worked

[2]In rare cases in which there is a risk of serious harm to the public, individuals can be recalled until the end of their sentence.

alongside the government-run National Probation Service (NPS), which was in charge of rehabilitating and protecting the public from high-risk offenders. A 2018/19 inspection showed that a probation officer in a community rehabilitation company had an average caseload of 55 whereas NPS probation officers were personally responsible for overseeing an average of 39 offenders at a given time (HMIP, 2021). In late 2020, the part-privatisation of the probation services was reversed. All offenders are now monitored by the National Probation Service.

A key feature of the ORA that underpins our identification strategy is that the legislation applied only to offences that were committed on or after 1st February 2015. That is, the offence date rather than the sentencing date determines whether an offender is affected by the ORA. Thus, the ORA created a clean discontinuity. An offender who just before 1st February 2015 committed an offence that resulted in a short prison sentence was typically released unconditionally after serving half their sentence in custody. An identical offender who committed the same offence (carrying the same sentence) but after 1st February 2015 was still typically released at the halfway point of their sentence, but was subject to 12 months of supervision and licence conditions.

3 Data

We use novel micro-data provided by the UK Ministry of Justice as part of its Data First data-linking initiative. The data consist of several de-identified sub-datasets. First, we leverage a Magistrates' Court defendant case level dataset which contains offence and sentencing information for all defendants who appeared in front of a Magistrates' Court between January 2011 and March 2023. Second, we access a dataset containing the same information for all Crown Court defendants between January 2013 and March 2023. Crucially, both court datasets contain information on the exact dates of all offences for which defendants were charged. In addition, both datasets record the type of offence and offender demographics. Third, a prison dataset contains records of all prison spells between January 2011 and March

2023. It provides information on admission and release dates, judicially imposed sentence lengths, and whether an individual's release was conditional or unconditional. Fourth, we leverage a probation dataset to cross-verify whether an individual was indeed subject to licence conditions, and to identity prison recalls.

In essence, our data contain information on the universe of criminal court cases, prison and probation spells in England and Wales within the specified years.[3] Using a person-lookup table provided by Data First we construct offender histories and journeys through the criminal justice system, from initial offence, to court appearance, to prison spell, to probationary period, to – in many cases – re-appearance in court and prison.[4].

Our main outcome of interest is re-offending resulting in a court conviction. Throughout this paper, we will refer to this outcome as just "re-offending". We distinguish between re-offending within different time windows relative to release from prison (e.g. offences within 4/26/52/156 weeks of release from prison) and by sentence severity, in particular whether an offence resulted in re-incarceration. We construct these measures at both the intensive margin (i.e. number of re-offences) and the extensive margin (i.e. any re-offence). We also distinguish between theft and violent re-offences. For all offenders in our sample, we build offence histories that include information on the number of previous offences and the number of previous prison spells in the three years preceding an index offence.[5]

To assess the effects of offender supervision induced by the ORA reform, we construct a sample for our analysis as follows. We first identify offences committed by adults within one year either side of the ORA cutoff date of 1 February 2015 that resulted in a custodial sentence of less than 12 months. We then link these offences to prison and probation records using the person ID and shared case disposal dates. While offence dates alone determine ORA treatment status, linking to the prison and probation data allows us to establish com-

[3]Scotland and Northern Ireland have distinct legal systems and their data are not included in our sample.

[4]These datasets are available within the Office for National Statistics Secure Research Service (Ministry of Justice, 2024a, 2024b,2024c, 2024d, 2024e)

[5]Accordingly, in our heterogeneity analyses, "first-time" prisoners are defined as those without a prison spell in the three years preceding their index offence.

pliance. It also enables us to identify release dates, against which we measure re-offending. This process yields 61,109 prison spells. Using our court data, we track whether and when members of our sample re-appear in the court system, are re-convicted, or re-incarcerated. We again observe the exact offence date that led to a re-conviction and can thus construct recidivism measures that are not affected by backlogs or delays in court hearings.

Descriptive statistics for our full sample are provided in columns (1) and (2) of Table 1, separately for treated ("ORA") and control ("Pre") prisoners whose index offence occurred after or before 1 February 2015, respectively. Recidivism rates are high in both groups. 25 percent of control group members re-offend within just 4 weeks of their release from prison; after 6 months this percentage rises to 40 percent and around 66 percent of prisoners have re-offended within a year of their release, almost 80 percent re-offend within 3 years. Notably, recidivism rates are statistically significantly lower in the treatment group. This is an early indication that supervision and licence conditions may lower re-offending rates.

Our table of means further illustrates the composition of our study population. Most offenders in our sample were incarcerated for non-violent, often low-level ("summary") offences or offences that can be tried by either a Magistrates' or Crown Court. They received short prison sentences of, on average, about 4 months. Similar to the overall prison population in England and Wales, our sample is predominantly white, male, and British. On average, offenders in both groups committed more than 16 offences and had experienced around 4 prison spells in the three years prior to their index offences. In the analysis, all specifications that include controls include the full set of covariates reported in Table 1.

Figure 2 shows the distributions of licence conditions among individuals receiving supervision in our full sample. 48% received the standard seven conditions only, meaning the remaining 52% were subject to at least one additional condition. The most common of these was daily supervision (33%), involving offenders reporting to their supervisor or a specified police station. A further 13% were required to attend programmes related to their reoffending behaviour or education and training. Smaller proportions were subject to an exclusion

zone or curfew (9%) or drug and alcohol testing (8%).

4 Empirical Model

We employ a Regression Discontinuity (RD) design to identify the effect of post-release offender supervision on recidivism. We exploit that the ORA only introduced supervision and licence conditions for prison leavers who had been incarcerated for offences committed on or after 1 February 2015. Those who committed offences prior to this date form a control group of prison leavers who were released unconditionally.

Traditionally, the following regression model formalised this intuition:

$$Y_{is}(\tau) = \beta_0 + \beta_1 ORA_s + \beta_2 Offdate_s + \beta_3 ORA_s \times Offdate_s + \epsilon_{is} \tag{1}$$

where our outcomes of interest, Y_{is}, are either dummy indicators for whether offender i re-offended following a prison term that they served for index offence s (extensive margin) or the number of re-offences committed since release (intensive margin). We vary both the follow-up time window, τ, (from 1 week to 3 years after release) and our definition of recidivism (ranging from any type of crime to offences resulting in re-incarceration). ORA_s is an indicator that equals 1 if an offender's index offence was committed on or after 1 February 2015 thus requiring a 12-months post-release supervision period as per the ORA. β_1 represents the effect of assignment to supervision on recidivism. $Offdate_s$ is the running variable centred around the cutoff date, i.e. the number of days between the index offence date and 1 February 2015, and is allowed to vary on either side of the ORA cutoff.

This canonical RD design assumes a continuous running variable, i.e. that all observations in the dataset have a distinct value of the running variable. This is not the case in our setting where $Offdate_s$ moves in discrete 1-day steps. With such mass points, extrapolation would be required outside the support of the running variable so that traditional continuity-based treatment effects can no longer be identified at the cutoff (Cattaneo and Titiunik, 2022).

Identification issues aside, a continuity-based estimation with a discrete running variable involves estimating standard errors with effective degrees of freedom equal to the number of mass points, not the number of observations in the sample.

We therefore follow the recommendation of Cattaneo et al. (2024) and apply a local randomisation RD approach. The continuity-based RD approach relies on the assumption of continuity in the regression function - an assumption that is difficult to defend when the running variable is discrete. The local randomisation approach instead assumes that, within a sufficiently narrow neighbourhood of the cutoff, treatment assignment is as good as random. As such our setup resembles the original RD design introduced by Thistlethwaite and Campbell (1960).

Another implicit assumption of our local randomisation approach is that the running variable itself is unrelated to potential outcomes within the window of analysis. In our setting, this seems plausible because it is unlikely that differences in the date of an offence are directly related to re-offending behaviour.[6] Our final identifying assumption is that of a strong "first stage". That is, offenders who committed an offence before 1 February 2015 need to have been released unconditionally, whereas those who committed an offence on or after the cutoff date need to have been released with supervision and licence conditions attached. Put differently, we require compliance with the ORA legislation. Figure 3 suggests that compliance was indeed near-perfect. For further analysis we ignore the small degree of fuzziness and treat our setup as a sharp regression discontinuity design (as is common in the literature, see for instance Abdulkadiroğlu et al. (2014)). Our estimated intent-to-treat (ITT) effect will be all but identical to the treatment-on-the-treated (TOT) effect.[7]

Naturally, the choice of window size around the cutoff is a crucial decision in a local randomisation RD framework. We follow the recommendation of Cattaneo et al. (2024) and adopt a data-driven procedure to select the optimal window size. The method amounts to

[6] An example where this assumption would be less plausible is when discrete test-scores are used as a running variable because higher/lower test score values may themselves be predictive of individual outcomes.

[7] There are no "defiers" in our setting, ensuring that the monotonicity assumption holds.

an iterative balancing check for our available pre-determined covariates. That is, we test the null hypothesis that our covariates are balanced between treatment and control within the smallest possible window ($\pm$ 1 day) around the cutoff. If we fail to reject the null, we expand the window size to $\pm$ 2 days and repeat the test. The process is repeated up to the iteration where the hypothesis is rejected at a significance level of 0.15, at which point we then shrink the window by 1 day. The test-statistic we calculate is Hotelling's T-Squared which can be considered a multivariate version of the traditional t-test. This data-driven procedure suggests that a window-size of 113 days is appropriate. In Columns (4) to (6) of Table 1 we compare the means for treatment and control for this window size. They are very similar for both groups for all pre-determined covariates.[8]

Our identifying assumption of randomisation around the cutoff would be violated if offenders sorted on either side of it. For example, offenders may have committed offences earlier than they otherwise would have in an attempt to avoid mandatory supervision, or refrained from crime entirely following its introduction. We therefore conduct a formal density test (McCrary, 2008) which fails to reject the null hypothesis of continuity in the running variable (date of offence) at 1 February 2015 at any reasonable level of significance. Appendix Figure A2 visualises this result.

A related concern is that offenders' characteristics may differ between treatment and control groups. To rule out this kind of compositional effect, we construct a series of balancing charts. Panel (a) of Figure 4 shows that the offender age composition is all but identical on either side of the cutoff. Panel (b) shows the share of offenders who had previously been incarcerated is also all but identical on either side, as is the number of previous offences (see Panel (c)). This suggests that treatment and control group do not meaningfully differ in their criminal histories. Both groups also show no differences in the types of crimes they commit: violent crime and theft account for about 10 percent and 38 percent of offences leading to incarceration for both treatment and control offenders, respectively (see Panels

[8]In the Appendix we show that our results are robust to selecting narrower ad-hoc window sizes. See Section 6 for more detail.

(d) and (e) of Figure 4). Appendix Figure A3 shows further balancing tests.

While sentencing guidelines were not affected by the ORA, one possibility is that courts passed shorter custodial sentences to compensate for the mandatory supervision being introduced. Panel (f) of Figure 4 rules this out, showing no discontinuous break in average sentence length around the cutoff. Table 1 further shows that average sentence length is virtually identical across treatment and control groups (124 vs. 125 days). It also shows that this balance extends to virtually all observable offender and offence characteristics, both for our full sample (Columns (1) to (3)) and our preferred window (Columns (4) to (6)).

5 Results

5.1 Main Result

Table 2 presents our main results. The regression results in this table only use observations within our optimal window size of ±113 days around the cutoff. Our point estimates are accompanied by conventional Eicker-Huber-White (EHW) standard errors, as recommended by Kolesár and Rothe (2018) for a setting with a discrete running variable over a sufficiently small window.

Panel A shows that in the first four weeks following their release, our treatment group had re-offending rates that were 2.3 percentage points lower than those of our control group. Assessed against the control mean, this is about a 10% reduction. The two first columns of Panel B show that offenders who were subject to supervision and licence conditions also committed on average 15% fewer offences than those released unconditionally. These effects are similar across specifications with and without covariate controls and are statistically significant at the 1% level.

Our findings also align well with the raw re-offending data plotted in Figure 5. Panel (a) shows a distinct drop at the cutoff in the share of offenders who re-offended within 4 weeks. Similarly, Panel (b) shows a dip in the average number of re-offences committed during the

first month after their release. Panels (c) and (d) show stark differences in re-offending behaviour up to 26 weeks after release, and Panels (e) and (f) show that a gap remains even 1 year after release. Columns (3) to (6) of Table 2 provide point-estimates for these group differences. Offenders subject to licence conditions and supervision by virtue of ORA commit about 7.6% fewer offences within a year of their release from prison than an all but identical unsupervised control group. They are also 2.1% more likely to not have committed any offence at all.

Figure 6 extends our window of analysis to up to 3 years since release and illustrates the estimated effect sizes by follow-up time window. All point estimates are divided by the corresponding control mean and thus have a percentage-change interpretation. Panel (a) shows a pronounced initial drop. Supervision and licence conditions reduce re-offending by 10% in the first few weeks after release. The effect size then continuously decreases. By week 12 post-release, the reduction in (any) re-offending amounts to about a 6% drop. Between weeks 13 and 52 the effect shrinks to about a 2.5% reduction and remains persistent at that level even 3 years after release. The trajectory at the intensive margin is similar. Panel (b) of Figure 6 shows that supervision reduced re-offending rates by up to 15% in the first weeks after release and by around 7% in the long-run.

We also analyse the effect of ORA by offence type. Panel A of Table 3 shows that the effect of supervision is more pronounced for less serious re-offending, which we define as offences not resulting in re-incarceration. The short-run (4-week) effects at both the extensive (16% reduction) and intensive margin (23% reduction) are larger than for overall re-offending. They also persist at a higher level. For example, supervision reduces re-offending rates within 3 years by 3.4% for offences that do not result in re-incarceration, compared to a 2.5% reduction for all offences. The flip side of this result is shown in Panel B of Table 3 which shows that supervision and licence conditions have at best very small effects on serious re-offences - those resulting in another prison spell.

We also find that theft offences, which account for about 40% of offences in the sample,

are reduced by supervision and licence conditions. Effect sizes are similar to those for overall offending, that is we again see very large short-run reductions in theft-related re-offending and moderate persistent long-run drops (see Panel C of Table 3). For violent offences shown in Panel D, on the other hand, the evidence is less clear cut. While short-run reductions in violent re-offending are large in relative size and statistically significant, the long-run effects of supervision are not statistically significant. However, this may be because violent offences are rare (only about 10% of offences in our sample) and effects are thus harder to detect. Appendix Figures A4 and A5 show the full effect trajectories by offence type.

5.2 Mechanisms, Heterogeneity, and Supervision Intensity

One striking feature of our results is the sharp decline in re-offending in the first few weeks following release. The timing of this reduction suggests that prison recalls — an enforcement mechanism of licence conditions — may play an important role. As outlined in Section 2, offenders can only be recalled to prison during the licence period, but not during the post-sentence supervision (PSS) period. Hence, the scope for recall is concentrated in precisely the period in which we observe the largest treatment effects.

It is important to note, however, that the effect of recalls is not cleanly identifiable within our regression discontinuity design. While assignment to supervision is as good as random around the cutoff, recalls occur endogenously within the treated group. We therefore rely on descriptive evidence and subgroup analyses to assess the plausibility of incapacitation due to recalls as a mechanism.

A key institutional feature of the English and Welsh system is that the vast majority of recalls for short-sentenced prisoners are fixed at 14 days. Panel (a) of Figure 7 confirms that most recalls indeed last two weeks. They can be shorter if the release date falls on a Saturday or Sunday, or if an offender's remaining sentence is less than 14 days.[9] Panel (b) plots the share of offenders who are incapacitated due to recall by time since release. The

[9]In the case of a further offence, offenders can be recalled for the remainder of their initial sentence but only if the offence was committed during the licence period.

share rises quickly and peaks at around 3.5% approximately two weeks after release, remains elevated for a further two weeks, and then declines steadily to around 1% by 90 days.

Three observations help interpret these findings. First, recall activity is highest in the immediate post-release period, precisely the time period when supervision's effect on crime is most pronounced (see Figure 6). This suggests that incapacitation contributes to short-run effects of supervision. Second, the rapid decline in recall-induced incapacitation implies that this mechanism cannot fully account for reductions in re-offending beyond the first few weeks. In particular, it is unlikely that incapacitation lasting at most a few weeks would mechanically translate into persistently lower re-offending months or years later. Third, and most importantly, recall activity differs markedly across offender types. First-time prisoners (dashed line in Panel (b) of Figure 7) , who benefit relatively more from supervision (see below), have substantially lower recall rates than prolific offenders who have had more than five prior custodial sentences.

Taken together, this evidence suggests that prison recalls are an important driver of short-run reductions in re-offending, particularly among prolific offenders but should play less of a role for first-time prisoners and cannot explain the persistent long-run effect of supervision.

To explore this heterogeneity across first-time and prolific offenders more directly, we estimate treatment effects separately by prior criminal history. Panels (a) and (b) of Figure 8 plot effect trajectories for first-time prisoners and prolific offenders. First-time prisoners experience substantial and persistent reductions in re-offending — on the order of 7–8% in the long run—whereas long-run effects for prolific offenders are considerably smaller, imprecisely estimated, and not statistically distinguishable from zero at conventional levels. First-time prisoners also have substantially larger reductions in re-offending in the first few weeks after release. It is notable that these differences emerge despite lower recall rates among first-time prisoners. Panel (a) of Appendix Figure A6 shows that fewer than 8% of first-time prisoners experience a recall during their licence period, compared to roughly 20% of prolific offenders (see Panel (b)).

This pattern of larger drops in short-run re-offending among first-time prisoners - despite their lower recall rates - points to supervision inducing genuine behavioural change among offenders with limited prior exposure to the criminal justice system. This interpretation is also consistent with recent evidence on the heterogeneous impacts of incarceration (Jordan et al., 2025), which highlights that marginal offenders are more responsive to interventions.

Figure 9 presents further subgroup results. Here we stratify our sample based on pre-determined characteristics. In the short-run, four weeks after release, virtually all offenders benefit from supervision albeit to varying degrees. The exception to this are offenders on custodial sentences of less than 3 months. By contrast, supervision and licence conditions have large effects on offenders who served sentences of more than 6 months. While all treated offenders receive 12 months of supervision, the composition of this period differs by sentence length. Offenders serving longer custodial sentences spend a greater share of their supervision period on licence — where monitoring is stricter and enforcement through recalls is possible — rather than in the less intensive PSS regime.

Figure 10 shows that treatment effects increase systematically with sentence/licence length. Offenders serving very short sentences, who experience only brief licence periods, exhibit no detectable response to supervision in either the short or long run. In contrast, offenders serving 3-5 month sentences show modest reductions in re-offending of around 3% in the long run, while those serving 6–12 month sentences—who are exposed to the longest licence periods — experience reductions of up to 8–9%. This pattern is consistent with a dose-response relationship, whereby more intensive supervision leads to larger behavioural responses.[10]

Additional evidence on this point comes from changes in offending behaviour at the point when supervision intensity drops. For supervised offenders, the end of their sentence marks a transition from the high-intensity licence period regime to the lower-intensity PSS regime. Figure 11 plots their re-offending rates around this transition, stratifying offenders by sentence length to ensure a consistent sample composition in all licence periods. For comparison

[10]While longer custodial spells may themselves affect re-offending (Kuziemko, 2013), note that sentence length is balanced in our treatment and control group comparison.

purposes Figure 11 also shows trends for the pre-ORA cohort, who never experience supervision. Across all groups we observe a discrete increase in re-offending at the point when the licence conditions expire. A Callaway and Sant'Anna (2021) difference-in-differences estimate confirms that this increase is statistically significant in three of the four subgroups we investigate. This reinforces the point that as supervision intensity drops, reoffending increases.

Taken together, these findings provide evidence that supervision operates through two complementary channels. In the short run, recall-induced incapacitation reduces offending, mainly among high-risk and prolific offenders. In the longer run, supervision appears to induce genuine behavioural change, especially among first-time prisoners. Moreover, the effectiveness of supervision is increasing in its intensity, highlighting the importance of sustained and closely monitored engagement with offenders during the post-release period.

6 Robustness Checks

Our estimation approach treats observations with values of the running variable around 1 February 2015 as if they were generated from a randomised experiment. This assumption is more plausible with smaller windows around the cutoff. On the other hand, larger windows enable greater estimation precision. Our optimal bandwidth of ± 113 days balances these two dimensions. In Appendix Figure A7 we show that our results are robust to using a smaller or larger window size. Sub-Figure (a), for example, shows that the point estimate for 4-week re-offending is virtually identical regardless of whether a 21-day or 150-day window around the cutoff is used. Naturally, smaller bandwidths lead to wider confidence intervals, but they do not fundamentally change our conclusion. Similarly, the other sub-panels show that for longer re-offending time windows even large deviations from our optimal 113-bandwidth have little effect on our estimates, no matter whether we assess the effect of supervision on the probability of re-offending or the number of re-offences.

We next re-run our analysis using an artificial cutoff date before 1 February 2015. Since short-sentenced prisoners never received supervision pre-ORA, the expectation is that no effect should be found. Panel A of Table A1 shows the results of applying an artificial cutoff date of 1 February 2014 - the year preceding the ORA's implementation - with a bandwidth of ± 113 days. Reassuringly, Panel A shows no statistically different reoffending rates at any reasonable significance level.

A threat to identification is that an unobserved factor - distinct from the ORA - may have changed discontinuously at the 1 February 2015 threshold, thereby confounding the estimated difference in reoffending between the treatment and control groups. While results from a density test and balancing charts presented in Section 4 suggest this is unlikely, we can nonetheless test this further by re-running our analysis on a placebo group. The intuition is that if an unobservable confounder was driving our main result, it would likely also affect our placebo group. A natural placebo group is offenders serving custodial sentences of 12 months or more, since they were released with licence conditions both before and after the ORA. Panel B of Table A1 confirms that reoffending rates did not change systematically around the cutoff for this cohort, further supporting the validity of the design.

Lastly, Appendix Table A2 presents results from several 'donut' specifications, in which observations close to the 1 February 2015 cutoff are discarded. This robustness check guards against the possibility that offenders sorted around the threshold — for instance, by manipulating their index offence date to select into or out of supervision. It therefore complements the density test in Section 4, which provided no evidence of sorting. In column (1), we discard offenders who committed an offence within 4 weeks of the cutoff and estimate an extensive margin effect of -0.014 - identical to our main result in Table 2. Extending the exclusion window to 6 and 8 weeks in columns (2) and (3) leaves the estimates qualitatively unchanged (-0.016 and -0.017, respectively). The exclusion of Christmas and Easter holiday weeks from the sample similarly has no meaningful effect on our estimates. Panel B shows this same stability holds for the intensive margin across all specifications as well.

7 Cost-Benefit Analysis

Post-release supervision entails fiscal costs but also generates social benefits through reductions in re-offending. In this section, we assess whether the ORA passes a cost-benefit test by comparing the additional costs of supervision and prison recalls to the monetised social benefits of reduced crime. All monetary values are expressed in 2023/24 prices. Detailed assumptions are provided in Appendix B and summarised in Appendix Table B1.

Costs of Supervision: The ORA mandated 12 months of supervision for offenders released from short custodial sentences. The primary cost component is the provision of probation services. According to Ministry of Justice estimates (Timpson, 2025), the annual cost of supervising an additional individual on probation is approximately £4,500. Applied to the 29,413 offenders in our sample who received ORA treatment, this implies total supervision expenditures of approximately £132 million for the cohort under study.

Costs of Prison Recalls: A second cost component arises from prison recalls. Only supervised offenders can be recalled for violations of licence conditions, and we observe a recall rate of 14% among our treated group (11.6% are recalled at least once). In total, treated offenders spent 77,449 additional days in custody due to recalls. Using the average annual cost of incarceration of £51,729 (Service (2025), equivalent to £141.72 per day), recall-related expenditures amount to approximately £11 million. We adopt a conservative approach, using the average cost of incarceration - rather than the marginal cost - to value recall days. While a single short recall spell is unlikely to affect fixed prison overheads, the sheer volume of recalls and persistent prison overcrowding issues informed this assumption.

Benefits of Supervision: The principal benefit of supervision arises from lower re-offending. We monetise these benefits by computing treatment–control differences in the number of reoffences at the intensive margin by offence category, and multiplying these differences by Home Office estimates (Heeks et al., 2018) of the economic and social costs of crime. These Home Office estimates account for criminal justice system expenditures (policing, courts, and prisons), defensive expenditures, property losses, and where applicable,

physical and emotional harm to victims and lost output. We additionally apply Home Office crime multipliers to account for undetected offences and those that are not brought to court.

For example, we estimate that supervision led to 62 fewer vehicle theft offences among the 9,236 offenders in our treated sample. Scaling this figure up to account for all supervised offenders who committed an offence within 1 year of ORA (i.e. N=29,413 in Column 1 in Table 1) suggests that there were approximately 200 fewer vehicle offences committed annually. Using the Home Office valuation of £10,290 per vehicle theft, this category alone generates substantial social savings. Aggregating across all offence types, we estimate first-year benefits of approximately £70 million for the cohort. Because the estimated reduction in re-offending persists for at least three years, benefits accrue beyond the supervision period. Applying a standard 4 percent discount rate, the present value of benefits over three years amounts to £204 million. From a purely fiscal perspective, the reform is approximately cost-neutral within two years. Government Green Books recommend a ten-year appraisal horizon. To remain conservative, we assume that the treatment effect decays by 20 percent per year beyond the third year. Under this assumption, the present value of total benefits amounts to about £387 million.

Net Social Benefits: Total costs for the cohort amount to approximately £143 million (£132 million supervision costs plus £11 million recall costs). Under our baseline assumptions, the present value of social benefits exceeds costs by a factor of 2.7, or about £8,295 per offender, implying a substantial positive net social benefit. Even under conservative assumptions regarding effect persistence, crime valuation, and recall costing, the ORA-generated supervision regime passes a cost-benefit test. Extrapolating these estimates to subsequent annual release cohorts suggests that the aggregate social gains from supervision are substantial. Taken together, post-release supervision under the ORA appears not only effective in reducing recidivism but also economically efficient.

8 Conclusion

Re-offending rates of criminal offenders are high across the developed world. In the United States about three quarters of those released from prison re-offend within 5 years (Alper et al., 2018). For previously incarcerated offenders, recidivism rates are particularly high, and re-offending often happens soon after release. The UK's Ministry of Justice finds that 58.3% of adults in England and Wales who are released from short prison sentences are proven to re-offend within just a year of their release (MoJ, 2024), and they assess the cost of re-offending at around £18.1bn ($24.5bn) per year.

This article studies a key criminal justice and offender rehabilitation policy geared towards reducing re-offending: supervision and licence conditions. The period immediately following release from prison is critical for rehabilitation and ex-prisoners frequently relapse into engaging in crime. Contact with a designated probation officer and the requirement to follow probationary rules are intended to prevent re-offending and to help offenders navigate life outside of prison.

Exploiting a national reform that introduced supervision for offenders released from short prison sentences in England and Wales, we use a regression discontinuity design and linked administrative data on the universe of offenders in both nations to estimate the causal effect of supervision relative to unconditional release. We find that supervision and the requirement to adhere to licence conditions substantially reduce re-offending.

The mechanisms underlying this effect vary over time and across offenders. In the first few weeks after release, incapacitation through prison recalls plays a key role for repeat offenders. Yet first-time prisoners show even larger short-run reductions in reoffending despite being recalled far less frequently, suggesting that the threat of recall and close probationary supervision are sufficient to alter their behaviour.

The crime-reducing effects of supervision persist in the long run, even several years after supervision has concluded. For first-time offenders, in particular, an initial year of supervision appears to instill genuine behavioural change. Three years after their release from

prison they have around 5% lower re-offending rates than they would have experienced in the absence of supervision. Prolific offenders, on the other hand, show a more muted response to supervisionary arrangements. We also find that offenders on more intensive supervisory regimes re-offend less in both the short and long run.

The monetised benefits of supervision in terms of averted crime outweigh the costs of the policy by a factor of 2.7. Most of these gains are driven by first-time prisoners who react to supervision with large and persistent reductions in criminal behaviour. Our results are therefore complementary to recent findings by Jordan et al. (2025) who show that among first-time offenders incarceration leads to lasting reductions in re-offending. Our findings support the notion that first-time and early-onset offenders' behaviour is still malleable and can be affected by appropriate interventions.

Prolific offenders, on the other hand, only react to prison recalls for violations of licence conditions. These typically result in incapacitation for 14 days. Consistent with recent findings by Franco et al. (2024), neither supervision nor prison recalls appear to be effective in reducing repeat offenders re-offending behaviour beyond short-run incapacitation. The effects of supervision are also concentrated among less serious offences, such as theft, that do not typically lead to incarceration. Supervision in addition to prison time (as in our natural experiment) is thus unlikely to alleviate pressures on the prison system. However, our findings also imply that community supervision is an effective and cost-efficient substitute for incarcerations.

It is worth highlighting that our study takes place in a context in which probation services were widely perceived to be under-resourced. Our estimates may therefore be interpreted as a lower bound on the effectiveness of post-release supervision. At the same time, supervision is clearly no silver bullet, evidenced by reoffending rates remaining high among supervised offenders. Nevertheless, our findings show that supervision does make a meaningful difference at the margin: absent the introduction of post-release supervision, reoffending rates would have been even higher. Supervision may therefore be one of the few interventions that "work"

to break the cycle of prisoner re-offending.

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Tables and Figures

Table 1: Table of Means - Treatment and Control

	Full Sample (±365 days)			Optimal Bandw. (±113 days)		
	ORA	Pre	Diff	ORA	Pre	Diff
Re-Offending (Outcomes)						
% Reoffended within 4 Weeks	0.219	0.251	0.032***	0.228	0.252	0.023***
% Reoffended within 1 Year	0.647	0.665	0.018***	0.642	0.658	0.015**
% Reoffended within 3 Years	0.782	0.792	0.010**	0.774	0.793	0.018**
Re-Offences within 4 Weeks	0.439	0.516	0.077***	0.451	0.525	0.074***
Re-Offences within 1 Year	4.029	4.381	0.351***	3.952	4.277	0.326***
Re-Offences within 3 Years	9.709	10.009	0.299**	9.585	10.135	0.550**
Offence and Offender Characteristics (Covariates)						
Sentence Length (Days)	125.373	123.761	−1.612**	124.814	123.652	−1.163
Previous Offences	16.492	15.904	−0.588***	16.218	16.261	0.043
Previous Incarcerations	4.041	3.658	−0.383***	3.916	3.842	−0.074
% Married/Co-habiting	0.088	0.087	−0.001	0.089	0.090	0.001
Age at Release	34.63	34.34	−0.288***	34.58	34.45	−0.126
Age 18–20	0.020	0.022	0.002	0.021	0.020	−0.001
Age 21–25	0.162	0.176	0.014***	0.162	0.170	0.008
Age 26–30	0.213	0.208	−0.005	0.215	0.212	−0.003
Age 31–35	0.195	0.202	0.006*	0.194	0.202	0.007
Age 36–40	0.157	0.145	−0.012***	0.156	0.149	−0.007
Age 41–45	0.111	0.109	−0.002	0.110	0.105	−0.005
Age 46–50	0.071	0.069	−0.002	0.074	0.073	−0.002
Age 51–55	0.038	0.040	0.001	0.037	0.042	0.005
Age 60+	0.014	0.012	−0.002*	0.013	0.011	−0.002
% Male	0.866	0.875	0.009**	0.866	0.877	0.011*
% British	0.908	0.895	−0.014***	0.899	0.898	−0.001
% White	0.846	0.847	0.001	0.853	0.850	−0.002
% Black	0.058	0.061	0.002	0.059	0.059	0.000
% Asian	0.050	0.048	−0.002	0.045	0.048	0.002
Remanded During Hearing	0.192	0.198	0.006	0.188	0.194	0.006
% Summary Offence	0.317	0.307	−0.010**	0.306	0.323	0.017*
% Triable Either Way Offence	0.585	0.597	0.012**	0.604	0.586	−0.018*
% Incarcerated For Theft	0.379	0.399	0.021***	0.394	0.388	−0.006
% Incarcerated For Violence	0.101	0.091	−0.010***	0.095	0.093	−0.001
% Not Guilty Plea	0.090	0.087	−0.003	0.083	0.085	0.002
N	29,413	31,696	61,109	9,236	9,511	18,747

This Table shows outcomes and covariate characteristics separately for offender-prison-spells that resulted from an offence committed after 1 February 2015 (ORA-group / treatment group) and those that resulted from an offence committed before the cutoff date (Pre-ORA-group / control group). "Previous offences" and "previous incarcerations" refer to the three years prior to an offence. We calculate the difference across treatment and control group by regressing characteristics on a treatment group indicator and reporting the coefficient in columns (3) and (6). Significance levels: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Means and differences are shown for our full sample (spells resulting from offences committed within 365 days of the cutoff date) and for a sample for which the optimal window size ("bandwidth") was obtained using the data-driven approach suggested in Cattaneo et al. (2024).

Table 2: Regression Estimates: Effect of Supervision and Licence Conditions on Re-Offending

	4 Weeks		26 Weeks		52 Weeks	
Panel A: Share Re-Offended (Extensive Margin)						
ORA	-0.023^{***}	-0.024^{***}	-0.025^{***}	-0.025^{***}	-0.015^{**}	-0.014^{**}
	(0.006)	(0.006)	(0.007)	(0.006)	(0.007)	(0.006)
Control Mean:	0.252	0.252	0.557	0.557	0.658	0.658
Panel B: Number of Re-Offences (Intensive Margin)						
ORA	-0.074^{***}	-0.075^{***}	-0.262^{***}	-0.263^{***}	-0.326^{***}	-0.328^{***}
	(0.018)	(0.016)	(0.055)	(0.045)	(0.086)	(0.070)
Control Mean	0.525	0.525	2.528	2.528	4.277	4.277
Bandwidth	113	113	113	113	113	113
Covariates	No	Yes	No	Yes	No	Yes
N	18,747	18,747	18,747	18,747	18,747	18,747

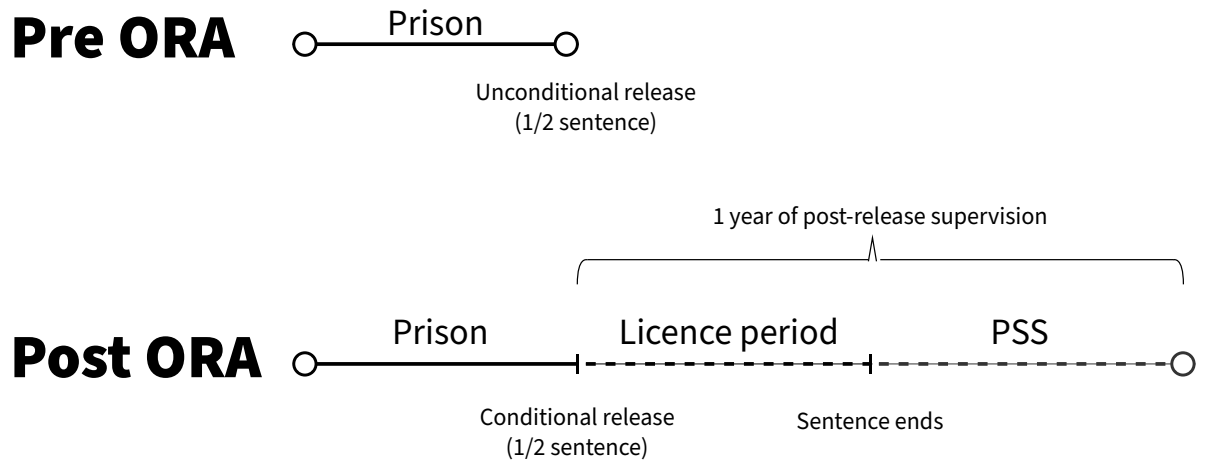
This Table reports results of our local randomisation approach. For our preferred window size around the cutoff (± 113 days) we regress our re-offending outcomes on a dummy indicator for whether an offender prison spell was caused by an offence committed on or after 1 February 2015 ("ORA treatment group"). We define our re-offending outcome by both time and type of re-offence. Panel A considers all types of offences and reports the treatment effect on a dummy indicator of whether an offender re-offended within 4 weeks, 26 weeks and 52 weeks of release, respectively ("extensive margin"). In Panel B we report the effect on the number of offences committed within these time windows ("intensive margin"). Where indicated controls for age, marital status, sex, nationality, ethnicity, sentence length (for index offence), the number of previous offences, the number of previous incarcerations as well as several trial and offence characteristics are included. For a full list of covariates, please see Table 1. Eicker-Huber-White standard errors are reported in parentheses. Significance levels: *p<0.1, **p<0.05, ***p<0.01.

Table 3: Effect of Supervision and Licence Conditions on Re-Offending by Crime Category

	4 Weeks		26 Weeks		1 Year	
	Extensive	Intensive	Extensive	Intensive	Extensive	Intensive
Panel A: Re-Offence *Not* Resulting in Re-Incarceration						
ORA	−0.025***	−0.067***	−0.040***	−0.239***	−0.024***	−0.273***
	(0.005)	(0.012)	(0.007)	(0.034)	(0.007)	(0.050)
Control Mean:	0.159	0.294	0.444	1.474	0.566	2.514
Panel B: Re-Offence Resulting in Re-Incarceration						
ORA	−0.005	−0.008	−0.004	−0.024	0.001	−0.055
	(0.005)	(0.010)	(0.006)	(0.027)	(0.006)	(0.039)
Control Mean:	0.131	0.231	0.332	1.054	0.416	1.764
Panel C: Theft Re-Offence						
ORA	−0.012***	−0.033***	−0.014***	−0.078***	−0.011**	−0.107***
	(0.004)	(0.010)	(0.005)	(0.027)	(0.006)	(0.041)
Control Mean:	0.138	0.239	0.322	1.054	0.383	1.721
Panel D: Violent Re-Offence						
ORA	−0.006***	−0.011***	−0.005	−0.016**	−0.007*	−0.013
	(0.002)	(0.003)	(0.004)	(0.007)	(0.004)	(0.009)
Control Mean:	0.026	0.036	0.071	0.115	0.099	0.167
Bandwidth	113	113	113	113	113	113
Covariates	Yes	Yes	Yes	Yes	Yes	Yes
N	18,747	18,747	18,747	18,747	18,747	18,747

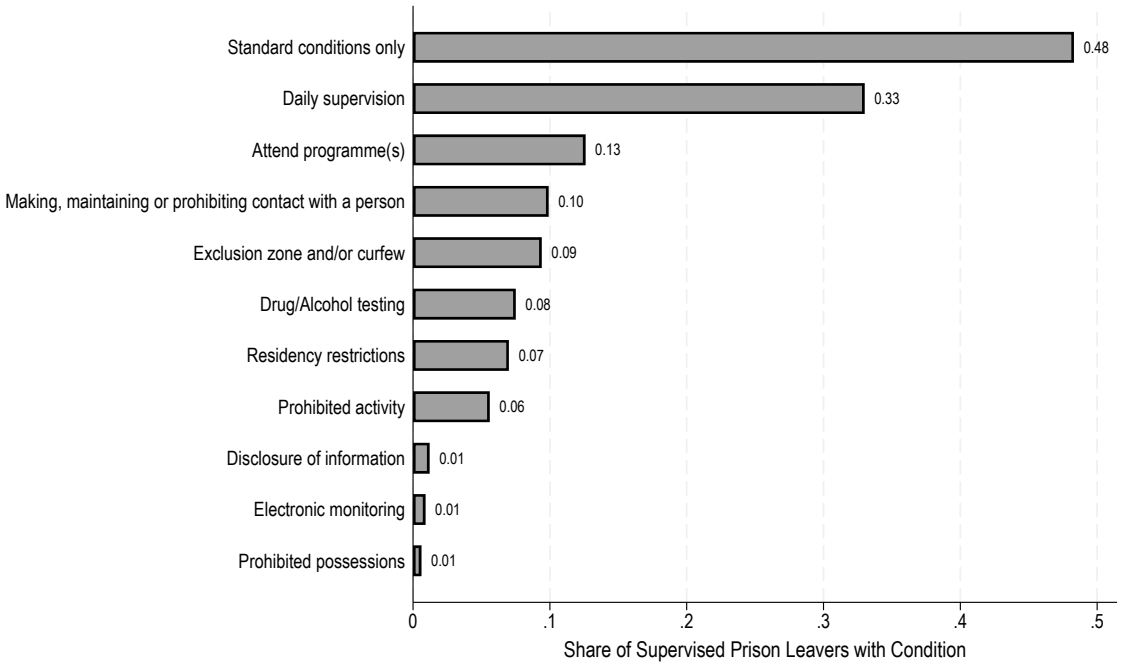
This Table reports results of our local randomization approach. Our outcomes of interest are whether an offender committed any re-offence ("extensive margin") as well as the number of re-offences committed ("intensive margin"). We distinguish between offences that did (Panel B) and did not (Panel A) result in re-incarceration, respectively. We also consider theft (Panel C) and violent re-offences (Panel D) separately. For our preferred window size around the cutoff (± 113 days) we regress our re-offending outcomes on a dummy indicator for whether an offender prison spell was caused by an offence committed on or after 1 February 2015 ("ORA treatment group"). Eicker-Huber-White standard errors are reported in parentheses. Significance levels: *p<0.1, **p<0.05, ***p<0.01.

Figure 1: Supervision Period Structure



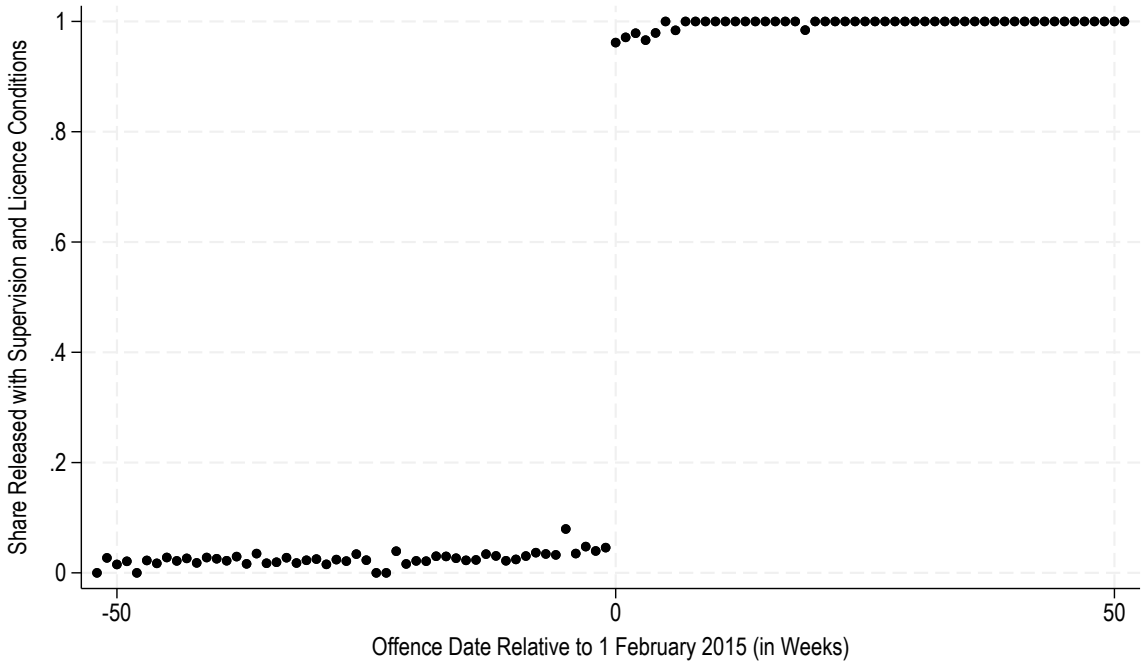
Notes: ORA introduced a 1-year supervision period that is split into the license period and the post-sentence supervision period. In England and Wales, offenders serving a custodial sentence are typically released from prison at the half-way point of their sentence. The license period covers the remainder of this sentence. The length of the post-sentence supervision period is then such that together with the probation period, it adds up to 1 year.

Figure 2: Distribution of Licence Conditions



Notes: ORA introduced 1 year of supervision and licence conditions for prison leavers sentenced to short custodial sentences. This figure shows the distribution of those licence conditions among our treated full sample. Offenders can be subject to more than 1 additional licence condition.

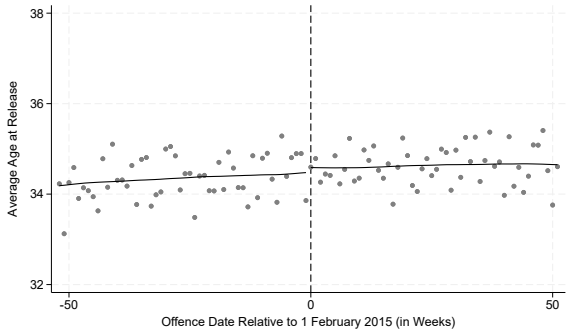
Figure 3: First Stage: Timing of Offence Date on Supervision Treatment



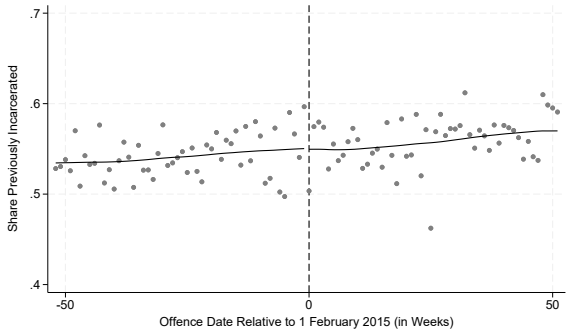
Notes: This Figure shows the relationship between our running variable (date of the offence that led to incarceration relative to 1 February 2015, x-axis) and our treatment (whether an offender was released with supervision requirements and licence conditions, y-axis). Each dot represents the share of offenders (by week of offence) that was released conditionally.

Figure 4: Covariate Balance for Key Offender Characteristics

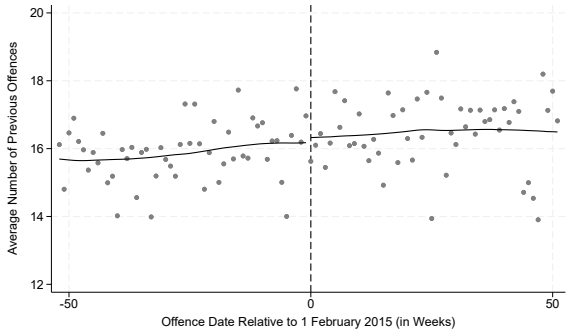
(a) Age at Release



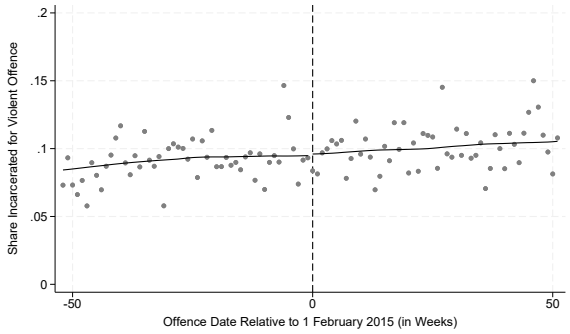
(b) Share Previously Incarcerated



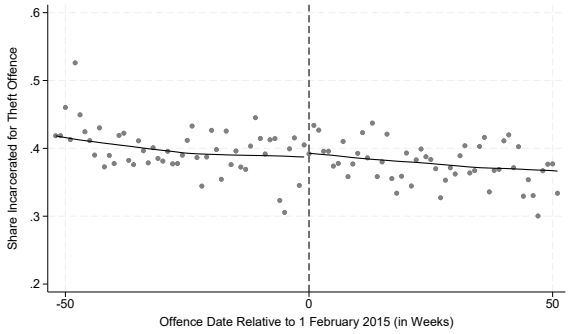
(c) Number of Previous Offences



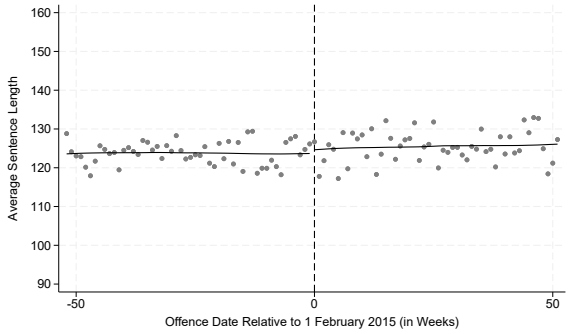
(d) Share Violent Offender



(e) Share Theft Offenders



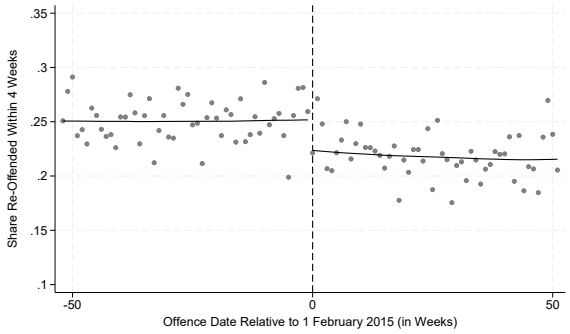
(f) Sentence Length



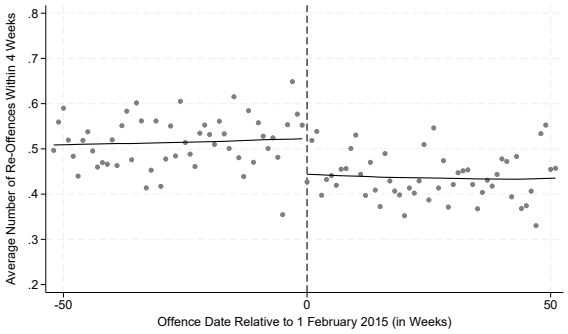
Notes: This Figure shows average offender characteristics (y-axis) by the date of their offence that led to their incarceration (running variable on the x-axis). Offence dates are shown relative to 1 February 2015 which is the cut-off date that determines whether an offender receives supervision upon release. Scatter dots represent weekly averages/shares and are overlaid by kernel-weighted local polynomial smoothing lines of best fit.

Figure 5: Reduced Form Effects of Supervision on Re-Offending

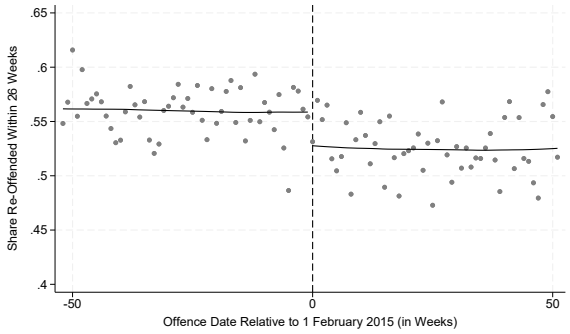
(a) Any Re-Offence Within 4 Weeks of Release



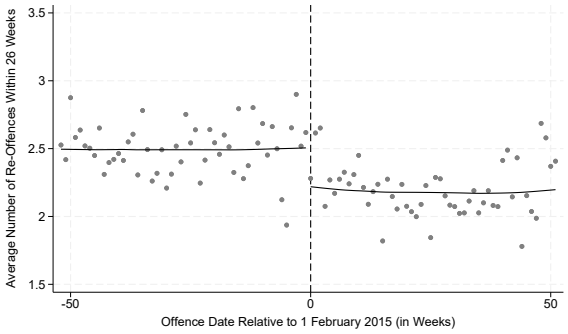
(b) Re-Offences Within 4 Weeks of Release



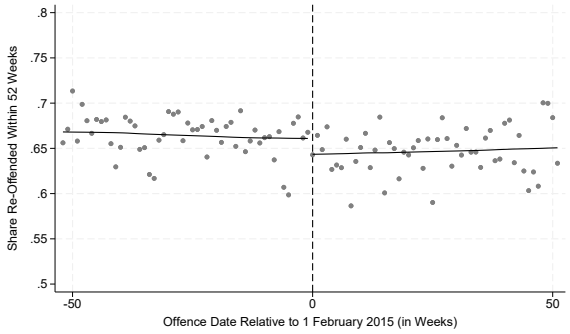
(c) Any Re-Offence Within 26 Weeks of Release



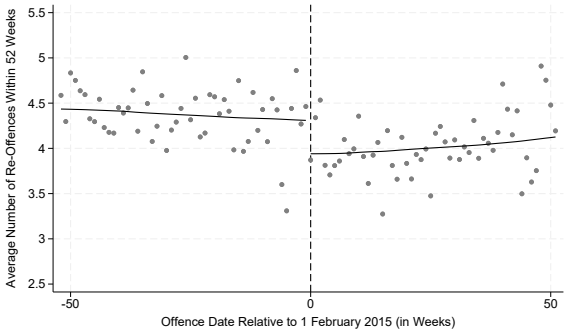
(d) Re-Offences Within 26 Weeks of Release



(e) Any Re-Offence Within 52 Weeks of Release



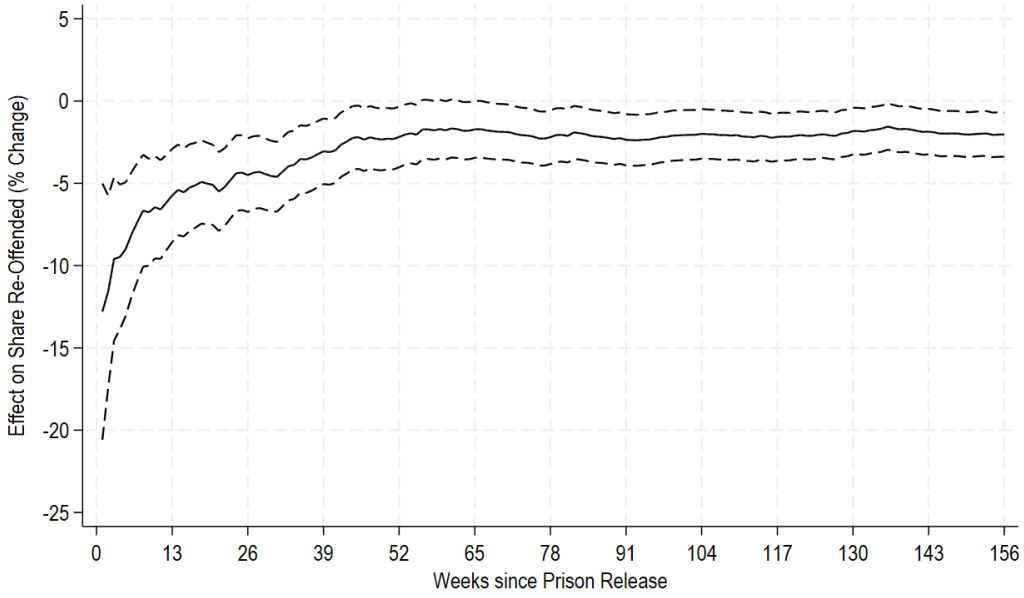
(f) Re-Offences Within 52 Weeks of Release



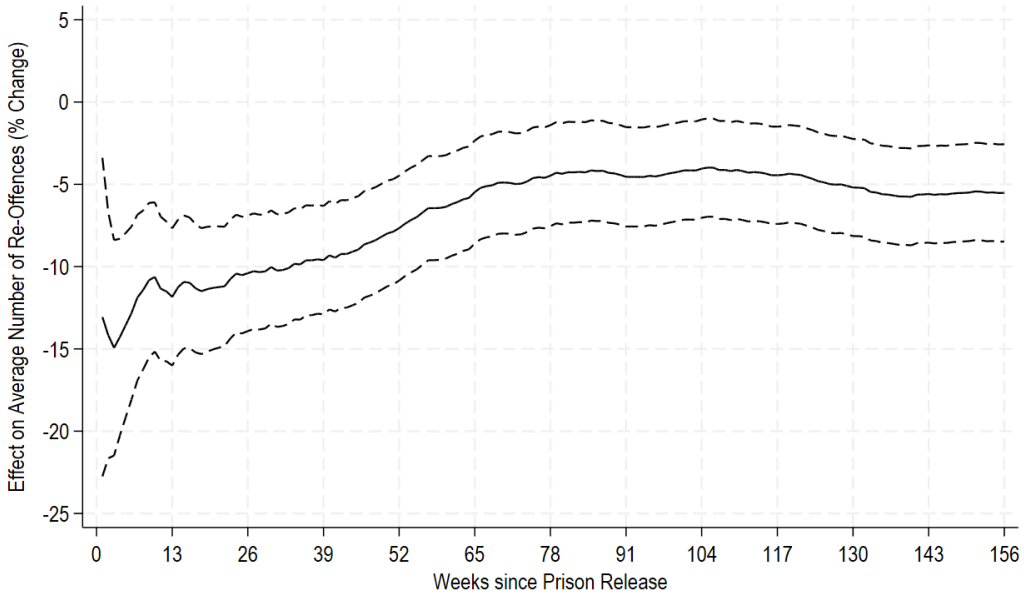
Notes: This Figure shows the share of offenders who re-offended (left-hand side panels (a), (c), and (e)) and the average number of re-offences committed (right-hand side panels (b), (d), (f)) on the y-axes, by the date of their offence that led to their incarceration (running variable on the x-axis). The dashed vertical line indicates the week commencing on 1 Feb 2015. Offenders who were incarcerated for offences that took place on or after this cut-off date were released with supervision and licence conditions. The top Figures show re-offending within 4 weeks of release from prison, Figures in the middle panel show re-offending within 26 weeks, and the bottom two Figures illustrate re-offending within 52 weeks of release. Scatter dots represent weekly averages and are overlaid by kernel-weighted local polynomial smoothing lines of best fit.

Figure 6: Effects of ORA on Number of Re-Offences by Weeks Since Release

(a) Any Re-Offence Committed



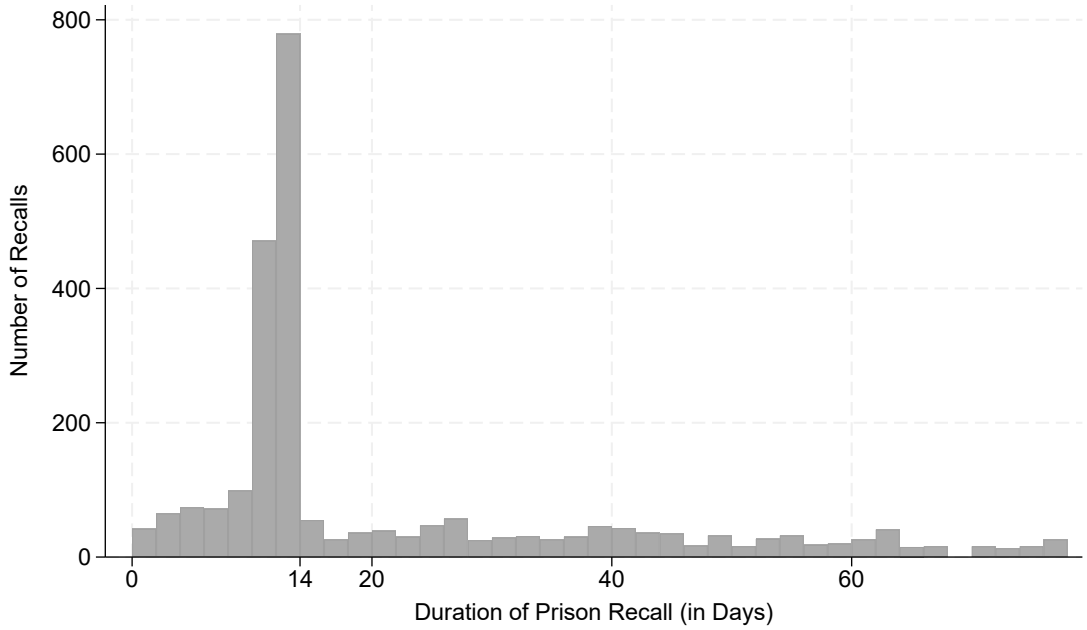
(b) Number of Re-Offences Committed



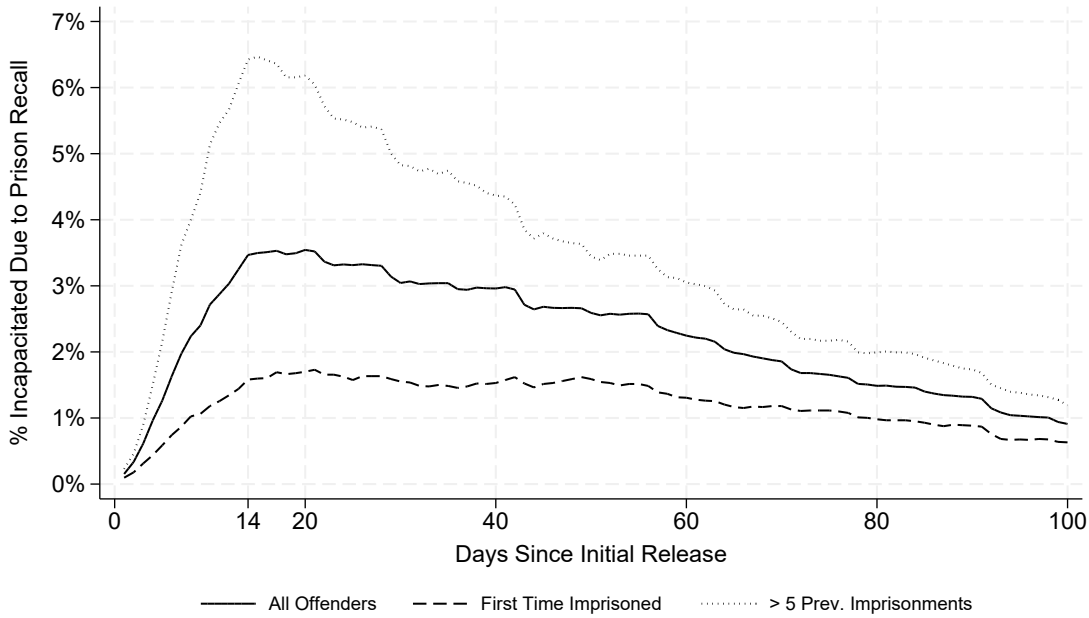
Notes: This Figure shows the effect of supervision and licence conditions imposed by the Offender Rehabilitation Act (ORA) on the probability of any re-offence (Panel (a)) and the average number of re-offences (Panel (b)). The effects are shown by time since release for different follow-up time windows, ranging from 1 week to 156 weeks after release (x-axis). The solid line shows point estimates corresponding to equation (1), dashed lines are 95% confidence intervals.

Figure 7: Prison Recall Activity

(a) Duration and Frequency of Recalls



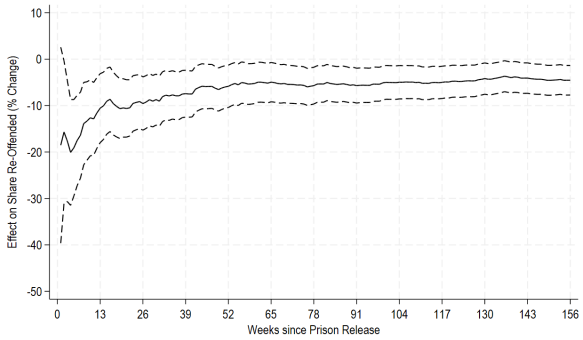
(b) Share of Treatment Group Incapacitated Due to Recall



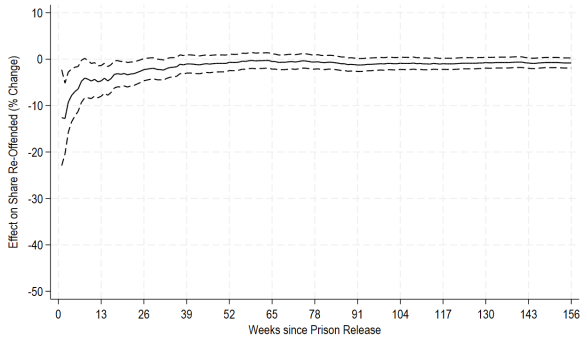
Notes: Panel (a) plots the frequency of prison recalls relative to the duration of a recall. The most common recall length (for violations of licence conditions) is 14 days, but early release is possible if the release date falls on a Saturday or if the remaining sentence is less than 14 days. Offenders can also be recalled for further offences, typically for the remainder of their sentence. Panel (b) calculates the share of our treatment group sample (ORA-group) that is incarcerated due to prison recalls relative to the time of their release. The solid line considers all offenders, the dashed line calculates the share for offenders released from their very first prison spell, the dotted line calculates shares for offenders with more than 5 previous incarcerations.

Figure 8: Effect Trajectory For First Time and Repeat Offenders

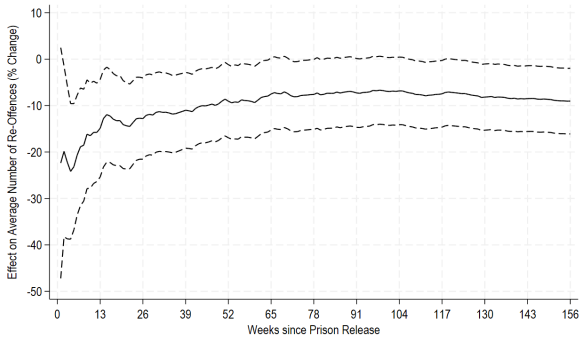
(a) First-Time Prisoners (Ext. Margin)



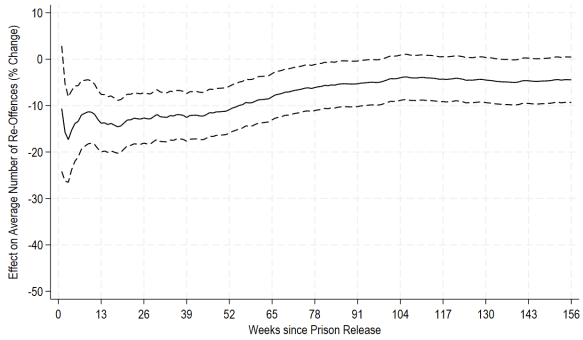
(b) Prisoners with >5 Prison Spells (Ext. Margin)



(c) First-Time Prisoners (Int. Margin)



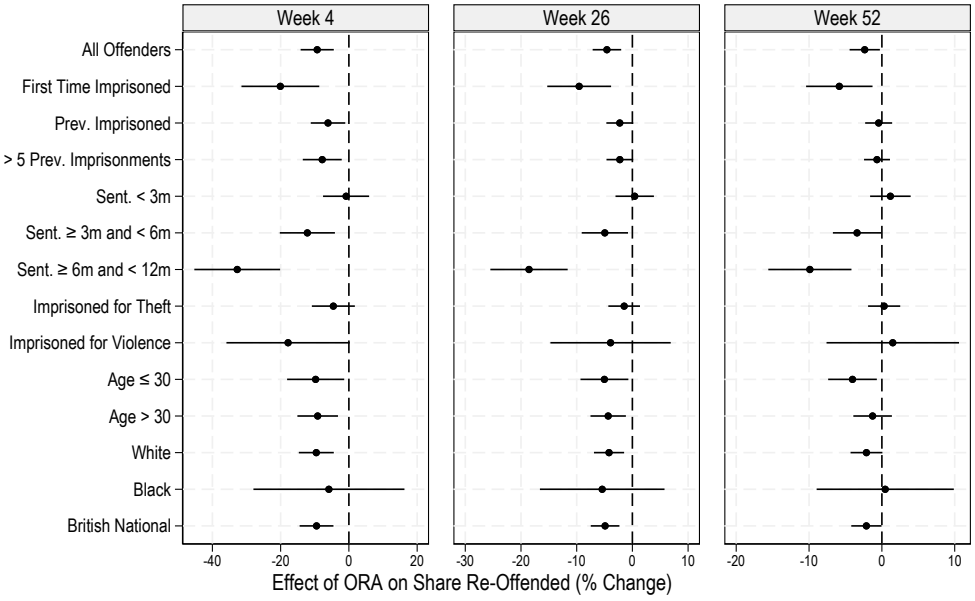
(d) Prisoners with >5 Prison Spells (Int. Margin)



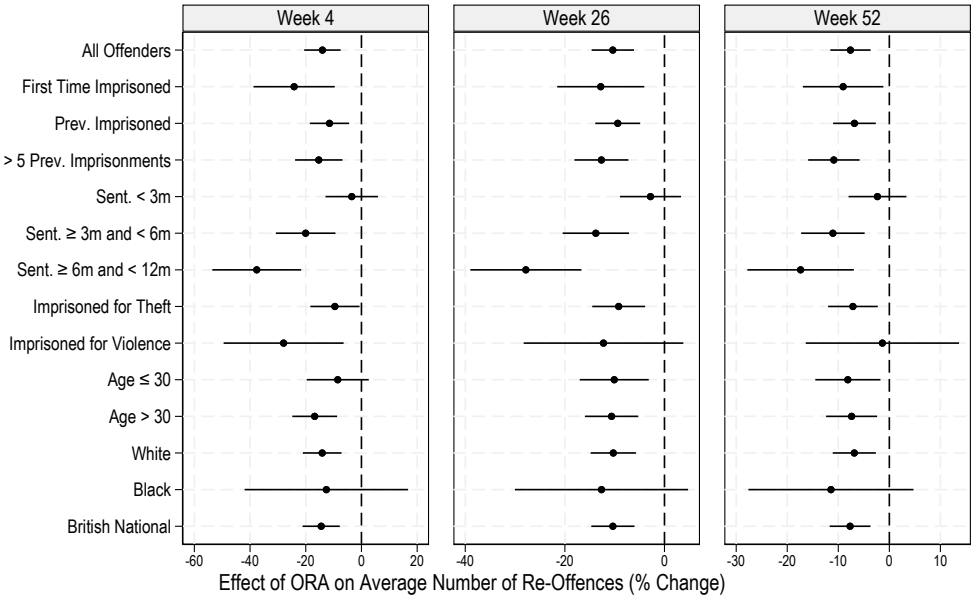
Notes: This Figure shows the effect of supervision and licence conditions imposed by the Offender Rehabilitation Act (ORA) on the probability of any re-offence ("extensive margin") and number of re-offences ("intensive margin"). The solid line shows our point estimates for different follow-up periods since release from prison (x-axis). Dashed lines represent 95% confidence intervals. We distinguish between offenders who experienced their very first prison spell prior to their conditional release (Panels (a) and (c)) and offenders who had more than five previous prison spells.

Figure 9: Effects of Supervision on Subgroups

(a) Extensive Margin Effects



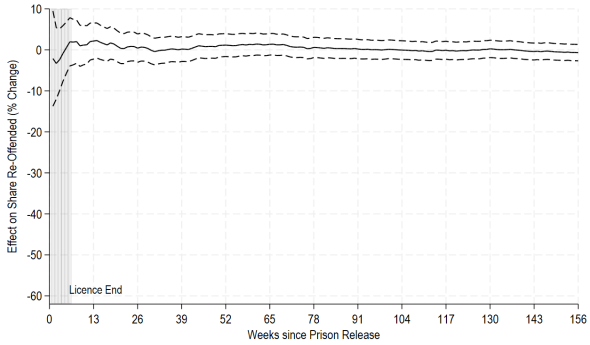
(b) Intensive Margin Effects



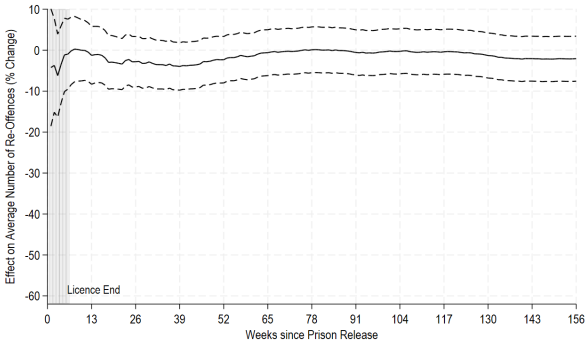
Notes: This Figure shows the effects of supervision and licence conditions on re-offending within 4, 26, and 52 weeks of release, respectively. The analysis done for all offenders (first row) and then for sub-samples stratified by pre-treatment characteristics. Dots represent point estimates, whiskers represent 95% confidence intervals. Panel (a) shows the effects on the probability of any re-offence ("extensive margin"), Panel (b) shows the effects on the number of re-offences ("intensive margin").

Figure 10: Effect Trajectory By Sentence Length

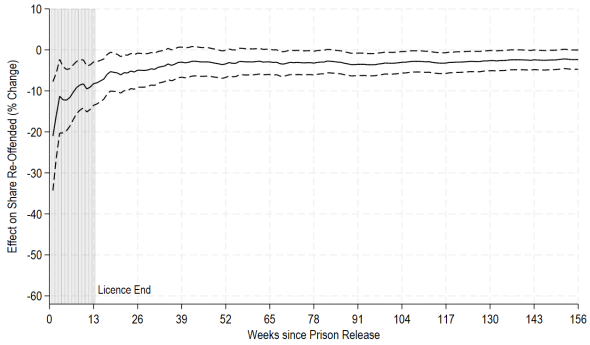
(a) $<$ 3 Months (Ext. Margin)



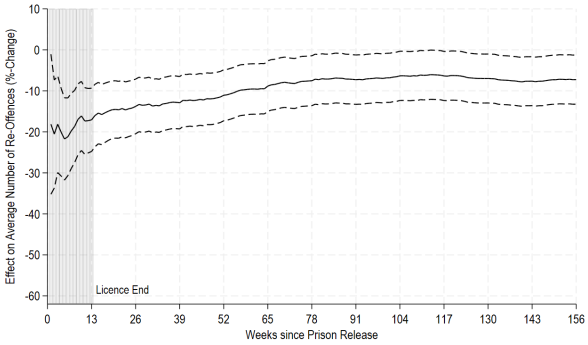
(b) $<$ 3 Months (Int. Margin)



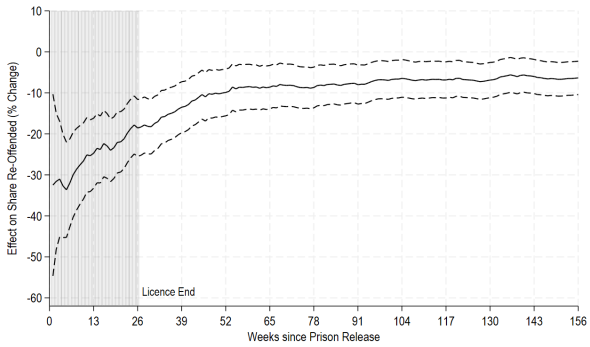
(c) $\geq$ 3 Months and $<$ 6 Months (Ext. Margin)



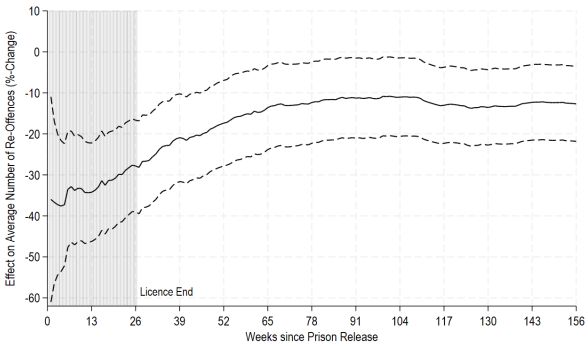
(d) $\geq$ 3 Months and $<$ 6 Months (Int. Margin)



(e) $\geq$ 6 Months and $<$ 12 Months (Ext. Margin)



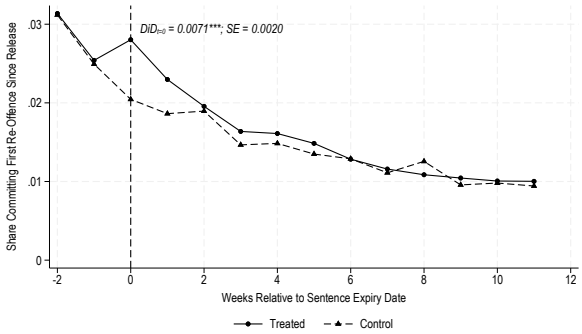
(f) $\geq$ 6 Months and $<$ 12 Months (Int. Margin)



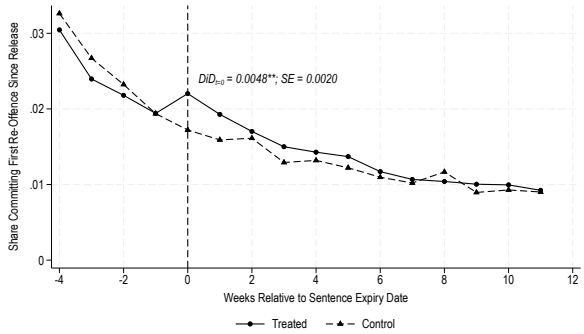
Notes: This Figure shows the effect of supervision and licence conditions imposed by the Offender Rehabilitation Act (ORA) on the probability of any re-offence ("extensive margin") and number of re-offences ("intensive margin"). The solid line shows our point estimates for different follow-up periods since release from prison (x-axis). Dashed lines represent 95% confidence intervals. We distinguish between offenders with different sentence lengths and therefore different lengths of the licence period (represented by the shaded grey areas), during which supervision is more intensive.

Figure 11: Effect of Licence Period Expiring on Re-Offending

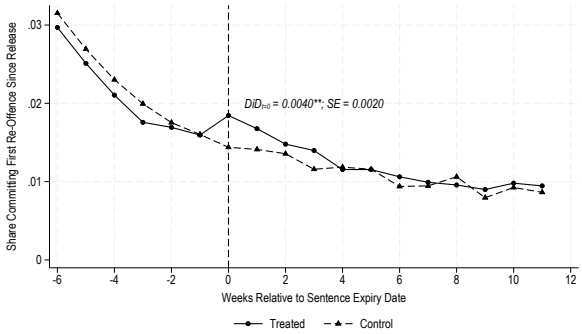
(a) Offenders with $\geq$ 4 Week Sentence



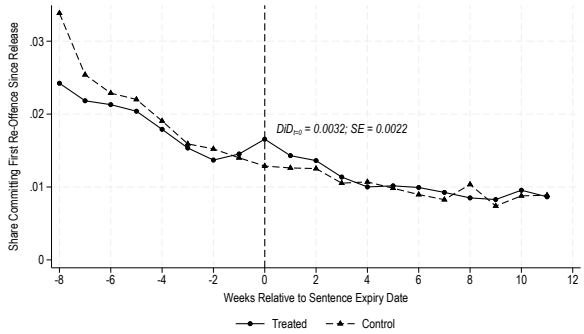
(b) Offenders with $\geq$ 8 Week Sentence



(c) Offenders with $\geq$ 12 Week Sentence



(d) Offenders with $\geq$ 16 Week Sentence



Notes: These Figures plot re-offending rates among prison leavers in our full sample in the weeks immediately before and after their sentence expiry date (SED). We disaggregate these rates by prisoners who were released with supervision (treated) and those released without supervision (control). Prisoners released with supervision undertake their licence period - the first, relatively more intensve phase of supervision - which lasts until their sentence expiry date. They then transition to the post-sentence supervision phase, involving relatively less intense supervision and no threat of recall. Prisoners in our control group are never supervised. Since the duration of the licence period is commensurate to one's sentence length, we distinguish between offenders with different lengths of custodial sentences. This ensures that in each panel, changes in re-offending rates are not driven by a changing sample composition. Panel a) plots re-offending rates for offenders serving a custodial sentence of at least 4 weeks. Since offenders are released at the halfway point of their sentence, the entirety of this group will have been released by at least 2 weeks before their sentence expires. Panels b), c) and d) repeat this for offenders with a sentence length of 8, 12 and 16 weeks, respectively. For each subgroup we estimate the contemporaneous effect of the licence period ending for the treated group using the difference-in-difference estimator proposed in Callaway and Sant'Anna (2021).

Appendix A: Supplementary Tables and Figures

Table A1: Placebo Regression Estimates

	4 Weeks		26 Weeks		1 Year	
	Int. Margin	Ext. Margin	Int. Margin	Ext. Margin	Int. Margin	Ext. Margin
Panel A: Placebo Date (1 February 2014)						
ORA	−0.006	−0.003	−0.002	−0.002	−0.045	0.004
	(0.015)	(0.006)	(0.046)	(0.006)	(0.071)	(0.006)
Control Mean:	0.451	0.236	2.188	0.540	3.991	0.652
N	20,205	20,205	20,205	20,205	20,205	20,205
Panel B: Placebo Group (Offenders with Sentences ≥12 Months)						
ORA	0.006	0.001	−0.023	−0.006	−0.008	−0.009
	(0.008)	(0.004)	(0.025)	(0.006)	(0.04)	(0.007)
Control Mean:	0.087	0.052	0.561	0.209	1.109	0.322
N	13,112	13,112	13,112	13,112	13,112	13,112
Bandwidth	113	113	113	113	113	113
Covariates:	Yes	Yes	Yes	Yes	Yes	Yes

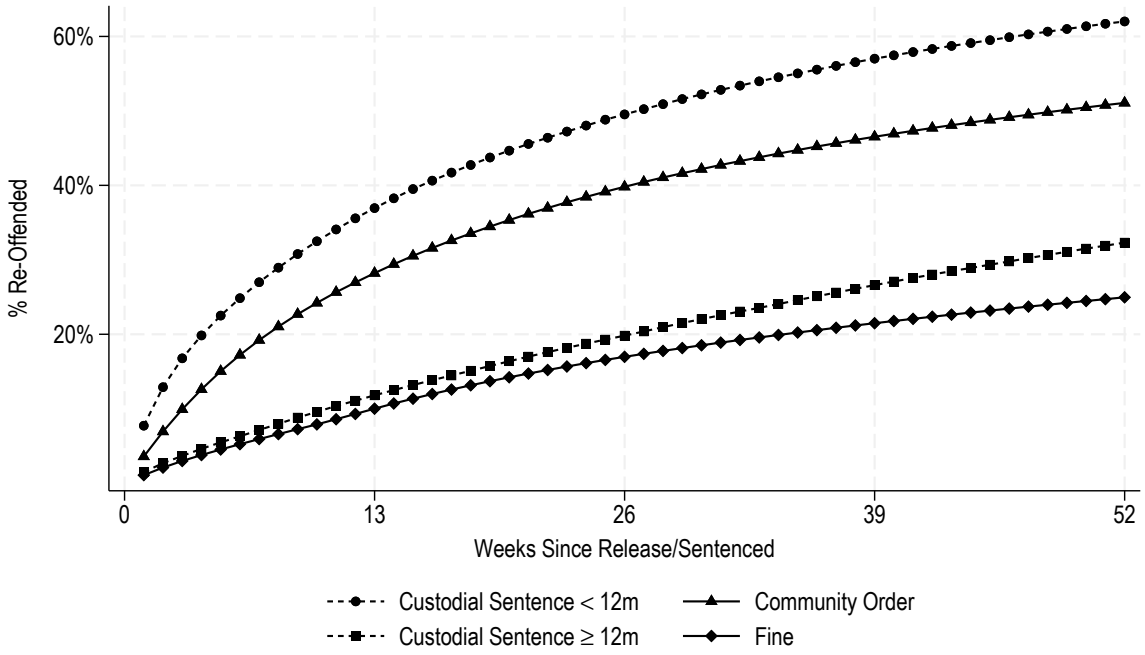
This Table shows outcomes of two placebo regressions. In Panel A, we re-run our main analysis, but analyse a time period without policy change. In particular, we treat 1 February 2014 (rather than the actual 1 February 2015 cutoff) as placebo treatment date. In Panel B, we re-run our analysis with the actual 1 February 2015 treatment date but for a different population that was not affected by the policy change (offenders with sentences of 12 months or more (up to 24 months)) rather than offenders with sentences of 12 months or less.

Table A2: Donut Regression Estimates

	52 Weeks	52 Weeks	52 Weeks	52 Weeks	52 Weeks	52 Weeks
Panel A: Share Re-Offended in 1 Year (Extensive Margin)						
ORA	-0.014^{*}	-0.016^{*}	-0.017^{**}	-0.017^{**}	-0.013^{**}	-0.016^{**}
	(0.007)	(0.008)	(0.009)	(0.006)	(0.006)	(0.006)
Control Mean:	0.653	0.661	0.663	0.664	0.658	0.664
Panel B: Number of Re-Offenses in 1 Year (Intensive Margin)						
ORA	-0.350^{***}	-0.367^{***}	-0.317^{***}	-0.367^{***}	-0.330^{***}	-0.369^{***}
	(0.081)	(0.088)	(0.097)	(0.073)	(0.070)	(0.032)
Control Mean:	4.200	4.322	4.283	4.368	4.277	4.368
Bandwidth	113	113	113	113	113	113
Covariates	Yes	Yes	Yes	Yes	Yes	Yes
Donut	4 weeks	6 weeks	8 weeks	Xmas	Easter	Xmas & Easter
N	13,967	11,879	9,611	17,609	18,450	17,312

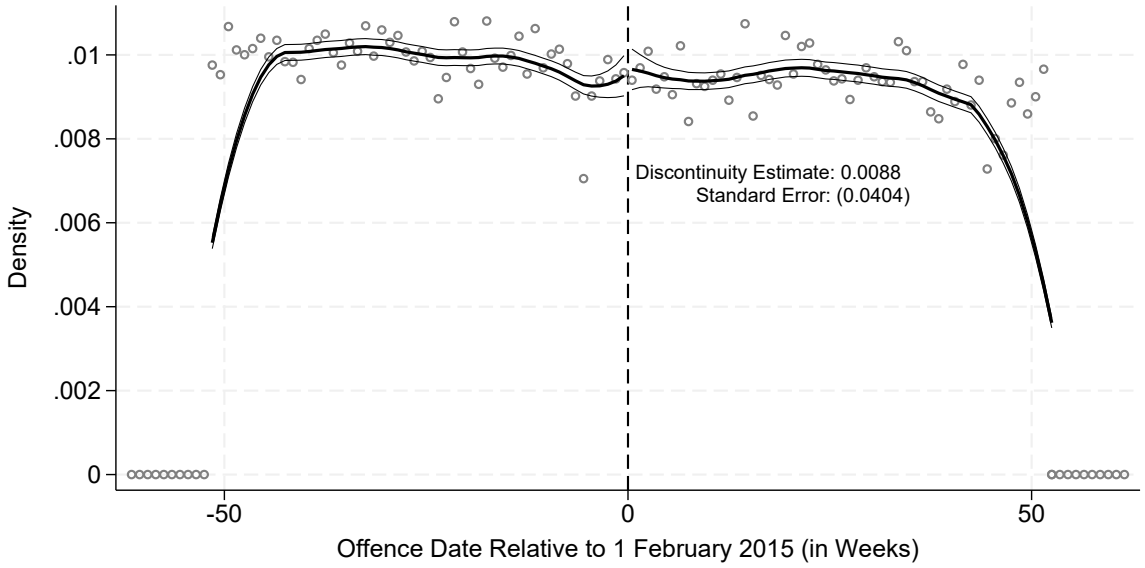
This Table reports results of our donut RD regressions, where we re-estimate our main analysis but drop observations at various proximities to the 1 February 2015 cutoff. All estimates correspond to a regression of reoffending on a dummy indicator for the ORA treament (original offence date $\geq$ 1 February 2015), using our preferred window size around the cut off ($\pm$113 days). Panel A shows the effects on the share of prisoners who reoffend within 1 year of release. Panel B shows the effects on the number of re-offences prisoners commit within 1 year of release. Column 1 shows the effect of ORA, dropping observation $\pm$4 weeks around the cutoff. Column 2 and 3 repeats this for 6 and 8 weeks, respectively. Column 4 drops observations around the Christmas holidays (21 December 2014 - 3 January 2015). Column 5 removes observations around the Easter weekend (3-6 April 2015). Column 6 removes both the Christmas holidays and Easter weekend.

Figure A1: Re-Offending Rates in England and Wales



Notes: This Figure plots percentage of offenders who re-offended by week since prison release or court disposal. We plot these re-offending rates separately for offenders in England and Wales who - between 1 January 2011 and 23rd March 2018 - were released from custodial sentences of less than 12 months (blue circles), those released from custodial sentences of at least 12 months (teal diamonds), as well as offenders sentenced to community orders (red triangles) and those sentenced to fines (black squares). We define re-offending as an offence that ultimately led to a re-conviction by either a Magistrates' or Crown Court.

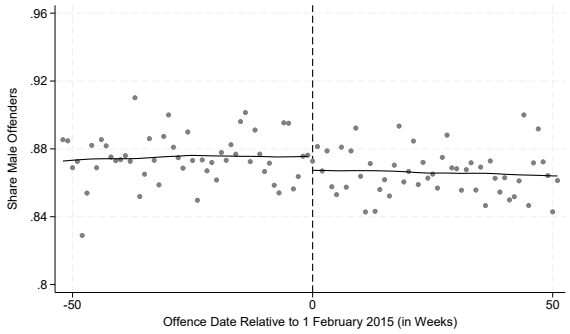
Figure A2: Density Chart and McCrary Density Test



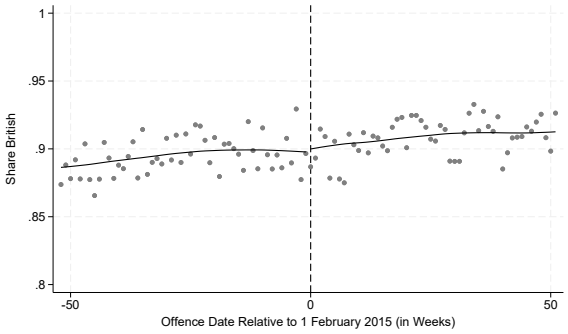
Notes: This Figure shows the density distribution of our running variable (date of offence relative to 1 February 2015). It also reports the results of a density test developed by McCrary (2008). The null hypothesis that there is no discontinous change in the density of observations around the cutoff-date cannot be rejected at any reasonable significance level.

Figure A3: Covariate Balance for Further Offender Characteristics

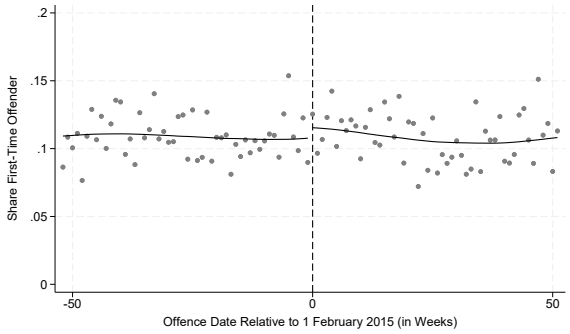
(a) Share Male



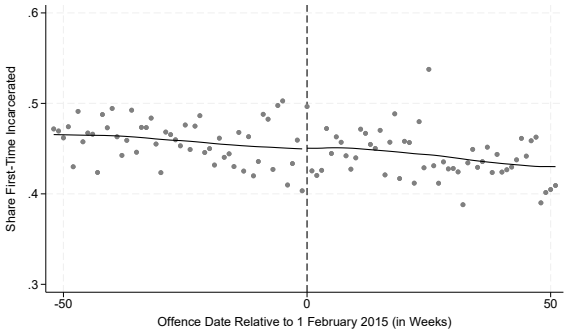
(b) Share British



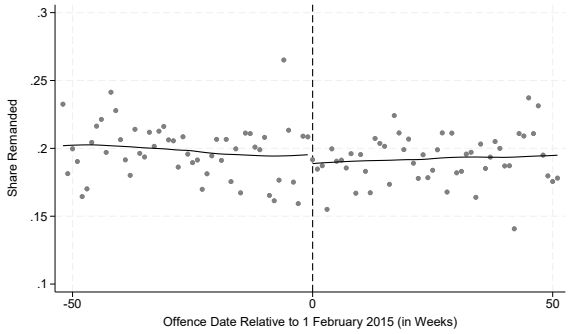
(c) Share First-Time Offender



(d) Share First-Time Incarcerated



(e) Share Remanded

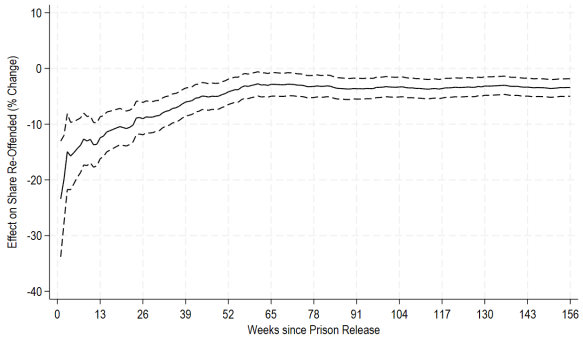


(f) Share Pleaded Not Guilty

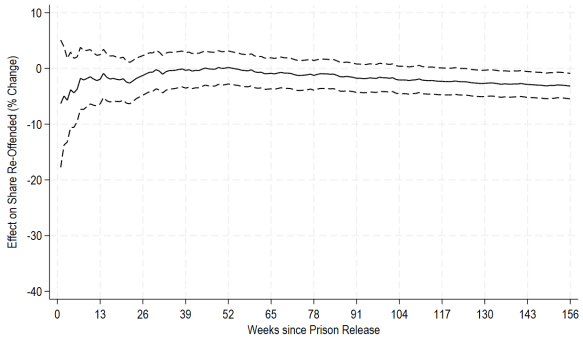
Notes: This Figure shows average offender characteristics (y-axis) by the date of their offence that led to their incarceration (running variable on the x-axis). Offence dates are shown relative to 1 February 2015 which is the cut-off date that determines whether an offender receives supervision upon release. Scatter dots represent weekly averages/shares and are overlaid by kernel-weighted local polynomial smoothing lines of best fit.

Figure A4: Effect Trajectory by Offences (Not) Resulting in Re-Incarceration

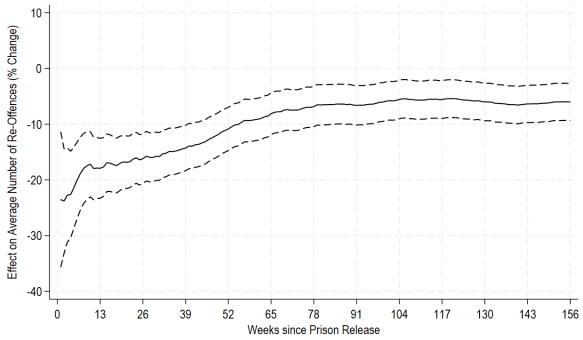
(a) No Re-Incarceration (Ext. Margin)



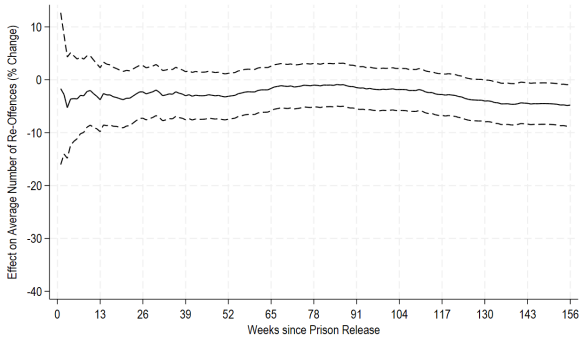
(b) Re-Incarceration (Ext. Margin)



(c) No Re-Incarceration (Int. Margin)



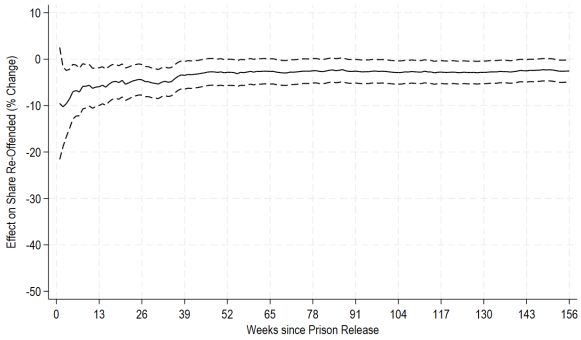
(d) Re-Incarceration (Int. Margin)



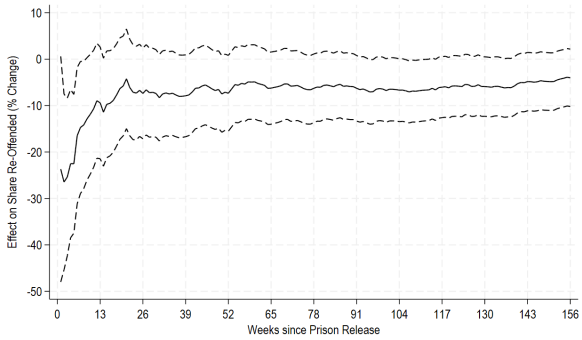
Notes: This Figure shows the effect of supervision and licence conditions imposed by the Offender Rehabilitation Act (ORA) on the probability of any re-offence ("extensive margin") and number of re-offences ("intensive margin"). The solid line shows our point estimates for different follow-up periods since release from prison (x-axis). Dashed lines represent 95% confidence intervals. We distinguish between reoffending that results in re-incarceration (Panels (b) and (d)) and offences that do not result in a prison spell (Panel (a) and (c)).

Figure A5: Effect Trajectory for Theft Re-Offences and Violent Re-Offending

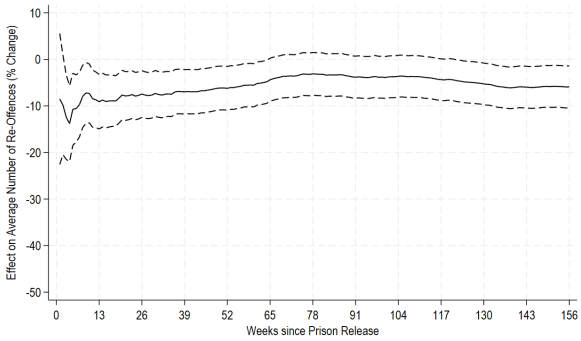
(a) Theft Offences (Ext. Margin)



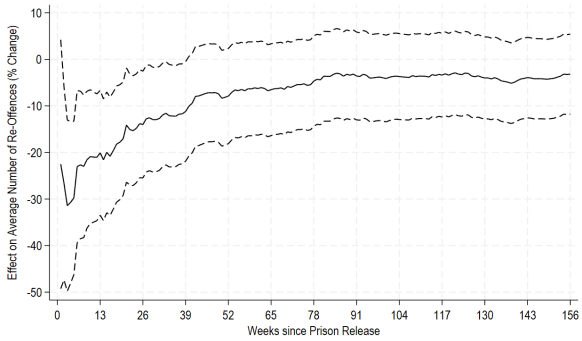
(b) Violent Offences (Ext. Margin)



(c) Theft Offences (Int. Margin)



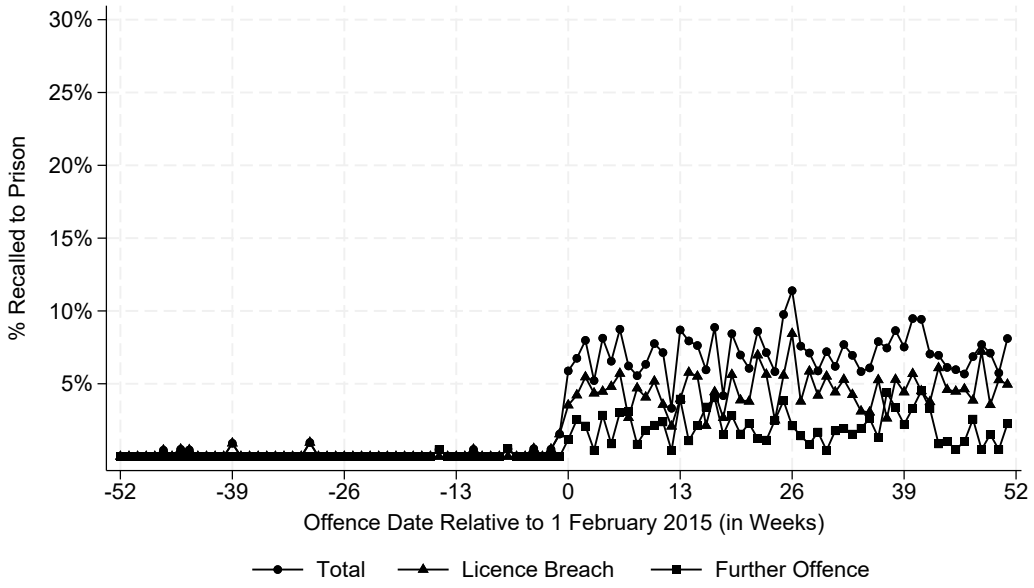
(d) Violent Offences (Int. Margin)



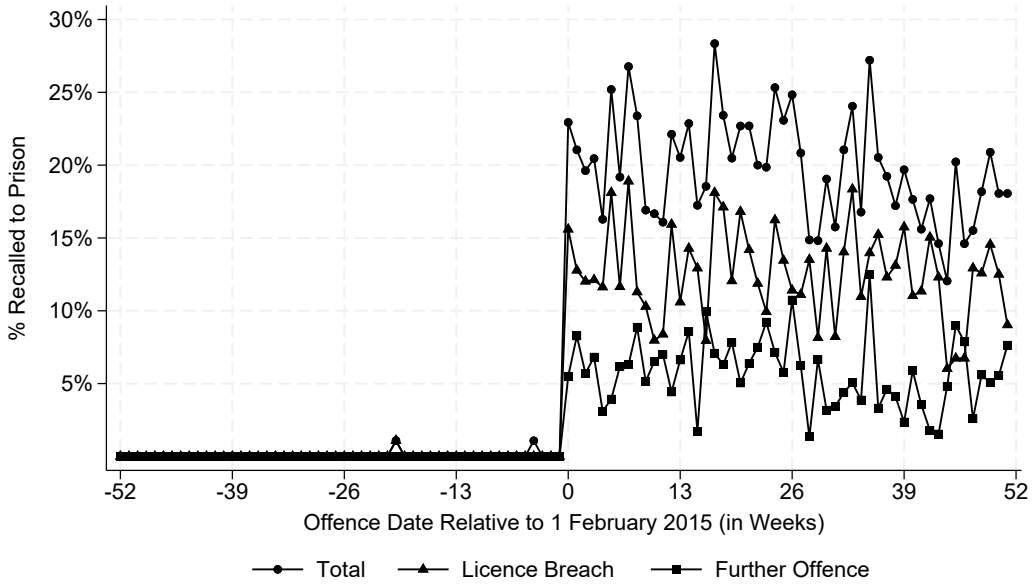
Notes: This Figure shows the effect of supervision and licence conditions imposed by the Offender Rehabilitation Act (ORA) on the probability of any re-offence ("extensive margin") and number of re-offences ("intensive margin"). The solid line shows our point estimates for different follow-up periods since release from prison (x-axis). Dashed lines represent 95% confidence intervals. We distinguish between theft re-offences (Panels (a) and (c)) and violent re-offences (Panels (b) and (d)).

Figure A6: Prison Recall Rates by Offender Prolificacy

(a) Offenders with No Previous Imprisonment



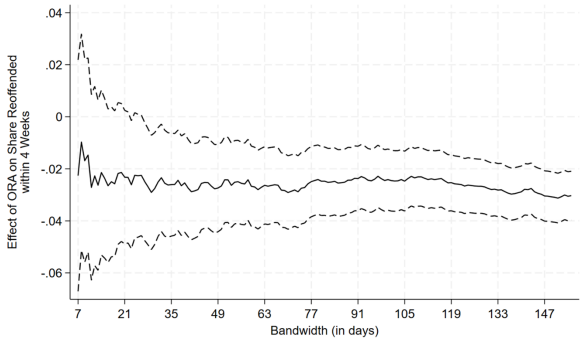
(b) Offenders with > Five Previous Imprisonments



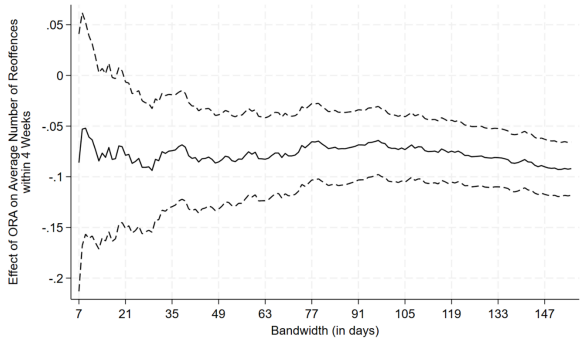
Notes: This Figure shows the share of offenders who are recalled to prison during their licence period (y-axis) by the week of the offence that led to incarceration, relative to 1 February 2015 (x-axis). Rates are plotted separately for offenders with no previous prison spell (Panel (a)) and more prolific offenders with more than five previous prison spells (Panel (b)). The chart further distinguishes between recalls due to violations of probation terms ("licence breach", triangles), and further offence (squares). The circles show totals across both categories. All rates are plotted by the running variable (original date of offence). The Offender Rehabilitation Act (ORA) only affected offences committed after the cutoff date. Offenders who were incarcerated for offences committed prior to 1 February 2015 were released unconditionally and could not be recalled.

Figure A7: Sensitivity of Estimates to Choice of Bandwidth

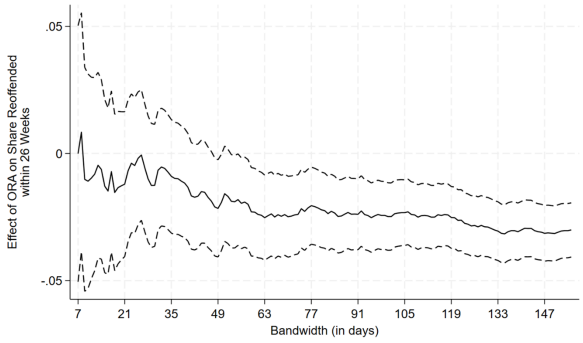
(a) Any (Re-Offence) Within 4 Weeks of Release



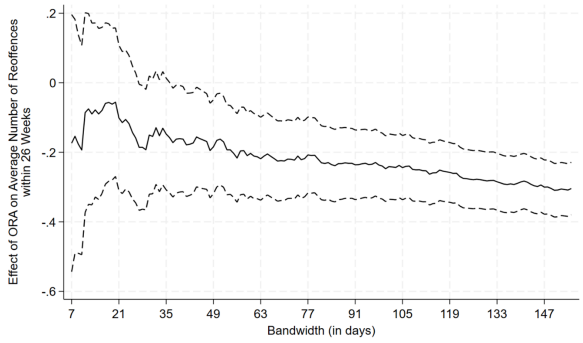
(b) Re-Offences Within 4 Weeks of Release



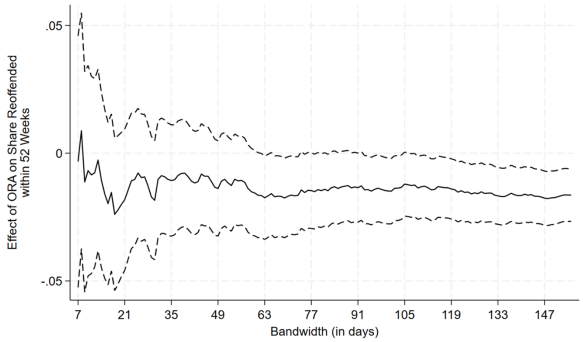
(c) Any (Re-Offence) Within 26 Weeks of Release



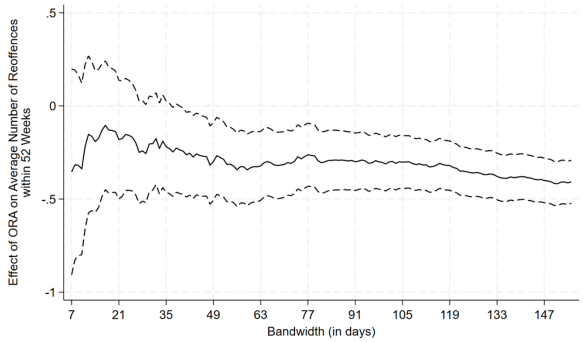
(d) Re-Offences Within 26 Weeks of Release



(e) Any (Re-Offence) Within 52 Weeks of Release



(f) Re-Offences Within 52 Weeks of Release



Notes: This Figure shows the effect of supervision and licence conditions imposed by the Offender Rehabilitation Act (ORA) on the probability of any re-offence and number of re-offences within 4, 26, and 52 weeks, respectively. We plot point estimates alongside 95% confidence bands (dashed lines), by window size ("bandwidth"). The optimal bandwidth suggested by the data driven approach suggested in Cattaneo et al. (2024) is ±113 days from the 1 February 2015 ORA cutoff.

Appendix B: Cost-Benefit Calculations

This Appendix provides a detailed description of the cost-benefit calculations summarised in Section 7 and reported in Appendix Table A3. We follow the methodology outlined in Heeks et al. (2018), which provides estimates of the economic and social costs of crime in England and Wales. Our approach translates the estimated causal effects of post-release supervision on re-offending into monetary values and compares these to the fiscal costs of the policy.

B.1 Analytical Framework

Our cost-benefit analysis adopts a social welfare perspective. Costs correspond to fiscal expenditures associated with supervision and prison recalls, while benefits reflect the economic and social costs of crime avoided due to reduced re-offending.

For each offence category k, total benefits are calculated as:

$$B_k = \Delta C_k \times m_k \times v_k,$$

where ΔC_k denotes the estimated treatment–control difference in the number of offences, m_k is the Home Office multiplier accounting for under-reporting and non-conviction, and v_k is the unit cost per offence. Total benefits are obtained by summing across offence categories.

B.2 Costs

Supervision Costs: The ORA mandated a 12-month supervision period for offenders released from short custodial sentences. We assign a per-offender supervision cost of £4,500 based on Ministry of Justice estimates (Timpson, 2025). Multiplying this by the number of treated offenders in our sample (29,413) yields total supervision costs of approximately £132 million.

Prison Recall Costs: Supervised offenders may be recalled to prison for violations of licence conditions. In our sample, approximately 15% of offenders are recalled, generating a total of 77,449 additional custody days. We value these using the average daily cost of incarceration (£141.72), derived from an annual cost of £51,729 (Service, 2025). This yields total recall costs of approximately £11 million.

We use average rather than marginal incarceration costs, reflecting the high utilisation of prison capacity in England and Wales. As such, these estimates likely represent an upper bound on recall-related costs.

Table B1: Overview: Cost-Benefit Calculations for 2015 ORA Cohort

Costs

Component	Unit	Quantities	Unit Cost	(Present) Value
Supervision	Offender	29,413	£4,500	£132,358,500
Prison Recalls	Days	77,449	£141.72	£10,975,265

Benefits (Avoided Crime)

Offence Type	$\Delta^{Treat}_{Control}$	Multiplier	Unit Benefit	Benefits in 2015	Discounted PV
Homicide	3.56	1.22	£4,205,586	-£18,378,643	-£97,948,282
Violence with Injury	101.83	11.70	£18,363	£21,880,014	£116,608,699
Violence without Injury	174.24	9.72	£7,750	£13,119,842	£69,921,700
Rape	5.44	20.31	£51,444	£5,685,455	£30,300,413
Other Sexual	6.82	92.02	£8,522	-£5,351,237	-£28,519,211
Robbery	6.82	26.51	£14,795	£2,676,498	£14,264,294
Domestric Burglary	19.21	38.34	£7,750	£5,707,155	£30,416,067
Theft of Vehicle	-197.42	7.82	£13,449	£20,763,310	£110,657,269
Theft from Vehicle	-223.83	103.17	£1,137	£26,259,813	£139,950,672
Theft from Person	11.85	226.05	£1,804	-£4,832,930	-£25,756,919
Criminal Damages (Arson)	11.12	13.26	£11,005	-£1,622,734	-£8,648,301
Criminal Damages (Other)	-155.33	24.60	£1,764	£6,742,241	£35,932,518
Fraud	99.03	53.60	£1,686	-£8,949,783	-£47,697,530
Shoplifting (commercial)	-2618.76	3.19	£1,268	£10,600,364	£56,494,236
Burglary (commercial)	38.24	4.64	£20,206	-£3,583,596	-£19,098,636

Present Value of Total Net Benefits: £233,543,222

This Table summarises our cost-benefit calculations. The top panel calculates the present value of total costs of offender supervision. The bottom panel calculates the present value of benefits.

B.3 Benefits

Estimation of Crime Reductions: We use the regression discontinuity estimates reported in Section 5 to calculate treatment–control differences in the number of re-offences at the intensive margin. These differences are computed separately by offence category.

Valuation of Crime: Each offence is assigned a monetary value based on Heeks et al. (2018). These values capture:

- Costs to the criminal justice system (policing, courts, corrections),
- Costs to victims (property loss, physical and emotional harm),
- Wider economic costs (lost output and defensive expenditures).

To account for crimes that do not result in conviction, we apply offence-specific multipliers provided by the Home Office. These scale observed convictions to estimated total incidence.

Aggregation: For each offence type, we multiply the estimated reduction in offences by the corresponding multiplier and unit cost. Appendix Table A3 reports these components in detail. Summing across all categories yields total first-year benefits of approximately £70 million. Notably, reductions are concentrated in high-volume offences such as theft, which have relatively low unit costs but large aggregate impacts. Some categories show positive treatment–control differences (i.e. increases in offending), which are reflected as negative benefits in the table.

Time Horizon and Discounting: Our empirical estimates show that the reduction in re-offending persists for at least three years after release. We therefore compute benefits over multiple time horizons. We apply a discount rate of 4%, consistent with HM Treasury Green Book guidance. The present value of benefits over three years is approximately £204 million. To extend the analysis beyond the observed period, we assume that treatment effects decay by 20% per year after year three. This assumption is conservative given the persistence observed in the data. Under this specification, the present value of total benefits over a ten-year horizon is approximately £387 million.

B.4 Net Benefits

Total costs amount to approximately £143 million, while total discounted benefits amount to £387 million. This implies a benefit–cost ratio of approximately 2.7 and a net social benefit of around £8,300 per treated offender.

These estimates are robust to alternative assumptions. Using marginal rather than average prison costs would reduce estimated costs and increase the benefit–cost ratio. Similarly, adopting lower-bound estimates of crime costs would reduce total benefits but does not overturn the conclusion that supervision yields positive net social returns.

Our cost-benefit results reflect two key features of the empirical findings. First, supervision generates persistent reductions in re-offending, extending well beyond the supervision period. Second, these reductions are concentrated in high-frequency offences, which collectively account for substantial social costs.

While supervision does not significantly reduce serious offences that lead to incarceration, it delivers large social gains through reductions in acquisitive crime. As such, post-release supervision represents a cost-effective intervention for reducing recidivism and its associated social harms.