

Limitations of the Commission’s “Length of Incarceration and Recidivism” Report (2022)

In June 2022, the U.S. Sentencing Commission (“Commission”) issued a report entitled “Length of Incarceration and Recidivism,” examining a cohort of federally convicted incarcerated individuals released in 2010 (“Report”).¹ It asserts that individuals sentenced to 60–120 months, as well as those sentenced to over 120 months, had lower odds of rearrest compared to matched groups of individuals with shorter sentence lengths.² From these results the Report concludes that incarceration for sentences of longer than five years has a preventative effect.³ Because its stated purpose is to inform policy-makers,⁴ the Report should have communicated its results clearly and accurately, which would have included acknowledging potential limitations in research design.⁵ Stakeholders and interested observers should be skeptical of the Report’s conclusion for at least five reasons.

1. The Report’s emphasized conclusion is an outlier

The Report’s assertion of a preventative impact is an outlier. The Report ostensibly provides a literature review in an appendix, but suggests that only two prior studies are truly relevant because of, among other things, their focus on the federally convicted population: a 2018 study authored by Rhodes et al. (the lead author is a former Commission research director)⁶ and the Commission’s own 2020 report,⁷ which utilized the same limited research design as this Report.⁸ Oddly, the Report correctly describes the Rhodes study as finding that longer prison terms modestly reduce recidivism, but it fails to explain that the Rhodes study concluded that, “from a policy perspective, prison length of stay can be reduced with no effects on recidivism.”⁹ Indeed, several studies in the Report’s literature review actually found no statistically significant associations between longer terms of incarceration and recidivism.¹⁰ And even when prior authors did observe some statistically significant results, they typically downplayed their usefulness for policymaking, generally arguing that their results in context have little practical value.¹¹

The full Report also de-emphasizes dissimilar findings from the Commission’s own publications, including the Report itself¹² and several prior reports. It emphasizes findings from its methodologically similar report from 2020, one of several studies in the Commission’s multi-publication recidivism series.¹³ Prior reports in that series concluded that longer prison terms are *not* associated with

reductions in recidivism.¹⁴ For example, its 2016 report, “Recidivism Among Federal Offenders: A Comprehensive Overview,” reported that individuals “with shorter lengths of imprisonment generally had lower recidivism rates. . . . Conversely, the highest recidivism rates are generally found among offenders with longer sentences.”¹⁵

2. The Report uses flawed variables

The Report defines recidivism as any new arrest within eight years of release—including arrests for technical violations, minor offenses, and erroneous arrests. An arrest is an imprecise proxy for actual crime.¹⁶ Under this definition, an immediate arrest for a new serious offense is treated the same as an arrest for a technical violation seven years after release. But policymakers and judges likely distinguish between these types of “recidivist” events.

Arrest data will result in an overcount compared to actual findings of reconviction and reincarceration.¹⁷ And arrest data are also known to be biased statistics from the perspective of race and ethnicity.¹⁸ The Report’s use of this heterogeneous, flawed, and biased proxy for recidivism diminishes its ability to support policy decisions.

In addition, the Report defines comparison groups as including any individual with a sentence length shorter than that of the study group,¹⁹ rather than comparing groups with incrementally shorter sentences.²⁰ With this design, the comparison between an individual who received 160 months with an individual who received one month is possible. As a result, this comparison would not provide useful information about incremental doses of imprisonment, limiting the Report’s usefulness to policymakers. And because the Commission did not release the underlying data, there is no way to know the distribution of sentences with the “less than 120 months” comparison group and, thus, the likelihood that such a comparison was made.

3. The study design cannot determine causation

The most this type of study can suggest is correlation. Although the Report concludes that longer prison terms are preventative, the Report cannot identify the length of incarceration as the sole, or even as a prominent, predictive factor for its recidivism findings. This is especially important here because, although the Commission’s statistical model controlled for certain factors occurring *before* or *at* sentencing, many predictive factors occurring *during*



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Figure 1.
Known Predictors of Rearrest Beyond Length of Incarceration, Including an Individual's Health, Neighborhood, Employment, Access to Stable Housing, Mental Health, and Addiction



Source: Antonis Katsiyannis et al., *Adult Recidivism in United States: A Meta-analysis 1994–2015*, 27 J. Child Fam. Stud. 686, 691 tbl.3 (2018); John M. Nally et al., *Post-Release Recidivism and Employment Among Different Types of Released Offenders: A 5-Year Follow-Up Study in the United States*, 9 Int'l J. Crim. Just. Sci. 1, 26–27 (2014).

imprisonment or *after* release were not included. For example, the model did not control for rehabilitative programming and prosocial contacts with family. As one scholar has explained, “[e]ven if criminal behavior were perfectly measured, the impacts of incarceration upon it would remain hard to assess. In this domain, as in so many others, causal arrows run every which way, with crime affecting incarceration, and third factors affecting both.”²¹

Further, the model used an eight-year follow-up time-frame, which weakened the relationship between incarceration and the arrest event. Although this extended observation period allowed the model to increase the arrest count, the lengthy period in the community increased the likelihood that other factors predictive of recidivism would intervene.²²

4. Results are presented in a way that can confuse a nontechnical audience

The Report presents its findings using “odds ratios,” which are known to be confusing statistical measures that can exaggerate results.²³ The odds ratio is so confusing that the Report itself confuses odds with percentages in a few tables and figures.²⁴ And even when reported correctly, the odds differences lead to inflated interpretations. The Report indicates that the *odds* of recidivism are 18% lower for individuals sentenced between 60 and 120 months compared to those sentenced to less prison time.²⁵ But this does not mean that the recidivism *rate* of those sentenced from 60–120 months is 18% lower. An odds ratio compares the odds of two groups—for example, the odds of rearrest for those with sentences of 60–120 months compared to those with sentences of less than 60 months.²⁶ The difference in actual recidivism rates is far less than the difference between odds. Unfortunately, the Report does not provide the data needed for calculating the percentage differences.²⁷

5. The Report lacks transparency

Finally, the Report raises serious transparency concerns. The Commission refuses to release the Report’s underlying

data,²⁸ thereby prohibiting external, independent auditing of methods and results. As a result, the authors’ research design decisions—including, but not limited to, which predictors are included in the statistical models, how to structure the study and comparison groups in relation to one another, and the decision to include those sentenced as career offenders in criminal history category VI rather than their calculated criminal history category—cannot be evaluated for possible misreporting of true results.²⁹ Additionally, the Report does not fully explain important choices on the filtering of data. For example, there was an unexplained loss of 30% of data (beginning with a cohort of 32,135 and ending with a sample of 22,928),³⁰ potentially biasing results. Finally, the Report did not, as is the expected norm in empirical research, acknowledge important limitations to consider when interpreting its conclusions.³¹

Notes

- ¹ U.S. Sent’g Comm’n (USSC), Length of Incarceration and Recidivism 4 (June 2022), https://www.ussc.gov/sites/default/files/pdf/research-and-publications/research-publications/2022/20220621_Recidivism-SentLength.pdf [hereinafter “Report”]. We recognize that each of our clients is a complex individual who is not defined by their conviction, but the literature frequently employs the term offender, and so that word will appear in this piece.
- ² *Id.* at 4.
- ³ *Id.* at 19.
- ⁴ *Id.* at 3.
- ⁵ Nora V. Demleitner, *The U.S. Sentencing Commission’s Recidivism Studies: Myopic, Misleading, and Doubling Down on Imprisonment*, 33 Fed. Sent’g Rep. 11, 11 (2020) (arguing that the Commission’s “recidivism studies should not be consumed on their own”).
- ⁶ William Rhodes et al., *Relationship Between Prison Length of Stay and Recidivism: A Study Using Regression Discontinuity and Instrumental Variables with Multiple Break Points*, 17 Criminology & Pub. Pol’y 731 (2018).
- ⁷ USSC, Length of Incarceration and Recidivism (April 2020), https://www.ussc.gov/sites/default/files/pdf/research-and-publications/research-publications/2020/20200429_Recidivism-SentLength.pdf.

- ⁸ Sent'g Res. Couns. of the Fed. Pub. and Cmty. Defs., Federal Defender Fact Sheet: Flawed U.S. Sentencing Commission Report Misstates Current Knowledge (June 4, 2020), https://www.fd.org/sites/default/files/criminal_defense_topics/essential_topics/sentencing_resources/useful_reports/incarceration_and_recidivism_factsheet.pdf.
- ⁹ Rhodes et al., *supra* note 6, at 759.
- ¹⁰ See, e.g., G. Matthew Snodgrass et al., *Does the Time Cause the Crime? An Examination of the Relationship Between Time Served and Reoffending in the Netherlands*, 49 *Criminology* 1149, 1151 (2011) (finding no statistically significant preventative effect of longer periods of incarceration); Thomas A. Loughran et al., *Estimating a Dose-Response Relationship Between Length of Stay and Future Recidivism in Serious Juvenile Offenders*, 47 *Criminology* 699, 702 (2009), <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2801446/> (“[I]t is apparent that little or no marginal benefit exists for longer lengths of stay, in terms of reducing rates of rearrest or self-reported offending.”); John E. Berecochea & Dorothy R. Jaman, Rsch. Div., Cal. Dep’t of Corr., *Time Served in Prison and Parole Outcome: An Experimental Study* (June 1981), <https://www.ojp.gov/pdffiles1/Digitization/82800NCJRS.pdf> (finding no statistically significant effect between longer prison sentences and recidivism rates).
- ¹¹ See, e.g., Rhodes et al., *supra* note 6, at 759; Daniel P. Mears et al., *Recidivism and Time Served in Prison*, 106 *J. Crim. L. & Criminology* 83 (2016); Michael A. Roach & Max M. Schanzenbach, *The Effect of Prison Sentence Length on Recidivism: Evidence from Random Judicial Assignment* (2015) (working paper), https://papers.ssrn.com/sol3/Delivery.cfm/SSRN_ID2701549_code346044.pdf?abstractid=2701549&mirid=1; Benjamin Meade et al., *Estimating a Dose-Response Relationship Between Time Served in Prison and Recidivism*, 50 *J. Res. Crime & Delinquency* 525 (2013).
- ¹² The Report mentions that for federal offenders sentenced to sixty months or less of incarceration, its model did not find any statistical difference in recidivism (reported as Key Finding 4). This suggests that a reduction in sentence for those with sixty months or less has no impact on recidivism. But the Report, on balance, does not emphasize or interpret this result to the same extent as the other three key findings.
- ¹³ Report at 2. The Report replicates the analysis of the 2020 report, but with a cohort released in 2010. *Id.*
- ¹⁴ See, e.g., USSC, *Recidivism of Federal Firearms Offenders Released in 2010* 30 (2022), https://www.ussc.gov/sites/default/files/pdf/research-and-publications/research-publications/2021/20220209_Recidivism-Firearms.pdf (“the data did not show a clear relationship between sentence length and recidivism”); USSC, *Recidivism of Federal Drug Trafficking Offenders Released in 2010* 55–56 (2022), https://www.ussc.gov/sites/default/files/pdf/research-and-publications/research-publications/2022/20220112_Recidivism-Drugs.pdf (“The strong association of both criminal history and age with recidivism rates adds important context to some other study findings. . . . [T]he longer sentences received by those with higher base offense levels likely resulted in older ages at release—a factor correlated with lower recidivism.”); USSC, *Recidivism Among Federal Violent Offenders* 15 (2019), https://www.ussc.gov/sites/default/files/pdf/research-and-publications/research-publications/2019/20190124_Recidivism_Violence.pdf (“There was no apparent difference in the recidivism rates for violent offenders sentenced to 24 to 59 months (67.0%) compared to violent offenders sentenced to 60 to 119 months (66.2%). Likewise, non-violent offenders sentenced to the shortest terms of imprisonment (less than 24 months) recidivated at a rate (41.1%) comparable to non-violent offenders sentenced to the longest terms of imprisonment of 120 months or more (39.6%).”); USSC, *The Effects of Aging on Recidivism Among Federal Offenders* 30 (2017), https://www.ussc.gov/sites/default/files/pdf/research-and-publications/research-publications/2017/20171207_Recidivism-Age.pdf (“Other factors found to be associated with recidivism rates after accounting for age include sentence length for offenders less than age 50: the shortest lengths are associated with less recidivism up to sentences of one year, beyond which recidivism rates level off.”).
- ¹⁵ USSC, *Recidivism Among Federal Offenders: A Comprehensive Overview* 3–5 (2016), https://www.ussc.gov/sites/default/files/pdf/research-and-publications/research-publications/2016/recidivism_overview.pdf. In its 2016 report, the Commission highlighted that the factors most closely associated with recidivism rates were age at release and criminal history, with other relevant factors being education and offense type. The Report (2022) does control for these two factors. Report at 11–12.
- ¹⁶ The Report does acknowledge that “[b]ecause not all arrests result in conviction or incarceration, rearrests can overstate recidivism.” Report at 7. Many other studies do define recidivism as rearrest, but not all. Certain studies cited by the Report’s literature review define recidivism as rearrest, including Donald P. Green & Daniel Winik, *Using Random Judge Assignment to Estimate the Effects of Incarceration and Probation on Recidivism Among Drug Offenders*, 48 *Criminology* 357 (2010); others define recidivism more conservatively, using measures such as reconviction or reincarceration, including Ilyana Kuziemko, *How Should Inmates Be Released from Prison? An Assessment of Parole Versus Fixed-Sentence Regimes*, 128 *Q.J. Econ.* 371 (2013), https://scholar.princeton.edu/sites/default/files/kuziemko/files/inmates_release.pdf; Daniel P. Mears et al., *Recidivism and Time Served in Prison*, 106 *J. Crim. L. & Criminology* 83 (2016); Rhodes et al., *supra* note 6; see also USSC studies discussed *infra* note 17.
- ¹⁷ See USSC, *Recidivism Among Federal Violent Offenders* 4 tbl. 1.1 (Jan. 2019) https://www.ussc.gov/sites/default/files/pdf/research-and-publications/research-publications/2019/20190124_Recidivism_Violence.pdf (finding that for nonviolent offenders, arrest rate of 39.8% resulted in 23.3% reconviction rate and 18.5% reincarceration rate); USSC, *Recidivism Among Federal Drug Trafficking Offenders* 12 tbl. 2.1 (Feb. 2017), https://www.ussc.gov/sites/default/files/pdf/research-and-publications/research-publications/2017/20170221_Recidivism-Drugs.pdf (finding that for all drug offenders combined, arrest rate of 50.0% resulted in 30.8% reconviction rate and 23.4% reincarceration rate).
- ¹⁸ See USSC, *What Do Federal Firearms Offenses Really Look Like?* 33 (July 2022), https://www.ussc.gov/sites/default/files/pdf/research-and-publications/research-publications/2022/20220714_Firearms.pdf (“Although prior research has shown that Black and Hispanic people are stopped by police more often than White people, challenges persist in trying to account for all of the factors that lead to law enforcement effectuating a traffic stop.”); Emma Pierson et al., *A Large-Scale Analysis of Racial Disparities in Police Stops Across the United States*, 4 *Nature Human Behavior* 736 (2020) (discussing disparities in police stops).
- ¹⁹ Report at 8–9.
- ²⁰ For example, by comparing to those with sentences of 108–120 months, 96–120 months, or even 60–120 months. Instead the Report’s model compares those with sentences over 120 months to those with sentences under 120 months. This also means that the study group could have been compared to individuals receiving sentences of “time served” with no additional prospective prison time.

- ²¹ David Roodman, *The Impacts of Incarceration on Crime*, Open Philanthropy Project 11 (Sept. 2017), <https://arxiv.org/ftp/arxiv/papers/2007/2007.10268.pdf> (“If person A spends more time in prison than person B, and commits more crime after, that does not prove incarceration caused crime. . . . [E]ven the results of the best studies can in principle be explained, or explained away, by other theories, which must be confronted in the course of reviewing them.”).
- ²² Antonis Katsiyannis et al., *Adult Recidivism in United States: A Meta-analysis 1994–2015*, 27 J. Child Fam. Stud. 686, 691 tbl.3 (2018).
- ²³ See, e.g., Jason W. Osborne, *Bringing Balance and Technical Accuracy to Reporting Odds Ratios and the Results of Logistic Regression Analyses*, 11 Prac. Assessment Res. & Eval., Article 7 (2006), <https://scholarworks.umass.edu/cgi/viewcontent.cgi?article=1193&context=pars>; Huw Talfryn Oakley Davies et al., *When Can Odds Ratios Mislead?*, 316 BMJ 989 (1998), <https://www.bmj.com/content/316/7136/989> (“the odds ratio will always exaggerate the size of the effect compared with a relative risk”).
- ²⁴ For instance, tbl.4, tbl.5, and fig.5 are labeled as the “Likelihood of Recidivism” differences in each of the study groups (compared to each of their comparison group), but the numbers do not report likelihood—instead they report odds ratios. A similar mistake is made in the text as well, where the difference in odds for both the 60–120 months and the >120 months group are reported as differences in percentage (“In both studies, offenders sentenced to more than 60 months up to 120 months were approximately 18 percent less likely to recidivate relative to a comparison group receiving shorter lengths of incarceration. Offenders sentenced to more than 120 months were approximately 29 percent less likely to recidivate relative to a comparison group receiving a shorter sentence of incarceration.”). Report at 1, at 19, 22, 24.
- ²⁵ Report at 4.
- ²⁶ See Univ. of Cambridge Winton Ctr., *A Guide To Odds Ratios: What They Are and How To Communicate Them Clearly*, YouTube (Nov. 3, 2020), <https://www.youtube.com/watch?v=ixKhSOSilb4>.
- ²⁷ To translate the odds ratio to percentage terms, we would need access to the base rate, which the Report does not provide. But to give an example of such an exaggeration, we can use a base recidivism rate of 49% computed from a February 2022 USSC report; notably, this recidivism rate is based on rearrests following eight years after release in 2010, like that of the Report. USSC, *Recidivism of Federal Violent Offenders Released in 2010* 8, 20 (Feb. 2022). Using the Report’s odds ratio of 18% for the 60–120 months group and the 49% base rate, we can calculate the difference in percentage to be 5%.
- ²⁸ In response to our email inquiries, Commission staff communicated that they will not release the data, citing an inter-agency agreement with the FBI. See also Report at 45 n.23. When asked for additional information about the data, the Commission would not clarify even the numbers of individuals in the comparison groups for each model.
- ²⁹ Megan L. Head et al., *The Extent and Consequences of P-Hacking in Science*, 13 PLOS Biology 1 (2015). Scholars have also previously suggested that the Commission regularly submit the work of its own staff to external peer review. See Marc L. Miller & Ronald F. Wright, *“The Wisdom We Have Lost”: Sentencing Information and Its Uses*, 58 Stan. L. Rev. 361, 374 (2005). For example, if the Report’s data were released, researchers could independently explore whether the choices made in selecting comparison groupings mattered by examining whether other groupings show different results. We also demonstrated the use of data transparency above (see note 27) by calculating the percentage difference using data presented in a previous USSC report.
- ³⁰ Report at 5, 16.
- ³¹ Research design resources stress the importance of a study’s limitations section. See Sue L. T. McGregor, *Understanding and Evaluating Research: A Critical Guide* 617 (2017) (“[V]irtually all papers include study limitations at the end of the Discussion section, usually with its own subheading Limitations, placed just before the Conclusions section.”); Lynne M. Connelly, *Limitation Section*, 22 MEDSURG Nursing 325 (2013) (“[I]n any research study, the limitations are important to acknowledge.”).