

PEER REVIEW ARTICLE†

UNDERESTIMATING THE TRIAL
PENALTY: AN EMPIRICAL ANALYSIS OF
THE FEDERAL TRIAL PENALTY AND
CRITIQUE OF THE ABRAMS STUDY

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INTRODUCTION	1197
I. PLEA BARGAINING AND THE MAGNITUDE OF THE TRIAL PENALTY.....	1203
A. <i>The Value of Plea Bargaining</i>	1204
B. <i>Critiques of Plea Bargaining</i>	1206
1. Penalizing the Right to Trial.....	1207
2. Morally “Coercive” Trial Penalties.....	1209
3. Innocence	1211
4. Prosecutorial Adjudication	1212
II. UNDERESTIMATING THE TRIAL PENALTY	1214
A. <i>The Abrams Study</i>	1215
1. Clarifying the “Abrams Trial Penalty”	1216
2. Reanalyzing the Abrams Numbers	1219
a. <i>Average Trial and Plea Sentence Length</i>	1219
b. <i>Likelihood of a Sentence of Incarceration</i>	1220
3. Other Methodological Issues with the Abrams Study	1221

† For more information on the *Mississippi Law Journal's* peer review process, see Jack Wade Nowlin & Brian Clark Stuart, *Foreword: The Mississippi Law Journal Peer Review Process*, 84 MISS. L.J. i (2015).

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a. <i>Abrams' Regressions Are Intended to Measure Only the Abrams Trial Penalty, Not the Conventional Trial Penalty</i>	1222
b. <i>Specification Error and Omitted Variable Bias: The Importance of Controlling for the Severity of Crimes</i>	1222
c. <i>Using OLS Regression on Sentence Length Rather than OLS Regression on Logged Sentence Length Creates Serious Statistical Problems</i>	1224
d. <i>Instrumental Variables: Judicial Tenure</i>	1224
e. <i>The Average Non-Zero Sentence Length Is Not a Metric of Relevance to Criminal Law Debates</i>	1225
4. <i>Whether Plea Defendants Would Be Better Off Going to Trial</i>	1228
B. <i>Prior Studies of the Federal Trial Penalty</i>	1230
III. MEASURING THE TRIAL PENALTY IN FEDERAL COURT	1237
A. <i>Data and General Methodology</i>	1237
B. <i>Controlling for Cases of Similar Severity: Federal Sentencing Guidelines and Acceptance of Responsibility</i>	1239
IV. FINDINGS	1242
A. <i>Race, Gender, Guilty Pleas, and Sentence Length</i>	1242
B. <i>Race, Gender, Guilty Pleas, and Likelihood of Incarceration</i>	1243
C. <i>Rational Federal Trial Defendants Would Have Been Better Off Pleading Guilty</i>	1244
V. DISCUSSION	1246
CONCLUSION	1249
APPENDIX	1251
Table 2	1251
Table 3	1252
Table 4	1253
Table 5	1254
<i>Federal Sentencing Guidelines Sentencing Table</i>	1255

INTRODUCTION

In all criminal prosecutions, the accused shall enjoy the right to a speedy and public trial

6th Amendment, United States Constitution

The Sixth Amendment to the United States Constitution guarantees criminal defendants the right to trial by a jury of their peers. Today, however, the vast majority of convictions are obtained by guilty pleas, in which defendants forgo their right to trial and simply admit their guilt in open court. The conventional wisdom is that this shift was caused by increasingly large trial penalties and the rise in plea bargaining.

In a plea bargain, a defendant agrees to plead guilty in exchange for the prosecutor's promise of a sentence lower than the defendant would expect if convicted at trial. The defendant exchanges her chances for acquittal at trial for the certainty of a lower sentence while the prosecutor gives up a chance for a longer sentence in exchange for a guaranteed conviction and avoidance of time consuming trials.¹

Today, plea bargaining is the predominant form of conviction.² Indeed, in federal court, ninety-seven percent of convictions are obtained through guilty pleas.³ Because so many defendants give up their constitutional right to trial, most scholars assume that the discount defendants receive for pleading guilty, or conversely, the penalty defendants face for going to trial, must be rather large.⁴

¹ See generally Robert E. Scott & William J. Stuntz, *Plea Bargaining as Contract*, 101 YALE L.J. 1909, 1914 (1992).

² *Lafler v. Cooper*, 132 S. Ct. 1376, 1388 (2012).

³ In the federal system, ninety-seven percent of convicted defendants plead guilty. The author calculated this number using the data obtained from BUREAU OF JUSTICE STATISTICS, U.S. DEPT OF JUSTICE, SOURCEBOOK OF CRIMINAL JUSTICE STATISTICS ONLINE tbl.5.22.2010 (2011) [hereinafter SOURCEBOOK], available at <http://www.albany.edu/sourcebook/>.

⁴ See, e.g., Ronald F. Wright, *Trial Distortion and the End of Innocence in Federal Criminal Justice*, 154 U. PA. L. REV. 79, 109 (2005) (arguing that federal defendants plead guilty because of large trial penalties).

Studies on federal plea bargaining, however, cast doubt on this ubiquitous wisdom.⁵ These studies consistently report trial penalties that are quite modest, around three to fifteen percent of the average plea sentence, with some studies reporting that going to trial has *no* significant effect on defendants' sentences.⁶ If accurate, these studies would raise serious questions about why only three percent of defendants are willing to risk trial in the face of such paltry or insignificant trial penalties.⁷

More critically, a recent study by David Abrams⁸ sparked a flurry of debate by concluding that "plea bargains actually result in longer sentences than trials."⁹ Abrams claims his study shows

⁵ See, e.g., Jeffery T. Ulmer, James Eisenstein & Brian D. Johnson, *Trial Penalties in Federal Sentencing: Extra-Guidelines Factors and District Variation*, 27 JUST. Q. 560, 575 (2010) (find that the trial penalty is fifteen percent in federal court); Celesta A. Albonetti, *Sentencing Under the Federal Sentencing Guidelines: Effects of Defendant Characteristics, Guilty Pleas, and Departures on Sentence Outcomes for Drug Offenses, 1991-1992*, 31 LAW & SOC'Y REV. 789, 805 tbl.2 (1997) (findings that correspond to trial penalties of six to fourteen percent for black and white males charged with federal drug trafficking crimes); U.S. SENTENCING COMM'N, FINAL REPORT ON THE IMPACT OF UNITED STATES V. BOOKER ON FEDERAL SENTENCING B28-B31 (2006) [hereinafter BOOKER], available at http://www.ussc.gov/sites/default/files/pdf/news/congressional-testimony-and-reports/submissions/200603-booker/Booker_Report.pdf (reporting that the decision to go to trial does not have a significant effect on sentences in the post-Booker period and increases sentences only eleven percent after the PROTECT Act). The regression coefficients reported for the post-Booker period reveals a three percent trial penalty that is statistically insignificant.

⁶ See *supra* note 5.

⁷ Figures derived from the author's "cleaned" data from the United States Sentencing Commission database. See U.S. SENTENCING COMM'N, MONITORING OF FEDERAL CRIMINAL SENTENCES, 2006 (ICPSR 20120) (2007), available at <http://doi.org/10.3886/ICPSR20120.v2>; U.S. SENTENCING COMM'N, MONITORING OF FEDERAL CRIMINAL SENTENCES, 2007 (ICPSR 22623) (2009), available at <http://doi.org/10.3886/ICPSR22623>; U.S. SENTENCING COMM'N, MONITORING OF FEDERAL CRIMINAL SENTENCES, 2008 (ICPSR 25424) (2009), available at <http://doi.org/10.3886/ICPSR25424>.

⁸ David S. Abrams, *Is Pleading Really a Bargain?*, 8 J. EMPIRICAL LEGAL STUD. (SPECIAL ISSUE) 200 (2011) [hereinafter Abrams, JELS] (initial report of study); David S. Abrams, *Putting the Trial Penalty on Trial*, 51 DUQ. L. REV. 777 (2013) [hereinafter Abrams, DUQ.] (presenting same study in law review format).

⁹ Abrams, DUQ., *supra* note 8, at 783. A sampling of scholars who have cited or responded to Abrams' piece include: Dan Markel, *The Myth of the Trial Penalty?*, PRAWFSBLAWG (Feb. 19, 2014, 11:30 AM), <http://prawfsblawg.blogspot.com/prawfsblawg/2014/02/the-myth-of-the-trial-penalty.html> (stating that Abrams' piece "slays the sacred cow of the trial penalty," with scholars including Ronald Wright, Orin Kerr, Ellen Podgor, and Miriam Baer commenting on the blog post); Albert W. Alschuler, Lafler and Frye: *Two Small Band-Aids for a Festering Wound*, 51 DUQ. L. REV. 673,

that defendants who plead guilty would be significantly better off going to trial and pay a “plea penalty” in the form of longer sentences for forgoing the right to trial.¹⁰ One possible explanation for this irrational behavior, he argues, is that “[o]verworked and underpaid defense attorneys may prefer the brevity of plea bargains” to time consuming trials, and disloyally advise their clients that their chances at trial are worse than they really are.¹¹ Where studies on the federal trial penalty draw the conventional wisdom into question, the Abrams study, if accurate, would turn conventional wisdom on its head.¹²

This Article exposes significant conceptual and methodological errors that undermine the conclusions of the Abrams study and the findings of prior federal sentencing studies. Indeed, reanalyzing Abrams’s numbers reveals that defendants who plead guilty in his data *do* receive shorter sentences than those convicted at trial. Although Abrams appears to acknowledge this fact in his study, the numbers he cites for this proposition are the average sentences *excluding defendants who received the lightest sentences of probation or fines only*.¹³ As this Article explains, this “non-zero average sentence” metric does not accurately represent the differences in sentences plea and trial defendants receive and is a metric with little relevance to criminal law debates.¹⁴ This Article then presents the findings of a new study revealing that the average federal trial penalty is actually around sixty-four percent, several times larger than reported by

687 (2013) [hereinafter Alschuler, Lafler] (finding that Abrams’ piece is an “unconvincing study”); Wesley MacNiel Oliver, *Toward a Common Law of Plea Bargaining*, 102 KY. L.J. 1, 30 n.168 (2013) (stating that Abrams’ findings are “counter-intuitive to virtually everyone who has worked in the criminal justice system but definitely worthy of further exploration”); *see also* Cristina Yu, *Starting out in Criminal Defense? 3 More Mistakes to Avoid*, FINDLAW (Apr. 29, 2014, 11:59 AM), http://blogs.findlaw.com/greedy_associates/2014/04/starting-out-in-criminal-defense-3-more-mistakes-to-avoid.html (listing Abrams’ article as recommended reading for new criminal defense attorneys).

¹⁰ Abrams, DUQ., *supra* note 8, at 785.

¹¹ *Id.* at 784-85.

¹² *See* Markel, *supra* note 9.

¹³ *See* Abrams, JELS, *supra* note 8, at 209 (noting that the average trial sentence, “conditioning on nonzero sentence length,” is 2.91 years compared to 2.44 years for non-zero guilty pleas); Abrams, DUQ., *supra* note 8, at 781 (citing same numbers for proposition that average trial sentence is longer for “sentences of incarceration”).

¹⁴ *See infra* Part II.A.3.e.

prior studies. It also demonstrates that the average federal defendant who goes to trial in federal court would be significantly better off if she had instead pled guilty, even after accounting for her chances for acquittal. In other words, even the few defendants who do exercise their right to trial do so against their rational best interests.

This Article first reveals that prior federal trial penalty studies heavily underestimate the value of the trial penalty because they do not account for the effects of “acceptance of responsibility.” Under the federal guidelines, a defendant is entitled to a two or three level reduction to her recommended sentence if she “accepts responsibility” by pleading guilty, but not if she exercises her right to trial.¹⁵ Remorse is not required to receive this discount, only the act of admitting the criminal conduct and pleading guilty. For all practical purposes, acceptance of responsibility operates as a statutory discount for pleading guilty.¹⁶ Because practitioners widely acknowledge that the acceptance of responsibility discount *alone* reduces sentences by twenty-five to thirty-five percent,¹⁷ studies that do not account for this statutory plea discount underestimate the actual federal trial penalty. This Article then reveals a number of other problems with the methodology used in these studies that cause them to heavily underestimate the trial penalty.

Next, this Article reveals conceptual and methodological issues with the Abrams study that undermine its conclusion that defendants would be better off going to trial. The term “trial penalty,” as used in criminal justice debates, refers to the difference between the sentence the defendant expects to receive if convicted at trial and the sentence she expects if she pleads guilty.

¹⁵ U.S. SENTENCING COMM’N, GUIDELINES MANUAL § 3E1.1, at 371 (2014) [hereinafter USSG].

¹⁶ In practice, acceptance of responsibility is applied in ninety-seven percent of guilty plea cases and only three percent of jury trial cases, all of which, presumably, involve the unusual procedural circumstances. *See supra* note 7; *see also* Michael M. O’Hear, *Remorse, Cooperation, and “Acceptance of Responsibility”: The Structure, Implementation, and Reform of Section 3E1.1 of the Federal Sentencing Guidelines*, 91 NW. U. L. REV. 1507, 1534 (1997) (concluding that acceptance of responsibility is “a more-or-less automatic plea discount”).

¹⁷ *See* Julie R. O’Sullivan, *In Defense of the U.S. Sentencing Guidelines’ Modified Real-Offense System*, 91 NW. U. L. REV. 1342, 1415 & n.274 (1997) (citing Department of Justice memos for the figure).

Rather than measuring the traditional “trial penalty,” however, Abrams’ study attempts to measure the difference between the trial sentence discounted by the odds of acquittal at trial and the plea sentence, a metric this Article refers to as the “Abrams Trial Penalty.” Abrams reports that the Abrams Trial Penalty is a negative 1.12 years, and that after discounting trial sentences by the odds of acquittal, defendants who go to trial receive sentences that are 1.12 years shorter than those who plead guilty.¹⁸ Reanalyzing Abrams’s numbers to remove the effects of this artificial discounting reveals, however, that defendants convicted at trial actually receive sentences that are 0.36 years *longer* than those who plead guilty, suggesting a *positive* trial penalty.¹⁹

Abrams uses the Abrams Trial Penalty to argue that defendants who plead guilty would be rationally better off if they took their chances at trial.²⁰ As explained in Part II.A, however, Abrams’s methodology implicitly assumes that defendants who pled guilty would have had the *same* odds of being acquitted as those defendants who *actually* went to trial. Because defendants’ odds of acquittal influence their decisions to go to trial or plead guilty, this assumption is almost certainly false. Defendants who know the evidence is stacked against them, such as defendants who were arrested with illegal drugs physically on their person, will often plead guilty because they know they have little chance of being acquitted. Conversely, defendants who know the prosecution’s case is weak will be more likely to take their chances at trial. As such, it is unlikely that the average defendant who pled guilty would have fared as well as the average defendant who thought it was in her interests to insist on trial. Although Abrams attempts to bolster his claim of a negative trial penalty with OLS regressions and an instrumental variable analysis, as explained in Part II.A.3, these tools also provide no support for his conclusions.

This Article then uses data from all federal criminal cases from 2006 to 2008, (207,352 cases), to measure the federal trial penalty *including* the effects of acceptance of responsibility.²¹

¹⁸ See Abrams, JELS, *supra* note 8, at 208 tbl.1.

¹⁹ See *infra* Part II.A.2.

²⁰ See Abrams, DUQ., *supra* note 8, at 783.

²¹ See *supra* note 7. The database includes 221,928 cases, of which 207,352 cases included sufficiently complete data to perform the necessary regressions.

Using OLS regressions on logged sentence length to control for the severity of crimes and other case specific factors, it finds that federal defendants convicted at trial receive sentences that are sixty-four percent longer than similar defendants who plead guilty, excluding the effects of charge and fact bargaining.²² This measurement is significantly larger than reported in prior studies and much more in line with the understandings of federal practitioners.

Finally, this Article uses its findings to demonstrate that the average federal defendant who goes to trial would actually have been much better off pleading guilty, even after accounting for her chances for acquittal. As this study shows, defendants who go to trial have only a twelve percent chance of being acquitted, but can expect a sixty-four percent longer sentence if convicted, a poor gamble by any metric. The question then becomes not, as Abrams asked, why defendants plead guilty, but why do these few defendants foolishly risk trial? This Article offers four possible explanations: (1) that some defendants or their attorneys overestimate defendants' chances of acquittal, (2) that some defendants are so loss averse that they are willing to gamble in spite of the odds, (3) that the non-incarceration consequences of conviction, such as deportation, are so significant for some defendants that insisting on trial is rational in ways that elude quantification; and (4) that some defendants insist on trial knowing the evidence is against them because they are factually innocent and so refuse to plead guilty.

To the extent that defendants insist on trial because they are over confident or simply prefer to gamble on a slim chance of winning, these findings may simply reflect the unfortunate irrationality of criminal defendants. If, however, it is defense

²² Like most trial penalty studies, this study cannot account for the effects of charge or fact bargaining. In charge bargaining, prosecutors agree to allow the defendant to plead guilty to lesser charges than can be factually proven. In fact bargaining, prosecutors agree to stipulate that certain sentencing related facts, like the quantity of illegal drugs found, are less severe than can be proven. By doing so, however, prosecutors officially record the defendant's crimes as less serious than they actually are. As a result, charge and fact bargaining are often impossible to measure with data available to researchers. Because this study does not include these effects, it is possible that the total penalty defendants pay for going to trial is significantly larger than sixty-four percent.

attorneys who misadvise their clients about their chances for acquittal, part of the solution may be to ask the attorneys to keep track of their own success rates at trial, to ensure that the advice they give is grounded in empirical reality. As for the innocence problem, although one would hope that innocent defendants would have better chances of being acquitted, the innocence literature demonstrates that this is not always the case. Whether innocent defendants would be better off pleading guilty and accepting a shorter, but still unjust sentence depends on both their individual odds of acquittal and their own sense of morality.

This Article proceeds in five parts. Part I discusses the plea bargaining literature and examines the role that assumptions about the size of the trial penalty play in those debates. Part II.A examines the Abrams study, showing that his data actually indicates that defendants who go to trial receive *longer* sentences than those who plead guilty, and cannot support his conclusion that defendants would be better off going to trial. Part II.B analyzes the conventional methodology used in federal sentencing studies and explains why these studies heavily underestimate the actual federal trial penalty. Part III presents the data and revised methodology used in this study. Part IV presents this study's findings and reveals that few federal defendants could make a rational choice to go to trial. Part V discusses the implications of these findings.

I. PLEA BARGAINING AND THE MAGNITUDE OF THE TRIAL PENALTY

The vast majority of defendants in the United States are convicted through guilty pleas obtained through plea bargaining.²³ In a plea bargain, a defendant agrees to admit guilt and accept punishment for her crime in exchange for a lighter sentence than she expects to receive if convicted after trial.²⁴ The greatest and most obvious benefit of plea bargaining is that it allows

²³ In the federal system, ninety-seven percent of convicted defendants plead guilty. See SOURCEBOOK, *supra* note 3, tbl.5.22.2010.

²⁴ See Scott & Stuntz, *supra* note 1, at 1914.

prosecutors and courts to secure convictions without the time and expense of a full trial.²⁵

Although plea bargaining was once rare, today it is the predominant form of conviction.²⁶ In federal court, around ninety-seven percent of convictions are obtained through guilty pleas.²⁷ Scholars generally assume that these large guilty plea rates exist because defendants are routinely offered very large discounts for pleading guilty.²⁸

Some argue that plea bargaining is an essentially fair system that protects defendants' rights while disposing of cases at a fraction of the cost of trials.²⁹ Others, who assume that the average plea discount is rather large, criticize plea bargaining for penalizing the right to trial, imposing unfairly coercive trial penalties, forcing innocent defendants to plead guilty, and undermining the adversarial nature of our justice system.³⁰ Part A of this section discusses the perceived benefits of plea bargaining and the assumptions proponents make about the magnitude of the trial penalty. Part B discusses critiques of plea bargaining and the central importance of the magnitude of the trial penalty to these critiques.

A. *The Value of Plea Bargaining*

The greatest and most obvious benefit of plea bargaining is that it allows prosecutors and courts to secure convictions without

²⁵ See Frank H. Easterbrook, *Criminal Procedure as a Market System*, 12 J. LEGAL STUD. 289, 297 (1983) [hereinafter Easterbrook, *Criminal Procedure*].

²⁶ See George Fisher, *Plea Bargaining's Triumph*, 109 YALE L.J. 857, 859 (2000); Stephen J. Schulhofer, *Criminal Justice Discretion as a Regulatory System*, 17 J. LEGAL STUD. 43, 80 n.97 (1988).

²⁷ See SOURCEBOOK, *supra* note 3, tbl.5.22.2010.

²⁸ See, e.g., Wright, *supra* note 4, at 109 (arguing that the trial penalty is large enough to force innocent defendants to plead guilty); see also Nancy J. King & Rosevelt L. Noble, *Jury Sentencing in Noncapital Cases: Comparing Severity and Variance with Judicial Sentences in Two States*, 2 J. EMPIRICAL LEGAL STUD. 331, 348 (2005) (estimating trial penalties of over 400 percent for certain crimes in state court). *But see* Andrew Chongseh Kim, *A More Rational Rational Actor Model of Plea Bargaining* 35 (Mar. 24, 2015) [hereinafter Kim, *Plea*] (unpublished manuscript) (on file with author) (arguing that the vast majority of federal defendants charged with serious crimes plead guilty primarily because they have no realistic chance of acquittal at trial, rather than because of excessively large trial penalties).

²⁹ See *infra* Part I.A.

³⁰ See *infra* Part I.B.

the time and expense of a full trial.³¹ Where trials can require days or weeks to prepare and resolve, prosecutors can often secure guilty plea convictions with a few hours, or, in routine cases, a few minutes of “negotiations” with public defenders. Without plea bargaining, federal courts would need to conduct over thirty times as many trials to secure the same number of convictions they currently do. Although such an outcome might improve employment rates among recent law school graduates, scholars universally acknowledge that it would dramatically raise the cost of criminal adjudications and, in the short term, grind the entire judicial system nearly to a halt.³²

Although plea bargaining acts as a shortcut around the right to trial, some argue that because plea bargaining operates “in the shadow of trials,”³³ it provides defendants with protections *similar to* those they would have received by going to trial. Under this rational actor model, defendants receive relatively modest discounts that are roughly proportionate to the defendant’s odds of acquittal.³⁴ Defendants with the largest chances for acquittal receive the largest discounts while those whose chances are minimal receive smaller discounts, fairly compensating each defendant for the relative value of her right to trial. Because defendants can always insist on going to trial, their constitutional rights are fully protected.³⁵ Moreover, because defendants receive discounts in rough proportion to their chances for acquittal, the

³¹ See Easterbrook, *Criminal Procedure*, *supra* note 25, at 297.

³² See Scott W. Howe, *The Value of Plea Bargaining*, 58 OKLA. L. REV. 599, 614-15 (2005) (arguing that abolishing plea bargaining would require enormous resources); Scott & Stuntz, *supra* note 1, at 1932 (eliminating plea bargaining would multiply the number of trials necessary to resolve cases).

³³ See, e.g., Stephanos Bibas, *Plea Bargaining Outside the Shadow of Trial*, 117 HARV. L. REV. 2463, 2469-96 (2004) (asserting that recent scholarship treats plea bargaining as bargaining “in the shadow of expected trial outcomes”); Scott & Stuntz, *supra* note 1, at 1910; Easterbrook, *Criminal Procedure*, *supra* note 25, at 309-17; Frank H. Easterbrook, *Plea Bargaining as Compromise*, 101 YALE L.J. 1969, 1975 (1992); Edward A. Ruttenburg, *Plea Bargaining Analytically—The Nash Solution to the Landes Model*, 7 AM. J. CRIM. L. 323, 353 (1979); see also Abrams, DUQ., *supra* note 8, at 783-85 (discussing the “shadow of the law”).

³⁴ See Scott & Stuntz, *supra* note 1, at 1946 (stating that “prosecutors must take into account the odds of acquittal when making plea offers”); Howe, *supra* note 32, at 600-01.

³⁵ See Scott & Stuntz, *supra* note 1, at 1935-43; Easterbrook, *Criminal Procedure*, *supra* note 25, at 297.

total punishment delivered through pleas will be roughly equal to the average punishment that would have been delivered if the plea cases had gone to trial.³⁶ The market principles of plea bargaining thus ensure that defendants' rights are protected while allowing prosecutors to obtain more convictions at a small fraction of the cost of trial.³⁷

B. Critiques of Plea Bargaining

Critics argue that routinely offering large discounts to defendants who plead guilty implicitly penalizes defendants for exercising their right to trial.³⁸ Law and economics scholars, however, argue that plea discounts only "penalize" the right to trial if the discounts offered are greater, in percentage terms, than the individual defendant's right to trial.³⁹

Critics who assume that prosecutors routinely offer large discounts argue on moral grounds that trial penalties unfairly and coercively force defendants to forgo their Sixth Amendment right to trial.⁴⁰ Finally, many scholars argue that large trial penalties create an unacceptably large risk that innocent defendants will have no choice but to plead guilty.⁴¹ As explained in this subpart,

³⁶ See generally Scott & Stuntz, *supra* note 1, at 1935-43; Easterbrook, *Criminal Procedure*, *supra* note 25, at 297; Bibas, *supra* note 33, at 2496-520.

³⁷ See generally Howe, *supra* note 32.

³⁸ See, e.g., Gerard E. Lynch, *Screening Versus Plea Bargaining: Exactly What Are We Trading Off?*, 55 STAN. L. REV. 1399, 1401 (2003) [hereinafter Lynch, *Screening*].

³⁹ See, e.g., Scott v. United States, 419 F.2d 264, 276-78 (D.C. Cir. 1969) (arguing that plea discounts larger in percentage terms than the defendant's odds of acquittal impose an unconstitutional "price" on the right to trial); Abrams, DUQ., *supra* note 8, at 778-80 (arguing that the important question is not whether trial defendants receive longer sentences than plea defendants but whether the expected value of trial sentences, discounted by chances for acquittal, is larger than the sentences offered for pleading guilty).

⁴⁰ See, e.g., Máximo Langer, *Rethinking Plea Bargaining: The Practice and Reform of Prosecutorial Adjudication in American Criminal Procedure*, 33 AM. J. CRIM. L. 223, 224-28 (2006) (arguing that plea bargaining is coercive because trial sentences are longer than prosecutors and legislatures consider appropriate punishment); John H. Langbein, *Torture and Plea Bargaining*, 46 U. CHI. L. REV. 3, 12 (1978) (arguing the differential between trial and plea sentences makes plea bargaining coercive); Wright, *supra* note 4, at 93 (noting that large trial penalties create coercive environments to produce "voluntary" guilty pleas).

⁴¹ See, e.g., Wright, *supra* note 4, at 109; King & Noble, *supra* note 28, at 348. *But see* Howe, *supra* note 32, at 630-32 (arguing that the innocence problem may be overstated); Josh Bowers, *Punishing the Innocent*, 156 U. PA. L. REV. 1117, 1119-24

the strength of these critiques depends heavily on the magnitude of the discounts defendants actually receive.

1. Penalizing the Right to Trial

Scholars have long argued that routinely offering “discounts” to defendants who give up their right to trial and plead guilty implicitly penalizes those who insist on trial.⁴² Once a defendant is offered a discount for pleading guilty, she can only insist on trial by forgoing that discount. As Gerard E. Lynch put it:

In a system where ninety percent or more of cases end in a negotiated disposition, it is unclear why the “discounted” punishment imposed in that ninety percent of cases should not rather be considered the norm. Where almost no one pays the “manufacturer’s suggested retail price,” and almost everyone buys the item at a “discounted” price, no one really gets a “bargain,” and the product’s real price is what is actually charged in the marketplace.⁴³

As such, Lynch argues, the difference between the sentence defendants receive for pleading guilty and the sentence they expect if convicted at trial is more accurately labeled a “penalty” for going to trial than a “discount” for pleading guilty.⁴⁴ Law and economics scholars argue, however, that not all discounts impose a rational “penalty” on the right to trial. Rather, only discounts that are larger, in percentage terms, than the defendant’s odds of acquittal impose rational incentives to plead guilty and penalize those defendants who exercise their right to trial.⁴⁵

(2008) (arguing, *inter alia*, that the harms of convicting “innocent” defendants are often less severe than most assume).

⁴² Kenneth Kipnis, *Criminal Justice and the Negotiated Plea*, 86 *ETHICS* 93, 97-99 (1976) (analogizing plea offers to threat at gunpoint); *see, e.g.*, Langbein, *supra* note 40, at 12 (analogizing plea bargaining to medieval torture systems); *see also* United States v. Jackson, 390 U.S. 570, 572 (1968) (holding that statutes that authorize the death penalty only for defendants convicted at trial “impose an impermissible burden on a constitutional right”). *But see* Brady v. United States, 397 U.S. 742, 747-48 (1970) (holding that bargained for guilty pleas are valid so long as they are both “voluntary” and “intelligent”).

⁴³ Lynch, *Screening*, *supra* note 38, at 1401.

⁴⁴ *Id.* at 1401-02.

⁴⁵ *See, e.g.*, Scott v. United States, 419 F.2d 264, 276-78 (1969) (arguing this question should be dispositive on the question of the constitutionality of plea

For decades, scholars have applied a rational actor model to analyze plea bargaining using market principles. Under this model, a defendant will plead guilty only if offered a discount that is larger, in percentage terms, than her chances for acquittal.⁴⁶ The value of a defendant's right to trial lies in the chance that she will be acquitted at trial and avoid any formal punishment. The "expected value" of her right to trial, then, is the average amount of incarceration she can expect to avoid if she exercises that right.⁴⁷

(1) expected value of trial = (odds of acquittal) * (trial sentence)

The defendant will plead guilty only if offered a discount that is larger than the value of her right to trial, or equivalently, if she is offered a percentage discount that is larger than her chances for acquittal.

(2a) plea discount > (odds of acquittal) * (trial sentence)

(2b) percentage plea discount > odds of acquittal

A defendant offered a discount larger than her chances for acquittal can only insist on trial by sacrificing a discount that is more valuable than her trial right. In economic terms, defendants who insist on trial when offered a large discount are thus penalized by placing them in a worse position than they would have been if they pled guilty.⁴⁸ Conversely, discounts that are smaller than the odds of acquittal are less valuable than the right to trial. Rather than penalizing defendants who go to trial,

bargaining); Abrams, JELS, *supra* note 8 (asking this question and concluding that defendants actually have incentives to go to trial); Abrams, DUQ., *supra* note 8 (same).

⁴⁶ See Easterbrook, *Criminal Procedure*, *supra* note 25, at 297; Scott, 419 F.2d at 276-78 (discussing the same economic model).

⁴⁷ Abrams, DUQ., *supra* note 8, at 778-80.

⁴⁸ See Scott, 419 F.2d at 276 ("To the extent that the bargain struck reflects only the uncertainty of conviction before trial, the 'expected sentence before trial'—length of sentence discounted by probability of conviction—is the same for those who decide to plead guilty and those who hope for acquittal but risk conviction by going to trial.").

discounts smaller than the odds of acquittal actually give defendants rational incentives to insist on trial.⁴⁹

2. Morally “Coercive” Trial Penalties

Under Supreme Court precedent, prosecutors can constitutionally impose even the most extreme trial penalties on defendants, so long as the penalties threatened for conviction after trial are authorized by statute and the charges are supported by probable cause.⁵⁰ Indeed, the Supreme Court has approved trial penalties as large as the risk of life in prison compared with five years for pleading guilty,⁵¹ and the risk of the death penalty compared with a thirty-year sentence for pleading guilty.⁵² Scholars have long argued that such large trial penalties make plea bargaining both unfair and morally coercive.⁵³

The classic example of such extreme trial penalties arose in the case of *Bordenkircher v. Hayes*.⁵⁴ In *Bordenkircher*, the

⁴⁹ See *id.* at 276-78; Abrams, DUQ., *supra* note 8, at 778-80 (explaining that defendants who insist on trial under such circumstances are not penalized; rather, defendants who *plead guilty* for discounts smaller than their odds of acquittal are the ones who are penalized). This simplified rational actor model assumes that going to trial costs the defendant nothing other than the risk of increased punishment, so that defendants' rational incentives depend solely on their chances for acquittal. Because the majority of criminal defendants are represented by public defenders, this assumption may be substantially true in most cases. However, if the defendant is being detained prior to trial, insisting on trial could mean a longer pretrial detention if acquitted. If the defendant is convicted, any pretrial detention is normally credited towards the sentence. Cf. Cassia Spohn, *Race, Sex, and Pretrial Detention in Federal Court: Indirect Effects and Cumulative Disadvantage*, 57 U. KAN. L. REV. 879, 893 (2009) (finding that pretrial detention increases the likelihood that a defendant will plead guilty).

⁵⁰ See, e.g., *Bordenkircher v. Hayes*, 434 U.S. 357 (1978) (holding that a plea offer of five years in prison combined with threat of life imprisonment for conviction at trial did not violate defendant's rights); *Brady v. United States*, 397 U.S. 742 (1970) (holding that the threat of the death penalty if convicted at trial did not invalidate guilty plea that resulted in a sentence of thirty years in prison).

⁵¹ See *Bordenkircher*, 434 U.S. at 357.

⁵² See *Brady*, 397 U.S. at 742.

⁵³ See, e.g., Langer, *supra* note 40, at 224-28 (arguing that plea bargaining is coercive because trial sentences are longer than prosecutors and legislatures consider appropriate punishment); Langbein, *supra* note 40, at 12 (arguing that the differential between trial and plea sentences makes plea bargaining coercive); Wright, *supra* note 4, at 93 (stating that large trial penalties create coercive environments to produce “voluntary” guilty pleas).

⁵⁴ 434 U.S. 357 (1978).

defendant, Hayes, had committed the crime of writing a bad check, an offense punishable by two to ten years in prison. During plea negotiations, the prosecutor offered to recommend a sentence of five years if Hayes pled guilty. If Hayes insisted on trial, however, the prosecutor threatened to charge him under Kentucky's three strikes law, which carried a mandatory life sentence upon conviction.⁵⁵ Hayes insisted on trial and the prosecutor, true to his word, charged him as a habitual criminal. Hayes was found guilty and sentenced to life in prison.⁵⁶ On appeal, the Supreme Court held that because the threatened trial sentence was authorized by statute and prosecutors have discretion to encourage defendants to plead guilty, this extraordinarily large trial penalty was not unconstitutional.⁵⁷

Scholars like Maximo Langer argue that plea offers like that in *Hayes* are morally coercive because they force defendants to plead guilty with threats of trial punishment that is unjustly severe.⁵⁸ Langer argues that legislatures enact overly broad and overly punitive criminal statutes that authorize prosecutors to threaten trial punishments that are much more draconian than the legislatures would *actually* consider appropriate in most cases.⁵⁹ They do so, however, relying on prosecutors to *avoid* unfair punishment in most cases, by offering more reasonable sentences to defendants who plead guilty. Such arrangements allow legislators to appear "tough on crime" while shielding them from backlash if prosecutors seek unjustly punitive sentences in individual cases.⁶⁰ In Langer's view, the punishments given to the vast majority of defendants who plead guilty help establish a "moral baseline" for the punishment society considers fair for given criminal conduct.⁶¹ Threats of trial punishment that are significantly more punitive than this moral baseline, then, are

⁵⁵ See *id.* at 358-59. Hayes had two prior felony convictions.

⁵⁶ *Id.* at 359.

⁵⁷ See *id.* at 363-64.

⁵⁸ See Langer, *supra* note 40, at 241-42.

⁵⁹ *Id.* at 229-248.

⁶⁰ *Id.* at 241-42 (citing William J. Stuntz, *The Political Constitution of Criminal Justice*, 119 HARV. L. REV. 780, 802-07 (2006)); see William J. Stuntz, *Plea Bargaining and Criminal Law's Disappearing Shadow*, 117 HARV. L. REV. 2548, 2553-58 (2004) [hereinafter Stuntz, *Shadow*].

⁶¹ Langer, *supra* note 40, at 233-36.

morally coercive threats of unfair punishment. Assuming that prosecutors routinely threaten such unfairly large trial penalties, Langer argues that the plea bargaining system is morally suspect.⁶² The strength of these arguments, however, depends on how large the average trial penalty actually is.

3. Innocence

One of the largest concerns about plea bargaining is that defendants are threatened with such unfairly harsh punishment after conviction at trial that even innocent defendants have no reasonable choice but to plead guilty.⁶³ As many scholars have argued, a significantly large trial penalty can induce any reasonable defendant to plead guilty, even if the defendant is innocent or would probably to be acquitted at trial.⁶⁴

Scholars like William Stuntz, Stephen J. Schulhofer, and Stephanos Bibas argue that innocence is especially problematic in plea bargaining because of the psychological effects of “risk aversion.”⁶⁵ As these scholars argue, defendants who are more risk averse are less willing to risk trial, and so are more willing to plead guilty when offered a favorable deal. A problem arises, however, because guilty defendants are, almost by definition, less averse to the risk of incarceration than innocent defendants.⁶⁶ As a result, innocent defendants facing the same chances of acquittal will be *more likely to plead guilty* than guilty defendants.⁶⁷

⁶² See *id.* at 224-25, 229-30, 248-56. *But see* Scott & Stuntz, *supra* note 1, at 1919-21, 1960-66 (arguing that if overly punitive “background sentences” are taken as a given, plea deals incentivized by threats of harsher punishment cannot be thought of as a contract formed under “duress”).

⁶³ See, e.g., Wright, *supra* note 4, at 109; King & Noble, *supra* note 28, at 348. *But see* Howe, *supra* note 32, at 630-32 (arguing that the innocence problem may be overstated).

⁶⁴ See, e.g., Wright, *supra* note 4; Scott & Stuntz, *supra* note 1; Bibas, *supra* note 33.

⁶⁵ Scott & Stuntz, *supra* note 1, at 1948; see Schulhofer, *supra* note 26, at 80 n.97; Bibas, *supra* note 33, at 2495, 2504-12; Easterbrook, *Criminal Procedure*, *supra* note 25, at 313-15.

⁶⁶ See Bibas, *supra* note 33, at 2509. *But see* Bowers, *supra* note 41, at 1124-32 (noting that defendants who are factually innocent of a particular crime are often wrongfully accused *because* they are known to have engaged in other criminal activity).

⁶⁷ See Scott & Stuntz, *supra* note 1, at 1943, 1948-49 (stating that “a risk averse innocent defendant may be *more* likely to take the deal than a guilty one because for the innocent, bearing the risk of the higher post-trial sentence is more costly”); Bibas,

Although one would hope that defendants' innocence would increase their chances of acquittal at trial,⁶⁸ recent scholarship on wrongful convictions highlights the difficulties innocent people face when trying to prove their innocence.⁶⁹

The magnitude of the trial penalty plays a crucial role in gauging the risk that innocent defendants will plead guilty. As such, accurately measuring the trial penalty is crucial to our understanding of the risks and benefits of plea bargaining.

4. Prosecutorial Adjudication

Many scholars argue that trial penalties in America are so large that defendants have no real choice but to accept whatever sentence the prosecutor chooses to offer for pleading guilty.⁷⁰ Under such conditions, a plea "bargain," is really, to quote the *Godfather*, "an offer [the defendant] can't refuse."⁷¹ In such a system, it is prosecutors, and not judges or juries, who decide whether defendants are guilty and how severely they will be

supra note 33, at 2537 n.325 (crediting Professor Stuntz with this observation); *see also* Schulhofer, *supra* note 26, at 80 & n.97 (emphasizing the problem of innocence and risk aversion in arguing that plea bargaining should be abolished); *cf.* Albert W. Alschuler, *The Prosecutor's Role in Plea Bargaining*, 36 U. CHI. L. REV. 50, 58-65 (1968) (arguing that prosecutors bargain more aggressively in their weakest cases in order ensure a conviction).

⁶⁸ *See* Scott & Stuntz, *supra* note 1, at 1936-37 (noting that innocent defendants may be more likely to find exculpatory evidence than guilty parties).

⁶⁹ *See generally* DAN SIMON, IN DOUBT: THE PSYCHOLOGY OF THE CRIMINAL JUSTICE PROCESS (2012), available at <http://dansimon.usc.edu/> (explaining how psychological biases contribute to flawed police investigations and convictions of innocent people).

⁷⁰ *See, e.g.*, Langer, *supra* note 40, at 225, 248-56 (arguing that "prosecutors have become some of the main de facto adjudicators of U.S. criminal procedure"); Gerard E. Lynch, *Our Administrative System of Criminal Justice*, 66 FORDHAM L. REV. 2117 (1998) [hereinafter Lynch, *Administrative*] (arguing that our criminal justice system more closely resembles administrative justice presided over by the prosecutor than an adversarial justice system); Stuntz, *Shadow*, *supra* note 60, at 2558 (arguing that, "given the array of weapons the law provides, prosecutors are often in a position to dictate outcomes"); Wright, *supra* note 4; Jeffrey Standen, *Plea Bargaining in the Shadow of the Guidelines*, 81 CALIF. L. REV. 1471, 1513 (1993) (arguing that charge bargaining under the guidelines makes the prosecutor "no longer the price taker but the price setter").

⁷¹ THE GODFATHER (Paramount Pictures 1972); *see* Wright, *supra* note 4, at 93 (arguing that large trial penalties force innocent defendants to plead guilty).

punished, raising significant concerns about the fairness and reliability of our justice system.⁷²

In a system of prosecutorial adjudication, prosecutors threaten such draconian penalties for conviction at trial that few defendants can reasonably risk exercising that constitutional right.⁷³ Instead, defendants have no choice but to plead guilty and accept whatever punishment the prosecutor deigns to offer. In such a system, prosecutors examine the evidence brought to them by the police and defense counsel and then decide whether they believe the defendant is guilty. If they believe the defendant is innocent, they dismiss the charges or decline to file charges in the first place. If they believe the defendant is guilty, the prosecutor offers the defendant the opportunity to plead guilty in exchange for a sentence the prosecutor considers fair.⁷⁴

In such a system, defendants have no real bargaining power because the prosecutor knows that the defendant's only bargaining chip, the threat of insisting on trial, is an empty threat.⁷⁵ Defense attorneys can still argue with the prosecutor that a shorter sentence is more appropriate, and, indeed, may succeed in obtaining shorter sentences. The defendant succeeds, however, by *persuading* the prosecution that a lower sentence would be more just because of the facts of the crime, the weakness of the case, or personal characteristics of the defendant,⁷⁶ Rather than "negotiating," defense attorneys present arguments for leniency much as they might in a sentencing hearing to a judge. As a result, prosecutors are able to adjudicate both criminal culpability and the magnitude of any punishment largely unfettered by concerns about the likelihood that the defendant

⁷² See Wright, *supra* note 4, at 93.

⁷³ See Langer, *supra* note 40 (arguing that the ability of prosecutors to impose unfair punishments at trials allows prosecutors to impose "coercive" plea bargains on defendants); Bibas, *supra* note 33; Scott & Stuntz, *supra* note 1. *But see* Kim, Plea, *supra* note 28, at 35 (arguing that federal prosecutors may deter defendants from trial by routinely bringing extremely strong cases against defendants, so that defendants have little chance of winning, rather than deterring defendants with unfairly large trial penalties).

⁷⁴ See Lynch, *Administrative*, *supra* note 70, at 2118, 2124-25, 2135 ("The prosecutor does not sit . . . as a representative of one interest negotiating on an equal footing with an adversary, but as an inquisitor seeking the 'correct' outcome.").

⁷⁵ See *id.*

⁷⁶ See Lynch, *Screening*, *supra* note 38, at 1403.

might be found not guilty at trial.⁷⁷ The ability of prosecutors to operate as adjudicators depends, of course, on their ability to credibly and routinely impose large trial penalties.⁷⁸

II. UNDERESTIMATING THE TRIAL PENALTY

Numerous scholars have attempted to measure the trial penalty in different American jurisdictions. The vast majority of these studies conclude that there is a significant penalty for going to trial.⁷⁹ Recently, however, a study by David Abrams reports that there is *no* trial penalty in Chicago courts and that defendants who plead guilty would actually be better off going to trial.⁸⁰ If accurate, this study would completely overturn decades of debates and common wisdom about plea bargaining.

Similarly, studies of the trial penalty in federal court consistently find paltry to insignificant penalties for going to trial in federal court, of three to fifteen percent of the average plea sentence.⁸¹ If accurate, these studies might undermine critiques of plea bargaining that assume that the trial penalty is quite

⁷⁷ See, e.g., Lynch, *Administrative*, *supra* note 70 (arguing that prosecutors are the primary adjudicators of punishment in America, but arguing that this is not necessarily an undesirable situation); Stuntz, *Shadow*, *supra* note 60 (discussing the breadth of prosecutorial power in modern America and positing that prosecutors have incentives to seek punishments they consider appropriate, but do not have incentives to bargain to maximize punishment); Langer, *supra* note 40.

⁷⁸ See Marc L. Miller, *Domination & Dissatisfaction: Prosecutors as Sentencers*, 56 STAN. L. REV. 1211, 1258 (2004) (arguing that guilty plea rates will continue to rise if prosecutors regularly offer deals the defendants “cannot refuse”); Wright, *supra* note 4 (arguing that large trial penalties force even innocent defendants to plead guilty).

⁷⁹ See, e.g., Nancy J. King, David A. Soulé, Sara Steen & Robert R. Weidner, *When Process Affects Punishment: Differences in Sentences After Guilty Plea, Bench Trial, and Jury Trial in Five Guidelines States*, 105 COLUM. L. REV. 959, 972 (2005) (studying the trial penalty in Pennsylvania, Minnesota, Washington, Maryland, and Kansas for time periods between 1997 and 2004 and finding trial penalties that ranged from thirteen percent to 461 percent).

⁸⁰ See Abrams, JELS, *supra* note 8 (initial report of study); Abrams, DUQ., *supra* note 8 (presenting same study in law review format).

⁸¹ See, e.g., Ulmer et al., *supra* note 5, at 575 (reporting a trial penalty of fifteen percent in federal courts); BOOKER, *supra* note 5, at B28-B31 (reporting that the decision to go to trial does not have a significant effect on sentences in the post-*Booker* period and increases sentences only eleven percent after the PROTECT Act); Albonetti, *supra* note 5, at 805 tbl.2 (reporting regression coefficients that correspond with trial penalties of six to fourteen percent for black and white males charged with federal drug trafficking crimes).

significant. They might also suggest that, as Abrams argues, defendants would generally be better off taking their chances at trial.

Part II.A reveals a number of conceptual and methodological errors in the Abrams study that undermine its conclusions. Indeed, a reanalysis of the Abrams study suggests that defendants who go to trial *do* receive longer sentences than those who plead guilty. Part II.B reveals that prior studies of the federal trial penalty fail to account for the “acceptance of responsibility” discount that acts as a statutory discount for pleading guilty and make other methodological errors that cause them to greatly underestimate the penalty federal defendants actually pay for insisting on trial.

A. *The Abrams Study*

Recently, David Abrams published a study concluding that “plea bargains actually result in longer sentences than trials” in Chicago courts.⁸² In his words, there is “little [empirical] support for the trial penalty, and in fact there appears to be a plea penalty.”⁸³ He argues that defendants who plead guilty could actually expect much shorter sentences if they had gone to trial. Abrams suggests that a major reason defendants plead guilty against their best interests may be that defense attorneys, hoping to avoid burdensome trials, disloyally dissuade their clients from exercising their rights.⁸⁴

Abrams’ study immediately drew the attention of legal scholars because, if correct, his study would moot decades of debates about the constitutionality and fairness of plea bargaining.⁸⁵ After all, it would be difficult to argue that plea bargaining unfairly punishes defendants for going to trial if going to trial actually makes defendants better off.

A closer look at this study, however, reveals that Abrams does not use the words “trial penalty,” “average trial sentence,” or “incarceration rate” in the way those terms are normally

⁸² See Abrams, DUQ., *supra* note 8, at 783.

⁸³ *Id.* at 785.

⁸⁴ See *id.* at 784-85.

⁸⁵ See *supra* note 9 and accompanying text.

understood in criminal law literature.⁸⁶ Rather, he uses each of those terms as a shorthand to refer to particular aspects of the traditional rational actor model of plea bargaining. For clarity, this Article uses the terms “trial penalty,” “trial sentence,” and “incarceration rate” with their ordinary meanings. The terms “Abrams Trial Penalty,” “Abrams Trial Sentence,” and “Abrams Incarceration Rate” refer to the terms as used in Abrams’ study.

Reanalyzing Abrams’ data reveals that trial defendants *do* receive longer sentences than plea defendants. Because his data does not include a metric for severity of crimes, however, his data cannot speak to whether trial defendants receive longer sentences *because* they went to trial or simply because trial defendants commit worse crimes on average than plea defendants. As explained in Part II.A.4, Abrams’ methodology implicitly assumes that the defendants who pled guilty would have had the same chances for acquittal as those who actually went to trial, an assumption that is clearly false.⁸⁷ As such, Abrams’ study cannot support his ultimate and controversial conclusion that plea defendants would be better off going to trial.

1. Clarifying the “Abrams Trial Penalty”

The differences between the traditional meaning of the term “trial penalty” and the Abrams Trial Penalty begin with Abrams’ unusual use of the term “trial sentence.” When most criminal law scholars talk about the average “trial sentence,” they mean the average sentence received by defendants who are convicted at trial.⁸⁸ The Abrams Trial Sentence, however, refers to the ordinary trial sentence multiplied by the defendants’ chances for conviction at trial.⁸⁹

$$(3) \text{ Abrams Trial Sentence} = (\text{trial sentence}) * (\text{odds of conviction})$$

⁸⁶ Abrams, DUQ., *supra* note 8, at 778-80.

⁸⁷ See Abrams, JELS, *supra* note 8, at 209-10 (by comparing the average trial sentence, counting acquittals as zero, with the average plea sentence, Abrams implicitly assumes that plea defendants would have received acquittals at the same rate as trial defendants).

⁸⁸ Abrams, DUQ., *supra* note 8, at 778-80.

⁸⁹ In Abrams’ terminology, what most call the average “trial sentence” would be the “conditional expected trial sentence.” *Id.* at 779.

The Abrams Trial Sentence, therefore, is the conventional trial sentence *discounted* by the defendant's odds of acquittal. Similarly, in ordinary parlance, the "trial penalty" is the difference between the sentence defendants expect to receive if they are convicted at trial and the sentence they expect to receive for pleading guilty.

$$(4) \text{ conventional trial penalty} = \text{trial sentence} - \text{plea sentence}^{90}$$

The Abrams Trial Penalty, however, is the difference between the Abrams Trial Sentence and the average plea sentence, a very different metric.

$$(5a) \text{ Abrams Trial Penalty} = \text{Abrams Trial Sentence} - \text{plea sentence}$$

$$(5b) \text{ Abrams Trial Penalty} = (\text{trial sentence}) * (\text{odds of conviction}) - \text{plea sentence}$$

If, as practitioners generally assume, defendants expect to receive a longer sentence if convicted at trial than if they plead guilty, the conventional trial penalty, equation 4, will always be a positive number, suggesting that defendants convicted after trial are penalized for exercising their rights. On the other hand, analyzing equation 5 reveals that the Abrams Trial Penalty can actually be a negative *even when the conventional trial penalty is positive*.⁹¹ Indeed, the Abrams Trial Penalty will *always* be

⁹⁰ As discussed in Part II.A.4, the trial penalty is the difference between the sentence defendants *expect* to receive if convicted at trial and the sentence offered to them for pleading guilty. The terms "trial sentence" and "plea sentence" are used in these equations for simplicity sake.

⁹¹ The proof for this proposition is as follows.

Define:

TP = conventional trial penalty

TS = trial sentence

PS = plea sentence

ATP = Abrams Trial Penalty

convict% = percentage of trial defendants convicted

acquit% = percentage of trial defendants acquitted = (1 - convict%)

TP = TS - PS

ATP = TS * convict% - PS

Then:

ATP = TS * convict% - PS

negative, unless the conventional trial penalty is both positive and *larger*, as a percentage of the final trial sentence, than the expected odds of acquittal.⁹²

Abrams is quite candid that he uses these terms in an idiosyncratic manner, and, indeed, argues that most criminal law scholars improperly ignore the fact that acquitted defendants are given “sentences” of no punishment.⁹³ Abrams is correct that most scholars do not consider the “no punishment” sentences acquitted defendants receive when discussing the average sentence trial defendants receive. Rather than an oversight, however, scholars ignore these acquitted defendants because legally speaking, these defendants *do not deserve any* punishment. The fact that many defendants are acquitted is a testament to the fact that our system requires proof of guilt beyond a reasonable doubt, through evidence at trial or admission of guilt through a guilty plea. By including acquitted defendants in his models, Abrams brushes over the important distinction between defendants who have been proven guilty and those who have not been found guilty beyond a reasonable doubt.

Because Abrams’ tables report the “trial sentence,” “trial penalty,” and “incarceration rate” without clarifying what he means by those terms, some scholars incorrectly assume that Abrams claims that convicted trial defendants receive shorter

$$\begin{aligned} &= TS * \text{convict\%} - TS + TP \\ &= TS * (\text{convict\%} - 1) + TP \\ &= -TS * (\text{acquit\%}) + TP \\ &= TP - TS * (\text{acquit\%}) \end{aligned}$$

Because TS is always a positive number, ATP will always be smaller than TP.

⁹² The proof for this proposition is as follows.

Define:

$$\begin{aligned} \text{Abrams Trial Penalty} &= (\text{trial sentence}) * (\text{odds of conviction}) - \text{plea sentence} \\ \text{plea sentence} &= (\text{trial sentence}) * (1 - \text{PD\%}) \\ \text{odds of conviction} &= 1 - \text{odds of acquittal} \\ \text{Where PD\% is the plea discount in percentage terms.} \end{aligned}$$

Solve for Abrams Trial Penalty = 0

$$\begin{aligned} \text{Abrams Trial Penalty} &= (\text{trial sentence}) * (\text{odds of conviction}) - \text{plea sentence} = 0 \\ (\text{trial sentence}) * (\text{odds of conviction}) &= \text{plea sentence} \\ \text{trial sentence} &= (\text{trial sentence}) * (1 - \text{PD\%}) \div \text{odds of conviction} \\ 1 &= (1 - \text{PD\%}) \div \text{odds of conviction} \\ \text{odds of conviction} &= 1 - \text{PD\%} \\ 1 - \text{odds of acquittal} &= 1 - \text{PD\%} \\ \text{odds of acquittal} &= \text{PD\%} \end{aligned}$$

⁹³ Abrams, DUQ., *supra* note 8, at 778-80.

sentences than plea defendants.⁹⁴ This confusion is especially acute because, although Abrams' terminology is fully logical from an economist's standpoint, the Abrams Trial Penalty, Abrams Trial Sentence, and Abrams Incarceration Rate are not terms or metrics that are used in criminal justice debates.⁹⁵ Moreover, as explained in Part II.A.4, although Abrams' study is intended to prove only that the Abrams Trial Penalty is negative, (i.e., that defendants would be better off going to trial), his data and methodology cannot support that conclusion.

2. Reanalyzing the Abrams Numbers

As explained above, Abrams' finding of a negative Abrams Trial Penalty does not indicate that defendants convicted at trial receive shorter sentences than defendants who plead guilty. In fact, a reanalysis of the numbers Abrams reports reveals that the opposite is true, that defendants convicted at trial receive longer sentences than those who plead guilty. Although Abrams appears to acknowledge this fact in his study, the numbers he cites for this proposition are actually the average sentences *excluding defendants who received the lightest sentences of probation only*.⁹⁶ As explained in Part II.A.3.e, this commonly reported metric of "non-zero average sentence" does not accurately represent differences in the sentences plea and trial defendants receive.⁹⁷

a. Average Trial and Plea Sentence Length

Abrams reports that the average Abrams Trial Sentence in Chicago is 1.25 years. Comparing this to the average plea sentence of 2.36 years, Abrams concludes that the Abrams Trial Penalty is a negative 1.12 years.⁹⁸ As discussed above, what Abrams reports as the Abrams Trial Sentence is actually the conventional trial sentence discounted by the odds of acquittal.

⁹⁴ See *supra* note 9.

⁹⁵ See Abrams, JELS, *supra* note 8, at 202 (finding that criminal law literature often ignores the distinctions between conditional and unconditional average sentences).

⁹⁶ See *id.* at 209 (noting that the average trial sentence, "conditioning on nonzero sentence length," is 2.91 years compared to 2.44 years for non-zero guilty pleas).

⁹⁷ See *infra* Part II.A.3.e.

⁹⁸ See Abrams, JELS, *supra* note 8, at 208 tbl.1.

(3) Abrams Trial Sentence = (trial sentence) * (odds of conviction)

Converting the Abrams Trial Sentence to the ordinary trial sentence, therefore, is a simple matter of dividing the Abrams Trial Sentence by the odds of conviction Abrams reports.

(3a) trial sentence = Abrams Trial Sentence ÷ (odds of conviction)

Doing so reveals that the average sentence for defendants convicted at trial in Abrams' data is 2.72 years, over four months *longer* than the average sentence for plea defendants. In other words, Abrams' data actually reveals that defendants who go to trial receive *longer* sentences than those who plead guilty. See Table 1.

Translating Abrams' Numbers		
	Abrams	Conventional
Avg. Trial Sentence	1.25 years	2.72 years
Avg. Plea Sentence	2.36 years	2.36 years
"Trial Penalty"	-1.12 years ⁹⁹	+0.36 years
Trial Incarceration Rate	26%	57%
Plea Incarceration Rate	59%	59%
"Trial Penalty"	-33%	-2%

b. Likelihood of a Sentence of Incarceration

Similarly, Abrams reports that twenty-six percent of defendants who go to trial in Chicago are incarcerated while fifty-nine percent of those who plead guilty are incarcerated.¹⁰⁰ This difference exists, however, because roughly half of defendants who went to trial in Abrams' data set were acquitted and so count as non-incarceration for Abrams' purposes. Although Albert W.

⁹⁹ Abrams reports that the difference between the Abrams Trial Sentence and the plea sentence is -1.12 years, rather than -1.11. *See id.* This minor discrepancy is likely due to rounding in the numbers reported.

¹⁰⁰ *See id.* at 208 tbl.1, 211.

Alschuler argues that this remarkably high acquittal rate suggests that Abrams' data is unreliable, this Article reveals that Abrams' claim of a significant penalty for pleading guilty cannot be supported even if we assume his data is reliable.¹⁰¹

Abrams reports that the Abrams Incarceration Rate is only twenty-six percent, where all defendants not convicted at trial count as a zero incarceration.¹⁰² Translating this twenty-six percent incarceration rate in the same way as the trial sentence shows that fifty-seven percent of defendants convicted at trial in Abrams' data are incarcerated, right on par with the incarceration rate, fifty-nine percent, for plea defendants. As such, Abrams' findings provide no support for the proposition that the decision to go to trial significantly increases a defendant's chances of avoiding incarceration if convicted.

3. Other Methodological Issues with the Abrams Study

As demonstrated above, Abrams' data, properly interpreted, reveals that the average trial defendant receives a longer sentence than the average plea defendant. This finding alone, however, cannot show that the decision to go to trial *caused* those defendants to receive longer sentences, because it does not account for differences in the severity of crimes committed by trial and plea defendants. After all, if the crimes committed by trial defendants were generally worse than those committed by plea defendants, we would expect trial defendants to receive harsher punishment with or without a penalty for going to trial.

Although Abrams uses regression analysis to help support his conclusions about the Abrams Trial Penalty, because his data does not include a strong metric for crime severity, these regressions cannot overcome the fundamental problem that there are significant differences in the amount of punishment plea and trial defendants actually deserve. Although Abrams' innovative use of instrumental variable analysis could, in theory, overcome this difficulty, it also cannot support this conclusion because, as Abrams acknowledges, the results of his IV analysis are

¹⁰¹ See Alschuler, Lafler, *supra* note 9, at 689-90. Based on his years of practice in Chicago courts, Alschuler asserts that the forty-six percent conviction rate Abrams reports is so unrealistically low that it should "raise eyebrows."

¹⁰² Abrams, JELS, *supra* note 8, at 208 tbl.1.

insignificant. These and other issues with the Abrams study are discussed in this section.

a. Abrams' Regressions Are Intended to Measure Only the Abrams Trial Penalty, Not the Conventional Trial Penalty

The first issue to note is that Abrams applies his regressions and IV analysis to a dataset that includes defendants acquitted at trial. As such, these regressions are clearly designed to measure the Abrams Trial Penalty only, and so cannot speak to whether there is a “trial penalty” in the conventional sense of that term. As explained in Part II.A.1, the Abrams Trial Penalty is neither the “trial penalty” discussed in criminal law debates nor a metric directly related to those debates. Moreover, as discussed further in this subpart, Abrams’ OLS regression and IV analysis do not support his finding of a negative Abrams Trial Penalty.

b. Specification Error and Omitted Variable Bias: The Importance of Controlling for the Severity of Crimes

The most important factor to take into account in any sentencing study is the severity of the crime committed.¹⁰³ Without a good metric for severity of crimes, it is always possible that any measured differences in sentences between groups are caused by the fact that one group simply committed crimes that, on average, are worse than the other. In statistical terminology, this would be considered a problem of “specification error” and “omitted variable bias.”¹⁰⁴

For example, between 2006 and 2008, the average trial sentence for simple possession in federal court was forty-two months while the average guilty plea sentence was fifty-seven months.¹⁰⁵ If we treated the raw difference between the average sentence lengths as a measure of the trial penalty, we would have to conclude, as Abrams does in his study, that defendants charged

¹⁰³ Cf. King et al., *supra* note 79, at 971-72 (discussing the importance of controlling for case severity).

¹⁰⁴ Specification error occurs in a regression when an explanatory variable is correlated with the error term of the regression. Omitted variable bias occurs when an important variable, like severity of the crime, is omitted from the regression. See generally WILLIAM H. GREENE, *ECONOMETRIC ANALYSIS* (3d ed. 1997).

¹⁰⁵ See *supra* note 7.

with simple possession receive shorter sentences if convicted at trial and that only a fool would ever plead guilty.¹⁰⁶ Using an OLS regression to control for case severity, gender, race, and other distributional factors, however, reveals that federal defendants convicted at trial for simple possession actually receive sentences that are forty-one percent *longer* than plea defendants who commit similarly severe crimes.¹⁰⁷

Although Abrams uses a regression analysis to control for factors like gender, race, and age, the only variable he includes related to the severity of crimes is the number of charges the defendant is charged with.¹⁰⁸ Although the number of charges may be loosely correlated with the severity of crimes, it is a very weak metric for differentiating how serious a crime is. For example, a defendant charged with one count of larceny and one count of conspiracy to commit larceny, two charges, usually does not deserve as harsh a sentence as someone charged with one count of second degree murder. Indeed, in the federal database, the number of charges explains only 1.6 percent of the variation in the actual severity of the crimes committed.¹⁰⁹

As such, the most that could be concluded using Abrams' regressions is that defendants convicted at trial receive larger sentences than defendants pleading guilty to the same number of charges. Such a conclusion would fall well short of answering the important question of whether defendants convicted at trial receive longer sentences than they would have if they had pled guilty.

¹⁰⁶ See *supra* note 7.

¹⁰⁷ The regression coefficient for jury trials is 0.343 for simple drug possession cases, which translates to a trial penalty of forty-one percent. See *supra* note 7.

¹⁰⁸ See Abrams, JELS, *supra* note 8, at 209 (“Total charges is an indication of the seriousness of the case . . .”). Presumably, by “number of charges” Abrams refers to the number of counts charged against the defendant.

¹⁰⁹ As explained in Part III.B, this Article uses a much stronger metric for crime severity, the pre-acceptance recommended sentence length. Although the number of charges is positively correlated with pre-acceptance recommended sentence length, a regression between these two variables produces an R^2 of only 0.0163.

c. Using OLS Regression on Sentence Length Rather than OLS Regression on Logged Sentence Length Creates Serious Statistical Problems

Abrams' use of OLS regression on sentence length rather than on logged sentence length, as is the current norm, raises significant statistical concerns.¹¹⁰

Most state court defendants receive sentences of less than a couple years. For such minor crimes, factors like gender, race, or plea deals will normally increase or decrease the final sentence by a few weeks or months. For more serious crimes that are punished by years of imprisonment, these same factors can increase or decrease final sentences by years. OLS regressions on final sentence length measure the *average* effect that factors like race, gender, or guilty pleas have on the final sentence. As a result, any measurement of the effects of such factors using an OLS regression on sentence length will be disproportionately influenced by how those factors play out among the more serious crimes.

Using OLS regression on sentence length, as Abrams does, is somewhat akin to measuring the effects of gender on workers' earnings using the average take home pay of everyone who works at a particular investment bank. If the CEO and top earners happened to be female, the average take home pay for women might be thousands of dollars more than for men, even if most of the female employees at the bank were systematically under paid.

OLS regression on logged sentence length, the current norm in sentencing studies, measures the effects of factors like race, gender, or plea deal not in months or years, but by their percentage effect on the final sentence.¹¹¹ As such, it greatly reduces the skewing effects of observations for crimes that usually receive long sentences.

d. Instrumental Variables: Judicial Tenure

Abrams attempts to account for the effects of unmeasured factors like crime severity by using judicial tenure as an

¹¹⁰ See, e.g., Ulmer et al., *supra* note 5, at 578 tbl.3 (applying this methodology); Albonetti, *supra* note 5, at 805 tbl.2 (same).

¹¹¹ See generally GREENE, *supra* note 104.

“instrument” to simulate full randomization of the sample.¹¹² Although this approach is innovative, as Abrams candidly reports, the results of his IV analysis are not statistically significant.¹¹³ Indeed, his IV findings are consistent with both a positive *and* a negative Abrams Trial Penalty. As such, his IV analysis cannot support his conclusion that there is a negative Abrams Trial Penalty.

e. The Average Non-Zero Sentence Length Is Not a Metric of Relevance to Criminal Law Debates

Finally, Abrams reports the average sentence defendants receive *excluding* all cases in which the defendant received a sentence of probation only, which he treats as the appropriate metric for comparing the severity of sentences the average defendant receives.¹¹⁴ Abrams explains that “previous literature has focused on a comparison of . . . sentences . . . conditional on their being nonzero.”¹¹⁵ Although Abrams is correct that many studies, including some by the United States Sentencing Commission, have reported non-zero average sentences,¹¹⁶ as explained in this subpart, this metric is largely irrelevant to criminal justice debates, and the reporting of these numbers can be highly misleading.

¹¹² See Abrams, JELS, *supra* note 8, at 213-18.

¹¹³ See *id.* at 217-18.

¹¹⁴ See *id.* at 208 tbl.1 (reporting only the average Abrams Trial Sentence and non-zero average sentences in his table, and relying on the non-zero sentences in the discussion of his findings).

¹¹⁵ *Id.* at 209.

¹¹⁶ See, e.g., SOURCEBOOK, *supra* note 3, tbl.5.25.2010 (reporting “length of imprisonment” excluding observations with zero months incarceration); U.S. SENTENCING COMM’N, 1992 ANNUAL REPORT tbl.20, at 60 (reporting trends in “average length of imprisonment” excluding sentences for probation only); King & Noble, *supra* note 28, at 331, 345 tbl.1 (analyzing sentencing patterns including sentences for nonincarceration and separately without nonincarceration sentences); Ruth D. Peterson & John Hagan, *Changing Conceptions of Race: Towards an Account of Anomalous Findings of Sentencing Research*, 49 AM. SOC. REV. 56, 60 (1984) (arguing that defendants sentenced to probation only were “selected out” of the process for deciding how much incarceration to impose); Jeffery T. Ulmer & Brian Johnson, *Sentencing in Context: A Multilevel Analysis*, 42 CRIMINOLOGY 137 (2004) (analyzing sentence length effects for state court defendants only for defendants who received incarceration).

Scholars generally turn to empirical sentencing studies when they want to learn how severely defendants are punished or whether one group of defendants receives harsher punishment than another. The average sentence defendants receive is a useful metric for making these determinations. If many defendants in a group receive sentences of probation or fines only, the average sentence will be low, indicating that those defendants received relatively lenient punishment. Removing all defendants who receive probation only¹¹⁷ from a sample, by reporting the average sentence length only for non-zero sentence observations, removes those defendants who received the most lenient punishment. This makes it difficult, if not impossible, to gauge how severely the average defendant is punished or whether and to what extent one group is punished more severely than another.

For example, imagine that the crime of first time possession of marijuana in a particular county is usually punished with probation only, and that the few who do receive jail time are usually sentenced to one week in county jail. The average incarceration sentence for this crime would likely be quite low, indicating that most defendants are punished very lightly. If certain minorities receive jail time more often for this crime, the average sentence for those minorities would be larger, indicating that they are punished more severely, and possibly unfairly. The non-zero average sentence, however, would be around one week for both groups, obscuring the fact that one group is punished more severely than the other or greatly underestimating the extent of the disparities.

Although Abrams is correct that many sentencing studies have reported their findings excluding nonzero sentences, no one has ever offered a convincing explanation for what relevance this metric has to the study of the criminal justice system. Rather, it appears that this curious metric crept into sentencing studies as the result of social science studies that inaccurately treat sentencing as a two stage process in which a judge first decides *whether* a defendant should receive any incarceration and then

¹¹⁷ This Article uses the phrase “probation only defendants” as shorthand to refer to all defendants who received sentences that did not include a term of incarceration, such as probation or fines only.

separately decides *how much* incarceration they should receive.¹¹⁸ These studies assume that defendants who received probation only in the first stage were never subjected to a sentence length determination. As such, we cannot know how much incarceration these defendants *would have* received *if* they had been subjected to the sentence length determination. Because sentence length information is unknown for probation only defendants, the average incarceration length should only be measured for defendants who received at least a day of incarceration.¹¹⁹ This analysis, however, is clearly incorrect. Rather than excluding some defendants from the sentence length determination, judges consider how much incarceration *all* defendants deserve and then decide that some defendants deserve punishments that include no incarceration. As explained above, excluding probation only cases eliminates those cases in which judges were the most lenient, creating a metric that does not accurately represent the sentences defendants actually receive for their crimes. This issue is discussed further in Part II.B.

Unfortunately, this habit of reporting non-zero average sentences has led some scholars to misinterpret the findings of sentencing studies or to use non-zero average sentences as support for arguments that depend on the *actual* average sentences.¹²⁰ Regardless of why scholars began reporting the average sentence excluding zero sentence observations, it is a misleading metric of little relevance to criminal justice debates.

Abrams cites the average non-zero trial and plea sentences in an attempt to acknowledge that the conventional average trial sentence is actually longer than the average plea sentence. The

¹¹⁸ See *infra* notes 150-51 and accompanying text.

¹¹⁹ See Peterson & Hagan, *supra* note 116, at 60.

¹²⁰ See, e.g., Frank O. Bowman, III & Michael Heise, *Quiet Rebellion II: An Empirical Analysis of Declining Federal Drug Sentences Including Data from the District Level*, 87 IOWA L. REV. 477, 479 & n.5 (2002) (arguing that U.S. Sentencing Commission data shows a 14.7 percent drop in average drug sentences but noting in a footnote that this figure includes only non-zero sentences and that this decline is smaller when all sentences are included); King & Noble, *supra* note 28, at 360 n.19 (explaining that variations in sentences determined by juries are more significant when non-zero sentences are excluded); Abrams, JELS, *supra* note 8, at 209 (using non-zero average sentences to argue that average sentences for trial defendants are longer than those for plea defendants). See generally Ulmer et al., *supra* note 5.

numbers he cites, however, are misleading with respect to the actual differences between trial and plea sentences.

4. Whether Plea Defendants Would Be Better Off Going to Trial

As explained above, the Abrams study is not designed to measure the traditional trial penalty. Rather, Abrams asks the much narrower question of whether the average defendant experiences rational incentives to plead guilty, i.e., whether there is an Abrams Trial Penalty. Abrams concludes that the average defendant in Chicago *does not* experience rational incentives to plead guilty, but would actually be better off going to trial. In reaching this conclusion, however, Abrams implicitly assumes that those defendants who pled guilty would have been acquitted at the same rate as those defendants who actually did go to trial. Because this assumption is almost certainly false, Abrams' study cannot support his conclusion that plea defendants would have been better off going to trial.

Under the basic rational actor model that Abrams applies, a defendant will be better off going to trial if the expected value of the sentence she expects to receive at trial is less than the plea offer she is given.

$$(6) \text{ (expected trial sentence) } * \text{ (expected odds of conviction) } < \text{ plea offer}^{121}$$

As Abrams notes, it would be impossible to directly measure any of these variables without an incredibly expensive, and likely unethical, controlled experiment.¹²² So, Abrams, like all empirical sentencing scholars, must make assumptions about the average value of each of these three variables in order to decide whether criminal defendants behave rationally.

Abrams first assumes: (1) that the trial sentences defendants expected to receive are the same as the actual trial sentences observed and (2) that the plea offers trial defendants turned down are the same as the plea deals that actually occurred. Virtually all

¹²¹ This inequality is essentially identical to the inequality in equations (2a) and (2b).

¹²² See Abrams, DUQ., *supra* note 8, at 782.

trial penalty studies make both of these assumptions, which are largely non-controversial.¹²³ However, Abrams implicitly makes an unusual third assumption (3), that the expected odds of conviction for defendants who plead guilty are the same as the observed odds of conviction for defendants who went to trial.¹²⁴ This last assumption is clearly false.

Many defendants who plead guilty do so because they know that they do not have any realistic chances of acquittal if they go to trial.¹²⁵ Conversely, some defendants may be more likely to insist on trial if they know they have better chances of acquittal or know they are innocent.¹²⁶ As such, it is quite possible that the average defendant who chose to go to trial had a significantly higher chance of acquittal, *ex ante*, than the average defendant who chose to plead guilty.

Abrams reports that fifty-four percent of defendants who went to trial in his data set were acquitted.¹²⁷ By assuming that defendants who pled guilty would have enjoyed the same chances for acquittal if they had gone to trial, Abrams concludes that “there appears to be a plea penalty,” and argues that defendants who plead guilty would generally be better off going to trial.¹²⁸

As noted in Part II.A.2.b, Alschuler argues that it is unlikely that fifty-four percent of trial defendants in Chicago are actually acquitted, and that the actual acquittal rate is probably closer to twenty to twenty-five percent.¹²⁹ However, even if the acquittal

¹²³ *But see* Kim, Plea, *supra* note 28, at 22 (arguing that the assumption that observed plea offers are representative of plea offers turned down by trial defendants is inaccurate and highly problematic for less serious crimes).

¹²⁴ By using the Abrams Trial Sentence (the average unconditional trial sentence) as his primary metric for the trial penalty, his study implicitly assumes that the expected odds of conviction for defendants who plead guilty is similar to the observed odds of conviction for defendants who went to trial.

¹²⁵ *See* Kim, Plea, *supra* note 28, at 35 (arguing that the vast majority of federal defendants plead guilty because they have very little chance of acquittal at trial).

¹²⁶ *Cf.* Scott & Stuntz, *supra* note 1, at 1943, 1961 (noting that innocent defendants may have moral incentives to insist on trial, but observing that the conventional rational actor model of plea bargaining predicts that prosecutors will offer all defendants discounts at least as large as their odds of acquittal to give all defendants rational incentives to plead guilty).

¹²⁷ *See* Abrams, JELS, *supra* note 8, at 208 tbl.1; Abrams, DUQ., *supra* note 8, at 781.

¹²⁸ Abrams, DUQ., *supra* note 8, at 785.

¹²⁹ *See* Alschuler, Lafler, *supra* note 9, at 690.

rate for trial defendants is actually as high as Abrams claims, as discussed above, it is unlikely that the average plea defendant would have fared as well if she had dared to risk trial. Indeed, it is fair to assume that many defendants, such as those caught with illegal drugs physically on their person, would have had no realistic chance for acquittal. Rather than systematically giving bad advice, it is quite possible that defense attorneys are accurately advising their clients who have little chance of acquittal that they would not do as well at trial as the average trial defendant and that those clients then rationally choose to plead guilty.

B. Prior Studies of the Federal Trial Penalty

Prior studies of the federal trial penalty generally use a standard methodology, OLS regression on logged sentence length to measure the average penalty defendants pay for insisting on trial. Applying this methodology, these studies report findings that reveal trial penalties ranging from three percent to fifteen percent of the average plea sentence, with some reporting no statistically significant increase for going to trial.¹³⁰ Even the largest trial penalties found by these studies would not be large enough to support the concerns about coercion and innocence many use to criticize plea bargaining. Indeed, in light of the average federal trial acquittal rate of twelve percent, these findings might suggest that defendants who go to trial are not “penalized” at all, in the rational actor sense of that word, and would be better off taking their chances at trial.¹³¹ If accurate, they would also raise major questions about why only three percent of defendants are willing to risk trial in the face of such a paltry increase in penalty if convicted. These studies, however, greatly underestimate the actual trial penalty.

¹³⁰ See, e.g., Ulmer et al., *supra* note 5, at 575 (finding that the average trial penalty for 2000-02 is fifteen percent); Albonetti, *supra* note 5, at 805 tbl.2 (reporting regression coefficients that correspond to trial penalties of six to fourteen percent for black and white males charged with federal drug trafficking crimes between 1991-92); BOOKER, *supra* note 5, at B22-B39.

¹³¹ See *supra* Part I.B.1 (explaining that from law and economics perspectives, defendants are only “penalized” for going to trial if they are forced to turn down a discount that is larger, in percentage terms, than their odds of acquittal).

A closer look reveals that the trial penalty measurements in prior federal studies do not include the effects of the statutorily imposed trial penalty, known as “acceptance of responsibility.”¹³² Under the federal guidelines, a defendant is entitled to a two or three level reduction to her recommended sentence if she “accepts responsibility” by pleading guilty.¹³³ Remorse is not required to receive this discount, only the act of pleading guilty and admitting to the relevant criminal conduct.¹³⁴ In practice, the acceptance of responsibility discount is applied in ninety-seven percent of guilty pleas and only three percent of jury trial convictions,¹³⁵ most of which involve unusual procedural circumstances,¹³⁶ and so operates as the functional equivalent of a statutory trial penalty.¹³⁷ Because practitioners widely assume that acceptance of responsibility *alone* produces a twenty-five to thirty-five percent reduction to final sentences for defendants who plead guilty,¹³⁸ prior studies’ findings of only three to fifteen percent trial penalties are clearly suspect.¹³⁹

¹³² See, e.g., Ulmer et al., *supra* note 5, at 573; BOOKER, *supra* note 5, at B24-B27; Albonetti, *supra* note 5, at 790.

¹³³ See USSG, *supra* note 15, § 3E1.1, at 371.

¹³⁴ Cf. *id.* § 3E1.1 cmt. 1(A) (emphasizing the actions of the defendant in pleading guilty and admitting all relevant conduct while making no mention of subjective state of mind or expressions of remorse).

¹³⁵ See *supra* note 7; BOOKER, *supra* note 5, at B23 n.377.

¹³⁶ The comments to the U.S. Sentencing Guidelines § 3E1.1, Acceptance of Responsibility, specify that “[t]his adjustment is not intended to apply to a defendant who puts the government to its burden of proof at trial . . . and only then admits guilt and expresses remorse. . . . [However, it may be granted in] rare situations . . . for example, where a defendant goes to trial . . . to make a constitutional challenge to a statute . . .” USSG, *supra* note 15, § 3E1.1 cmt. 2, at 372.

¹³⁷ Cf. O’Hear, *supra* note 16, at 1537 (stating that Section 3E1.1 is “a more-or-less automatic plea discount”).

¹³⁸ This figure, commonly cited, was guesstimated by the Department of Justice by comparing the change in maximum/minimum recommended sentences when moving two to three points in the sentencing guidelines table. See O’Sullivan, *supra* note 17, at 1415 & n.274 (citing DOJ memos for the figure).

¹³⁹ See, e.g., Ulmer et al., *supra* note 5, at 575 (finding that the trial penalty is fifteen percent in federal court); Albonetti, *supra* note 5, at 805 tbl.2 (findings that correspond to trial penalties of six to fourteen percent for black and white males charged with federal drug trafficking crimes); BOOKER, *supra* note 5, at B28-B31 (reporting that the decision to go to trial does not have a significant effect on sentences in the post-Booker period and increases sentences only eleven percent after the PROTECT Act). The regression coefficients reported for the post-Booker period reveals a three percent trial penalty that is statistically insignificant.

The reason prior studies fail to account for acceptance of responsibility likely has to do with a coding issue with the data the United States Sentencing Commission provides. Measuring the trial penalty requires researchers to compare the average plea sentence with the average trial sentence for crimes that are similarly severe.¹⁴⁰ Prior studies use the Federal Sentencing Guidelines final recommended sentence as a metric to control for the severity of crimes, assuming that defendants with the same recommended sentence committed crimes that are similarly severe. A problem arises, however, because this final recommended sentence *already includes* the acceptance of responsibility discount for defendants who plead guilty. As such, where the severity of crimes for trial defendants is measured by the recommended sentence they received after trial, the severity of crimes for defendants who plead is measured by the recommended sentence they would have received if convicted at trial, *reduced by* the statutory discount they received for pleading guilty. Because of this, the final recommended sentence underestimates the severity of crimes for defendants who plead guilty compared with those of defendants convicted at trial.

In less technical terms, using the final recommended sentence as a metric for crime severity could be analogized to comparing the skill of professional golfers with amateur golfers using the raw scores of professional golfers and the handicapped scores of amateur golfers. In golf, players attempt to hit a ball into a hole with the fewest strokes possible. A player's "handicap" is the difference between the golfer's average number of strokes from previous rounds of golf and the "par" score for the course, usually seventy-two.¹⁴¹ Final scores for amateur golfers are calculated by subtracting each golfer's handicap from the actual number of strokes she hit on the course. This system of handicapping ensures that the final score for all players will be around seventy-two regardless of skill, making it more fun for players of different skill levels to compete with each other in friendly games. Final

¹⁴⁰ See, e.g., King et al., *supra* note 79, at 971-72 (discussing the importance of controlling for case severity).

¹⁴¹ This is a greatly simplified description of golf and golf scoring systems. For more detail, see U.S. GOLF ASS'N, HANDICAP MANUAL (2012-15), *available at* <http://usga.org/Rule-Books/Handicap-System-Manual/Handicap-Manual/>.

scores for professional golfers, on the other hand, are simply the number of strokes each golfer took on the course that day. Tour professional golfers average scores of five under par,¹⁴² while amateur golfers tend to shoot and have an average handicap of fourteen over par.¹⁴³ Comparing professional golfers' scores with amateur final scores would suggest that the professionals are better, by about five strokes, because amateur final scores are handicapped to be around par. Such a comparison, however, would greatly underestimate the extent to which professional golfers' skill exceeds that of amateurs. To accurately compare the skill of amateur and professional golfers, one would need to compare not the final scores players report, but the unadjusted, raw number of strokes each golfer *actually* hit. Doing so reveals that professional golfers are around nineteen strokes better than their amateur counterparts.

Similarly, accurately measuring the trial penalty requires comparing defendants based not on final recommended sentences, which have already been adjusted for acceptance of responsibility, but based on the "raw" recommended sentence, prior to the acceptance of responsibility discount. Although some studies attempt to "control" for acceptance of responsibility by including a dummy variable for whether the defendant received the discount, this approach misunderstands the nature of the problem.¹⁴⁴ Moreover, by including a major covariate of the decision to plead guilty, this approach causes studies to further underestimate the magnitude of the trial penalty. Although the USSC does not include the pre-acceptance of responsibility recommended sentence in its data, as explained in Part III, this metric can be accurately produced by modifying the available data with an algorithm based on the Guidelines Sentencing Table.

¹⁴² See John Strege, *Yes, Some Tour Pros Have Handicaps (Phil's Is +5.2)*, GOLF DIG. (June 5, 2013), <http://www.golfdigest.com/blogs/the-loop/2013/06/yes-some-tour-pros-have-a-handicap-phil-is-52.html> (showing that most tour professional golfers have a handicap index of around five under par).

¹⁴³ See *How Do You Stack Up?: You Might Be a Better Golfer Than You Think*, GOLF DIG. (Apr. 2014), <http://www.golfdigest.com/magazine/2014-04/comparing-your-handicap-index> (stating that the average handicap for golfers who maintain official handicaps is 14.3 for men and 26.5 for women).

¹⁴⁴ See, e.g., Albonetti, *supra* note 5, at 796 (including acceptance of responsibility as a separate dummy variable in the regression).

Prior studies also underestimate the trial penalty by treating factors that are often the *result* of plea bargains, such as downward departures from the recommended sentence, as *independent* of the decision to plead guilty.¹⁴⁵ To apply another sports metaphor, imagine if a researcher wanted to compare race car drivers' innate abilities independent of factors like who has a better engineered car or better pit crew. Lacking an independent metric for how good each car or pit crew is, the researcher might be tempted to apply a handicap metric for the total amount of money invested into each car or pit crew, under the assumption that part of the performance for drivers with more money is due to their unfair advantages. The problem with this approach, of course, is that the best car drivers often receive better financial support *because* they are faster and more popular drivers.¹⁴⁶ Although better pit crews or cars may increase the performance of the best drivers, a researcher who treated such factors as *independent* of the driver's skill would risk *underestimating* how much better such drivers actually are.

In statistical terms, factors like downward departures and more expensive pit crews are called "covariates" of decision to plead guilty or driver's skill. Including significant covariates of a variable like the effects of pleading guilty will generally cause a regression to underestimate the true value of that variable.¹⁴⁷

¹⁴⁵ See, e.g., Ulmer et al., *supra* note 5, at 576 tbl.2 (including potential covariates of the guilty plea variable including downward departures, upward departures, pretrial detention, case filings per judge, and trials per judge); BOOKER, *supra* note 5, at B24, B26 (including upward departures and downward departures). Similar problems arise with the inclusion of factors like judicial workload and pretrial detention, which some researchers believe cause judges to encourage defendants to plead guilty. See Wright, *supra* note 4, at 117 (finding that heavier judicial workload increases guilty plea rate); Spohn, *supra* note 49, at 893 (finding that pretrial detention increases the likelihood that a defendant will plead guilty).

¹⁴⁶ See Don Coble, *Pit Road to Money Pit: Costs to Field a NASCAR Team Are Staggering*, FLA. TIMES-UNION (Feb. 16, 2012, 1:22 AM), <http://jacksonville.com/sports/racing/2012-02-16/story/pit-road-money-pit-costs-field-nascar-team-are-staggering> (noting that last place NASCAR teams have significantly smaller budgets than the premier teams).

¹⁴⁷ See generally GREENE, *supra* note 104. As with the NASCAR analogy, leaving out variables that might indicate that a particular defendant's crime was more or less serious risks over or underestimating the measured value of the remaining variables. As with any studies that involve large numbers of covariates, decisions about which variables to include or exclude in the regression model often depend on precisely what the researcher is attempting to measure and the significance of the different variables.

Because prior studies include significant covariates of the guilty plea variable, their findings of three to fifteen percent trial penalties greatly underestimate the price defendants actually pay to go to trial.¹⁴⁸

Finally, some studies exclude all defendants who receive probation only, zero incarceration, from their measurements of the trial penalty.¹⁴⁹ In plea bargaining, defendants negotiate with prosecutors to obtain as large a discount as the prosecutor will agree to. The largest sentence discount defendants can receive is 100 percent, so that they receive no incarceration. Excluding all defendants who receive zero incarceration, therefore, removes defendants who receive the largest discounts from the sample,

See generally S. Stanley Young & Alan Karr, *Deming, Data and Observational Studies: A Process Out of Control and Needing Fixing*, SIGNIFICANCE, Sept. 2011, at 116, 118-19, available at <http://www.niss.org/sites/default/files/Young%20Karr%20Obs%20Study%20Problem.pdf> (discussing problems of model selection in medical research studies).

¹⁴⁸ *See, e.g.*, Ulmer et al., *supra* note 5, at 575 (finding that the trial penalty is fifteen percent in federal court); Albonetti, *supra* note 5, at 805 tbl.2 (findings that correspond to trial penalties of six to fourteen percent for black and white males charged with federal drug trafficking crimes); BOOKER, *supra* note 5, at B28-B31 (reporting that the decision to go to trial does not have a significant effect on sentences in the post-Booker period and increases sentences only eleven percent after the PROTECT Act). The regression coefficients reported for the post-Booker period reveals a three percent trial penalty that is statistically insignificant.

¹⁴⁹ *See, e.g.*, Ulmer et al., *supra* note 5, at 570 n.5 (acknowledging that its methodology, which excludes defendants who receive no incarceration, “risk[s] the introduction of selection bias”); *see also* King et al., *supra* note 79, at 972 (excluding zero sentence observations but applying Tobit regressions to address this perceived problem of censored observations); Darrell Steffensmeier & Stephen Demuth, *Ethnicity and Judges’ Sentencing Decisions: Hispanic-Black-White Comparisons*, 39 CRIMINOLOGY 145, 158 (2001) (excluding zero sentence observations but using a correction factor); Peterson & Hagan, *supra* note 116, at 60 (one of the first articles to argue that zero sentence length observations are “selected out” of incarceration length determinations); Albonetti, *supra* note 5, at 799 (applying Tobit regressions to address this perceived problem). *See generally* Shawn Bushway, Brian D. Johnson & Lee Ann Slocum, *Is the Magic Still There? The Use of the Heckman Two-Step Correction for Selection Bias in Criminology*, 23 J. QUANTITATIVE CRIMINOLOGY 151, 152 (2007) (citing sentencing studies that use the Heckman two-step correction factor to address this perceived problem). Applying the Heckman two-step correction factor or using Tobit regressions can help reduce the selection bias caused by excluding zero incarceration observations. Because these methods incorrectly treat such observations as “censored,” however, this methodology introduces unnecessary noise into the regressions and risks introducing bias into their measurements. *See* Andrew Chongseh Kim, *A Conceptual and Statistical Critique of the Canonical Methodology for Sentencing Studies* 10 (Apr. 23, 2010) [hereinafter Kim, Conceptual] (unpublished manuscript) (on file with author).

causing these studies to greatly underestimate the average discount defendants *actually* receive.

Scholars who exclude defendants who receive probation only argue that sentencing should be thought of as a two stage process in which judges first decide *whether* the defendant should serve any incarceration and then, for defendants selected for incarceration, *how much* incarceration they should receive.¹⁵⁰ Defendants who receive probation only in the first step are “selected out” so that they are never subjected to a determination of how much incarceration is appropriate. As such, we cannot know how much incarceration these defendants would have received if they *had been* selected for incarceration. The true incarceration amount for probation only defendants, these scholars argue, is unknown and “censored” so that including these defendants would risk a selection bias.¹⁵¹

Social scientists have applied advanced statistical methods to solve this perceived problem of censoring.¹⁵² The problem, however, is conceptual, rather than statistical. The analysis these scholars apply misunderstands how sentencing decisions actually work. Judges do not exclude probation only defendants from the decision of how much incarceration to give. Rather, judges consider how much incarceration all defendants deserve and then decide that some defendants deserve punishments that include no incarceration. Similarly, the amount of incarceration probation only defendants would have received is not unknown or “censored” from the data. The amount of incarceration probation only defendants “would have” received is known, and it is, quite simply, zero. By misinterpreting the nature of judicial sentencing and excluding defendants who receive the most lenient sentences, this methodology *creates*, rather than solves, a major selection bias

¹⁵⁰ See Peterson & Hagan, *supra* note 116, at 60 (one of the first articles to argue that zero sentence length observations are “selected out” of incarceration length determinations).

¹⁵¹ *Id.*

¹⁵² See *generally* Bushway et al., *supra* note 149 (weighing the relative merits of different statistical methods, including the Heckman two-step correction factor and Tobit regressions, to address this perceived problem).

that causes these studies to heavily underestimate the actual value of the trial penalty.¹⁵³

III. MEASURING THE TRIAL PENALTY IN FEDERAL COURT

A. Data and General Methodology

This study follows the general methodology used in most other sentencing studies by applying OLS regressions on the logged sentence length to measure the trial penalty as a percentage of plea sentence length.¹⁵⁴ This study also follows the

¹⁵³ It appears that the tradition of treating zero sentence observations as the product of selection bias began with a seminal paper by Ruth D. Peterson and John Hagan written shortly after James Heckman developed his two-step method for correcting for selection bias. *See generally* Peterson & Hagan, *supra* note 116. *See also* Bushway et al., *supra* note 149, at 152 (crediting Hagan and his colleagues with “demonstrat[ing] the prominence of selection effects” in criminal sentencing and tracing their work to Heckman’s Nobel prize winning research). Social scientists likely find the censoring argument persuasive in part because distributions of criminal sentences generally look quite similar to that of data that actually is censored: a largely log normal distribution that cuts off abruptly at zero and has a big spike at zero. For scholars with advanced training in statistics, this large spike may look like a bunching of observations whose actual values are unknown because they are censored. In fact, however, this large number of zero observations, which may look unusual from a statistical perspective, is simply indicative of the fact that judges in America often sentence defendants to varying lengths of probation, fines, or community service with no incarceration. *See* Kim, Conceptual, *supra* note 149, at 11.

¹⁵⁴ *See, e.g.*, King et al., *supra* note 79, at 972 (studying the trial penalty in Pennsylvania, Minnesota, Washington, Maryland, and Kansas). Unlike the King study, which excludes all observations with sentence length of zero, this study retains those observations to avoid a major selection bias. *See id.* (excluding non-incarceration observations). Including these zero sentence observations, however, requires transforming the data by adding “1” to each observation to avoid the mathematical impossibility of taking the log of zero. *See* Deng, *Log(x+1) Data Transformation*, ON BIOSTATISTICS & CLINICAL TRIALS (May 20, 2012, 7:10 PM), <http://onbiostatistics.blogspot.com/2012/05/logx1-data-transformation.html> (discussing the benefits and challenges of the “log(x+1)” transformation in the context of bio-statistics). Doing so transforms the data into a mathematically usable data set without significantly altering the distribution of the data. Some studies have chosen to add a number smaller than “1,” such as 0.1 to each observation, apparently in an attempt to reduce the amount of distortion caused by this transformation. *See, e.g.*, BOOKER, *supra* note 5, at B24-B25 (adding 0.1 months to the value of all sentence length observations of zero months); Ulmer et al., *supra* note 5, at 571 n.8 (adding 0.5 months to each recommended sentence of sentence length “0”). This approach, however, ignores the peculiar nature of the logarithmic function. Adding “1” to each observation and taking the log transforms ten-year observations to 2.083, one-year observations to 1.114, one-month observations to 0.301, and zero observations to 0. Adding “0.1” to each

general methodology by using a logit regression to measure the difference in the likelihood of receiving a sentence of zero incarceration.¹⁵⁵

This study used data from the United States Sentencing Commission on all federal criminal convictions, 221,928 cases, for 2006–08.¹⁵⁶ The database included 207,352 observations with sufficiently complete data to perform the necessary regressions. Each regression includes a number of demographic variables such as race, gender, and age¹⁵⁷ as well as dummy variables for type of conviction, (guilty plea/jury trial),¹⁵⁸ whether the defendant provided “substantial assistance” in helping secure convictions of other defendants, and whether mandatory drug minimums were waived as a result of “safety valve” provisions.¹⁵⁹

observation, however, transforms the log of ten-year observations to 2.080, one-year observations to 1.081, one-month observations to 0.041, and zero observations to -1.000. Rather than reducing the distortions caused by adding “1” to each observation, adding a smaller number, “0.1,” greatly alters the distribution of the sample and produces results that are highly unreliable. *See* Kim, Conceptual, *supra* note 149, at 8 n.56.

¹⁵⁵ *See, e.g.*, King et al., *supra* note 79, at 972 (analyzing the decision to incarcerate separately from length of sentence and citing other studies using similar methodology). *But see* Kim, Plea, *supra* note 28, at 23 (arguing that a selection bias in which defendants go to trial makes “odds of incarceration” an unreliable metric for measuring the trial penalty).

¹⁵⁶ *See generally supra* note 7. These years were chosen as the most recent available after *United States v. Booker* made the guidelines discretionary for sentencing judges. 543 U.S. 220 (2005). *Booker* was decided on January 12, 2005. The 2006 data includes all federal cases sentenced between October 1, 2005, and September 30, 2006, that were assessed to be constitutional. *See supra* note 7.

¹⁵⁷ *See* BOOKER, *supra* note 5, at B31, B37-B38 (providing the gender, race, citizenship, education level, and age of the defendant at the time of the crime).

¹⁵⁸ Bench trials were not examined as only 130 bench trial convictions occurred in the sample.

¹⁵⁹ This study also included another variable, the “criminal history range,” to better account for the differences among defendants within the same criminal history category. Some studies include a defendant’s criminal history score as a separate explanatory in addition to the recommended sentence. *See, e.g.*, Ulmer et al., *supra* note 5, at 571. Because the criminal history category is used to calculate the recommended sentence, however, doing so violates the regression assumption of the independence of dependent variables and could skew the results. Criminal history categories, however, group defendants with different levels of recidivism. For example, category I includes defendants with “0” or “1” criminal history points and category VI includes defendants with as few as “13” points and as many as “94” in the 2006-2008 data. In order to help differentiate these different levels of criminality, I created the “criminal history range” variable, which is equal to the number of criminal history points a defendant received in excess of the minimum number required to qualify for

B. Controlling for Cases of Similar Severity: Federal Sentencing Guidelines and Acceptance of Responsibility

Accurately measuring the plea discount requires comparing sentences for convictions obtained through trial with sentences given through guilty pleas for crimes that are similarly severe. Some scholars have used the difference between average trial sentences and average guilty plea sentences as a rough proxy for the plea discount.¹⁶⁰ However, because there are often systematic differences in the severity of the crimes for those who go to trial and those that plead guilty,¹⁶¹ this metric can be highly misleading as to the actual magnitude of the plea discount.¹⁶²

For example, between 2006 and 2008, the average trial sentence for simple possession was forty-two months, while the average guilty plea sentence was fifty-seven months.¹⁶³ If we treated the raw difference between the average sentence lengths as the measure of the trial penalty, we would have to conclude that defendants in these cases receive shorter sentences when convicted at trial, so that only a remarkably foolish defendant would ever plead guilty. Controlling for case severity, however, reveals that federal defendants convicted at trial for simple possession actually receive sentences that are forty-one percent *longer* than those for similar plea defendants who commit similarly severe crimes.¹⁶⁴

the criminal history category he was placed in. Because this variable does not determine or correlate with the recommended sentence length, its inclusion does not raise problems of auto correlation. *See generally* GREENE, *supra* note 104, at 220-21.

¹⁶⁰ *See, e.g.,* Wright, *supra* note 4, at 143-44 & n.204 (using the average plea/trial sentence differential in combination with the difference between the proportion of sentences in which a prison term was imposed in plea/trial cases as a proxy for trial penalty, although Wright acknowledges the problems with this trial penalty metric and includes a variable for offense severity in his regression to reduce these problems); Langer, *supra* note 40, at 229 n.15 (using this differential to demonstrate the problem of the trial penalty but drawing attention to the fact that it may not accurately represent the actual trial penalty).

¹⁶¹ *Cf.* King et al., *supra* note 79, at 971-72 (discussing the importance of controlling for case severity).

¹⁶² *See generally* Langer, *supra* note 40, at 229 n.15 (suggesting reasons that the average trial sentence may be higher than the average plea sentence other than trial penalties).

¹⁶³ *See supra* note 7.

¹⁶⁴ The regression coefficient for jury trials is 0.343 for simple drug possession cases, which translates to a trial penalty of forty-one percent.

This study follows most federal sentencing studies by using the Federal Sentencing Guidelines recommended sentence as a proxy for the severity of the crimes.¹⁶⁵ The Federal Sentencing Guidelines are “the most detailed guidelines ever developed.”¹⁶⁶ Under the guidelines, the charging statute for the crime provides a “base offense level” that is adjusted up or down by a specific amount based on a broad range of aggravating and mitigating factors involved in the crime. The final offense level combined with a defendant’s criminal history provides a recommended sentence range. The recommended sentence range thus provides a categorical metric for the legal severity of each case that accounts for a large number of factors that influence the objective severity of the crimes.¹⁶⁷

One complication that arises from using the federal guidelines recommended sentence as a proxy for severity of crimes is the “acceptance of responsibility” discount. Under the federal guidelines, a defendant is entitled to a two or three level reduction in her recommended sentence if she “accepts responsibility” by pleading guilty.¹⁶⁸ Remorse is not required to receive this discount, only the act of pleading guilty and admitting to the relevant criminal conduct.¹⁶⁹

Virtually all federal sentencing studies have used the final recommended sentence length or the final offense level as a proxy for case severity.¹⁷⁰ However, as explained in Part II.B, these final sentence recommendations *already include* any acceptance of responsibility discount the defendant received. Under the standard methodology, a particular defendant who was convicted at trial for some crime is coded as having committed a *more* serious crime than an identical defendant who committed the

¹⁶⁵ See, e.g., Ulmer et al., *supra* note 5, at 571 (using guidelines recommended minimum sentence as proxy for crime severity); see also Max M. Schanzenbach & Emerson H. Tiller, *Strategic Judging Under the U.S. Sentencing Guidelines: Positive Political Theory and Evidence*, 23 J.L. ECON. & ORG. 24 (2007) (using final offense level as a proxy for crime severity).

¹⁶⁶ See Paul J. Hofer, Kevin R. Blackwell & R. Barry Ruback, *The Effect of the Federal Sentencing Guidelines on Interjudge Sentencing Disparity*, 90 J. CRIM. L. & CRIMINOLOGY 239, 239-40 (1999).

¹⁶⁷ See Schanzenbach & Tiller, *supra* note 165.

¹⁶⁸ See USSG, *supra* note 15, § 3E1.1, at 371.

¹⁶⁹ Cf. *id.* § 3E1.1 cmt.

¹⁷⁰ See, e.g., Ulmer et al., *supra* note 5; Albonetti, *supra* note 5.

exact same crime but pled guilty. Rather than comparing plea sentences with trial sentences for similarly serious crimes, the canonical methodology compares the plea sentences with trial sentences given for *less severe* crimes.

For example, consider two identical defendants who committed identical crimes, but one was convicted at trial and the other pled guilty. While the final recommended sentence for the defendant convicted at trial is twenty-four months,¹⁷¹ the recommended sentence for the defendant who pled guilty, after a three point acceptance of responsibility discount, would be only fifteen months.¹⁷² Imagine then, that they were sentenced by the same judge to their minimum recommended sentence, twenty-four months and fifteen months. Under the standard methodology, which uses the final recommended sentence as its metric for crime severity, it would appear that the plea defendant committed a much less serious crime and, appropriately, received a much lighter sentence. Using the *pre-acceptance of responsibility* recommended sentence to measure crime severity, however, reveals that the crimes of both defendants are equally serious, but that the defendant who pled guilty received a much shorter sentence solely *because* she pled guilty. Because the standard methodology fails to properly account for acceptance of responsibility, it greatly underestimates the magnitude of the trial penalty.

Similar issues arise with measurements of the effects of the federal “safety valve” provision. The federal safety valve waives mandatory minimums and reduces the offense level for certain nonviolent drug offenses for certain defendants with minimal criminal history. It is mandatory for defendants regardless of whether they plead guilty or insist on trial.¹⁷³ The standard methodology, however, ignores the safety valve offense level reductions in the same way it ignores acceptance of responsibility.

¹⁷¹ See USSG, *supra* note 15, at 400. Minimum recommended sentence for a first time offender who committed a crime of offense level 17 is twenty-four months.

¹⁷² See *id.* With a three point acceptance of responsibility reduction, this offender’s offense level would drop to offense level 14, with a minimum recommended sentence of fifteen months.

¹⁷³ See 18 U.S.C. 3553(f) (2012) (providing that the safety valve is automatically applied so long as the defendant provides the government with complete information about the convicted offense and related conduct by the time of sentencing).

As a result, at least one prior study has reported that the safety valve reduces sentences for men by only around nine percent and has *no* significant effect for women.¹⁷⁴ As this study demonstrates, this important statutory provision actually produces an average twenty-eight percent reduction to final sentences.

In order to measure the entire value of the federal trial penalty and accurately measure the effects of the safety valve, this study uses the recommended sentence length *prior to* any acceptance of responsibility or safety valve reductions as its crime severity metric and includes the “safety valve” as a separate explanatory variable. Creating this new metric requires a few hundred lines of code to “add back” the acceptance of responsibility and safety valve deductions to accurately represent the severity of the crimes committed in each case. In the future, it would be best for the USSC to include this crucial metric in any data sets to avoid any inconsistencies between researchers in making these data corrections.

IV. FINDINGS

A. Race, Gender, Guilty Pleas, and Sentence Length

This study analyzes the data with two models. Model I largely replicates the standard model by ignoring the effects of acceptance of responsibility and the safety valve but leaves out significant covariates of the trial penalty included in prior studies.¹⁷⁵ Unlike some prior studies that exclude defendants who receive probation only, Model I includes those defendants to avoid a major selection bias.¹⁷⁶ Model II is the primary model used in

¹⁷⁴ See Celesta A. Albonetti, *The Joint Conditioning Effect of Defendant's Gender and Ethnicity on Length of Imprisonment Under the Federal Sentencing Guidelines for Drug Trafficking/Manufacturing Offenders*, 6 J. GENDER RACE & JUST. 39, 54 (2002) (reporting that “receiving a safety valve adjustment significantly decreases the length of imprisonment only for male defendants” and is insignificant for women). The regression coefficients reported by Albonetti translate to a nine percent effect on final sentence for men.

¹⁷⁵ Although Model I is very similar to the Ulmer model, it differs from the Ulmer model by excluding covariates of the decision to plead guilty such as recommendations for downward departures. As discussed above, inclusion of such factors produces misleading measurements of the trial penalty.

¹⁷⁶ See *supra* Parts II.B & III.B.

this study, which accounts for acceptance of responsibility and safety valve. The results of this study are provided in the traditional technical format in Table 2 and in a more readable format in Table 3.

All of the explanatory variables are statistically significant in both models. Women receive sentences twenty-eight percent shorter than men. African Americans and Hispanics receive sentences fifteen percent and four percent longer than Caucasians, respectively. Non-citizens receive sentences seventeen percent longer than American citizens. Younger and less educated defendants receive significantly longer sentences. Defendants who provide “substantial assistance” in helping authorities convict their associates receive additional sentence reductions of fifty percent. The magnitude of these effects are similar under Model I and Model II. The measurements for trial penalty and safety valve, however, are dramatically different between the two models.

Model I largely follows the conventional methodology and measures the trial penalty at twenty-eight percent, ignoring the effects of acceptance of responsibility. This measurement is somewhat larger than the three to fifteen percent numbers reported in prior studies, likely because Model I does not include factors, like recommendations for downward departures, that are endogenous to or covariates of the decision to plead guilty and includes defendants who receive probation only.¹⁷⁷ Model II, on which this study’s findings are based, shows that defendants convicted at trial receive sentences that are sixty-four percent longer, on average, than similar defendants who plead guilty to similar crimes, a figure several times larger than reported in prior studies.

B. Race, Gender, Guilty Pleas, and Likelihood of Incarceration

Table 4 shows the probabilistic effect each variable has on the odds of receiving a term of incarceration rather than probation only. An odds ratio higher than 1 increases the odds of receiving a term of incarceration only while an odds ratio lower than 1 increases the odds of receiving probation only.

¹⁷⁷ See *supra* Parts II.B & III.B.

Holding everything else constant, being female doubles a defendant's odds of receiving a sentence of probation only. Older and more educated defendants also have better chances of avoiding prison. Being black or Hispanic, however, increases the odds of going to prison. Being a noncitizen dramatically increases the likelihood of a sentence of incarceration.¹⁷⁸ As one would expect, providing "substantial assistance" to authorities by turning on one's associates significantly increases a defendant's chances of avoiding prison.

Defendants who go to trial have a much greater chance of receiving a sentence of incarceration than those who plead guilty. Model II shows that these effects are much more pronounced than the conventional model would suggest.¹⁷⁹ For the safety valve, Model I measures the odds ratio at 1.18, suggesting that application of this statute designed to grant relief to minor drug offenders actually *increases* the chances of imprisonment. Model II, however, reveals that this counterintuitive result is the product of the methodological issues identified in Part III.B, and that the safety valve does decrease the odds of incarceration.

C. Rational Federal Trial Defendants Would Have Been Better Off Pleading Guilty

Under the classic economic model, rational defendants will be better off pleading guilty if they are offered a percentage discount that is larger than their chances for acquittal.¹⁸⁰

(2b) percentage plea discount > odds of acquittal

As explained in Part II, Abrams reaches his conclusion that plea defendants should insist on trial by falsely assuming that plea defendants would have had the same odds of acquittal as those who actually go to trial. Because Abrams' data cannot speak

¹⁷⁸ Indeed, in the federal sample, where fifteen percent of citizens received a sentence of probation only, only 4.3 percent of non-citizens avoided incarceration.

¹⁷⁹ Although this study follows prior studies in reporting the likelihood ratio for the trial versus plea variable, as this author argues in a forthcoming piece, a significant selection effect renders the odds of incarceration an unreliable and misleading metric for the trial penalty. See Kim, Plea, *supra* note 28, at 23.

¹⁸⁰ See *supra* Parts I.B.1 & II.A.

to plea defendants' ex ante chances for acquittal, it cannot support his conclusion.

It *is* possible, however, to use this study's findings to prove the converse of Abrams' proposition: those federal defendants who actually went to trial would generally have been better off pleading guilty. As such, this study demonstrates that most federal defendants' decisions to go to trial is irrational. Moreover, by making the modest assumption that most plea defendants had worse ex ante odds of acquittal than those who decided to go to trial, it can be shown that extremely few federal defendants could ever rationally choose to exercise their right to trial.

As shown in equation (2b), rational actors will go to trial if and only if offered a "plea discount" that is smaller, in percentage terms, than the defendant's chances for acquittal. Although the terms "trial penalty" and "plea discount" refer to the same difference between plea and trial sentences, the mathematical definitions differ slightly in this context.

$$(7) \text{ percent plea discount} = \text{percent trial penalty} \div (1 + \text{percent trial penalty})$$

Assuming perfect information, the average expected chances of acquittal for federal defendants who went to trial will simply be the average acquittal rate for those defendants, twelve percent. As shown above, the average trial penalty in federal courts is sixty-four percent, which translates to a plea discount of thirty-nine percent. Although a twelve percent chance at acquittal is valuable, for rational defendants, a thirty-nine percent plea discount would be worth over three times as much! Table 5 presents the trial acquittal rate, plea discount and trial penalty by offense type. Although there is considerable variation by type of crime, the trial acquittal rate is significantly smaller than the plea discount for all offense types. In other words, for all types of crimes, the average federal defendants who went to trial would have been much better off pleading guilty, even after accounting for their chances for acquittal.¹⁸¹

¹⁸¹ The conclusion that trial defendants would be rationally better off pleading guilty holds true even if we assumed that prosecutors refused to negotiate with trial defendants at all, so that trial defendants actually received worse plea offers than most. This is because trial defendants would still have been entitled to the twenty-five

Moreover, many defendants who plead guilty do so because they know that they do not have any realistic chances of acquittal at trial.¹⁸² Conversely, it is possible that defendants who know they have better chances for acquittal are more likely to insist on going to trial.¹⁸³ As such, it may be reasonable to assume that the average odds of acquittal for those defendants who chose to go to trial is higher than the average odds for the ninety-seven percent of defendants who chose to plead guilty. Making this assumption, it becomes clear that the average plea defendant exchanged a chance of acquittal that was *less* than twelve percent for a fairly generous plea discount of thirty-nine percent, also acting in their rational best interests. Conversely, most defendants who pled guilty *rationaly could not* have exercised their right to trial.

V. DISCUSSION

As explained in Part II.A, Abrams argues that criminal law scholars should focus on the question of whether criminal defendants would be rationally better off going to trial or pleading guilty. As explained in Part IV.C, this study demonstrates that the vast majority of federal defendants, including those who *did* go to trial, would have been significantly better off pleading guilty, even after accounting for their chances for acquittal. It is clear, therefore, that most federal defendants who do go to trial are making very bad bets. The question, then, is why these defendants go to trial against their rational best interests.

One possibility is that prosecutors may simply refuse to bargain with some defendants, forcing them to stand trial. As the

to thirty-five percent statutory acceptance of responsibility discount. *See supra* Part III.B. Indeed, this study found that around nineteen percent of federal defendants *do* plead guilty in open court without a plea agreement, in order to obtain the automatic acceptance of responsibility discount. *See supra* note 7 (out of 205,154 guilty pleas whose plea bargain status was determinable, eighty-one percent were recorded as the result of a plea agreement while nineteen percent were labeled as “Straight up Plea, No Agreement”).

¹⁸² *See* Kim, Plea, *supra* note 28, at 35 (arguing that the vast majority of federal defendants plead guilty because they have very little chance of acquittal at trial).

¹⁸³ *Cf.* Scott & Stuntz, *supra* note 1, 1943, 1961 (noting that innocent defendants may have moral incentives to insist on trial, but observing that the conventional rational actor model of plea bargaining predicts that prosecutors will offer all defendants discounts at least as large as their odds of acquittal to give all defendants rational incentives to plead guilty).

late William Stuntz argued, this may often occur in higher profile cases where prosecutors have incentives to look “tough on crime” by refusing to negotiate with defendants.¹⁸⁴ Although these effects may be significant in state court, they are unlikely to explain why federal defendants go to trial. As discussed in Part II.B, the Federal Sentencing Guidelines give defendants the automatic right to a twenty-five to thirty-five percent “acceptance of responsibility” discount for pleading guilty. Defendants are entitled to this discount *even if* prosecutors refuse to negotiate. Indeed, this study found that nineteen percent of federal defendants plead guilty in open court *without a plea agreement*, relying on the acceptance of responsibility discount to obtain a lower sentence.¹⁸⁵ Because acquittal rates in federal court are so low, it is likely that this twenty-five to thirty-five percent acceptance of responsibility discount would be more than enough to give most defendants rational incentives to plead guilty. As such, prosecutorial refusal to bargain cannot explain why *federal* defendants go to trial.

Another possible explanation is that defendants simply are *not* rational, but suffer from psychological biases that cause them to act against their rational best interests.¹⁸⁶ In particular, over confidence or self-serving biases may cause defendants or their attorneys to overestimate the defendant’s chances for acquittal and so insist on trial when a more rational defendant would plead guilty. As Stephanos Bibas explains, hundreds of psychological experiments have demonstrated that most people are overly optimistic about their chances of obtaining a favorable outcome.¹⁸⁷ Relatedly, people often suffer from self-serving biases that cause them to interpret the information they have in ways they would like to believe.¹⁸⁸ Self-serving biases might cause defendants or their attorneys to interpret the evidence against the defendant in

¹⁸⁴ See Stuntz, *Shadow*, *supra* note 60, at 2553-58.

¹⁸⁵ See *supra* note 7 (out of 205,154 guilty pleas whose plea bargain status was determinable, eighty-one percent were recorded as the result of a plea agreement while nineteen percent were labeled as “Straight up Plea, No Agreement”).

¹⁸⁶ See generally Gabriel J. Chin, *Pleading Guilty Without Client Consent*, WM. & MARY L. REV. (forthcoming) (discussing the problem of defendants who irrationally insist on trial).

¹⁸⁷ See Bibas, *supra* note 33, at 2498-502.

¹⁸⁸ See *id.*

ways that are more favorable than a jury actually would. As a result of over confidence and self-serving biases, many otherwise rational defendants may simply overestimate their chances for acquittal and so insist on trial when the odds are *not* in their favor.

Some of defendants' willingness to risk trial when a "rational actor" would plead guilty may also be due to the incompleteness of the rational actor model. The rational actor model plea bargaining scholars apply treats the amount of incarceration defendants expect as the primary cost of going to trial or pleading guilty.¹⁸⁹ Although incarceration in prison is, by most accounts, a remarkably unpleasant experience, incarceration is not the only negative consequence of criminal convictions. Gabriel J. Chin has cataloged dozens of collateral consequences that can attach to criminal convictions ranging from loss of the right to sit on federal juries to sex offender registration or deportation for non-citizens.¹⁹⁰ For some defendants, particularly those without a significant prior criminal record, these collateral consequences may be undesirable enough that it is worth risking a lengthier sentence at trial for the chance of avoiding conviction altogether.

Finally, and perhaps most troubling, some federal defendants may insist on trial knowing the odds are against them because they know they are innocent.¹⁹¹ Although one would hope that the evidence against innocent defendants would be weaker,¹⁹² so that they would have greater chances for acquittal, the innocence literature is replete with stories of defendants found guilty beyond a reasonable doubt but who were later proven innocent. Although such defendants may know that they would be rationally better off pleading guilty to a crime they did not commit, some may find that option simply be too unpalatable to consider.

¹⁸⁹ See *supra* Part IV.C.

¹⁹⁰ See Gabriel J. Chin, *Race, The War on Drugs, and the Collateral Consequences of Criminal Conviction*, 6 J. GENDER RACE & JUST. 253, 258-62 (2002).

¹⁹¹ Cf. Kyle Graham, *Crimes, Widgets, and Plea Bargaining: An Analysis of Charge Content, Pleas, and Trials*, 100 CALIF. L. REV. 1573, 1625 (2012) (arguing, in the context of tax protestors, that "[s]ome of these defendants might insist on objectively hopeless trials for a reason that oversimplified, punishment-focused applications of the rational-actor model do not fully account for: principle").

¹⁹² See Howe, *supra* note 32, at 629-30.

CONCLUSION

As this Article has shown, federal defendants *do* receive substantial discounts to their sentences for pleading guilty, and those discounts are several times larger than previously reported. This study is the first to measure the total magnitude of the federal trial penalty, excluding charge and fact bargaining, by using a metric that more consistently and accurately represents the severity of the crimes defendants commit, the pre-acceptance of responsibility recommended sentence. Although, as this study demonstrates, it is possible to reverse engineer this metric from existing federal data, providing this metric in future iterations of the United States Sentencing Commission data would help ensure consistency and accuracy among researchers.

By comparing the plea discounts defendants receive with the trial acquittal rates, this Article also shows that very few federal defendants rationally can choose to exercise their constitutional right to trial. Indeed, this Article demonstrates that most of the defendants who *do* go to trial do so against their own best interests.

To the extent that defendants insist on trial because they are overconfident in their chances for acquittal or simply prefer to gamble on a slim chance of winning, these results may simply reflect the unfortunate irrationality of criminal defendants.¹⁹³ At the same time, if defendants insist on trial because a criminal conviction would carry significant non-incarceration burdens, those decisions may actually be rational in ways that elude quantification.¹⁹⁴ If, however, defendants insist on trial because their *attorneys* are over confident and so overestimate the chances for acquittal, there may be ways to improve the system. Although any defendant's chances of acquittal will depend heavily on the facts of her case, defense attorneys may be able to help reduce the

¹⁹³ See Albert W. Alschuler, *The Defense Attorney's Role in Plea Bargaining*, 84 YALE L.J. 1179, 1245 (1975) (noting that "criminal defendants may not be an especially rational group"); Abbe Smith, "I Ain't Takin' No Plea": *The Challenges in Counseling Young People Facing Serious Time*, 60 RUTGERS L. REV. 11 (2007) (commenting that "adolescents not only 'make bad decisions,' they 'make decisions badly'").

¹⁹⁴ See, e.g., Erica J. Hashimoto, *Resurrecting Autonomy: The Criminal Defendant's Right to Control the Case*, 90 B.U. L. REV. 1147, 1178 (2010) (arguing that "different defendants have different views of the value of the . . . chance of being acquitted").

effects of over confidence and self-serving biases by keeping track of their individual and officewide trial acquittal rates, to help ensure that the advice they give defendants is grounded in empirical reality.

More troubling is the possibility that a sizeable portion of the defendants insist on trial because they are factually innocent. Although one would hope that most innocent defendants are acquitted, eighty-eight percent of federal defendants who go to trial are convicted, and the innocence literature demonstrates that at least some convicted defendants are factually innocent. This study's findings suggest that at least some portion of those innocent defendants who insist on trial would be rationally better off pleading guilty and accepting a shorter, if still unjust, sentence.¹⁹⁵

Finally, this study raises questions about the extent to which our justice system actually protects the right to trial by jury. The Supreme Court has never denied that a person charged with a serious offense who insists on trial must be granted a trial. In that respect, the Sixth Amendment right to trial by a jury of one's peers is protected and sacrosanct. This study, however, demonstrates that the criminal justice system is structured in such a way that extremely few rational defendants would ever stand up and exercise that right. In such a system, trial by jury becomes less of a right, and more of a trap for fools.

¹⁹⁵ See Howe, *supra* note 32, at 633 (stating that plea bargaining helps innocent defendants by providing "a risk-reducing option").

APPENDIX

Table 2

OLS Regression Coefficients for Logged Sentence Length
(Federal Criminal Sentences, 2006–2008)

Variables	Model I Standard Model Ignoring Acceptance	Model II Revised Model w/Acceptance
Jury Trial ¹	0.249*** (0.007)	0.495*** (0.007)
Female	-0.308*** (0.007)	-0.334*** (0.008)
Black	0.127*** (0.005)	0.138*** (0.006)
Hispanic	0.041*** (0.005)	0.037*** (0.006)
Non-citizen	0.155*** (0.005)	0.159*** (0.005)
Education Level ²	-0.045*** (0.001)	-0.047*** (0.001)
Age (years) ³	-0.006*** (0.000)	-0.007*** (0.000)
Substantial Assistance ⁴	-0.704*** (0.007)	-0.685*** (0.007)
Crim. History Range ⁵	0.021*** (0.001)	0.022*** (0.001)
Safety Valve ⁶	-0.083*** (0.005)	-0.333*** (0.005)
Log min. recommended sentence after statutory trial penalty	0.892*** (0.002)	— —
Log min. recommended sentence before statutory trial penalty	— —	0.936*** (0.002)
Constant	0.460*** (0.011)	0.060*** (0.012)
Observations ⁷	204971	202898
R-squared	0.722	0.702
¹ 0 if sentenced after guilty plea or bench trial. 1 if sentenced after jury trial.		
² Education Level (Less than HS=1, HS Grad=3, Some College=5, College Grad=6, Graduate Degree=7).		
³ Per year of age at time of crime.		
⁴ 5K1.1 substantial assistance with government motion or non-5K1.1 departure for cooperation with government.		
⁵ Number of criminal history points in excess of the minimum points required for the criminal history category defendant was sentenced under. This variable measures the seriousness of a defendant's criminal history that is not directly factored into the guidelines' recommended sentence.		
⁶ Effect of safety valve on total sentence length.		
⁷ One percent of cases did not contain reliable information about acceptance of responsibility and so were excluded from Model II.		

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table 3

Variable Effects on Total Sentence Length
(Federal Criminal Sentences, 2006–2008)

Variables	Model I Standard Model Ignoring Acceptance	Model II Revised Model w/Acceptance
Jury Trial ¹	28.3%	64.0%
Female	-26.5%	-28.4%
Black	13.5%	14.8%
Hispanic	4.2%	3.8%
Non-Citizen	16.8%	17.2%
Education Level ²	-4.4%	-4.6%
Age (years) ³	-0.6%	-0.7%
Substantial Assistance ⁴	-50.5%	-49.6%
Crim. History Range ⁵	2.1%	2.2%
Safety Valve ⁶	-8.0%	-28.3%
Observations ⁷	204971	202898
¹ 0 if sentenced after guilty plea or bench trial. 1 if sentenced after jury trial.		
² Education Level (Less than HS=1, HS Grad=3, Some College=5, College Grad=6, Graduate Degree=7).		
³ Per year of age at time of crime.		
⁴ 5K1.1 substantial assistance with government motion or non-5K1.1 departure for cooperation with government.		
⁵ Number of criminal history points in excess of the minimum points required for the criminal history category defendant was sentenced under. This variable measures the seriousness of a defendant's criminal history that is not directly factored into the guidelines' recommended sentence.		
⁶ Effect of safety valve on total sentence length.		
⁷ One percent of cases did not contain reliable information about acceptance of responsibility and so were excluded from Model II.		

Table 4

Logistic Regression Odds Ratios for Likelihood of Incarceration
(Federal Criminal Cases, 2006–2008)

Variables	Model I Standard Model Ignoring Acceptance	Model II Revised Model w/Acceptance
Jury Trial ¹	1.828*** (0.140)	3.274*** (0.251)
Female	0.513*** (0.012)	0.491*** (0.011)
Black	1.133*** (0.027)	1.114*** (0.026)
Hispanic	1.400*** (0.039)	1.393*** (0.038)
Non-citizen	10.381*** (0.403)	13.432*** (0.635)
Education Level ²	0.851*** (0.005)	0.848*** (0.005)
Age (years) ³	0.974*** (0.001)	0.973*** (0.001)
Substantial Assistance ⁴	0.210*** (0.005)	0.251*** (0.006)
Crim. History Range ⁵	1.259*** (0.011)	1.263*** (0.011)
Safety Valve ⁶	1.178*** (0.039)	0.824*** (0.026)
Log min. recommended sentence after statutory trial penalty	3.622*** (0.032)	—
Log min. recommended sentence before statutory trial penalty	—	3.667*** (0.036)
Observations ⁷	204971	202898
Pseudo R-squared	0.460	0.434
¹ 0 if sentenced after guilty plea or bench trial. 1 if sentenced after jury trial.		
² Education Level (Less than HS=1, HS Grad=3, Some College=5, College Grad=6, Graduate Degree=7).		
³ Per year of age at time of crime.		
⁴ 5K1.1 substantial assistance with government motion or non-5K1.1 departure for cooperation with government.		
⁵ Number of criminal history points in excess of the minimum points required for the criminal history category defendant was sentenced under. This variable measures the seriousness of a defendant's criminal history that is not directly factored into the guidelines' recommended sentence.		
⁶ Effect of safety valve on total sentence length.		
⁷ One percent of cases did not contain reliable information about acceptance of responsibility and so were excluded from Model II.		

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table 5

Jury Trial Acquittal Rates, Plea Discounts, and Trial Penalties by
Offense Type
(Federal Criminal Cases, 2006–2008)

Offense Type	Jury Trial Acquittal Rate	Plea Discount	Trial Penalty ¹
All Cases	12%	39%	64%
Money Laundering	8%	48%	92%
Pornography and Prostitution	8%	32%	47%
Drug Trafficking	9%	23%	30%
Immigration Offenses	10%	44%	78%
Racketeering	11%	35%	55%
Larceny and Theft	12%	58%	137%
White Collar ²	13%	51%	106%
Firearms Offenses	15%	22%	29%
Violent Crimes ³	15%	27%	37%
Sexual Abuse	16%	27%	37%
Administration of Justice Offenses	16%	52%	109%
Homicide (included in violent crimes)	17%	36%	56%
¹ The terms “trial penalty” and “plea discount” both refer to the difference between trial and plea sentences. The “plea discount” reports this difference as a percentage of the average trial sentence while the “trial penalty” reports this difference as a percentage of the average plea sentence.			
² White Collar cases are Fraud, Embezzlement, and Bribery cases.			
³ Violent Crimes cases are Homicide, Robbery, Assault, and Kidnapping cases.			

Federal Sentencing Guidelines Sentencing Table

SENTENCING TABLE (in months of imprisonment)						
Offense Level	Criminal History Category (Criminal History Points)					
	I (0 or 1)	II (2 or 3)	III (4, 5, 6)	IV (7, 8, 9)	V (10, 11, 12)	VI (13 or more)
	1	0-6	0-6	0-6	0-6	0-6
	2	0-6	0-6	0-6	0-6	1-7
	3	0-6	0-6	0-6	0-6	2-8
Zone A	4	0-6	0-6	0-6	2-8	4-10
	5	0-6	0-6	1-7	4-10	6-12
	6	0-6	1-7	2-8	6-12	9-15
	7	0-6	2-8	4-10	8-14	12-18
	8	0-6	4-10	6-12	10-16	15-21
	9	4-10	6-12	8-14	12-18	18-24
Zone B	10	6-12	8-14	10-16	15-21	21-27
	11	8-14	10-16	12-18	18-24	24-30
Zone C	12	10-16	12-18	15-21	21-27	27-33
	13	12-18	15-21	18-24	24-30	30-37
	14	15-21	18-24	21-27	27-33	33-41
	15	18-24	21-27	24-30	30-37	37-46
	16	21-27	24-30	27-33	33-41	41-51
	17	24-30	27-33	30-37	37-46	46-57
	18	27-33	30-37	33-41	41-51	51-63
	19	30-37	33-41	37-46	46-57	57-71
	20	33-41	37-46	41-51	51-63	63-78
	21	37-46	41-51	46-57	57-71	70-87
	22	41-51	46-57	51-63	63-78	77-96
	23	46-57	51-63	57-71	70-87	84-105
	24	51-63	57-71	63-78	77-96	92-115
	25	57-71	63-78	70-87	84-105	100-125
	26	63-78	70-87	78-97	92-115	110-137
Zone D	27	70-87	78-97	87-108	100-125	120-150
	28	78-97	87-108	97-121	110-137	130-162
	29	87-108	97-121	108-135	121-151	140-175
	30	97-121	108-135	121-151	135-168	151-188
	31	108-135	121-151	135-168	151-188	168-210
	32	121-151	135-168	151-188	168-210	188-235
	33	135-168	151-188	168-210	188-235	210-262
	34	151-188	168-210	188-235	210-262	235-293
	35	168-210	188-235	210-262	235-293	262-327
	36	188-235	210-262	235-293	262-327	292-365
	37	210-262	235-293	262-327	292-365	324-405
	38	235-293	262-327	292-365	324-405	360-life
	39	262-327	292-365	324-405	360-life	360-life
	40	292-365	324-405	360-life	360-life	360-life
	41	324-405	360-life	360-life	360-life	360-life
	42	360-life	360-life	360-life	360-life	360-life
	43	life	life	life	life	life

