Blakely’s Silver Lining; Sentencing Guidelines, Judicial Discretion, and Crime

Joanna Shepherd
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JOANNA SHEPHERD*

INTRODUCTION

The Supreme Court's recent decisions that struck down state and federal criminal sentencing guidelines have caused a cascade of commentary expressing dread and predicting disaster. However, the decisions could have a substantial and surprising benefit: reduced crime. In this study, I show that sentencing guidelines are associated with increases, not decreases, in crime—contrary to the motivating expectations of the tough-on-crime supporters of guidelines in the 1970s and 1980s. If this increase is caused by reduced judicial discretion in criminal sentencing, then expanding judicial discretion, by eliminating or modifying the guidelines, may lead to decreases in crime.

In its recent landmark Blakely and Booker decisions, the Supreme Court found that both Washington state and federal sentencing guidelines violated the Sixth Amendment.1 The guidelines were deemed

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1. See United States v. Booker, 543 U.S. 220, 267 (2005); Blakely v. Washington, 542 U.S. 296, 305 (2004). The Court set the stage for Blakely and Booker in three earlier decisions. See Ring v. Arizona, 536 U.S. 584, 610 (2002); Apprendi v. New Jersey, 530 U.S. 466, 477 (2000); Jones v. United States, 526 U.S. 227, 249-51 (1999). In Jones, the Court held that a federal carjacking statute would be unconstitutional if it allowed judges to determine the existence of sentencing factors that would increase a defendant's sentence. 526 U.S. at 249-51. In 2000, the Court went further, ruling in Apprendi that racial bias must be proved to a jury beyond a reasonable doubt before a judge could impose an enhanced hate crime sentence. 530 U.S. at 477. Two years later in Ring, the Supreme Court extended this reasoning to capital cases by requiring juries to rule on aggravating factors that could result in a penalty of death. 536 U.S. at 610. In 2004 in Blakely, the Court expanded these rulings to include sentencing guidelines. 542 U.S. at 305. In 2005 in Booker, the Court confirmed Blakely's far-reaching impact by ruling that, like the Washington sentencing guidelines held to violate the Sixth Amendment in Blakely, sections of the Federal Sentencing Guidelines were constitutionally flawed. 543 U.S. at 267.
invalid because they allowed the judge to determine factual issues during sentencing that should have been decided by the jury.2

Although Blakely and Booker specifically found unconstitutional only provisions of the Washington state and federal sentencing systems,3 the decisions threaten the systems of many other states. In her Blakely dissent, Justice O’Connor identified nine other states whose sentencing regimes may also be unconstitutional under Blakely.4 Others have concluded that the sentencing regimes of all but five of the eighteen states with sentencing guidelines are threatened.5

Many commentators, scholars, and judges have expressed dread about the decisions’ expected impact.6 For example, Justice O’Connor wrote in Blakely, “What I have feared most has now come to pass: Over twenty years of sentencing reform are all but lost, and tens of thousands of criminal judgments are in jeopardy.”7 After noting that “the practical consequences of today’s decision are disastrous,” she discussed “the damage that today’s decision will cause” and “the havoc it is about to wreak on trial courts across the county.”8

The gloom is deep in many camps because sentencing guidelines were propelled into law by a grand coalition of diverse groups with different goals. Many supporters wanted guidelines because they hoped that they would eliminate inequality and racial discrimination in sentencing. In contrast, law-and-order types, such as Ronald Reagan, Strom Thurmond, and J. Edgar Hoover, supported guidelines as a get-tough measure that would reduce crime.9 Indeed, many states’ guidelines statutes themselves proclaim as a central purpose the reduction of crime.10

2. See Booker, 543 U.S. at 755–56; Blakely, 542 U.S. at 305, 313. For example, in Blakely the Court declared provisions of Washington’s sentencing guidelines system unconstitutional. 542 U.S. at 303–05. The Washington guidelines allowed judges both to make factual findings about aggravating and mitigating factors and then, based on those findings, to impose penalties above or below a recommended standard range of sentences. Id. at 299–300. The Court ruled that the Sixth Amendment right to trial by jury prohibits a judge from imposing a sentence above the standard range if the longer sentence is based on an aggravating fact that has been neither proved to a jury nor admitted by the defendant. See id. at 303–05.
4. See 542 U.S. at 323 (O’Connor, J., dissenting).
7. 542 U.S. at 326 (O’Connor, J., dissenting).
8. Id. at 314, 315, 324 (O’Connor, J., dissenting).
9. See discussion infra Part I.A.
10. See, e.g., ARK. CODE ANN. § 16-90-801 (2006) (stating that one of the primary purposes of sentencing is “to deter criminal behavior and foster respect for the law”).
Although the federal guidelines have been subject to widespread criticism in recent years, the popularity of most state guidelines systems continues.\(^{11}\) Hence, while many scholars hope that Blakely and Booker will not require states to abandon their guidelines systems completely, most agree that they will force dramatic changes in sentencing systems.\(^{12}\) Several possible alternatives have emerged. They include a fully determinate sentencing system with no judicial discretion; a return to the original system of indeterminate sentencing; jury factfinding in sentencing; and advisory guidelines.\(^{13}\) However, the consensus of commentators is that each of the alternatives would be substantially worse than the original guidelines systems.\(^{14}\) Flaws in the alternatives include unfettered prosecutorial discretion, greater disparity in sentencing, more complexity and expense during trial, and a greater reliance on plea bargaining.\(^{15}\)

However, the gloom may not be completely warranted. Surprisingly, the sentencing changes resulting from Blakely and Booker could have an important positive consequence. I demonstrate theoretically and empirically that alternatives to guidelines that expand judicial discretion may decrease crime. This is because, contrary to the expectations of many of the original tough-on-crime supporters, the reduced discretion under guidelines is associated with increases in crime, not decreases. Moreover, the increase has been substantial. In states with guidelines, the guidelines are associated with approximately an 8% increase in violent crime and a 7% increase in property crime, after controlling for other variables.\(^{16}\)

I first develop four economic theories about why sentencing guidelines and reduced judicial discretion might increase crime, followed by two theories about how guidelines might cause crime instead to decrease. These are the theories that this Article's later sections will then test empirically. All six of the theories reflect the fact that guidelines


\(^{13}\) See Wool & Stemen, supra note 5, at 61–64; McVoy, supra note 12, at 1621–41. Several of these alternatives are also discussed in Justice Breyer's Blakely dissent. 542 U.S. at 328–340 (Breyer, J., dissenting).

\(^{14}\) See, e.g., 542 U.S. at 328–40 (Breyer, J., dissenting); Reitz, supra note 6, at 1108–09; McVoy, supra note 12, at 1614, 1621–41.

\(^{15}\) See, e.g., Reitz, supra note 6, at 1108–09; McVoy, supra note 12, at 1621–41. Likewise, Justice Breyer explains the flaws in the alternatives in his Blakely dissent. See 542 U.S. at 328–340 (Breyer, J., dissenting). But see Michael Marcus, Blakely, Booker, and the Future of Sentencing, 17 FED. SENT'G REP. 243, 245–46 (2005); Wool & Stemen, supra note 5, at 64–67, for a more optimistic view of the alternatives.

\(^{16}\) See discussion infra Part III.D.
reduce the variation in prison sentences: fewer long and short sentences occur because a judge is required or encouraged to sentence within the guidelines' intermediate range.

This reduced variation could increase crime for four reasons. First, crime may increase if guidelines prevent judges from imposing the long sentences required to deter the highest-risk criminals. Second, increases in crime could occur if, as survey and anecdotal evidence suggests, prosecutors, judges, and juries are reluctant to charge or convict low-risk criminals of crimes that carry harsh guidelines sentences. Facing no penalty, these criminals may be neither deterred from committing crime nor incapacitated.

Third, crime could increase if judges and prosecutors follow guidelines and imprison low-risk offenders for longer periods than without guidelines. Removing them from society, forcing them to live with and learn from other criminals, and reducing their future job prospects may increase recidivism.

Fourth, because guidelines reduce the range of penalties, including the highest penalties, criminals may perceive sentencing under guidelines as less risky and, thus, less harsh. Criminals who are risk-averse may be less deterred.

In contrast, two competing economic theories explain how sentencing guidelines might decrease crime. First, studies indicate that guidelines have tended not only to reduce the variation in sentences, but also to increase the average sentence lengths and incarceration rates for violent crimes. Longer sentences and higher incarceration rates might deter additional crime.

Second, some potential criminals may dislike the guidelines' reduction in variance. Although guidelines reduce their chances of getting a very high sentence, they also reduce their chances of getting a very low sentence. Thus, if criminals are risk-loving, then more-certain guidelines that reduce the chance of very low sentences may be perceived as more harsh, and as a result, will deter some offenders from committing crime.

Next, I test the competing theories empirically. Although any or all of the theories may explain part of the relationship between guidelines and crime, I explore the net effect using a national, state-level data set that covers the period between 1960–2000. Although studies have examined the effect of sentencing guidelines on other aspects of criminal justice—sentencing disparity, sentence lengths, sentencing uniformity, incarceration rates, plea negotiation practices, and prison populations—this Article is the first study to use regression analysis to explore the
relationship between state sentencing guidelines and crime.17

My findings that guidelines are associated with increases in both violent crime and property crime are robust across many specifications. For example, the results persist both in specifications that control for sentencing reforms other than guidelines and in specifications that control for possible reverse causality—that control for the possibility that guidelines might be adopted during periods of high crime. Moreover, additional analyses suggest that the more judges are required to comply with the guidelines, the larger the associated increases in crime.

If policymakers begin to recognize that constraining judicial discretion is associated with increases in crime, rather than reducing it, then some states that now have sentencing guidelines may not resurrect them after Blakely and Booker. Based on my empirical results, I discuss the expected impact on crime of each of the alternative sentencing systems that Justice Breyer suggested in his dissent in Blakely and his majority opinion in Booker: a "pure charge" regime, a fully indeterminate sentencing system, sentencing juries, and a system of advisory sentencing guidelines.18 If, after Blakely and Booker, states either eliminate their guidelines or choose alternatives that expand judicial discretion, then crime may decrease.

The Article is organized as follows. Part I discusses the purpose and history of state sentencing guidelines, and Part II offers theoretical predictions of guidelines' impacts on crime. Part III presents empirical analyses of the relationship between guidelines and seven different crime categories. Part IV discusses the results' implications for the alternative sentencing systems suggested by Justice Breyer. The conclusion discusses the results' implications in light of Blakely and Booker.

I. PURPOSE AND HISTORY OF STATE SENTENCING GUIDELINES

A complete understanding of this Article's theoretical predictions and empirical findings requires a brief discussion of the purposes and history of state sentencing guidelines.

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17. For a general discussion of other articles' findings, see Dale Parent et al., Key Legislative Issues in Criminal Justice: The Impact of Sentencing Guidelines, in National Institute of Justice Research in Action (Nat'l Inst. of Justice, NCJ 161837, 1996); Michael Tonry, Intermediate Sanctions in Sentencing Guidelines, in Issues and Practices in Criminal Justice (Nat'l Inst. of Justice, NCJ 165043, 1997). The only other empirical study compares the raw data on crime rates between guidelines and non-guidelines states, but without using regression analysis or accounting for other possible influences. Bureau of Justice Assistance, National Assessment of Structured Sentencing 116 (1996). The authors conclude that because guidelines and non-guidelines states have similar crime rates, guidelines have little measurable impact on crime. Id.

A. ORIGINAL GOALS OF SENTENCING GUIDELINES

States adopted sentencing guidelines in response to a growing rejection of the discretionary and individualized punishments under the previous system of indeterminate sentencing. Through the mid-1970s, all states and the federal system had such indeterminate systems. As Professor Michael Tonry describes this period,

Mandatory penalties were few in number and modest in scope, prosecutors had unaccountable power over charging and plea bargaining, judges' sentencing discretion was constrained only by statutory sentencing maximums, and parole boards had broad or plenary authority to release prisoners subject, usually, only to the maximum prison term set by the judge or the legislature.

In the 1970s and early 1980s, sentencing practices began to change as three criticisms of indeterminate sentencing emerged. First, critics asserted that indeterminate systems' sentencing disparities were unfair. Although numerous critics of sentencing disparity emerged, one notable group was a committee of criminal justice scholars, the American Friends Service Committee, which argued that racial discrimination in sentencing was responsible for imprisonment disparities and, ultimately, prison riots. Another influential voice was United States District Judge Marvin Frankel, who argued that indeterminate sentencing was "lawless."

Second, rehabilitation fell from favor as a sentencing goal. An important rationale for indeterminate sentencing was that judicial discretion was needed so that judges could individually craft sentences to match each offender's prospects for rehabilitation. However, several studies in the 1970s doubted the ability of prison programs to rehabilitate offenders.

Third, critics blamed indeterminate sentencing for the period's dramatically increasing crime rates, asserting that sentences were too uncertain and too lenient. A leading book on crime policy argued that

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20. Id. at 1234.
21. Id.
22. See id. at 1245-48 (thoroughly discussing factors that led to the demise of indeterminate sentencing demise).
23. See, e.g., BUREAU OF JUSTICE ASSISTANCE, supra note 17, at 1.
28. See, e.g., Tonry, supra note 21, at 1247.
only more-certain punishments could reduce crime. 29

Sentencing guidelines, a form of "determinate sentencing," emerged as a cure for these perceived failures of indeterminate sentencing. 30 Guidelines systems ultimately became law at both the state and federal levels 31 because they attracted a diverse coalition with diverse goals: they promised both to reduce unfair disparity and to crack down on criminals. Many supporters believed that the guidelines, by restricting judicial discretion, would reduce sentencing discrimination.

On the other hand, law-and-order types believed that guidelines would result in more-certain, longer, harsher sentences that would reduce crime. 32 They believed that judicial discretion was inconsistent with deterrence: the only way to increase deterrence was to limit judicial discretion. 33 For example, President Ronald Reagan proclaimed that the bill that created the federal sentencing guidelines was a way to "crack down" on criminals. 34 Similarly, Senator Strom Thurmond, a leading supporter of the federal guidelines, argued that the federal guidelines' elimination of judicial discretion would reduce crime by restricting excessively lenient sentencing. 35 These tough-on-crime supporters of guidelines could invoke former FBI director J. Edgar Hoover. 36 Hoover had frequently condemned indeterminate sentencing, asserting that both the sentencing discretion that it gave judges and its focus on rehabilitation produced excessively lenient punishments that increased crime. 37 Many others supported sentencing guidelines as a get-tough program for crime reduction. 38

Ultimately, both federal and state guidelines and other determinate sentencing systems enjoyed strong bipartisan support. 39 For example, in California, determinate sentencing was propelled into law by an

31. See discussion infra Part I.B (noting that eighteen states and the federal government have adopted sentencing guidelines).
32. See STITH & CABRANES, supra note 24, at 104.
33. See id. at 59, 104.
34. Id. at 39 (quoting 42 CONG. Q. 1841 (1984)).
37. Id.
38. See STITH & CABRANES, supra note 24, at 38-48.
39. See Sheldon L. Messinger & Philip E. Johnson, California's Determinate Sentencing Statute: History and Issues, in DETERMINATE SENTENCING: REFORM OR REGRESSION? 13, 21-29 (1978); Tonry, supra note 19, at 1248; see also STITH & CABRANES, supra note 24, at 38-77 (discussing the bipartisan support for federal sentencing guidelines). Although much of the public discourse surrounding determinate sentencing in the 1970s and 1980s focused on the federal system, see, e.g., FRANKEL, supra note 26, at ix-x, arguments as to sentencing guidelines' functions and expected impacts also applied to the states.
improbable alliance of prisoners' rights and civil liberties groups, law-
and-order conservatives, and police unions. Legislation providing for
sentencing guidelines was often considered to be as much anti-crime as
anti-discrimination. Indeed, in many states, the guidelines legislation
itself explicitly states that crime reduction is a central goal. For
example, Tennessee's enabling statute states that the purpose of
sentencing guidelines is "to prevent crime and promote respect for the
law by . . . providing an effective deterrent to those likely to violate the
criminal laws of this state."

However, this fundamental assumption that guidelines would reduce
crime rested on an empirical vacuum. No empirical evidence supported
the assumption. Indeed, it is perhaps surprising, given that crime
reduction was such a clear goal of most guidelines systems, that this
Article is the first to examine guidelines' impact on crime. Instead, much
of the support for the guidelines was based on guesses, not facts. These
commentators and legislators guessed wrong.

B. THE HISTORY OF STATE SENTENCING GUIDELINES

First developed during the late 1970s and early 1980s, sentencing
guidelines currently apply both in the federal courts and in eighteen
states and the District of Columbia. Table 1 lists the states and the years
of adoption. As of May 2005, at least six other states were also
considering sentencing guidelines: Alabama, Georgia, Massachusetts,
New Mexico, Oklahoma, and South Carolina. Seven other states—
Connecticut, Maine, Texas, Colorado, Nevada, New York, and
Montana—have decided, after consideration, against guidelines.

40. See Messinger and Johnson, supra note 39.
42. Id. § 40-35-102(3). Louisiana, Oregon, and Washington likewise cite public safety as a
primary concern of guidelines. See BUREAU OF JUSTICE ASSISTANCE, supra note 17, at 39-41 (listing the
purposes of guidelines in individual states' enabling legislation).
44. See id.
45. See id.
46. See BUREAU OF JUSTICE ASSISTANCE, supra note 17, at 28; WILLIAM J. SABOL ET AL., URBAN
INSTITUTE JUSTICE POLICY CENTER, THE INFLUENCES OF TRUTH-IN-SENTENCING REFORMS ON CHANGES IN
STATES' SENTENCING PRACTICES AND PRISON POPULATIONS 11 (2002); Frase, supra note 11, at 1196.
47. See Frase, supra note 11, at 1197. For a thorough discussion of the current state of guidelines
systems, the history of state sentencing guidelines, and the similarities and differences between
systems, see id. at 1194-1208.
48. Id. at 1197.
TABLE I. IMPLEMENTATION OF SENTENCING GUIDELINES SYSTEM

<table>
<thead>
<tr>
<th>State</th>
<th>Year Implemented</th>
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<tbody>
<tr>
<td>Arkansas</td>
<td>1994</td>
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<tr>
<td>Delaware</td>
<td>1987</td>
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<tr>
<td>Florida</td>
<td>1983</td>
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<td>Kansas</td>
<td>1993</td>
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<tr>
<td>Louisiana</td>
<td>1992</td>
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<tr>
<td>Maryland</td>
<td>1983</td>
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<tr>
<td>Michigan</td>
<td>1981</td>
</tr>
<tr>
<td>Minnesota</td>
<td>1980</td>
</tr>
<tr>
<td>Missouri</td>
<td>1997</td>
</tr>
<tr>
<td>North Carolina</td>
<td>1994</td>
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<tr>
<td>Ohio</td>
<td>1996</td>
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<tr>
<td>Oregon</td>
<td>1989</td>
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<tr>
<td>Pennsylvania</td>
<td>1982</td>
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<tr>
<td>Tennessee</td>
<td>1989</td>
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<tr>
<td>Utah</td>
<td>1993</td>
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<tr>
<td>Virginia</td>
<td>1991</td>
</tr>
<tr>
<td>Washington</td>
<td>1984</td>
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<tr>
<td>Wisconsin</td>
<td>1985</td>
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</table>

States have created the guidelines in two ways. In some states, the courts have created the guidelines, appointing committees of judges for the purpose. Other states have created sentencing commissions, with members representing judges, prosecutors, defenders, law enforcement officials, correctional officials, the public, and sometimes even the legislature itself.

Sentencing guidelines require or recommend that offenders be sentenced within a specific range of sentences, depending on the seriousness of their offense and prior criminal history. Most state guidelines systems have a sentencing matrix, similar to the following matrix for the State of Washington, that allows judges to easily find the sentencing range based on the offense and prior record.

49. See Parent et al., supra note 17, at 2.
50. Id.
51. Id.
52. See Frase, supra note 11, at 1194–1206.
Although the general idea is the same among guidelines systems, there are substantial differences among systems. Importantly, they differ in how strongly they constrain judges, in the degree to which judges are forced to comply with the guidelines. Guidelines that constrain judges' sentencing tightly might be expected to have a greater impact than guidelines that are merely advisory. The National Center for State Courts has arranged thirteen states along a voluntary/mandatory continuum based on the extent to which their sentencing guidelines were considered mandatory. Table 3 presents the arrangement of states along the continuum. The darker the shading, the greater the extent to which a state's sentencing system is mandatory.

54. Many authors have discussed similarities and differences. See, e.g., Frase, supra note 11, at 1196-1205; Parent et al., supra note 17, at 2-3.
55. See, e.g., Parent et al., supra note 17, at 2-3.
56. See Brian J. Ostrom et al., National Center for State Courts, Sentencing Digest: Examining Current Sentencing Issues and Policies 11 (1998). The ranking in the continuum is based on guidelines systems in 1997 and considers issues such as when guidelines forms should be completed, when judges must review guidelines, how compliance or departures are handled, and what appellate rights are retained by the defense or prosecution. See id. In the original study, five states that use guidelines systems were not listed in the continuum: Tennessee, Maryland, Michigan, Louisiana, and Wisconsin. See id. I added these to the relevant location along the continuum based on the guidelines characteristics from the original study.
Table 3. The Voluntary/Mandatory Continuum of State Guidelines Systems

<table>
<thead>
<tr>
<th>State</th>
<th>Degree of Compliance with Guidelines</th>
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<tbody>
<tr>
<td>Florida</td>
<td>Departures allowed with written justification from judge and subject to appeal</td>
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<tr>
<td>Kansas</td>
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<tr>
<td>Minnesota</td>
<td>Departures allowed with written justification from judge and subject to appeal</td>
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<td>Ohio</td>
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<td>Oregon</td>
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<td>Pennsylvania</td>
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<td>Tennessee</td>
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<td>Washington</td>
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</tr>
<tr>
<td>Arkansas</td>
<td>Departures allowed with written justification from judge, but no appellate review of sentences</td>
</tr>
<tr>
<td>Delaware</td>
<td></td>
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<tr>
<td>Louisiana</td>
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<td>Maryland</td>
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<td>Utah</td>
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<td>Virginia</td>
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<tr>
<td>Wisconsin</td>
<td></td>
</tr>
<tr>
<td>Missouri</td>
<td>Judges may depart from guidelines at their discretion</td>
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</tbody>
</table>

At one extreme, North Carolina requires compliance within presumptive, aggravated, or mitigated ranges; no departures are allowed beyond these ranges. At the other extreme, Missouri grants judges broad discretion to depart from the guidelines, with no need even to explain departures and no appeals of them. In eight other states, Arkansas, Delaware, Louisiana, Maryland, Michigan, Utah, Virginia, and Wisconsin, guidelines are somewhat less voluntary. Although departures from the guidelines are not subject to appeal, judges must provide written reasons for departures. In the remaining eight states, Florida, Kansas, Minnesota, Ohio, Oregon, Pennsylvania, Tennessee, and Washington, reasons for departures must be written, and they are subject to appellate review.

As might be expected, studies have shown that judicial compliance with the guidelines tends to be higher the more mandatory a state’s guidelines. Sentences that depart from the guidelines are more frequent in voluntary states than in mandatory states, although compliance rates are still substantial in many of the voluntary states.57

57 See Frase, supra note 11, at 1198–1999 for an excellent discussion. Because of other informal mechanisms, some small differences exist in the compliance that is required by the states within each of the four categories. For example, Pennsylvania requires departure rates for each judge to be made public. Id. at 1199. In Virginia, where trial court judges must be reappointed by the legislature,
II. THE THEORY: PREDICTED CONSEQUENCES OF SENTENCING GUIDELINES

Contrary to the beliefs of sentencing guidelines' original proponents, theory offers several divergent predictions about the impact of guidelines on crime. In this Part, I present six theories, all based on well-tested economic principles, about the relationship between guidelines and reduced judicial discretion and crime. First, I introduce the general economic model of crime. I next develop an economic model of the distribution of types of criminals. Applying the model to sentencing guidelines, I then present four theories that explain why guidelines may increase crime, followed by two competing theories that explain why guidelines may cause crime to decline. All six are only theories. My later empirical analysis tests the theories.

A. THE ECONOMIC MODEL OF CRIME

First developed by Nobel Prize winner Gary Becker in 1968, the economic model of crime has become one of the primary models for analyzing criminal behavior. Its success is due not only to its ability to provide testable predictions about the effect of alternative criminal policies on crime rates and other policy values, but also because its predictions often prove correct.

The economic model of crime is based on the theory that many people, including at least some criminals, behave rationally by responding to incentives and weighing costs and benefits. It predicts that many people will tend to refrain from an action if the costs of the action exceed the benefits. This includes criminals: at least some criminals will choose not to commit a crime for which costs exceed benefits.

The costs and benefits of a crime are defined broadly, and can be different for each potential criminal. Possible costs that potential criminals may consider include direct costs, such as for acquiring criminal compliance rates were 79% in 2003. Rachel E. Barkow, Administering Crime, 52 UCLA L. REV. 715, 795 (2005).


60. See Becker, supra note 58, at 179-98.

61. Id. at 207-08.

62. Id.
tools such as guns, flashlights, or lock-picking equipment. Costs also include the expected penalty if convicted of the crime weighted by the probability of being caught and convicted; a harsh penalty may be of less concern if the criminal knows that there is little chance of being caught. Other costs include the value of the time away from friends and family while in prison, loss of income while incarcerated, the psychological cost to the criminal of violating his own moral opposition to particular crimes, the cost to the criminal of the shame of violating cultural or community values, and decreased job prospects after conviction. Possible benefits that potential criminals may consider include, among others, the value of the loot acquired in a crime, the psychic benefit received from the crime if the criminal enjoys his work, the thrill of risk-taking behavior if the criminal enjoys risk, and respect and even fame to be gained from both other criminals and the public for a crime well done.

The economic model of crime can explain why people with certain characteristics tend to become criminals. For example, the model predicts that less-educated people with low incomes will be more likely to commit crime. Compared to a high-paid lawyer with an educational pedigree, an unemployed homeless person has little to lose if she shoplifts some food, is caught, and imprisoned. Moreover, the homeless person’s benefits from the crime may be relatively high if she is at starvation’s door. With lower costs and higher benefits, it is more likely that the benefits of crime will exceed the costs, so more people with low incomes and little education will commit crimes. Increased penalties such as prison sentences or fines may increase the costs of crime for some people, deterring them from committing crimes because the higher costs now exceed the benefits.

Not every criminal must act rationally by weighing the costs and benefits of crime in order for the economic model of crime to generate accurate predictions. If even a small subset of criminals responds to incentives, crime will decrease when the costs of crime, such as prison

63. See Ehrlich, supra note 59, at 46.
64. See id.
65. See id.
66. See id.
67. The economic model of crime helps us to understand not only premeditated crimes, but also spontaneous crimes. As a leading treatise notes:

In the case of premeditated crimes, the economic model may correspond to the actual reasoning process of the criminal. In the case of spontaneous crimes, where there is no deliberation, the economic model may nevertheless be understood as an account of the criminal’s behavior but not of his reasoning. For spontaneous crimes, criminals may not actually reason as in the economic model, but they may act as if they had. By saying that criminals act “as if” they had deliberated, we mean that, when presented with the opportunity to commit crimes, they respond immediately to benefits and risks as if they had weighed them.

sentences, increase. This is true even if most potential criminals do not respond to the incentives.

That most criminals will have limited information about the costs and benefits of crime, and hence, will not be able to weigh them perfectly, is not fatal to the model. Studies show that, when information is limited, criminals use what has recently happened in their vicinity to themselves, acquaintances, and others as reported in the mass media to form perceptions about severity of penalties and the probability of detection. Although perceptions will not be exact, for many criminals, they will be good approximations of the true costs and benefits of crime. For example, their own driving experience, discussions with friends, and local news reports give many drivers quite clear information about how fast they can drive, and where, and still avoid a speeding ticket.

The value of a model depends on how accurately it predicts actual behavior. Many articles demonstrate that the economic model of crime often predicts behavior well. The studies show that, as required for the economic model’s predictions to be accurate, at least some criminals behave rationally, or as if they were rational, and respond to incentives. For example, Professor Steven Levitt studied increases in police forces during mayoral and gubernatorial elections, and found that increases in the likelihood of arrest caused by more police reduced both violent and property crime. Likewise, a famous study by Professor Isaac Ehrlich used data on robbery for the entire United States and found that, after controlling for other factors, the likelihood of conviction and the average sentence length were inversely related to the robbery rate.

Many studies also show that criminals respond to changes in both the length of prison sentences and the probability of imprisonment.
example, Professor Kenneth Wolpin studied data from England and Wales over the length period 1894–1967 and found that crime rates decreased as the likelihood and severity of punishment increased.73 Likewise, Professor Ann Witte followed the post-release behavior of 641 convicted criminals for three years and found that, after controlling for other factors, both higher likelihoods of conviction and imprisonment and longer prison terms reduced recidivism among the offenders.74 Other studies have found that the probability of punishment is more important.75

B. A Model of the Distribution of Criminal Types

The economic model of crime suggests a distribution of criminal types. Some people are low-risk criminals. They rarely, if ever, commit offenses because their values, morals, social groups, legitimate earning opportunities, and other factors make crime's costs exceed its benefits in most situations. However, when the payoff from crime is high enough (the benefits)—or when the likelihood of detection or penalty if detected are low enough (the costs)—these people commit crimes. An example might be a diligent college student who used cocaine for the first time under peer pressure from her friends at a party just before police knocked on the door.

These low-risk criminals are relatively easy to deter and have low recidivism rates. Because they are not committed to lives of crime and have many other opportunities, a relatively low penalty or likelihood of detection might easily deter them.

At the other extreme are high-risk criminals: people prone to crime. Their lack of legitimate earning opportunities and various social factors combine to make criminal activity probable. Moreover, these criminals are difficult to deter and have high recidivism rates because their other options are limited. For example, a member of a violent drug gang who is a high-school dropout and who has already served a long prison sentence for murder has few legitimate earning opportunities. Indeed, even

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considering the risk of further imprisonment, crime might pay better
than the minimum-wage job that he would otherwise be lucky to get.
Moreover, his experience in prison may have hardened him to think of
crime as normal, and his peer group in his gang will be encouraging him
to commit further crime. Only large penalties or probabilities of
detection will deter such a high-risk criminal.

Figure 1 depicts a possible distribution of criminal types. The
horizontal axis arrays all criminals from left to right based on their
likelihood of resisting criminal activity either for the first time
(deterrability) or on subsequent occasions (recidivism). Low-risk
criminals who are easily deterred are on the left, high-risk criminals who
are difficult to deter are on the right, and average criminals are in the
middle. The horizontal axis also represents the minimum level of penalty
required to deter each type of offender. Low penalties will deter the low-
risk offenders on the left side. Only high penalties will deter the high-risk
offenders on the right. For the average offender in the middle, a
moderate penalty will do.

The area under each part of the distribution indicates the proportion
of offenders of each type. Because I have arbitrarily presented the
distribution in the familiar bell shape, it suggests that many criminals
have average levels of recidivism and deterrability. Smaller proportions
of offenders are at the extremes: the low-risk criminals and the high-risk
criminals. However, it is also possible that the distribution is not bell
shaped. The nature of the distribution does not affect my analysis.76

76. For example, it is possible, if not probable, that most offenders are low-risk criminals who
rarely commit crimes, and that there are very few high-risk criminals. If this is the case, the true
distribution of criminal types may be a decreasing distribution: the greatest proportion of offenders is
at the left side of the distribution, and the proportion of criminals decreases until the smallest
proportion lies at the extreme of high-risk criminals. If the true distribution of criminal types is indeed
characterized by this decreasing distribution, the predictions of this section do not change. Indeed,
they become even stronger. I present a bell-curve, or “normal” distribution, only because it is familiar
to many people.
Prior to sentencing guidelines, judges had much discretion over sentences. If judges could tailor sentences to a level that exactly corresponded to the minimum level of penalty required to deter the different types of defenders, society could achieve efficient deterrence without wasting resources on excessive penalties. Judges could impose short sentences or intermediate sanctions on low-risk offenders to the left of Figure 1, long sentences on high-risk offenders, and moderate sentences on the average offenders in the middle; recall that the horizontal axis indicates the minimum sentence necessary to deter each offender. If existing studies are correct and criminals form expectations of sentence length based on what similar types of criminals have received, then, as would be optimal, low-risk criminals would expect short sentences and high-risk criminals would expect long sentences.

If judges tailored sentences in this way, then indeterminate sentencing could create perfect deterrence at minimum cost. All criminals would be deterred. None would stay in prison longer than necessary. Costs to the criminal would be minimized; each criminal would be exiled from his society, family, and job for the minimum necessary period to create deterrence. Society’s costs would also be minimized. Taxpayers would pay for the necessary period of

78. See, e.g., Sah, supra note 68, at 1274.
incarceration but no longer. Low-risk criminals would not be transformed unnecessarily into high-risk ones by excessive sentences.

For indeterminate sentencing to succeed in this way, judges must have two characteristics. First, they must have the ability to evaluate each defendant and determine the minimum sentence that would deter. Second, they must impose that sentence by focusing on crime control, rather than permitting other factors to influence the sentences. These assumptions may not be true always, or even most of the time; indeed, the later empirical analysis in this Article will permit exploration of the assumptions. For example, some proponents of sentencing guidelines argued that some judges’ sentencing practices were guided, not by considerations of justice and deterrence, but by individual defendant’s characteristics, including gender, education, income, and race.79

Nevertheless, it is certainly a reasonable hypothesis—which I will test—that the assumptions are true for at least some judges. Many judges view crime control as an important goal of sentencing, and they are proud of their ability to exploit their unique vantage point to be able to make wise judgments about the defendant’s deterrability and tendency to recidivism.80 Indeed, judges’ main objection to sentencing guidelines is that guidelines prevent them from using this expertise.81 For example, one judge has expressed regret that the guidelines both spurn judges’ skill and experience in evaluating deterrability and discard the knowledge about the defendant that the judge gains during the proceedings.82

In a survey by the Federal Judicial Center in 1996, approximately 80% of district and appellate judges thought that judges should be given more discretion than permitted under the guidelines.83 In a 2000 survey of federal court judges, 45% of the responding judges said that the federal guidelines were too inflexible.84 Indeed, many judges are so outraged at sentencing guidelines that they have decided to take senior status early

82. See Wood, supra note 80, at 420.
to avoid sentencing with such limited discretion.  

If at least some judges can successfully identify a defendant's deterrability, then, before guidelines were adopted, some sentences were the minimum penalty needed to deter future criminal acts, preventing recidivism by the defendant and deterring other similar criminals. In doing this, these judges efficiently imposed very mild sentences for low-risk criminals and harsh sentences for high-risk criminals. I call these efficient differences in sentences "productive disparity."

Sentencing guidelines change sentencing significantly; the guidelines in practice do indeed constrain judges and cause them to impose different sentences than without the guidelines. Indeed, that is why many judges dislike guidelines so vehemently. Studies show that sentencing guidelines have two main impacts. First, they reduce sentences' variability, decreasing the number of very high and very low sentences. Second, as the guidelines' law-and-order supporters hoped, they increase the average sentence for many crimes, especially violent crimes. With the majority of states adopting truth-in-sentencing reforms before or during this period, the higher average sentences translate into longer time served in prison.

Figure 2 shows these changes. In addition to showing the same distribution of criminal types and penalty that would deter each type as in Figure 1, Figure 2 depicts the guidelines system's narrower range of sentences and higher average sentence. In states with strict mandatory guidelines systems, the guidelines' sentencing range would be narrower. In states with voluntary systems, the range would be wider. However, if, in a voluntary state, the guidelines influenced even one judge's sentencing of even one defendant, then the guidelines' sentencing range would be narrower than the range without the guidelines.

85. See Boylan, supra note 77, at 251 ("[T]he sentencing guidelines have led district court judges to select senior status earlier. Specifically, judges take senior status after .4 years instead of after 3 years of eligibility.").

86. In addition to the explicit ranges required or recommended by the guidelines, guidelines also create new grounds on which judges can be reversed. As the threat of reversal is a major incentive for judges, it further reduces judicial discretion. For a discussion of judicial incentives in another area of law, see Sidney A. Shapiro & Richard E. Levy, Judicial Incentives and Indeterminacy in Substantive Review of Administrative Decisions, 44 DUKE L. J. 1051 (1995).

87. PAULA M. DITTON & DORIS JAMES WILSON, BUREAU OF JUSTICE STATISTICS, SPECIAL REPORT: TRUTH IN SENTENCING IN STATE PRISONS 7-9 (1999).

88. Id.
I now develop several theories of how the distribution of criminal types and the impacts of sentencing guidelines will affect crime.

C. Theories of Guidelines' Impacts on Crime

Consideration of both the distribution of criminal types and sentencing guidelines' impacts suggests six competing theories about how guidelines might affect crime. First, I present four theories that explain how guidelines might increase crime. These theories all suggest a trade-off between uniformity and deterrence: under these theories, stricter guidelines produce more crime, and vice versa. I follow with two theories that suggest why guidelines might cause crime instead to decrease.

Although this Part offers occasional anecdotal evidence to support the theories, the theories remain at the section's end unproven. Indeed each theory's predictions could be true in different situations and for different criminal types. Sentencing guidelines' net effect on crime will depend on the actual sizes of the impacts from the mechanisms in each of the theories. Only the empirical analysis in the following part will suggest which of the two groups of theoretical predictions are the most important.

1. Theories Suggesting that Guidelines Might Increase Crime
   a. Shorter Sentences for High-Risk Criminals may Decrease Deterrence

Crime may increase after sentencing guidelines if the guidelines
prevent judges from imposing the necessary severe penalties on the highest-risk criminals. Suppose that a judge accurately believes that a defendant is the type in the right tail of the distribution of criminal types in Figures 1 and 2; that is, the defendant exhibits characteristics that reveal to the judge that the defendant is a high-risk criminal. As shown in both figures, deterrence of this criminal and others like him would require a severe sentence.

However, suppose also that, although the characteristics are apparent to the judge, they are not among the guidelines’ approved aggravating factors that would permit the judge to increase the sentence to the necessary high level for deterrence. That is, in Figure 2, the necessary sentence is more severe than that permitted by the guidelines’ sentencing range.

The moderate penalty that the guidelines demand will not be severe enough to deter this and other high-risk criminals from committing further crimes. The guidelines prohibit the judge from punishing high-risk criminals sufficiently to deter them. The guidelines will thus cause at least some high-risk criminals to commit more crimes. That is, the lower expected sentence decreases the costs of crime, causing the costs of crime to be less than the benefits of crime for some high-risk offenders. This may lead to more criminal acts.

Likewise, if other high-risk criminals learn that these high-risk criminals have received lower sentences than before, then the other criminals may begin to expect to receive lower sentences. Some of them too may commit more crimes.

It is unlikely that the guidelines will cause an offsetting decrease in crime among low-risk criminals. If most judges were imposing pre-guidelines sentences that were shorter, yet still sufficient to deter low-risk criminals, then lengthening the sentences for low-risk criminals will not increase deterrence of them. Instead, the guidelines produce the same deterrence of low-risk criminals as before, but at a greater cost both to the low-risk offenders who must endure the longer sentences and to the public who must pay for longer imprisonment. The remorseful first-time cocaine user who before would have received probation and been fully deterred now wastes a year in an expensive prison. The next two sections present two additional reasons why lengthening sentences for low-risk criminals may not increase deterrence.

Indeed, in another context, Frank Easterbrook and Richard Posner, both of whom are leading scholars and federal appellate judges, confirm that limiting judicial discretion reduces deterrence of high-risk criminals.

89. Cf. Sah, supra note 68, at 1274–75, 1277–78 (describing the factors that may influence a potential criminal’s perceptions of the risk of crime).
without further deterring anyone else. In his popular treatise, Judge Posner indicates:

Broad sentencing discretion enables the judge to practice a form of price discrimination that consists of deciding what penalty is optimal given the particular characteristics of the defendant. If the defendant seems to belong to a class of people who are easily deterrable, a light sentence may suffice to deter him, and those like him, in the future; if he is a hardened and inveterate criminal, a heavy sentence may be necessary for this purpose. If these sentences are averaged together and the same sentence given to each defendant, there will be less deterrence; the heavier sentence will be wasted on the easily deterrable, and the lighter sentence will underdeter the hardened criminals.

The theory in this subpart demonstrates the possible trade-off between deterrence and uniformity in sentencing. The more uniform the sentencing, the less deterrence, and the greater the unnecessary costs for sentences that are longer than necessary for deterring low-risk offenders. In contrast, the greater the productive disparity that the system permits judges to impose, the higher the deterrence and the lower the unnecessary imprisonment costs.

When sentencing a high-risk criminal, the judge might attempt to circumvent the guidelines by seeking to impose a sentence above the guidelines sentencing range. In states with voluntary guidelines, judges will be able to do this more readily than in states whose guidelines are mandatory. Thus, we should expect greater increases in crime in states with mandatory guidelines.

Even in states with voluntary guidelines, judges will have relative difficulty in imposing sentences that exceed the guidelines’ recommendation. In contrast to the opposite situation in which a judge avoids the guidelines by either acquitting or imposing a shorter sentence than the guidelines recommend, defendants will fight longer sentences strenuously. Defendants’ fierce opposition might be expected to reduce the occurrence of sentencing above the guidelines’ range; perhaps because judges fear reversal on appeal. Accordingly, studies show that judges are much more likely to impose sentences that are shorter than those suggested by the guidelines than they are to impose sentences that are longer than the guidelines’ recommendations.

This theory assumes that at least some judges can identify a defendant’s likelihood of recidivism in ways that sentencing guidelines cannot. Judges certainly believe that they can do this—for example, by

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91. Posner, supra note 90, at 580.
observing the defendant's demeanor. Indeed, we have seen that guidelines' constraining of judges' discretion in sentencing is a main reason why so many judges detest guidelines.  

All judges may not be able to always discern each defendant's detersability and perfectly tailor sentences. Nevertheless, it is not unreasonable to assume that at least some judges sometimes may be able to identify characteristics that the guidelines do not consider, but that nevertheless relate to recidivism and detersability. For example, a judge may conclude that a criminal is high risk because he exhibits a threatening attitude, a lack of remorse, or a lack of cooperation at trial. However, in many states the guidelines prohibit a judge from considering these characteristics in sentencing. Crime increases because the guidelines prevent the judge from using her unique ability to identify high-risk criminals to fashion appropriately-severe penalties.

Leading commentators, from both academia and the bench, have noted the large costs in abandoning the previous sentencing system of individual evaluation by judges, replacing it instead with guidelines' group sentencing. For example, Professor Richard Frase has identified the harms when guidelines systems make assessments of detersability and likelihood of recidivism "on the basis of group or actuarial risk, rather than individualized, case-by-case diagnoses." Likewise, Oregon Judge Michael Marcus has long opposed the reduced discretion under sentencing guidelines. He notes, "offenders for whom public safety is best achieved by disparate dispositions . . . should be treated differently. That an identical crime can be committed by a psychopath or by an addict susceptible to recovery (with equal criminal histories) does not compel identical dispositions as a matter of fairness."

The Florida legislature recognized the consequences of preventing judges from giving severe penalties to the most high-risk offenders when, in 1995, it abolished limits in the Florida sentencing guidelines on sentencing severity. Judges in Florida now have discretion to impose

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93. See O'Neill, supra note 84, at 215-16; supra notes 79-81 and accompanying text.
94. Although some judges may be better at determining a defendant's detersability, others may be worse than the guidelines. If, on average, judges are better than the guidelines, then the theoretical predictions in this section would hold.
95. For a discussion of why remorse should not be considered in sentencing, see generally Martha Grace Duncan, "So Young and So Untender": Remorseless Children and the Expectations of the Law, 102 COLUM. L. REV. 1469 (2002).
any sentence between the guidelines’ recommended minimum term and the statutory maximum.99 No longer do the guidelines impose a recommended maximum term falling between these.100

The recognition that productive sentencing disparity may increase deterrence and may eliminate unnecessary imprisonment costs suggests that we reexamine the sentencing disparity that was a major reason for sentencing guidelines’ adoption. Although much of the pre-guidelines disparity may have been based on bigoted race and sex discrimination,101 it is possible that some of the apparently-discriminatory disparity was instead based on offender deterrability or likelihood of recidivism. For example, many of the claims of discrimination that led to sentencing guidelines were based on sentencing disparities between men and women102 and between whites and African-Americans.103 No doubt some of this disparity may have been caused by racism and sexism.

However, some of the disparity may have represented judges’ conscientious attempt to impose harsher sentences on those with the greatest probability of recidivism. The recidivism rate of men is much higher than that of women, and the recidivism rate of black criminals is much higher than that of white criminals.104 Moreover, men and black criminals also violate the conditions of their parole at a much higher rate than women and white criminals, respectively.105 For a judge to base sentencing decisions on race or gender would be immoral, illegal, and impermissible. It would also be immoral, illegal, and impermissible for a judge to give longer sentences to men and blacks merely because these two groups have high recidivism rates.

However, in more men and blacks than women and whites, judges may have correctly identified the characteristics, other than gender and race, suggesting a danger of recidivism. That is, judges may have, on average, imposed longer sentences on men and blacks because men and blacks more frequently display the characteristics that suggest recidivism: because men and blacks are disproportionately recidivists, they may

99. Id.
100. Id.
101. See United States Sentencing Commission, supra note 79.
104. Bureau of Justice Statistics, Recidivism of Prisoners Released in 1994 7 (2002), available at http://ojp.usdoj.gov/bjs/pub/pdf/rpr.pdf (finding that men were more likely than women to be rearrested (68.4% versus 57.6%), reconvicted (47.6% versus 39.9%), and resentenced to prison (26.3% versus 17.3%); also finding that black criminals were more likely than white criminals to be rearrested (72.9% versus 62.7%), reconvicted (51.1% versus 43.3%), and resentenced to prison (28.5% versus 22.6%).
105. See id. (finding the following parole violation rates: men, 53.0%; women, 39.4%; black, 54.2%; white, 49.9%).
disproportionately reveal this to judges. Employers seldom grant pregnancy leave to men not because of gender discrimination, but because men cannot become pregnant. Similarly, judges may have sometimes imposed longer prison sentences on men not because they were men, but because men exhibit signals of recidivism more often than women.

States’ guidelines systems use objective factors to attempt to tailor penalties to offenders’ deterrability and likelihood of recidivism. For example, because criminals with longer criminal histories are likely to be less-deterrable, guidelines typically consider criminal history to be an aggravating factor that increases recommended sentences. Some states have tried to tailor guidelines sentences to recidivism more directly. For example, the Ohio and Virginia guidelines list factors that show an increased likelihood of recidivism, and they permit judges to consider the factors in sentencing.

However, judges may be able to detect indicators of deterrability that guidelines miss. Criminal histories and lists of objective factors may not capture all differences in deterrability. For example, even the least-deterrable offenders have a first-time conviction. Moreover, the judge can effectively evaluate the defendant’s behavior during the prosecution and trial.

There is some evidence that suggests that guidelines have indeed reduced the opportunity for effective judges to tailor some sentences to offender deterrability and likelihood of recidivism. In 1994, the Bureau of Justice Statistics (BJS) conducted an extensive study of recidivism of state prisoners. Although the BJS presented only the raw data and tested no hypotheses, my own quick analysis shows that recidivism rates were significantly higher in states with sentencing guidelines systems than in non-guidelines states. These results suggest that guidelines states that limit judicial discretion may prevent judges from imposing sentences severe enough to deter the offenders with the highest likelihood of recidivism.

106. Employers’ frequent refusal to grant paternity leave may be based on gender discrimination.
108. See, e.g., MARVIN WOLFGANG ET AL., DELINQUENCY IN A BIRTH COHORT 162 tbl.10.3 (1972).
110. See Bureau of Justice Statistics, supra note 104.
111. See id.
112. Of course, this relationship could be caused by states with high recidivism rates being more likely to enact sentencing guidelines. Cf. Bureau of Justice Statistics, supra note 104, at 12 (finding rearrest rates in guidelines states averaged 59%, compared to 55% in non-guidelines states in a cohort of 272,111 former inmates from fifteen states (representing over two-thirds of the inmates released in 1994) tracked for three years after their release).
b. Longer Sentences May Cause Circumvention of Guidelines

Crime may also increase if sentencing guidelines cause prosecutors, judges, and juries to become less willing to prosecute or convict. Guidelines prohibit judges from both reducing sentences below certain thresholds and considering mitigating circumstances that many guidelines do not specify, such as remorse, character, or demeanor at trial. For example, Oregon's guidelines have been criticized for ignoring an offender's degree of involvement in crime and whether the crime is a product of psychopathy.

Not wanting to impose a long sentence on a seemingly low-risk defendant, a prosecutor may decide not to prosecute, or a judge or jury may dismiss charges or acquit. In most state court systems, the judge does not inform the jury of the sentence that the defendant would receive if convicted. However, juries often learn informally of harsh sentencing practices that guidelines impose, just as other potential criminals learn of the harsh sentences. For example, the public might learn through news reports of draconian sentences for young drug users. Indeed, tough-on-crime support for guidelines presumed public knowledge; the community's awareness of the general nature of sentences under guidelines is essential for the guidelines to deter potential criminals.

Looking at this from the perspective of Figures 1 and 2, suppose that a prosecutor, judge, or jury believes that a defendant is a low-risk criminal in the distribution's left-most tail. Accordingly, a mild sentence or intermediate sanction would be appropriate. However, in some situations, guidelines systems prevent judges from imposing mild or intermediate sanctions. If the sentencing guidelines require a much harsher sentence than the appropriate mild sentence, then the prosecutor might dismiss charges, or the judge or jury might acquit. For example, recall the example of the diligent college student who was caught with cocaine at a party. Suppose that the prosecutor, judge, or jury concludes that a year of probation would be sufficient for deterrence of the defendant and those like her. If sentencing guidelines demanded instead a year-long prison sentence, then the prosecutor, judge, or jury might dismiss or acquit. If the only choices are an excessive penalty under the

113. See, e.g., Marcus, supra note 15, at 245.
114. See id.
115. Judicial acquittals are rare compared to charges resolved by plea bargains and jury trials. Nevertheless, even rare judicial acquittals could affect potential offenders' expectations of their likelihood of imprisonment.
117. Id. at 1242 & n.53.
118. See Frase, supra note 96, at 441.
guidelines and no penalty, the prosecutor, judge, or jury might choose no penalty.

If prosecutors, judges, or juries behave this way, then sentencing guidelines should cause crime to increase. The penalties that the legal system now applies to low-risk defendants will be milder than before the guidelines were adopted. Deterrence will decline, and low-risk defendants will commit more crime. Before the guidelines, the first-time cocaine user might have been convicted and received probation. Under this new paradigm, she receives no penalty at all for her first-time cocaine use. Thus, perhaps she is more likely than she otherwise would be to use cocaine again.

Other potential low-risk offenders may learn that, under such sentencing guidelines, the low-risk offenders receive no punishment. They too will be less deterred than they were before.

Strong evidence suggests that strict guidelines may both cause some judges to be unwilling to convict and induce some prosecutors to charge lesser crimes or even dismiss charges. Surveys of federal judges and many federal judicial opinions demonstrate that many federal judges perceive federal sentencing guidelines to be too harsh and inflexible. Although federal guidelines impose stronger limits on judicial discretion than many state systems, I refer first to the federal experience because federal guidelines have received more scholarly attention than state guidelines. For example, Justice Kennedy has stated that federal sentencing guidelines are too harsh and too lacking in judicial discretion. Chief Justice Rehnquist was also concerned that guidelines restricted necessary sentencing discretion. Circuit Judge Jose Cabranes and Professor Kate Stith have concluded that guidelines are overly harsh and inappropriately shift judicial discretion to legislators and probation officers. In studies that I have already mentioned, 80% of federal judges in one study and 45% in another thought the guidelines were too inflexible, and many

119. See, e.g., TREADWAY JOHNSON & GILBERT, supra note 83, at 6.
121. See Anthony M. Kennedy, Associate Justice, U.S. Supreme Court, Speech at the American Bar Association Annual Meeting (Aug. 9, 2003), available at http://www.supremecourts.gov/publicinfo/speeches/sp_08-09-03.html ("The compromise that led to the guidelines led also to an increase in the length of prison terms. We should revisit this compromise. The Federal Sentencing Guidelines should be revised downward.").
123. See STITH & CABRANES, supra note 24.
judges avoided applying the guidelines by retiring early.124

This dissatisfaction may sometimes induce judges to circumvent the guidelines. As Professor Stith and Judge Cabranes note:

Many judges are not at ease operating within the system, and may be sorely tempted to manipulate their Guidelines calculations to avoid the results called for by the Guidelines. Where the Guidelines' mandated sentencing range seems inadequate or too harsh, the judge may be tempted to reconsider factual "findings" in order to alter the Guidelines calculation, or to devise a basis for departure that may be largely irrelevant to the culpability in the case at hand but at least may pass muster in the court of appeals.125

Another federal judge was even more explicit: "The Guidelines... have made charlatans and dissemblers of us all. We spend our time plotting and scheming, bending and twisting, distorting and ignoring the law in an effort to achieve a just result. All under the banner of truth in sentencing!"126

Some state judges also admit to evading the system. In a series of interviews with California municipal court judges, the judges admitted to using "a variety of methods to expand their discretion, including refusing plea bargains, assignment of offenders to probation and community service, creative interpretation of statutes, and recommendations to the probation department to allow alternative placements for mandatory sentences."127

Most importantly, many studies provide empirical evidence that is consistent with judges' evasion of the guidelines.128 They find that both

124. See supra notes 83–85 and accompanying text.
125. STITH & CABRANES, supra note 24; see also Andrew D. Leipold, Why are Federal Judges so Acquittal Prone?, 83 WASH. L.Q. 151, 207 (2005) (indicating that the guidelines "at times created a tension between the judge's duty to follow the law and the duty to see that justice is done").
128. See Martin F. Kaplan & Sharon Krupa, Severe Penalties Under the Control of Others Can Reduce Guilty Verdicts, 10 L. & PSYCHOL. REV. 1, 8 (1986) (acquittals are more likely when the judge or jury has little control over the punishment required by a conviction; reasoning that judges and juries want to be sure that appropriate sentences are imposed); Norbert L. Kerr, Severity of Prescribed Penalty and Mock Jurors' Verdicts, 36 J. PERS. & SOC. PSYCHOL. 1431, 1439 (1978) ("Increasing the severity of the prescribed penalty for an offense resulted in an adjustment of subjects' conviction criteria such that more proof of guilt was required for conviction and thus resulted in a reduced probability of conviction."); Martha A. Myers, Rule Departures and Making Law: Juries and Their Verdicts, 13 L. & Soc'y REV. 781, 793 (1979) (finding that acquittals are more likely when charged offense is serious); Neil Vidmar, Effects of Decision Alternatives on the Verdicts and Social Perceptions.
judges and juries are more likely to acquit as the punishment following a conviction increases. Moreover, the likelihood of acquittal is even higher when judges and juries have little control over the punishment required by a conviction, as in guidelines systems.

Evidence also shows that prosecutors sometimes attempt to evade sentencing guidelines by undercharging. Studies show that state guidelines systems with little flexibility and narrow sentencing ranges induce prosecutors to grant charge concessions. For example, researchers have noted that in the State of Washington, the "severity of charges at conviction changed significantly following each change in the [sentencing guidelines] law, which suggests the manipulation of charges (and subsequent sentences) rather than a strict application of the charges committed." Similarly, studies have shown that federal prosecutors began to engage in more charge bargaining after federal guidelines were adopted. A 1991 study by the Sentencing Commission determined that "prosecutors and judges can and will sometimes evade mandatory sentencing provisions when they seem unjust."
It is possible that prosecutors' undercharging will produce the same sentence as before the guidelines, and, therefore, have no effect on crime. If the prosecutor and judge believe that the guidelines' sentence for the crime that the defendant has committed would be excessive given the defendant's deterrability, they might attempt to circumvent the guidelines. They might charge and convict the defendant of a lesser crime for which the guidelines' sentence is the same as the milder sentence that the judge would have chosen before the guidelines. Deterrence and the crime rate would remain the same because penalties have remained the same.

Prosecutors' reduction of sentences below guidelines levels by reduced charging would decrease the number of cases in which the judge and jury are confronted with the choice of excessive sentencing under the guidelines and acquittal. However, in most situations, this strategy is unlikely to produce the same sentence as before the guidelines. It requires the unlikely cooperation of prosecutor, judge, and jury in cases that go to trial. In addition, some prosecutors and judges may respect ethical rules and norms that prohibit undercharging. Moreover, prosecutors may prefer, for political reasons, to obtain longer sentences in order to show that they are tough on crime.

Thus, a substantial number of cases will still confront judges and juries with this unfortunate choice between an unnecessarily harsh sentence and acquittal. If acquittal is chosen in any of these cases, then the effect of the guidelines could be to reduce deterrence and increase crime. Only empirical analysis will shed light on the degree to which prosecutors' discretion in charging protects against guidelines' tendency to increase crime.

c. Longer Sentences for Low-Risk Criminals May Increase Recidivism

Although some prosecutors, judges, and juries will circumvent the guidelines by acquitting or undercharging low-risk offenders, others will not. As a result, guidelines will cause many low-risk offenders to be sentenced to longer sentences. If before the guidelines judges were already deterring these offenders with mild sentences, then the longer sentences will not increase deterrence or reduce crime; low-risk offenders were already deterred.

Instead, the longer sentences for low-risk offenders could instead increase crime. An empirical study suggests that the longer the sentence, the greater that the alienation, deteriorated family relations, and removal

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138. Even if the average sentence increases for offenders receiving a prison sentence, if more of the offenders are acquitted, deterrence could decrease if the expected sentence (sentence length multiplied by probability of receiving a sentence) decreases.
from regular employment combine to reduce noncriminal alternatives; the longer one’s stay in prison, the more crime becomes a likely choice that is available when one is released.\textsuperscript{139}

Moreover, prisons are boarding schools for crime. Imprisoning low-risk offenders for longer periods increases the probability that the low-risk offenders will learn from, and emulate, higher-risk offenders.\textsuperscript{140} A sadly effective way to learn to become a dedicated criminal is to spend long periods of time with dedicated criminals.\textsuperscript{141}

Studies suggest that milder penalties lower recidivism rates of low-risk offenders.\textsuperscript{142} For low-risk offenders, shorter sentences reduce crime more than longer sentences, and sentences that do not include imprisonment reduce crime more than prison sentences.\textsuperscript{143}

Because sentencing guidelines increase the frequency of imprisonment and sentence lengths for low-risk defendants, guidelines may cause recidivism rates for low-risk offenders to increase.

d. More Certain Sentences May Deter Fewer Offenders

Sentencing guidelines could also increase crime if criminals prefer the reduced sentencing variability under the guidelines. Before sentencing guidelines, sentencing confronted the offender with much risk because the sentence that an offender might receive was relatively uncertain. A judge could impose a sentence higher than the upper limit of the later guidelines sentencing range. Or a lenient judge would impose a very low sentence, below the lower guidelines limit.

Sentencing guidelines reduce this risk. The guidelines limit the range

\textsuperscript{139} See Miles D. Harer, Sentencing Goals for Low-Risk Offenders: Do Guideline Sentences for Low-Risk Drug Traffickers Achieve their Stated Purposes?, 7 FED. SENT’G REP. 22, 23 (1994) ("[L]ogic suggests that the alienation, deteriorated family relations, and reduced employment prospects resulting from the extremely long removal from family and regular employment may well increase recidivism.").

\textsuperscript{140} Grogger, supra note 71, at 304.

\textsuperscript{141} Id.


of acceptable sentences, and reduce the possibility of receiving either a very high or a very low sentence. Individual states have conducted pre- and post-guidelines evaluations of sentencing practices that confirm that the guidelines have achieved their goal of reducing sentencing variance.

For example, the sentencing guidelines greatly reduced the variability of sentence lengths in Minnesota. Before the guidelines, only 62% of sentences had fallen within what the guidelines later established as the recommended range. After the guidelines, 79% of sentences were within the recommended range. Guidelines also greatly reduced sentence variation in Pennsylvania. Before the guidelines, only 25% of aggravated assault sentences, 51% of burglary sentences, 22% of rape sentences, and 43% of robbery sentences fell within the recommended sentencing range. After the guidelines, 67% of aggravated assaults, 78% of burglaries, 70% of rapes, and 81% of robberies were within the recommended range.

Likewise, the 1983 Washington guidelines caused sentence-length variability to decrease by 60%. The variability of Oregon’s sentence lengths was reduced by 45% after the imposition of the guidelines. North Carolina’s sentencing guidelines have also led to a decrease in the variability of sentencing decisions.

Most noncriminals are “risk-averse;” that is, they dislike risk. They would prefer a loss with certainty to a gamble with the same “expected value” as the certain loss. For example, risk aversion is the basis for the entire insurance industry. Suppose that the chance of a $100,000 house burning down was 1% each year, so that the expected loss was .01 x $100,000, or $1000. Most people are willing to pay much more than $1000 for fire insurance that eliminates the risk. Suppose that the owner buys insurance for $1500 per year. This shows that the owner is risk-averse; he prefers a certain loss of $1500 to an uncertain loss with an expected value of $1000. He is willing to pay $500 to eliminate the risk.

If criminals too are risk averse, then they will prefer the relatively certain sentences under guidelines to the risky sentences without them;

145. Id.
146. Id.
148. Id.
149. Id.
151. See Ronald F. Wright, Flexibility in North Carolina Structured Sentencing, 1995-1997, Overcrowded Times, December 1998, at 6 (explaining that most North Carolina judges have issued sentences within the presumptive range of the sentencing guidelines).
many criminals may be happy to know that the highest penalty they are likely to receive is the upper limit of the guidelines range, instead of the statutory maximum. That is, the risk from the pre-guidelines systems imposes an additional cost on the criminal. Even if the average sentence for a given offender under the pre-guidelines system and the guidelines system were the same, the offender would view the risky pre-guidelines sentence as riskier and therefore more costly. Therefore, the pre-guidelines sentence would be a greater deterrent; it imposes on the defendant not only the expected sentence, but also much risk. In contrast, the effective penalty under the guidelines is lower, because it imposes less risk. Under the guidelines, some potential offenders will no longer be deterred because the costs of committing crime have decreased.  

For example, suppose that a guidelines system specified that the sentence for armed robbery was an exact ten years. In contrast, the pre-guidelines sentence had a one-half chance of being twenty years and one-half chance of being zero. The expected pre-guidelines sentence was the same ten years as under the guidelines, but with much more risk. A risk-averse defendant would view the pre-guidelines gamble as more costly. He would prefer ten years with certainty to a gamble with the possibility of losing two decades. Thus, the pre-guidelines sentence would be a greater deterrent.

Of course, the theory depends on criminals being risk-averse like most other noncriminals. The theory will prove false if criminals, unlike others, are risk-loving. Guidelines will not increase crime if criminals are double-or-nothing risk-seekers who prefer sentencing Russian roulette to a sentence that is modest but certain. The empirical results will provide some insight into whether criminals are like us: whether they are thrill-seeking gamblers or whether they are normal, risk-averse people whose

152. Risk-averse criminals would perceive less risky sentences as less harsh. Risk-averse individuals prefer mean-preserving decreases in risk. Although the literature is mixed on whether criminals are risk-loving, so that they prefer increases in risk, or risk averse, crime will increase if even a few criminals are risk averse and prefer the reduced variation of guidelines sentences. See Michael Block & Robert C. Lind, An Economic Analysis of Crimes Punishable by Imprisonment, 4 J. LEGAL STUD. 479, 479 (1975) (explaining the relative deterrent effects of certainty and severity in punishment); Michael K. Block & V.E. Gerety, Some Experimental Evidence on Differences Between Student and Prisoner Reactions to Monetary Penalties and Risk, 24 J. LEGAL STUD. 123, 138 (1995) (arguing there is a significant difference between criminals and the general population in willingness to accept risk); John Collins Coffee, Jr., Corporate Crime and Punishment: A Non-Chicago view of the Economics of Criminal Sanctions, 17 AM. CRIM. L. REV. 419, 433 (1980) (arguing that criminals may be risk averse with respect to money fines); Grogger, supra note 71, at 304; William S. Neilson & Harold Winter, On Criminals' Risk Attitudes, 55 ECON. LETTERS 97, 102 (1997) (arguing that criminals can be risk averse if they have atypical utility functions); Dryden Witte, supra note 74, at 79 (arguing that most criminals are risk-loving with respect to both fines and imprisonment).

153. See discussion infra Part II.C.2.b (discussing the theoretical implications of the risk-loving offender).
jobs just happen to be crime.

2. Theories Suggesting that Guidelines might Decrease Crime
   a. Higher Average Sentences Could Increase Deterrence

Sentencing guidelines may decrease crime if guidelines cause incarceration rates and average sentences for some offenders to increase. The standard economic model of crime indicates that the level of deterrence depends on two factors: the criminal’s penalty if he is punished and the probability that he will be punished.\(^{154}\) Increases in either factor increase the costs to the criminal of crime. Deterrence should increase and crime should decrease if, after guidelines, states punish more criminals and punish them more.

Moreover, apart from deterrence, higher incarceration rates and longer prison terms for some offenders should decrease crime through greater incapacitation. If, after adopting guidelines, a state arrests more criminals and puts them in prison longer, fewer criminals remain on the streets.

As often stated in enabling legislation, one goal of the guidelines in many states is to increase the use of imprisonment for violent offenses.\(^{155}\) Many states have achieved this goal. The states that have conducted pre- and post-guidelines implementation studies have all found that, for violent offenders, both the incarceration rate and average sentence length increased substantially under the guidelines systems.\(^{156}\) Moreover, with the majority of states adopting truth-in-sentencing reforms before or during this period, the higher average sentences translate into longer time served in prison.\(^{157}\) This is reflected in Figure 2 as a movement in the average sentence to the right.

After Minnesota's implementation of sentencing guidelines in 1980, the rate of imprisonment for violent crimes increased from 61.1% to 85.9% and average sentence lengths for violent crimes also increased.\(^{158}\)

\(^{154}\) Becker, supra note 58, at 177. Professor Becker also identifies a "portmanteau" factor that includes income available from legal and nonlegal sources, frequency of nuisance arrests and the actors' willingness to commit a crime. Id.


\(^{156}\) Ditton & Wilson, supra note 87, at 1, 3, 5–13. In contrast to their treatment of violent crimes, some states purposely decreased imprisonment rates and sentence lengths for property crimes in order to slow the growth in prison populations. See Kevin Reitz, Questioning the Conventional Wisdom of Parole Release Authority, in The Future of Imprisonment in the 21st Century (Michael Tonry ed., 2004) (finding that incarceration rates and sentences for property criminals decreased for some crimes in some states). Less incarceration and lower penalties for property crimes may cause an increase in property offenses by reducing the expected costs of this type of criminal activity. Because this prediction applies to only certain property crimes in certain states, I do not include it as one of the four primary theories for why crime may increase after guidelines.

\(^{157}\) Ditton & Wilson, supra note 87, at 1, 3, 5–13.

\(^{158}\) Knapp, supra note 144.
After adoption of the 1982 Pennsylvania sentencing guidelines, incarceration rates for violent crimes increased from 40% to 64% for aggravated assault, from 74% to 86% for rape, and from 67% to 74% for robbery.\(^{22}\) Sentence lengths also increased from 8.5 months to 13.6 months for aggravated assault, from 41.5 months to 51.9 months for rape, and from 21.1 months to 21.6 months for robbery.\(^{16}\)

The 1983 Washington guidelines caused imprisonment rates for violent offenses to increase from 48.8% to 65.1%.\(^{6}\) In addition, sentence lengths for violent crimes increased: sentences for murder increased from an average of seventy-five months to a range of 109 to 164 months; robbery sentences increased from an average of forty months to a range of forty to sixty months.

After Oregon’s implementation of sentencing guidelines in 1989, imprisonment rates for violent crimes increased from 62% to 89% for homicide, from 29% to 37% for assault, from 40% to 61% for rape, and from 50% to 61% for robbery.\(^{16}\) Average sentence lengths for violent crimes increased from 34.4 to 119.8 months for homicide, from 26.1 to 32.1 months for assault, from 33.6 to 36.4 months for robbery, and from 40.1 to 76.7 months for rape.\(^{16}\)

The North Carolina sentencing guidelines enacted in 1994 have increased the imprisonment rate for violent offenders from 67% to 81% and increased the average sentence length from fifty-six months to eighty-seven months.\(^{16}\) Although published data for Delaware are less detailed, sentencing guidelines there have increased the incarceration rate for violent offenders and led to longer sentences for them.\(^{16}\)

Examination of the interaction between sentence length and sentence variation suggests that it is possible that guidelines’ effects on expected sentences may vary by the type of criminal. Average sentences can increase even if variation in sentencing decreases. Guidelines usually had the twin goals of reducing variation and increasing penalties: of reducing very long and very short sentences and increasing the average sentence. The pre- and post-guidelines implementation studies confirm that Figure 2 accurately represents the guidelines’ effects in most states: the possibility of very long or very short sentences is reduced, yet the

\(^{159}\) Kramer & Lubitz, supra note 147, at 497.
\(^{160}\) O’Brien et al., supra note 92, at 25.
\(^{163}\) Id. at 50.
average sentence has increased.

Therefore, the adoption of guidelines may increase the average sentence for some groups of criminals, but decrease it for others. High-risk criminals will expect shorter sentences because guidelines now prevent judges from imposing the high sentences that formerly went to high-risk criminals. Average criminals will expect longer sentences because the guidelines caused the average sentence to increase. Low-risk criminals could expect an increase in sentences even greater than the increase for average criminals because judges no longer can impose the mildest sentences on this group. If pre-guidelines sentences for low-risk offenders were too lenient and did not deter, longer guidelines sentences may reduce crime among this group. However, if prosecutors and judges evade the guidelines, then the expected sentence for low-risk criminals could decrease or remain unchanged. My empirical analysis will reveal the net effect of these competing possibilities.

b. More Certain Sentences may Deter More Offenders

Guidelines could also decrease crime if more criminals are risk-loving than risk-averse, and so view the smaller variance of guidelines sentences as harsher. Some scholars contend that at least some criminals are risk-loving and are deterred less by less-certain sentences. For example, Professors Block and Lind argue that “given a choice between a certain sentence of five years and a lottery consisting of the two equally probably outcomes, no [conviction] and a ten-year sentence, an individual will always choose the lottery.”

Thus, some offenders may view the guidelines’ less-variable penalties as harsher; although guidelines reduce their chances of getting a very high sentence, they also reduce their chances of getting a very low sentence. If criminals perceive guidelines’ more-certain sentences as more harsh, guidelines will increase deterrence, decreasing crime.

Others have long argued that the increased uniformity of sentences under the guidelines would increase deterrence, but not because criminals were risk-loving. Instead, starting with Cesare Beccaria during the Enlightenment, scholars have argued that uniform sentences increase deterrence both because they permit potential criminals more accurately to predict the sentence that they face and also because they allow society to set the uniform sentence at the deterrent ideal. As discussed above,
proponents of both state and federal sentencing guidelines subscribed to this theory. They argued that guidelines would increase deterrence by making sentences more certain and less lenient. 169

III. EMPIRICAL TESTS OF THE RELATIONSHIP BETWEEN SENTENCING GUIDELINES AND CRIME

Next, I examine the relationship between sentencing guidelines and crime rates. Figure 3 presents the violent crime rates both for states that adopt sentencing guidelines during the period 1960–2000 and for states that do not adopt guidelines during this period. 170 The violent crime rate is defined as the ratio of violent crimes to the population divided by 100,000.

FIGURE 3. VIOLENT CRIME RATES IN GUIDELINES AND NON-GUIDELINES STATES

Both guidelines and non-guidelines states exhibit the same general trends in violent crime rate: violent crime rates increased until the early 1990s and then began decreasing. Throughout this period, crime rates were slightly higher in states that did not adopt guidelines between 1960–2000.

169. See supra notes 32–38 and accompanying text.
Figure 4 presents property crime rates for guidelines and non-guidelines states. Again, the general trend is the same; property crime rates increased until the early 1980s and then began decreasing. During most of this period, property crime rates were higher in non-guidelines states. However, in the early 1990s, the property crime rates of non-guidelines states began to decrease more quickly, reaching lower absolute levels than those of guidelines states.

Although Figures 3 and 4 reveal differences in the crime rates between guidelines and non-guidelines states, they offer little evidence on the relationship between guidelines and crime. Instead, to test the competing predictions of Part II, I use a state-level dataset covering all U.S. states for the period 1960–2000; that is, the data include information on each of the fifty states for each year of this period. The state-level data allow me to include in my analysis state-specific economic and demographic variables. By controlling for these characteristics, I can better isolate the effect of sentencing policy.

171. See FBI, supra note 170.

172. Because state-level data allows me to control for state-specific factors, it permits a more precise estimation of the relationship between guidelines and crime than would national data. However, there is some aggregation bias even in state-level data. That is, there may be some important county-specific or city-specific factors that I cannot control for in state-level data.
To test the relationship between sentencing guidelines and crime, I estimate an equation that measures how crime rates respond both to the sentencing guidelines and to other demographic and economic factors. I perform several different estimations to test different hypotheses about the relationship between sentencing guidelines and crime. All of the estimations are based on the same equation, but with slight variations in the definition of the sentencing-guidelines variable.

A. The Model's Technical Structure

For technically-inclined readers, the system is in symbols:

\[ C_{it} = \alpha + \beta_i SG_{it} + \beta_j ECON_{it} + \beta_k DEMO_{it} + \beta_l POLICE_{it} + \beta_m s_t + \beta_n y_t + \epsilon_{it} \]  

where \( C \) is the state's crime rate and \( SG \) is a state-level variable that indicates whether the state has sentencing guidelines. As discussed below, different estimations use different variations of \( SG \). The economic variables in \( ECON \) are real per capita personal income and the unemployment rate. The three demographic variables in \( DEMO \) are the percentages of population age fifteen to nineteen, age twenty to twenty-four, and who belong to a minority group. The variable \( POLICE \) measure the state's number of full-time state police employees. As is standard practice, the model includes state and year dummy variables:\[ s_t \] and \[ y_t \]. The system of equations is estimated for seven separate crime rates: the rate of murder, aggravated assault, robbery, rape, burglary, larceny, and auto theft.

B. Details of the Model

Equation 1 measures the relationship between crime rates and sentencing guidelines while controlling for many other factors that also affect crime rates. To determine whether a change in crime is really due to sentencing guidelines, it is necessary to control for as many other factors as possible to ensure that the results are not caused by a confounding variable. That is, if a third variable that has significant relationships with both guidelines and crime was omitted from my equation, my analysis may erroneously attribute to the guidelines variable the relationship between crime and the omitted third variable. Ideally, we could quantify and include any factor that was related to crime. In reality, researchers include as many variables as is technically possible given data constraints, especially variables that may have

\[ 173. \text{ A dummy variable is a yes-no indicator with only two possible values, 0 and 1. William H. Greene, Econometric Analysis 116–18 (5th ed. 2003).} \]
significant relationships with both crime and guidelines.

The economic variables in ECON are used as proxies for legitimate and illegitimate earning opportunities. An increase in legitimate earning opportunities increases the opportunity cost of committing crime, and should result in a decrease in the crime rate. For example, if more higher-paying jobs become available, then criminals may stop committing crimes, and obtain these jobs instead. Likewise, an increase in illegitimate earning opportunities increases the expected benefits of committing crime, and should result in an increase in the crime rate.

The economic variables that I use are real per capita personal income and the unemployment rate. Both measure criminals’ legitimate earning alternatives. The income variable measures criminals’ general prospects in the legitimate labor market. The unemployment variable is a proxy for overall labor market conditions and the availability of legitimate jobs for potential criminals. The income variable also measures illegitimate opportunities. The more income that people earn, the more wealth that is available to steal. Other studies have found that crime responds to both measures of income and unemployment, but that the effect of income on crime is stronger. 174

The demographic variables in DEMO include the percentages of the state population age fifteen to nineteen, age twenty to twenty-four, and the percentage belonging to a minority group. The age and race variables represent the possible differential treatment of certain segments of the population by the justice system, changes in the opportunity cost of time through the life cycle, and racially-based differences in earning opportunities. For example, an increase in crime could be due to an increase in the number of young minorities, who, because of racial discrimination by employers, have no legitimate job opportunities, and instead turn to crime. These economic and demographic variables are standard and appropriate, and they have been included in many other empirical studies of crime. 175

The police employment variable, POLICE, is included because increased numbers of police may deter crime, not by changing the size of expected penalties, as with sentencing guidelines, but by changing the probability that criminals will be caught. More police may increase detection and apprehension, increasing the expected costs of engaging in criminal activity, and deterring some crime. This variable should have a negative relationship with crime rates.

As is standard and appropriate in such analysis, the equation also includes a set of time dummy variables that capture national trends and influences affecting all states but varying over time. The variables correct for the possibility that a change in crime rates may be due, not to sentencing guidelines, but to national trends in crime rates or other factors that affect all states, such as the passage of federal legislation or changes in medical technology. In addition, state dummies are included to control for unobservable variables that differ among states, such as cultural differences, attitudes towards crime, or differences in the justice system. Two states may continually have different crime rates, not because of differences in sentencing, but because of other unobservable differences between the two states. The state dummy variables will capture any factors that I have not otherwise included that are constant for a state over time.

As is normal and appropriate, I estimate equation 1 using a least-squares regression. I also control for possible heteroskedasticity and nonnormality of regression errors that result from variation in states' sizes. Since the dependent variable and most control variables are in per capita rates, I use the square root of the state population as the weight in the generalized least squares estimation. In addition, I use robust standard errors to correct for any residual heteroskedasticity of unknown form or nonnormal error distributions. These corrections yield consistent estimates of the variance of the estimated coefficients, causing the entire estimation to be efficient.

C. THE MODEL'S THREE VARIATIONS

I estimate three different variations of equation 1. In the first variation, the sentencing guidelines variable is a yes-no dummy variable that indicates when a state has a sentencing guidelines system in place. This variation tests the relationship between sentencing guidelines and crime, but treats every guidelines system the same, not distinguishing among their differences. The results will show the average relationship between guidelines and crime across all states.

In contrast, the second and third variations test whether the guidelines systems have different relationships with crime across states.

(Univ. of Chi. Law Sch., John M. Olin Law & Econ., Working Paper No. 73, 2000).
depending on the degree of compliance required by each guidelines system. The several theories that I present in Part II suggest that crime may increase more as guidelines become more mandatory; the more mandatory the guidelines, the less likely judges will depart from the guidelines' sentencing ranges. Reviewing each of the theories, the more mandatory the guidelines, the more firmly the guidelines will prevent judges from giving longer sentences to high-risk defendants, reducing deterrence of high-risk offenders. Likewise, the more mandatory the guidelines, the more that prosecutors may be likely to under-charge and judges may be more likely to acquit certain low-risk offenders. Moreover, risk-averse criminals may consider mandatory sentencing ranges as less harsh because they can be assured that their sentence will lie somewhere in the range. All of these forces may combine to increase crime even more than it would be increased by a more voluntary system.

In the second variation, I represent the degree of compliance required by each state's guidelines with four separate dummy variables. Each dummy variable represents one of the positions in the National Center for State Courts’ mandatory/voluntary continuum in Table 3; the categories arrange states based on the extent to which their sentencing guidelines were considered mandatory. In effect, this approach estimates the relationship between guidelines and crime for the four categories of states separately. That is, this variation will reveal whether the relationship between guidelines and crime differs across the four categories of guidelines systems.

In contrast, the third variation employs only one sentencing-guidelines variable: the variable remains zero for non-guidelines states and takes values one through four based on the states' place in the mandatory/voluntary continuum. Whereas the second variation tests whether the relationship between guidelines and crime is different for the different categories of states, this variation examines whether, as guidelines become more mandatory, the relationship between guidelines and crime changes systematically. That is, these results will reveal the marginal effect on crime as guidelines move along the mandatory/voluntary continuum.

D. Empirical Results

The results indicate that sentencing guidelines are associated with an increase in almost all crime rates. The more mandatory are the guidelines, the larger is the increase in crime. The results are consistent across the model's three variations. The first variation reveals that, on average, guidelines states have higher crime rates than would be

176. For a discussion of the method by which the states were assigned to each category, see supra note 56 and accompanying text.
expected if they had no guidelines.177 The second variation shows, in addition, that the more mandatory a state makes compliance with the guidelines, the higher its crime rate: states with mandatory systems have higher crime rates than would be expected under more voluntary systems.178 Finally, the third variation shows that each movement to a more mandatory level among the four categories of guidelines is associated with a 3.3% increase in violent crime and a 3.1% increase in property crime.179

1. Variation 1

The full results for all variables for the model’s first variation are reported in the table in Appendix 1. The table indicates the relationship between crime rates and both sentencing guidelines and each control variable for each of the seven crimes. For each crime, the top number in each cell in the table is the regression coefficient, which indicates the magnitude and direction of the relationship with each crime. A negative coefficient indicates that a variable has an inverse relationship with crime. For example, a negative coefficient on the guidelines variable would indicate that adoption of sentencing guidelines is associated with a decrease in crime. In contrast, a positive coefficient indicates that a variable has a positive relationship with crime. For example, a positive coefficient on the guidelines variable would indicate that adoption of sentencing guidelines is associated with an increase in crime.

In addition, the table reports the t-statistic for each coefficient. In each cell, it is the bottom number in parentheses. T-statistics equal to or greater than 1.645 are considered statistically significant at the 10% level and t-statistics equal to or greater than 1.96 are considered statistically significant at the 5% level. A t-statistic of 1.645 means that there is 90% certainty that the coefficient is different from zero. Empiricists typically require t-statistics of at least 1.645 to conclude that one variable affects another in the direction indicated by the coefficient.180

Table 4 summarizes the most important results from Appendix 1. It presents the coefficient and t-statistics for the guidelines variable in the model’s first variation for each of the seven crimes.

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177. See discussion infra Part III.D.1.
178. See discussion infra Part III.D.2.
179. See discussion infra Part III.D.3.
180. For each regression, the table also reports R-squared statistics. In contrast to the t-statistics, which measure the reliability of each individual coefficient, the R-squared measures the regression’s overall goodness of fit. Greene, supra note 173, at 33–34. That is, the R-squared measures how much of the overall variation in the dependent variable, here the crime rate, is explained by the explanatory variables. Id. Thus, the R-squared of a regression will vary between 0 and 1. Id. An R-squared of 0 means that the explanatory variables explain none of the dependent variable’s variation. Id. An R-squared of 1 means that the explanatory variables explain all of the variation. Id. The closer the R-squared is to 1, the better the regression explains the data. Id.
The results are striking. Sentencing guidelines are associated with crime increases in six of the seven crime categories; for six of the seven crimes, the coefficient for the sentencing-guidelines variable is positive and statistically significant at the 5% level. Guidelines are associated with increases in murders, robberies, rapes, burglaries, larcenies, and auto thefts.

**TABLE 4: RESULTS OF GUIDELINES VARIABLE IN MODEL'S FIRST VARIATION**

<table>
<thead>
<tr>
<th>CRIME</th>
<th>COEFFICIENT (T-STATISTIC)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Murder</td>
<td>1.07 (6.73)*</td>
</tr>
<tr>
<td>Aggravated Assault</td>
<td>3.39 (0.48)</td>
</tr>
<tr>
<td>Robbery</td>
<td>33.55 (5.64)*</td>
</tr>
<tr>
<td>Rape</td>
<td>5.60 (8.01)*</td>
</tr>
<tr>
<td>Burglary</td>
<td>68.78 (3.57)*</td>
</tr>
<tr>
<td>Larceny</td>
<td>106.62 (3.55)*</td>
</tr>
<tr>
<td>Auto Theft</td>
<td>97.81 (8.85)*</td>
</tr>
</tbody>
</table>

Note: Table reports estimated coefficients and the absolute values of t-statistics in parentheses and "*" represents significance at the 5% level.
The coefficient on the sentencing guidelines variable in the aggravated assault equation is statistically insignificant. This result may indicate that guidelines have no effect on the commission of aggravated assaults. However, the result could also be caused by defects in the data on aggravated assaults: during the time period that my study addresses, many states changed their definitions of aggravated assault.\footnote{18a}

Not only are the coefficients statistically significant, they are also significant as a practical matter. The results indicate that, in 2000, the last year of my data, the average state with sentencing guidelines experienced violent crime rates that were approximately 8% higher than they would have been without guidelines. Likewise, property crime rates in 2000 were approximately 7% higher in the average guidelines state than they would have been without guidelines.\footnote{18a}

2. Variation 2

In the model's second variation, there are four sentencing guidelines variables, one for each position on the mandatory/voluntary continuum. Table 5 reports the coefficients and t-statistics of each of the guidelines variables in this variation.

\footnote{181. See Knapp, supra note 144, at 21; Wright, supra note 151, at 10.}

\footnote{182. I calculated the percentage changes as follows. The coefficients in Table 4 are the partial derivatives of crime per 100,000 population with respect to the existence of a sentencing guidelines system. That is, the coefficients describe the increased crime in guidelines states per 100,000 in the state's population. Multiplying each coefficient by 100,000 and dividing by the total population in sentencing-guidelines states in 2000 gives the total change in the number of crimes as a result of guidelines systems in 2000, the most recent year of data. To compute the percentage change in violent crimes, I divide the total change in murders, aggravated assaults, robberies, and rapes, by the total number of these crimes that occurred in guidelines states in 2000. The 95% confidence interval for the percentage increase in violent crimes is 5\% to 11\%. The 8\% that I report is the middle of this interval. To compute the percentage change in property crimes, I divide the total change in the burglaries, larcenies, and auto thefts, by the total number of these crimes that occurred in guidelines states in 2000. The 95% confidence interval for the percentage increase in property crimes is 4\%--10\%, and 7\% is the halfway point.}
### Table 5: Results of Four Guidelines Variables in Model’s Second Variation

<table>
<thead>
<tr>
<th>Crime</th>
<th>Continuum Position</th>
<th>Coefficient (T-statistic)</th>
<th>Coefficient (T-statistic)</th>
<th>Coefficient (T-statistic)</th>
<th>Coefficient (T-statistic)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>First (Most Voluntary)</td>
<td>Second</td>
<td>Third</td>
<td>Fourth (Most Mandatory)</td>
</tr>
<tr>
<td>Murder</td>
<td></td>
<td>1.49 (5.04)*</td>
<td>1.50 (6.37)*</td>
<td>.79 (4.14)*</td>
<td>.56 (1.90)+</td>
</tr>
<tr>
<td>Aggravated</td>
<td></td>
<td></td>
<td>-6.41 (0.70)</td>
<td>12.14 (2.11)</td>
<td>-26.30 (2.04)*</td>
</tr>
<tr>
<td>Assault</td>
<td>25.53 (2.76)*</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rape</td>
<td>-5.91 (5.05)*</td>
<td>7.13 (6.38)*</td>
<td>5.08 (6.07)*</td>
<td>4.50 (4.72)*</td>
<td></td>
</tr>
<tr>
<td>Robbery</td>
<td>1.32 (0.16)</td>
<td>18.59 (2.24)*</td>
<td>38.56 (6.08)*</td>
<td>115.85 (8.09)*</td>
<td></td>
</tr>
<tr>
<td>Assault</td>
<td>25.53 (2.76)*</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rape</td>
<td>-5.91 (5.05)*</td>
<td>7.13 (6.38)*</td>
<td>5.08 (6.07)*</td>
<td>4.50 (4.72)*</td>
<td></td>
</tr>
<tr>
<td>Burglary</td>
<td>-27.26 (0.86)</td>
<td>34.29 (1.43)</td>
<td>57.46 (2.36)*</td>
<td>525.16 (10.09)*</td>
<td></td>
</tr>
<tr>
<td>Larceny</td>
<td>296.75 (2.88)*</td>
<td>19.55 (0.48)</td>
<td>104.05 (2.72)*</td>
<td>753.83 (10.39)*</td>
<td></td>
</tr>
<tr>
<td>Auto Theft</td>
<td>105.18 (5.66)*</td>
<td>82.06 (5.85)*</td>
<td>104.0 (7.26)*</td>
<td>153.26 (4.87)*</td>
<td></td>
</tr>
<tr>
<td>% Increase</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>in Violent</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Crimes</td>
<td>4.6%</td>
<td>5.6%</td>
<td>8.1%</td>
<td>19.0%</td>
<td></td>
</tr>
<tr>
<td>% Increase</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>in Property</td>
<td>9.9%</td>
<td>2.3%</td>
<td>6.7%</td>
<td>32.4%</td>
<td></td>
</tr>
<tr>
<td>Crimes</td>
<td>4.6%</td>
<td>5.6%</td>
<td>8.1%</td>
<td>19.0%</td>
<td></td>
</tr>
</tbody>
</table>

As with the first variation, states with sentencing guidelines tend to have more crime. Moreover, as theory predicts, the more mandatory a state’s guidelines, the higher the increases in crime. This is seen most easily in the bottom two rows in Table 5, where I have separately combined the coefficients for violent crimes and for property crimes, and

183. Table reports estimated coefficients and the absolute values of t-statistics in parentheses. "*" and "+" represent significance at the 5% and 10% levels, respectively.
then transformed the coefficients into percentage changes.

For violent crimes in 2000, all categories of sentencing guidelines, regardless how mandatory, are associated with increases in violent crime compared to non-guidelines states. The percentage increases for each of the four categories of guidelines systems follow the predicted pattern. The guidelines systems that are most voluntary are associated with a 4.6% increase in crime over non-guidelines states. Guidelines systems that lie in the second position of the mandatory/voluntary continuum are associated with a slightly higher 5.6% increase in violent crimes. The average increase is a still-higher 8.1% for the systems in the next-stricter third category. Finally, the guidelines systems that are the most mandatory are associated with a 19% increase in violent crimes over non-guidelines states.184

The results are similar, though a bit less even, for property crimes. As with violent crime, states with sentencing guidelines, regardless how mandatory, tended to have more property crime. Compared with non-guidelines states in 2000, the guidelines systems that are most voluntary are associated with a 9.9% increase in property crime. Guidelines systems in the second position on the continuum are associated with a 2.3% increase, and systems in the third position have approximately 6.7% more crime. Finally, the most mandatory systems are associated with a 32% increase.185 Although the results of the last three positions are consistent with the predicted increasing relationship between required compliance and property crimes, the first position is not associated with the smallest increase in property crimes. However, the results are not surprising because only one state represents this most voluntary position. We would expect that states should, on average, exhibit the increasing relationship between required compliance and crimes. However, because there are so many differences among states, we would not expect every state to conform to the relationship perfectly.

3. Variation 3

The results for the model’s third variation yield conclusions that are consistent with the second variation: sentencing guidelines are associated with increases in crime, and the more mandatory the guidelines, the greater the increase. Recall that the sentencing guidelines variable in this variation takes on values from zero to four, depending on how mandatory the guidelines are in each state. Table 6 reports the

184. The computation of the average percentage change in violent crimes in the second variation is identical to the computation in the first variation. The 95% confidence interval for each category of states is: category 1, 0.9%–12%; category 2, 1.7%–9.5%; category 3, 5.3%–10.8%; and category 4, 7.8%–30.2%. The reported percentages are the midpoints of each of the intervals.

185. The 95% confidence interval for each category of states is: category 1, 4%–16%; category 2, 1.5%–3.1%; category 3, 2.9%–10.6%; and category 4, 25%–39%. 
coefficients on this variable for each of the seven crimes.

The coefficients on the guidelines variable are positive and significant for all crimes except aggravated assault, which has an insignificant coefficient. The positive and significant coefficients indicate that crime increases more as guidelines become more mandatory. For example, each increase in position on the continuum, representing a one-step increase in the degree of compliance required by the guidelines, is associated in 2000 with approximately a 3.3% increase in violent crimes and a 3.1% increase in property crimes.\footnote{Again, the computation of the average percentage change in crime as states move along the continuum is similar to the computation in the model’s first variation. \textit{See supra} note 182. The 95\% confidence interval for the percentage increase in violent crimes with each one-position move along the continuum is 2.3\%–4.3\%. The 95\% confidence interval for the percentage increase in property crimes with each one-position move along the continuum is 1.8\%–4.3\%. The reported percentages are again the midpoints of the intervals.}

\begin{table}
\centering
\begin{tabular}{|l|c|}
\hline
Crime & Coefficient (T-statistic) \\
\hline
Murder & 0.33 (5.86)* \\
Aggravated Assault & 1.39 (0.52) \\
Robbery & 14.27 (6.58)* \\
Rape & 1.96 (8.10)* \\
Burglary & 33.15 (4.26)* \\
Larceny & 49.8 (4.23)* \\
Auto Theft & 36.24 (8.73)* \\
\hline
\end{tabular}
\caption{Results of Guidelines Variable in Model’s Third Variation} \footnote{Table reports estimated coefficients and the absolute values of t-statistics in parentheses. \textquoteleft\textquoteleft\textquoteleft\textquoteleft represents significance at the 5\% level.}
\end{table}

E. Ensuring Results are Robust

I also performed several alternative estimations to minimize the probability that factors other than sentencing guidelines and my other control variables are causing the increasing crime rates: I checked for reverse causation, examined whether other sentencing reforms might be
causing the increases in crime, and I applied several standard tests of robustness. The results, which the table in Appendix 2 summarizes, demonstrate that the results indeed are robust.

1. No Reverse Causation

I first check whether reverse causation is driving my primary results.\textsuperscript{188} That is, I check whether the positive relationship between crime and sentencing guidelines is due not to guidelines increasing crime, but to increasing crime causing states to adopt guidelines.

The evidence suggests that it is unlikely that the positive relationship between crime rates and guidelines is explained by reverse causation. Despite the argument of many law-and-order supporters that sentencing guidelines were necessary to curb increasing crime rates, sentencing guidelines were actually enacted by states that were experiencing crime rates that were decreasing. The second column in Table 7 reveals the average trends in crime rates when states adopted sentencing guidelines. In the year that states enacted guidelines, the rates of murder, robbery, burglary, larceny, and auto theft were, on average, decreasing.

\begin{table}[h]
\centering
\caption{Trends in Crime Rates Before Enactment of Sentencing Guidelines}
\begin{tabular}{|l|c|c|}
\hline
Crime & Average Percentage Change in Crime Rates in the Year States Enacted Guidelines & Average Difference Between Guidelines States and Non-Guidelines States in the Year States Enacted Guidelines \\
\hline
Murder & -1.2\% & -2.2\% \\
Aggravated Assault & 0.11\% & -0.4\% \\
Robbery & -1.6\% & -0.89\% \\
Rape & 1.2\% & 0.06\% \\
Burglary & -3.9\% & -0.74\% \\
Larceny & -1.9\% & -1.2\% \\
Auto Theft & -0.23\% & 0.35\% \\
\hline
\end{tabular}
\end{table}

Moreover, the states that adopted guidelines tended to be the states with the most swiftly decreasing crime rates; for most crimes, the crime decreases in states that adopted guidelines were greater at the time of

\textsuperscript{188}. Endogeneity tests confirm that OLS is a consistent estimator for equation 1 for all crimes. See RUSSELL DAVIDSON \\& JAMES G. MACKINNON, ESTIMATION AND INFERENCES IN ECONOMETRICS 237-42 (1993).
adoption than the crime decreases in states that did not. The third column of Table 7 shows the average difference in each crime rate between guidelines states and non-guidelines state in the year of the guidelines’ adoption.\footnote{See Greene, supra note 173, at 397–98.}

The table makes clear that for the crimes of murder, robbery, burglary, and larceny, not only were crime rates decreasing when states adopted guidelines, they were decreasing faster than in non-guidelines states. Although aggravated assault was increasing when states enacted guidelines, it was increasing slower than in non-guidelines states. Rape was increasing faster in guidelines states and auto theft was decreasing slower in guidelines states, relative to non-guidelines states.

Table 7 shows that it is unlikely that my results can be explained by reverse causation between guidelines and crime. To the contrary, because most crime rates were decreasing at the time of enactment, and decreasing faster than in non-guidelines states, any reverse causation would introduce a bias in the opposite direction of my results. Because crime rates tended to be declining in guidelines states at the same time that the states were adopting the guidelines, the true impact of the guidelines in increasing crime is probably larger than my results show, not smaller. The guidelines’ crime-increasing impact was being partially offset by the guidelines states’ independent trend toward less crime.

In addition, I confirm that my results are robust to reverse causation by using instrumental variables estimation, a standard statistical method.\footnote{See Davidson & MacKinnon, supra note 188, at 235–36. Nevertheless, results could vary with the choice of instruments.} In my instrumental variables estimation, I use the following variables as instruments for the enactment of sentencing guidelines: the percentage of the state population voting Republican in each presidential election and the percentage of the state legislature that was Republican. Econometric tests suggest that these are valid instruments in every crime equation; that is, they are uncorrelated with the error term and correctly excluded from the estimated equation.\footnote{Results are also similar for longer windows of time before the adoption of guidelines.}

The table in Appendix 2 reveals that my primary conclusions are robust to the IV estimation’s controls for possible reverse causality. Sentencing guidelines are associated with increases in all seven crimes, even aggravated assault, which was insignificant in the primary model. Moreover, the coefficients increase substantially in magnitude, suggesting that, as the raw data suggest, any reverse causality produces a bias in the opposite direction of my primary results.

2. \textit{Impacts of Other Sentencing Reforms}

I also check whether other sentencing reforms, such as truth-in-
sentencing legislation and three-strikes laws, are driving my results. Theoretically, it is unlikely that these laws are causing the crime increases I attribute to sentencing guidelines for several reasons.

First, these reforms were adopted in different years from sentencing guidelines. In the years before the adoption of sentencing guidelines, crime was decreasing in guidelines states at rates equal to, or even faster than, in non-guidelines states. Whatever was influencing crime rates in guidelines states before the guidelines’ adoption—be it three-strikes laws, truth-in-sentencing laws, or something else—was causing crime there to decrease, not increase.

Second, it is unlikely that three-strikes and truth-in-sentencing reforms in guidelines states would be driving the increases in violent crime because studies have shown that both of these reforms are associated with reductions in violent crime, not increases. It is possible that crime decreases in non-guidelines states with three-strikes and truth-in-sentencing laws could make it seem that crime has increased in relative terms in guidelines states that lack the other reforms. However, this too is unlikely because most states with the other two sentencing reforms are also sentencing guidelines states, not non-guidelines states.

In addition, to ensure that other sentencing reforms are not driving my results, I reestimate variation I of my model, but now including dummy variables for whether a state has three-strikes laws or truth-in-sentencing laws. Again, the conclusions of the primary model do not change. Sentencing guidelines are associated with increases in murders, robberies, rapes, burglaries, larcenies, and auto thefts, even when controlling for other sentencing reforms.

3. Standard Robustness Checks

Finally, I perform a series of standard robustness checks. I estimate the model in a semi-log functional form where the crime variable is measured as the natural log of the respective crime rate. I also correct

192. See supra note 87.
193. See discussion supra Part III.E.1.
194. Shepherd, Fear of the First Strike, supra note 175, at 161; Shepherd, The Truth about Truth-in-Sentencing Laws, supra note 175, at 511.
195. Sabol et al., supra note 46, at 11.
196. Another important sentencing reform has been mandatory minimums. I do not include data on mandatory minimums because the types of mandatory minimum laws are extremely diverse among states in terms of the crimes covered, offenders to which the mandatory minimums apply, and the minimums imposed. It is unlikely that mandatory minimums could bias my regression results because they were almost all adopted in the 1970s, well before sentencing guideline. Ostrom et al., supra note 56, at 20.
197. Although previous studies have shown that a levels regression is the theoretically correct specification in an economic model of crime, some crime papers have used the semi-log functional form. See Dezhbakhsh et al., supra note 175 (using levels regression); John J. Donohue & Steven D. Levitt, The Impact of Legalized Abortion on Crime, 116 Q.J. OF ECON. 379, 397-99 (2001) (using the
for possible clustering effect—dependence within clusters (groups, which are states here)—to ensure that my t-statistics are not artificially high. Next, I perform unweighted panel data regressions, as opposed to population-weighted. Then, I include state-specific trends, and finally, I exclude all control variables except for state and year fixed-effects.

Appendix 2 shows that the results are robust to the alternative specifications. As in the primary model, the coefficients on the sentencing guidelines variable are, in general, positive and significant for murder, robbery, rape, burglary, larceny, and auto theft. Moreover, the coefficient for aggravated assault, which was insignificant in the main specification, becomes positive and statistically significant in two of the alternate specifications.

IV. POSSIBLE ALTERNATIVES TO SENTENCING GUIDELINES

The theoretical predictions and empirical results in the previous sections are important for policymakers to consider as the states reexamine their current sentencing systems in response to Blakely and Booker. I now discuss the various alternate sentencing systems that Justice Breyer suggested in his dissent in Blakely and further discussed in his majority opinion in Booker: a “pure charge” regime, a fully indeterminate sentencing system, sentencing juries, and a system of advisory sentencing guidelines. Specifically, I discuss the potential impact on crime of each alternate system, based on the degree to which each system limits judicial discretion. I do not here discuss other aspects of the alternate systems, such as the fundamentally important issues of justice, ease of administering the system, and constitutionality. I leave those for another article. They are beyond the scope of this one.

I discuss the alternatives in descending order of the degree to which they might tend to increase crime: a pure charge system may increase crime the most, followed by jury factfinding, advisory guidelines, and indeterminate sentences, which may increase crime the least.

First, in a pure charge sentencing system, each offense requires a specific sentence, regardless of any mitigating or aggravating factors. Prosecutors would charge defendants with a series of facts that, taken together, constitute a crime. Every criminal convicted of that crime would receive the same sentence. The judge would have no discretion to deviate from the sentence.

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200. Id.
201. Id.
202. Id.
My empirical results suggest that a pure charge system might be associated with even higher crime rates than exist under present guidelines systems. The system would be equivalent to sentencing guidelines that were completely mandatory. My results show that the more mandatory the guidelines, the greater the associated increase in crime.

Second, in *Blakely*, Justice Breyer predicted that legislators would find jury factfinding the most feasible choice. This option retains current guidelines systems, but modifies them to conform to *Blakely*. Judges would be able to depart downward from the sentencing guidelines' range, but they would not be able to depart upward unless aggravating facts were proved beyond a reasonable doubt to a jury.

My results suggest that this choice might lead to increases in crime compared to existing guidelines, but not as severely as in a pure charge system. Crime may increase because the judge's discretion to choose upward departures would be limited. The results suggest that the more that a guidelines system limits judges' discretion, the higher the crime rate. However, crime may not increase as much as for a pure-charge system because jury factfinding retains the judge's productive discretion to depart downward.

Third, in *Booker*, Justice Breyer suggested that the best solution to *Blakely* would be advisory sentencing guidelines. This system "requires a sentencing court to consider the Guidelines ranges... but it permits the court to tailor the sentence in light of other statutory concerns as well."

My results suggest that this approach may produce the least crime of Justice Breyer's four alternatives, except for completely indeterminate sentencing. This approach mirrors the approach of the least mandatory category of sentencing guidelines in our analysis. Results suggest that the associated increase in crime for such a system, compared to no-guidelines/indeterminate sentencing, is 4.6% in the model's variation 2 and 3.3% in variation 3.

Fourth, the last of Justice Breyer's choices was to abandon sentencing guidelines: to return to a system of indeterminate sentencing where the judge or a parole board has almost complete discretion over sentence length. This sentencing regime would mirror the regime present in most states until the late 1970s and early 1980s, when some states began to adopt sentencing guidelines.

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203. *Id.* at 336–37.
204. *See id.*
206. *See id.*
207. *See id.* at 246.
Of the four alternatives, my results suggest that states that adopted this alternative may experience the least crime. States without sentencing guidelines tend to have substantially less crime than states that have even the least mandatory guidelines.

Although a return to indeterminate sentencing may lead to the least crime, states should also focus on important considerations other than deterrence, such as justice or efficiency. For example, a pure charge system may be the best choice for some states, not because it could increase crime, but because it eliminates seemingly-unjust sentencing disparities or reduces costs by creating a simpler, more-efficient sentencing process.

**Conclusion**

The post-*Blakely* sentencing world is not as bleak as many proponents of sentencing guidelines fear. Both the theoretical analyses and empirical results in this Article suggest that reduced discretion under existing guidelines systems may have produced a stunning unintended consequence: increased crime. *Blakely* provides a perfect opportunity for states to modify their guidelines both to satisfy *Blakely* and to reduce or eliminate this unfortunate side effect.

In this study, the first to use regression analysis to explore the relationship between sentencing guidelines and crime, I show that, contrary to the motivating expectations of the original tough-on-crime supporters of guidelines, sentencing guidelines are associated with increases, not decreases, in crime. The results are robust to several different specifications and to estimations that control for sentencing reforms other than guidelines systems. Furthermore, results indicate that the more mandatory a guidelines system—the more strictly judges must adhere to the guidelines—the greater the associated increase in crime.

The effects are not only statistically significant, but also large. On average, sentencing guidelines are associated with an increase in violent crimes of 8% and an increase in property crimes of 7%.

Increases in crime could be explained by any or all of the four theoretical explanations that I have developed, all of which follow from the economic model of crime. The results do not indicate which of the theories is the most important explanation. All of the theories predict an increase in crime that is consistent with the empirical results. Regardless, the forces causing crime to increase were powerful. The results suggest that crime increased even though sentencing guidelines were generally accompanied by increases in both the incarceration rate and average sentence length.

First, high-risk offenders may be committing more crime because sentencing guidelines limit judges’ ability to impose long sentences on
them. The results are consistent with the guidelines having prevented judges from productively and efficiently distinguishing among defendants and giving the longest sentences to defendants who are the least deterrable.

Second, guidelines also limit the ability of judges to impose very short sentences. Some prosecutors, judges, and juries may be unwilling to impose the longer required sentences on low-risk offenders. Instead, judges and juries may be acquitting such low-risk offenders, or prosecutors may be dismissing charges. The lower penalties reduce deterrence, explaining the increased crime. Prosecutorial undercharging does not appear to be sufficient to eliminate the acquittals.

Third, also contributing to the increase in crime could be judges’ and prosecutors’ sometimes following the guidelines and imposing longer sentences on low-risk offenders. Studies show that longer sentences for low-risk offenders often produce more recidivism because the longer an offender’s sentence, the worse his legitimate job prospects upon release, and the more that the offender becomes infused with the prison’s criminal culture.

Fourth, some criminals may be perceiving sentences under the guidelines as less harsh because the guidelines reduce the variation and uncertainty in the possible sentences that a criminal receives. If criminals are risk-averse, then the relatively certain guidelines sentence is perceived as less harsh than the pre-guidelines system that offered possibilities of either a long or short sentence. That guidelines caused crime to increase is consistent with criminals’ being risk-averse, contrary to some other predictions in the literature.\textsuperscript{208}

As states reexamine their current sentencing systems in response to \textit{Blakely} and \textit{Booker}, they should consider the lessons that this Article’s theoretical and empirical findings teach about the possible impacts on crime of various replacement systems. Before these states choose another alternative with greater determinacy, they should be sure to include in their analysis the costs of the increased crime that further constraints on judicial discretion may cause. Contrary to the assumption of the original coalition that supported sentencing guidelines, guidelines may not be a free lunch. They may not simultaneously reduce disparity, simplify procedures, and reduce crime. Instead, uniformity and simplification may be available only at the cost of increased crime.

\textsuperscript{208} See \textit{supra} note 152 and accompanying text.
## Appendix I: Full Results of First Variation

<table>
<thead>
<tr>
<th>Model Specifications</th>
<th>Murder</th>
<th>Agg. Assault</th>
<th>Robbery</th>
<th>Rape</th>
<th>Burglary</th>
<th>Larceny</th>
<th>Auto Theft</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sentencing Guidelines Dummy Variable</td>
<td>1.07 (6.75)*</td>
<td>3.39 (0.48)</td>
<td>33.55 (5.64)*</td>
<td>5.60 (8.01)*</td>
<td>68.78 (3.57)*</td>
<td>106.62 (3.55)*</td>
<td>97.81 (8.85)*</td>
</tr>
<tr>
<td>Real Per Capita Income</td>
<td>0.00004 (0.43)</td>
<td>-0.01 (3.60)*</td>
<td>0.004 (1.14)</td>
<td>0.001 (3.26)*</td>
<td>0.04 (3.98)*</td>
<td>0.13 (7.45)*</td>
<td>-0.02 (2.23)*</td>
</tr>
<tr>
<td>Unemployment Rate</td>
<td>-0.20 (5.33)*</td>
<td>-1.18 (0.64)</td>
<td>1.31 (0.63)</td>
<td>-0.42 (2.66)*</td>
<td>36.93 (6.51)*</td>
<td>53.24 (5.89)*</td>
<td>7.93 (2.40)*</td>
</tr>
<tr>
<td>Police Employment</td>
<td>-0.0004 (3.57)*</td>
<td>0.009 (1.57)</td>
<td>0.01 (2.42)*</td>
<td>-0.001 (1.59)</td>
<td>-0.003 (0.13)</td>
<td>-0.08 (2.29)*</td>
<td>0.002 (0.17)</td>
</tr>
<tr>
<td>Percent 15–19 Years Old</td>
<td>-0.43 (2.99)*</td>
<td>-9.46 (1.26)</td>
<td>17.21 (2.23)*</td>
<td>3.39 (6.28)*</td>
<td>64.94 (3.44)*</td>
<td>169.49 (4.76)*</td>
<td>-13.58 (1.07)</td>
</tr>
<tr>
<td>Percent 20–24 Years Old</td>
<td>0.92 (5.04)*</td>
<td>7.30 (0.79)</td>
<td>-11.73 (1.21)</td>
<td>-2.20 (3.39)*</td>
<td>-2.24 (0.09)</td>
<td>-97.74 (2.12)*</td>
<td>25.13 (1.59)</td>
</tr>
<tr>
<td>Percent Minority</td>
<td>0.28 (16.4)*</td>
<td>3.05 (2.98)*</td>
<td>1.75 (1.49)</td>
<td>-0.30 (3.52)*</td>
<td>-21.09 (8.20)*</td>
<td>-40.57 (7.78)*</td>
<td>8.25 (5.38)*</td>
</tr>
<tr>
<td>R-Squared</td>
<td>.8704</td>
<td>.8710</td>
<td>.8425</td>
<td>.8626</td>
<td>.8828</td>
<td>.9113</td>
<td>.8178</td>
</tr>
</tbody>
</table>

Dependent Variable is the respective crime rate (crimes/100,000 population). Absolute values of t-statistics are in parentheses. "*" and "+" represent significance at the 5% and 10% levels, respectively. The estimated coefficients for year and state dummies are not shown.
## Appendix 2: Sensitivity Analysis

<table>
<thead>
<tr>
<th>Model Specifications:</th>
<th>Murder</th>
<th>Agg. Assault</th>
<th>Robbery</th>
<th>Rape</th>
<th>Burglary</th>
<th>Larceny</th>
<th>Auto Theft</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>IV Estimation</strong></td>
<td>-10.11 (2.05)*</td>
<td>1048.5 (2.46)*</td>
<td>493.6 (2.4)*</td>
<td>51.04 (2.46)*</td>
<td>2257.09 (2.49)*</td>
<td>5917.78 (2.56)*</td>
<td>1240.01 (2.57)*</td>
</tr>
<tr>
<td><strong>Controlling for Other Sentencing Reforms</strong></td>
<td>0.97 (5.15)*</td>
<td>4.16 (0.61)*</td>
<td>25.55 (4.08)*</td>
<td>2.11 (3.03)*</td>
<td>112.68 (5.92)*</td>
<td>179.17 (5.47)*</td>
<td>79.34 (5.99)*</td>
</tr>
<tr>
<td><strong>Semi-Log Functional Form</strong></td>
<td>0.15 (8.34)*</td>
<td>-0.02 (1.02)</td>
<td>0.05 (1.80)*</td>
<td>0.08 (4.36)*</td>
<td>-0.002 (0.14)</td>
<td>-0.031 (2.60)*</td>
<td>0.17 (8.18)*</td>
</tr>
<tr>
<td><strong>Controlling for Clustering Effects</strong></td>
<td>1.07 (2.85)*</td>
<td>3.39 (0.12)</td>
<td>33.55 (1.75)*</td>
<td>5.60 (2.19)*</td>
<td>68.78 (1.39)</td>
<td>106.62 (1.13)</td>
<td>97.81 (2.71)*</td>
</tr>
<tr>
<td><strong>Unweighted Specification</strong></td>
<td>0.69 (4.92)*</td>
<td>15.70 (2.31)*</td>
<td>25.43 (6.16)*</td>
<td>6.81 (9.19)*</td>
<td>57.85 (3.53)*</td>
<td>182.08 (6.28)*</td>
<td>83.93 (8.36)*</td>
</tr>
<tr>
<td><strong>Including State-Specific Time Trends</strong></td>
<td>0.17 (0.84)</td>
<td>-5.27 (0.70)</td>
<td>12.24 (2.13)*</td>
<td>3.49 (4.41)*</td>
<td>-101.19 (4.03)*</td>
<td>-89.82 (2.39)*</td>
<td>55.62 (4.57)*</td>
</tr>
<tr>
<td><strong>Excluding All Control Variables except State and Year Dummies</strong></td>
<td>0.19 (1.07)</td>
<td>-9.01 (1.18)</td>
<td>23.22 (3.26)*</td>
<td>6.98 (8.73)*</td>
<td>131.02 (5.18)*</td>
<td>230.39 (4.91)*</td>
<td>67.17 (5.67)*</td>
</tr>
</tbody>
</table>

---

210. Dependent Variable is the indicated form of the respective crime rate (crimes/100,000 population). Absolute values of t-statistics are in parentheses. "*" and "+" represent significance at the 5% level and 10% level, respectively.