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Leveraging Death

Sherod Thaxton

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Empirical research addressing the use of the death penalty as leverage in plea negotiations is virtually nonexistent. This is particularly surprising given the fact that both plea bargaining and capital punishment have been the focus of much scholarly attention. The U.S. Supreme Court has explicitly approved guilty pleas induced out of fear of the death penalty, yet the impact of the threat of the death penalty on the likelihood of parties reaching a plea agreement is far from obvious. On the one hand, prosecutors, defense attorneys, and defendants may have especially strong incentives to plea bargain in death-eligible cases. On the other hand, many of these advantages may be offset by forces pushing against compromise on both sides of the aisle precisely *because the death penalty is an option, so the role the death penalty is playing in plea negotiations* in the aggregate *remains ambiguous. To date, the only empirical study to explore this issue concluded that the threat of capital punishment does not impact the likelihood of reaching a plea agreement. Unfortunately the study suffers from several limitations that may have ultimately masked any true effect that the death penalty has on plea-bargaining rates. This Article reexamines this question using an originally constructed data set of recent capital charging-and-sentencing decisions in Georgia (1993–2000) that is able to avoid many of the shortcomings of the sparse prior research. The results provide strong evidence that the threat of the death penalty has a robust* causal effect *on the likelihood of a plea agreement—the threat of the death penalty increases the probability of a plea agreement by approximately 20 to 25 percentage points across various model*

specifications. Not only is this finding important in its own right by illuminating capital defendants' behavioral response to the death penalty, it also has meaningful implications for other purported benefits of plea bargaining in the capital context. The paper briefly considers one of the most commonly identified benefits of plea bargaining—cost reduction—and concludes that the death penalty fails to deter sufficient numbers of murder defendants from opting for trial to offset the significant expense of a capital case and subsequent appeals.

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INTRODUCTION

Plea bargaining[1] is a crucial feature of our criminal justice system, as approximately 95% of convictions that occur within a year of arrest are obtained by a guilty plea.[2] Despite its current centrality, however, "plea bargaining did not occur with any frequency until well into the nineteenth century,"[3] and the Supreme Court did not specifically address its constitutionality until long after it was common practice in the criminal justice system.[4] In *Brady v. United States*,[5] the Court reasoned that plea bargaining benefited both sides of the adversarial system and was "inherent in the criminal law and its administration."[6] The following year, in *Santobello v. New York*,[7] the Court defended the practice of plea bargaining, calling it "an essential component of the administration of justice"[8] that was to be encouraged as long as it was properly administered (i.e., as long as pleas were intelligent and voluntary). Several years later in *Bordenkircher v. Hayes*,[9] the Court endorsed prosecutorial threats of stiffer penalties when defendants refuse to accept a plea offer.[10] In fact, since its

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[1] Plea bargaining is "[a] negotiated agreement between a prosecutor and a criminal defendant whereby the defendant pleads guilty to a lesser offense or to one of multiple charges in exchange for some concession by the prosecutor, usu. a more lenient sentence or a dismissal of the other charges." BLACK'S LAW DICTIONARY 1270 (9th ed. 2009). Plea bargaining may involve three areas of negotiation: charge bargaining (negotiation to plead guilty or no contest in exchange for the dismissal of some counts or reduction of the charge); sentence bargaining (negotiation to plead guilty or no contest in exchange for the prosecutor's recommendation to the court for a lighter sentence); and fact bargaining (negotiation to stipulate to certain facts in exchange for an agreement not to introduce other facts into evidence). *Id.*

[2] *See* THOMAS H. COHEN & TRACEY KYCKELHAHN, BUREAU OF JUSTICE STATISTICS, U.S. DEP'T OF JUSTICE, FELONY DEFENDANTS IN LARGE URBAN COUNTIES, 2006, at 10 (2010); *see also* Padilla v. Kentucky, 130 S. Ct. 1473, 1485 n.13 (2010) (recognizing that only 5% of federal and state felony prosecutions are resolved by trial).

[3] Albert W. Alschuler, *Plea Bargaining and Its History*, 79 COLUM. L. REV. 1, 5 (1979); *see also id.* at 19 ("It was only after the Civil War that cases of plea bargaining began to appear in American appellate court reports.").

[4] *See* John H. Langbein, *Torture and Plea Bargaining*, 46 U. CHI. L. REV. 3, 9 (1978) ("If you turn to the American Constitution in search of authority for plea bargaining, you will look in vain. Instead, you will find—in no less hallowed a place than the Bill of Rights—an opposite guarantee, a guarantee of trial.").

[5] 397 U.S. 742 (1970).

[6] *Id.* at 751.

[7] 404 U.S. 257 (1971).

[8] *Id.* at 260.

[9] 434 U.S. 357 (1978).

[10] *Id.* at 363. Eight years before *Bordenkircher*, the Court ruled that the mere fact that a defendant pleads guilty to murder to avoid the death penalty does not make the plea involuntary, especially when the defendant is represented by competent counsel who can assess the weight of the evidence against the defendant. North Carolina v. Alford, 400 U.S.

formal endorsement of plea bargaining, the Court has been reluctant to regulate plea bargains, recently noting that "[h]indsight and second guesses are [] inappropriate . . . where a plea has been entered without a full trial . . . ."[11]

Most judges support the system of plea bargaining because it allows them to alleviate the need to schedule and hold a trial on what are typically already overcrowded dockets.[12] Prosecutors desire both the reduced caseload and assurance of a conviction from plea bargaining. Plea negotiations also allow prosecutors to strengthen their cases against codefendants by offering certain defendants a plea arrangement in exchange for testimony against one or more codefendants. This practice assures prosecutors at least one conviction while also enhancing the chances of a

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25, 31 (1970).

[11] Premo v. Moore, 131 S. Ct. 733, 745 (2011). Notable exceptions include the Court's recent decisions in *Missouri v. Frye*, 132 S. Ct. 1399 (2012), *Lafler v. Cooper*, 132 S. Ct. 1376 (2012), and *Padilla v. Kentucky*, 130 S. Ct. 1473 (2010). In *Padilla*, the Court held that defense counsel's incorrect advice to a client regarding the deportation risk associated with pleading guilty may violate the Sixth Amendment guarantee to effective assistance of counsel if it prejudices the client's decision. 130 S. Ct. at 1478. The Court also rejected the argument that its ruling would ultimately open the "floodgates" of litigation by providing defendants with new causes of action. *Id.* at 1484–85. *But see* Derek Wikstrom, Note, "*No Logical Stopping-Point": The Consequences of* Padilla v. Kentucky*'s Inevitable Expansion*, 106 Nw. U. L. Rev. 351, 374 (2012) ("Even if *Padilla* has an eventual logical stopping-point, that point comes after extension to many other collateral consequences that are as serious as deportation.").

In early 2012, the Court decided *Cooper* and *Frye*, extending *Padilla*'s logic to nondeportation cases and holding that a defendant's Sixth Amendment right to effective assistance of counsel may be violated when (1) defense counsel fails to properly inform the defendant of a beneficial plea agreement offered by the prosecution (*Frye*), or (2) defense counsel incorrectly advises the defendant on the state of the law, leading the defendant to reject a beneficial plea agreement (*Cooper*). *Frye*, 132 S. Ct. 1399; *Cooper*, 132 S. Ct. 1376. The Court recognized that defense counsel's duty to inform a client of formal plea offers may be subject to exceptions. *Frye*, 132. S. Ct. at 1408. It also pointed out that claims raised under "ineffective advice" must satisfy three conditions: (1) the ineffective advice was the "but for" cause of the plea not being accepted by the defendant, (2) the trial court would have ultimately accepted the terms of the bargain, and (3) the conviction or sentence would have been lesser than those imposed after trial. *Cooper*, 132 S. Ct. at 1385; *see also* Justin F. Marceau, *Embracing a New Era of Ineffective Assistance of Counsel*, 14 U. Pa. J. Const. L. 1161, 1191–92 (2012) (analyzing the Court's recent plea-bargaining decisions). The impact of these decisions on plea bargaining is debatable, however. As one federal trial judge has explained, most of the problems that occur in the plea-bargaining process do *not* result from ineffective assistance of counsel, but rather prosecutorial overconfidence in the face of questionable evidence and sources. Jed S. Rakoff, Frye *and* Lafler: *Bearers of Mixed Messages*, 122 Yale L.J. Online 25, 26 (2012).

[12] Blackledge v. Allison, 431 U.S. 63, 71 (1977) (noting that plea bargaining permits "[j]udges and prosecutors [to] conserve vital and scarce resources"). *But see* Jo Dixon, *The Organizational Context of Criminal Sentencing*, 100 Am. J. Soc. 1157, 1177 (1995) (suggesting that the level of plea bargaining is high irrespective of caseload pressure).

subsequent conviction. Defendants are allowed to avoid a more serious charge or sentence and, if represented by private counsel, avoid the cost of a trial.[13] So, on balance, the practice of plea bargaining is generally believed to be superior to trials due to reduced costs, improvements in the speed and efficiency of case processing, and increases in the certainty of convictions.[14] The practice is not without its detractors, however, as legal academics and practitioners continue to debate its fairness and desirability.

Critics of the plea-bargaining system emphasize that it encourages prosecutors to "overcharge" at the start of the case in an effort to coerce defendants into accepting a plea, allows prosecutors to "cure" defects in their cases by avoiding trial, and encourages defendants to plead guilty to crimes that they did not commit.[15] A defendant who agrees to a plea bargain may also be required to relinquish certain constitutional and statutory rights in exchange for a negotiated plea.[16] Opponents of plea bargaining also suggest that the practice allows defendants to avoid the

[13] *See, e.g.*, Frank H. Easterbrook, *Criminal Procedure as a Market System*, 12 J. LEGAL STUD. 289, 297–98 (1983) (defending plea bargains as an element of a well-functioning market system and cautioning that efforts to restrict actors' discretion in criminal procedure will have negative consequences); Frank H. Easterbrook, *Plea Bargaining as Compromise*, 101 YALE L.J. 1969 (1992); William M. Landes, *An Economic Analysis of the Courts*, 14 J.L. & ECON. 61, 66–69 (1971) (describing factors influencing the likelihood of parties reaching plea agreements); Robert E. Scott & William J. Stuntz, *Plea Bargaining as Contract*, 101 YALE L.J. 1909, 1918–34, 1967–68 (1992) (explaining the risks and entitlements parties trade in plea bargaining).

[14] *See, e.g.*, GEORGE FISHER, PLEA BARGAINING'S TRIUMPH: A HISTORY OF PLEA BARGAINING IN AMERICA 200–01 (2003) (discussing the growth of plea bargaining in response to the operational goals of judges and prosecutors); Donald J. Newman, *Pleading Guilty for Considerations: A Study of Bargain Justice*, 46 J. CRIM. L. CRIMINOLOGY & POLICE SCI. 780, 790 (1956) (describing plea bargaining "as a natural, expedient outgrowth of deficiencies in the administration of our 'trial-by-combat' theory of justice"); Edward A. Ruttenburg, *Plea Bargaining Analytically—The Nash Solution to the Landes Model*, 7 AM. J. CRIM. L. 323, 353 (1979) ("Plea bargaining should be accepted openly as a system which can accomplish the goals of justice as completely as can a pure trial system, while at the same time releasing resources to serve society in other areas of life.").

[15] *See* Langbein, *supra* note 4, at 3 (discussing the parallels between the coerciveness of current plea-bargaining practices and torture in medieval European courts); *see also* Oren Bar-Gill & Omri Ben-Shahar, *The Prisoners' (Plea Bargain) Dilemma*, 1 J. LEGAL ANALYSIS 737, 769 (2009) (positing that plea bargaining may benefit individual defendants, but due to coordination problems, may not benefit defendants as a group); Oren Gazal-Ayal, *Partial Ban on Plea Bargains*, 27 CARDOZO L. REV. 2295, 2306 (2006) (arguing that prosecutors use negotiated pleas in cases with weak—possibly inadmissible—evidence and when specific defenses might be established in court); Stephen J. Schulhofer, *Plea Bargaining as Disaster*, 101 YALE L.J. 1979, 1980–91 (1992) (describing structural flaws—e.g., innocence and conflicts of interest—in the plea-bargaining system).

[16] Stephanos Bibas, *Regulating the Plea-Bargaining Market: From Caveat Emptor to Consumer Protection*, 99 CALIF. L. REV. 1117, 1123 (2011) (discussing the rights defendants generally forfeit that could otherwise provide a cause of action for an appeal).

appropriate punishment for their crimes (as established by state legislative bodies) and that the practice heavily favors defendants with savvy lawyers, irrespective of the defendants' actual culpability.[17] Also, claims of plea bargaining as a "necessary" and "inevitable" component of our criminal justice system have been challenged, as critics of plea bargaining point to jurisdictions that have experimented with partial or complete bans on the practice.[18]

The debate over the promises and pitfalls of plea bargaining is perhaps most contentious in the context of the death penalty,[19] yet scholars have

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[17] WELSH S. WHITE, THE DEATH PENALTY IN THE NINETIES: AN EXAMINATION OF THE MODERN SYSTEM OF CAPITAL PUNISHMENT 56 (1991) [hereinafter WHITE, DEATH PENALTY] (explaining that many prosecutors disfavor litigating pretrial motions, and defense attorneys who engage in intensive pretrial motion work are likely to obtain favorable plea bargains for their clients); Albert W. Alschuler, *Plea Bargaining and the Death Penalty*, 58 DEPAUL L. REV. 671, 674 (2009) (suggesting that plea bargaining for a reduced punishment undermines both the symbolic and instrumental purposes of punishment); Stephanos Bibas, *Plea Bargaining Outside the Shadow of Trial*, 117 HARV. L. REV. 2463, 2493 n.116 (2004) (arguing that plea bargaining tends to favor repeat offenders).

[18] *See* Michael L. Rubinstein & Teresa J. White, *Alaska's Ban on Plea Bargaining*, 13 LAW & SOC'Y REV. 367, 367 (1979) (describing Alaska's attempt to ban plea bargaining for the vast majority of cases); Robert A. Weninger, *The Abolition of Plea Bargaining: A Case Study of El Paso County, Texas*, 35 UCLA L. REV. 265, 311–13 (1987) (explaining that efforts to abolish plea bargaining have achieved mixed results). But several scholars have noted that the incentives to plea bargain are so strong for all the primary actors in the criminal justice system that they simply find alternative ways to achieve the same end even when the practice has been expressly prohibited. *See, e.g.*, Joseph L. Hoffmann et al., *Plea Bargaining in the Shadow of Death*, 69 FORDHAM L. REV. 2313, 2390 (2001).

[19] *See infra* Part I. *Compare, e.g.*, ROBERT M. BOHM, DEATHQUEST II: AN INTRODUCTION TO THE THEORY AND PRACTICE OF CAPITAL PUNISHMENT IN THE UNITED STATES 207–08 (2003) (commenting that the availability and use of plea bargaining can contribute to arbitrariness and discrimination in the implementation of the death penalty), WHITE, *supra* note 17, at 54 (conducting interviews with capital defense attorneys and concluding that "the likelihood of a plea bargain in a capital case will be dramatically affected by factors that have nothing to do with the nature of the crime or the strength of the evidence against the defendant"), Alschuler, *supra* note 17, at 674 (suggesting that plea bargaining "undermines the [death penalty's] most common rationale . . . some crimes are so horrible that they simply require it"), *and* Daniel Givelber, *The New Law of Murder*, 69 IND. L.J. 375, 410–11 (1994) (explaining that the existence of statutorily defined special circumstances for death eligibility strengthens the prosecutor's bargaining position and facilitates arbitrariness), *with* WELSH S. WHITE, LITIGATING IN THE SHADOW OF DEATH 145–171 (2006) [hereinafter WHITE, LITIGATING IN THE SHADOW OF DEATH] (explaining that plea bargaining is an important tool for defense counsel to save their clients' lives, but also recognizing how the practice leads to increased arbitrariness and potentially wrongful convictions), *and* Russell Stetler, *Commentary on Counsel's Duty to Seek and Negotiate a Disposition in Capital Cases (ABA Guideline 10.9.1)*, 31 HOFSTRA L. REV. 1157, 1157–58 (2003) (noting that, in 2003, the American Bar Association Guidelines recognized that attorneys representing a capital defendant have an obligation to seek negotiated pleas, and suggesting that the current number of death row inmates could have been drastically reduced if their defense attorneys

conducted very little research on the relationship between the death penalty and plea negotiations.[20] Instead, they have focused the bulk of their attention on the examination of the possible deterrent effect of the death penalty on potential murderers.[21] This Article offers an empirical examination of the causal impact of the threat of the death penalty on the likelihood of parties reaching a plea agreement. This type of inquiry is particularly relevant because the effect of the death penalty on plea bargaining is theoretically ambiguous. The threat of the death penalty may induce defendants who may not have otherwise accepted a plea agreement to plead to avoid the risk of possible execution, so the overall number of cases proceeding to trial is reduced. An opposite effect is plausible as well: armed with the threat of the "ultimate penalty," prosecutors may be less willing to offer capital defendants desirable plea bargains, if any bargain at all, so the number of cases going to trial may increase.[22] It is also possible

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worked more diligently to obtain a negotiated plea).

[20] *See* Ilyana Kuziemko, *Does the Threat of the Death Penalty Affect Plea Bargaining in Murder Cases? Evidence from New York's 1995 Reinstatement of Capital Punishment*, 8 AM. L. & ECON. REV. 116, 141 (2006) (conducting the first study of the effect of the death penalty on plea bargaining); *see also* Susan Ehrhard, *Plea Bargaining and the Death Penalty: An Exploratory Study*, 29 JUST. SYS. J. 313, 315 (2008) (noting that there has been only one systematic examination of the impact of the death penalty on plea bargaining); Kent S. Scheidegger, *The Death Penalty and Plea Bargaining to Life Sentences* 1–2 (Criminal Justice Legal Found., Working Paper No. 09-01, 2009) (same); *cf.* ANDREW WELSH-HUGGINS, NO WINNERS HERE TONIGHT: RACE, POLITICS, AND GEOGRAPHY IN ONE OF THE COUNTRY'S BUSIEST DEATH PENALTY STATES 96–100 (2009) (discussing the high prevalence of plea bargaining in capital cases in California, New York, Ohio, and at the federal level).

[21] To be sure, social scientists—particularly those working in fields outside of economics—have conducted empirical research on various aspects of the death penalty for more than 75 years, and over the past 30 years, socio-legal research has figured prominently into the debate over the appropriateness and effectiveness of capital punishment in the United States. *See* David C. Baldus, *Keynote Address: The Death Penalty Dialogue Between Law and Social Science*, 70 IND. L.J. 1033, 1041 (1995); Michael L. Radelet & Marian J. Borg, *The Changing Nature of Death Penalty Debates*, 26 ANN. REV. SOC. 43, 43–44 (2000). But no other issue related to the death penalty has received more systematic attention from legal and academic communities. William C. Bailey & Ruth D. Peterson, *Murder, Capital Punishment, and Deterrence: A Review of the Literature*, *in* THE DEATH PENALTY IN AMERICA: CURRENT CONTROVERSIES 135, 135 (Hugo Adam Bedau ed., 1997).

[22] *See* Kuziemko, *supra* note 20, at 117 (asserting that the death penalty may make prosecutors more aggressive or recalcitrant, so they may be less willing to strike deals with defendants); *see also* WHITE, LITIGATING IN THE SHADOW OF DEATH, *supra* note 19, at 157–58 (presenting the problem that some defendants prefer execution rather than life imprisonment); Ehrhard, *supra* note 20, at 318 (highlighting that many prosecutors only make "take it or leave it" offers of life without the possibility of parole in death-eligible cases); James S. Liebman, *Opting for Real Death Penalty Reform*, 63 OHIO ST. L.J. 315, 322–24 (2002) (showing that the availability of the death penalty can trump the usual pressure for prosecutors and defendants to reasonably compromise).

Both chief prosecutors and rank-and-file prosecutors may anticipate huge career

that the death penalty will have no impact on the likelihood that a defendant accepts a plea bargain and will only impact the terms of the bargain.[23] As two scholars have recently noted, "opposing hypotheses about the effect of the death penalty on prosecutorial discretion have never been rigorously tested."[24]

Examining the impact of capital punishment on plea bargaining is important for several reasons. First, it helps inform our understanding of how sentencing law influences plea bargaining. Given the centrality of pleas for the disposition of criminal cases, studying how sentencing structure impacts the incentives of prosecutors and defendants in plea negotiations is important to our understanding of the criminal justice system.

Second, the use of the death penalty as leverage in plea negotiations raises important legal and ethical issues. Defendants are typically required to waive important constitutional rights as a condition of the plea agreement.[25] Many of these rights are considered crucial to the accurate determination of guilt and punishment at trial, so the absence of these protections may undermine our confidence in that determination. This may be of particular concern in the capital context because although defendants who plead guilty avoid the risk of execution, they still receive very lengthy

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payoffs from pursuing a capital case even when the defendant ultimately receives a sentence less than death or the capital sentence is reversed on appeal. *See, e.g.*, WHITE, DEATH PENALTY, *supra* note 17, at 55 (arguing that capital defense lawyers routinely remark that upcoming prosecutorial elections are the most important factor in predicting the likelihood of a plea bargain in a capital case, and savvy defense attorneys attempt to delay trial until after an election in order to increase the likelihood that a prosecutor will offer a plea); Jonathan E. Gradess & Andrew L. B. Davies, *The Cost of the Death Penalty in America: Directions for Future Research*, *in* THE FUTURE OF AMERICA'S DEATH PENALTY: AN AGENDA FOR THE NEXT GENERATION OF CAPITAL PUNISHMENT RESEARCH 397, 409 (Charles S. Lanier et al. eds., 2009) ("Prosecutors are often hawkish about the death penalty during election campaigns, increasing the probability that they will press for it in office and use it when available."); Liebman, *supra* note 22, at 324–25 (arguing that trial error is virtually costless to prosecutors). *But see* Ronald F. Wright, *How Prosecutor Elections Fail Us*, 6 OHIO ST. J. CRIM. L. 581, 606 (2009) (suggesting that campaigning prosecutors invoke the death penalty infrequently). Alaska, Connecticut, Delaware, New Jersey, and Rhode Island are the only states that do not popularly elect their district attorneys. John A. Horowitz, Note, *Prosecutorial Discretion and the Death Penalty: Creating a Committee to Decide Whether to Seek the Death Penalty*, 65 FORDHAM L. REV. 2571, 2575 n.24 (1997).

[23] Kuziemko, *supra* note 20, at 140. *See generally* George L. Priest & Benjamin Klein, *The Selection of Disputes for Litigation*, 13 J. LEGAL STUD. 1 (1984) (explaining why parties fail to reach settlement agreements when such agreements are apparently mutually beneficial).

[24] Gradess & Davies, *supra* note 22, at 409.

[25] Hoffmann et al., *supra* note 18, at 2317–30 (discussing the U.S. Supreme Court's heightened concern over statutory schemes that "needlessly burden" the exercise of constitutional rights).

sentences—typically life imprisonment. The threat of the death penalty has also induced innocent defendants to plead guilty (and even falsely implicate others) to avoid execution.[26]

Finally, the study of the plea-negotiation process in the capital context permits us to gain a better understanding of the financial and administrative costs of capital punishment to states and the federal government. Capital trials are extremely expensive and they rarely reduce prison costs because of the infrequency of executions and the added expense associated with housing inmates on death row.[27] The threat of capital punishment may result in substantial savings, however, if the threat of execution deters sufficient numbers of individuals from pursuing trial.

Part I of the Article discusses many of the unique aspects of plea bargaining in the capital context and how these factors cut both in favor and against successful plea negotiations. Part II describes the limited empirical research on the impact of the threat of the death penalty on plea bargaining and how certain weaknesses of that particular work undermine our ability to draw firm conclusions about the relationship between capital punishment and plea bargaining. This section also explains how the limitations of this prior research are avoided in the study conducted in this Article using an originally constructed data set on capital charging-and-sentencing decisions in Georgia. Part III briefly outlines Georgia's modern capital punishment and life without the possibility of parole (LWOP) statutes, Part IV describes the data collected on Georgia's capital charging-and-sentencing system that are used to analyze the impact of the death penalty on plea negotiations, and Part V discusses the empirical strategy employed to analyze the data. Part VI reports the results from various model specifications. According to these findings, my conservative estimate is that the threat of the death penalty increases the likelihood of reaching a plea agreement by approximately 20 percentage points. In practical terms, the death penalty increases the plea-bargaining rate from approximately 40% to 60%. In other words, the threat of capital punishment deters roughly two out of every ten death-noticed defendants from pursuing a trial. Part VII discusses the implications of the findings for the administrative and financial costs of

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[26] *See, e.g.*, Samuel R. Gross et al., *Exonerations in the United States 1989 Through 2003*, 95 J. CRIM. L. & CRIMINOLOGY 523, 544–46 (2005) (describing cases in which innocent defendants pleaded guilty to murder, and even falsely implicated others, in order to avoid the death penalty); Paul Hammel, *'Beatrice 6' Cleared; '100 Percent Innocent,'* OMAHA WORLD-HERALD, Jan. 27, 2009, at B1 (discussing five exonerated convicted murderers who falsely pleaded guilty after being threatened with the death penalty).

[27] John K. Roman et al., *Reassessing the Cost of the Death Penalty Using Quasi-Experimental Methods: Evidence from Maryland*, 11 AM. L. & ECON. REV. 530, 551–53, 571 (2009); *see also infra* Part VII (detailing financial and administrative costs of capital cases).

the death penalty.   Based on the high costs associated with litigating a single capital trial and the rather modest ability of the death penalty to deter defendants from pursuing trial, capital punishment does not appear to be a cost-justified bargaining chip.

I. PLEA BARGAINING IN THE SHADOW OF DEATH

A. BARGAINING INCENTIVES

In addition to the perceived increase in plea-bargaining leverage resulting from the severity of the punishment, prosecutors typically enjoy huge advantages by merely seeking the death sentence. First, it enables the government to empanel a "death-qualified" jury. The primary purpose of "death qualification" during voir dire is to remove jurors who unequivocally oppose the death penalty or, conversely, who believe that the death sentence is required in every homicide case.[28] Although the Supreme Court has upheld the constitutionality of death-qualified juries in the face of the claim that these juries placed defendants at an unfair risk of conviction,[29] available evidence strongly suggests that death-qualified juries are much more likely to convict than non-death-qualified juries.[30] The death-qualification process also permits prosecutors to identify jurors with mildly skeptical views of the death penalty (or the criminal justice system in general) who may survive exclusion for cause, and subsequently exercise their peremptory challenges to remove them from the jury.[31]

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[28] *See, e.g.*, Wainwright v. Witt, 469 U.S. 412, 424 (1985) (explaining that the standard for determining when the Court may exclude a prospective juror because of his views on capital punishment is whether "the juror's views would 'prevent or substantially impair the performance of his duties as a juror in accordance with his instructions and his oath'" (footnote omitted)).

[29] Witherspoon v. Illinois, 391 U.S. 510, 517–18 (1968) ("We simply cannot conclude . . . that the exclusion of jurors opposed to capital punishment results in an unrepresentative jury on the issue of guilt or substantially increases the risk of conviction.").

[30] *See generally* CRAIG HANEY, DEATH BY DESIGN: CAPITAL PUNISHMENT AS A SOCIAL PSYCHOLOGICAL SYSTEM 118–21 (2005) (describing the conviction proneness of death-qualified juries); William J. Bowers, *The Capital Jury: Is It Tilted Toward Death?*, 79 JUDICATURE 220, 222–23 (1996) (same); Robert Fitzgerald & Phoebe C. Ellsworth, *Due Process vs. Crime Control: Death Qualification and Jury Attitudes*, 8 LAW & HUM. BEHAV. 31, 48 (1984) (same); Walter E. Oberer, *Does Disqualification of Jurors for Scruples Against Capital Punishment Constitute Denial of Fair Trial on Issue of Guilt?*, 39 TEX. L. REV. 545 (1961) (same); Robert L. Young, *Guilty Until Proven Innocent: Conviction Orientation, Racial Attitudes, and Support for Capital Punishment*, 25 DEVIANT BEHAV. 151, 155 (2004) (same).

[31] James S. Liebman, *The Overproduction of Death*, 100 COLUM. L. REV. 2030, 2097 (2000) (explaining that voir dire in capital cases allows prosecutors to "jettison[] the segment of the jury pool that is most likely to be skeptical of informer, police, and forensic testimony and to take seriously the beyond a reasonable doubt standard"); F. Thomas Schornhorst,

Second, seeking the death penalty substantially increases the defense's burden with very little increase, if any, in the government's burden by vastly expanding the defense attorney's role and the requisite skill set and financial resources.[32] The overwhelming majority of criminal defense attorneys, both in private practice and employed by the government, are routine negotiators of deals that permit their clients to avoid trial. Representation of a capitally charged client now possibly requires defense counsel to become serious investigators of a horrific crime (or at least coordinators of complex investigations), competent consumers (and communicators) of mental health and forensic science, and experts on complicated (and constantly evolving) specialized constitutional and statutory law.[33] Prosecutors are well aware that many highly skilled trial lawyers will simply refuse to represent a capital defendant, and evidence suggests that capital defendants represented by court-appointed counsel are more likely to receive the death sentence and more likely to have their appeals denied.[34] According to one scholar:

Preliminary Screening of Prosecutorial Access to Death Qualified Juries: A Missing Constitutional Link, 62 IND. L.J. 295, 325 (1987) (arguing for prescreening of capital cases for probable cause of the existence of "death-eligible" special circumstances prior to death qualification of a jury); Young, *supra* note 30, at 151 (explaining that death-qualified jurors are more likely to prefer convicting the innocent over acquitting the guilty).

[32] Liebman, *supra* note 31, at 2097–98; Liebman, *supra* note 22, at 322; *see also* Stephen B. Bright, *Counsel for the Poor: The Death Sentence Not for the Worst Crime but for the Worst Lawyer*, 103 YALE L.J. 1835, 1844 (1994) (discussing interrelated reasons for the poor quality of representation in capital cases).

[33] Liebman, *supra* note 22, at 322–23; *see also* Bibas, *supra* note 16, at 1141 ("Good defense lawyers must know, for example, whether a defendant's small children, ill health, apology, cooperation, or restitution can lower his sentence."); Richard G. Dudley, Jr. & Pamela Blume Leonard, *Getting It Right: Life History Investigation as the Foundation for a Reliable Mental Health Assessment*, 36 HOFSTRA L. REV. 963, 988 (2008) (emphasizing the importance and accompanying complexity of thorough mental health investigation for mitigation in capital cases). *See generally* Stephen B. Bright, *Death by Lottery—Procedural Bar of Constitutional Claims in Capital Cases Due to Inadequate Representation of Indigent Defendants*, 92 W. VA. L. REV. 679 (1990); Stephen B. Bright, *In Defense of Life: Enforcing the Bill of Rights on Behalf of Poor, Minority and Disadvantaged Persons Facing the Death Penalty*, 57 MO. L. REV. 849, 857–62 (1992) (providing examples of gross ineffective assistance of defense counsel in capital cases).

[34] *See* James C. Beck & Robert Shumsky, *A Comparison of Retained and Appointed Counsel in Cases of Capital Murder*, 21 LAW & HUM. BEHAV. 525, 538 (1997); *see also* RAYMOND PATERNOSTER ET AL., THE DEATH PENALTY: AMERICA'S EXPERIENCE WITH CAPITAL PUNISHMENT 237 (2008) (reporting that court-appointed lawyers representing capitally charged clients in the most active death penalty jurisdictions were significantly more likely to have been professionally disciplined prior to the appointment); Jules Epstein, *Death-Worthiness and Prosecutorial Discretion in Capital Case Charging*, 19 TEMP. POL. & CIV. RTS. L. REV. 389, 400–01 (2010) (suggesting a direct consequence of overly broad capital statutes, and the resulting sky-rocketing capital docket, is the difficulty of finding competent counsel for representation); Liebman, *supra* note 22, at 322 (noting that, when

"There are many small communities that do not have surgeons. But that does not mean that we allow chiropractors to do brain surgery in those communities." We do, however, let "chiropractors" with law degrees perform the equivalent of brain surgery in capital cases and, predictably, the "patient" often dies.[35]

Third, prosecutors generally understand that defense attorneys will adopt minimalist, risk-averse pretrial and litigation strategies and practices, focusing primarily on penalty-phase investigation and preparation and on preserving "credibility" at the penalty phase. Consequently, the risk of an acquittal even in cases with genuine evidentiary problems regarding guilt is particularly low.[36] In fact, a national study of jurors who served on capital trials revealed that jurors were more likely to vote for the death sentence when defense counsel's guilt-phase and penalty-phase presentations were logically inconsistent.[37] The Supreme Court has also recognized that "[a]ttorneys representing capital defendants face daunting challenges in developing trial strategies [for guilt and penalty phases]"[38] and "must strive at the guilt phase to avoid a counterproductive course."[39] Finally, prosecutors recognize that judges at both the trial and appellate levels—especially elected judges—are less likely to require capital trials to strictly follow reliable procedure out of fear that prosecutors will publicly blame judges for losses based on "legal technicalities."[40]

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taking into consideration the vast responsibilities associated with defending a capital defendant, the number of qualified attorneys in any jurisdiction dwindles to a handful or completely disappears); Ronald J. Tabak & J. Mark Lane, *The Execution of Injustice: A Cost and Lack-of-Benefit Analysis of the Death Penalty*, 23 LOY. L.A. L. REV. 59, 70 (1989) (reporting that 90% of inmates on death row could not afford private counsel).

[35] Vivian Berger, *The Chiropractor as Brain Surgeon: Defense Lawyering in Capital Cases*, 18 N.Y.U. REV. L. & SOC. CHANGE 245, 254 (1990–1991) (citations omitted).

[36] Ehrhard, *supra* note 20, at 318 (describing capital defense attorneys' concerns about compromised credibility at the penalty phase after aggressively pursuing an innocence defense).

[37] Scott E. Sundby, *The Capital Jury and Absolution: The Intersection of Trial Strategy, Remorse, and the Death Penalty*, 83 CORNELL L. REV. 1557, 1589–91 (1998).

[38] Florida v. Nixon, 543 U.S. 175, 191 (2004) (discussing the potential tensions between guilt and penalty phase strategies).

[39] *Id.*

[40] *See* Stephen B. Bright & Patrick J. Keenan, *Judges and the Politics of Death: Deciding Between the Bill of Rights and the Next Election in Capital Cases*, 75 B.U. L. REV. 759, 834–35 (1995); Richard R. W. Brooks & Steven Raphael, *Life Terms or Death Sentences: The Uneasy Relationship Between Judicial Elections and Capital Punishment*, 92 J. CRIM. L. & CRIMINOLOGY 609, 638–39 (2002); Andrew Gelman et al., *A Broken System: The Persistent Patterns of Reversals of Death Sentences in the United States*, 1 J. EMPIRICAL LEGAL STUD. 209, 260 (2004); Liebman, *supra* note 31, at 2111–14; Ashley Rupp, *Death Penalty Prosecutorial Charging Decisions and County Budgetary Restrictions: Is the Death Penalty Arbitrarily Applied Based on County Funding?*, 71 FORDHAM L. REV. 2735, 2736–37 (2003) (discussing the tremendous political and community pressure on judges in capital cases).

B. BARGAINING DISINCENTIVES

The aforementioned advantages that prosecutors enjoy in seeking the death penalty would appear to increase the likelihood of a plea bargain; however, these advantages may be offset by forces pushing against compromise on both sides of the aisle. Both systematic and anecdotal evidence suggests that plea negotiations are most likely to occur when (1) both parties perceive a similar expected probability of conviction, (2) the expected trial penalty is relatively small (i.e., low-severity offenses), (3) the settlement discount offered by the government is substantial, (4) the defendant's risk aversion is high, (5) pretrial detention and court delays substantially increase opportunity costs for defendants, and (6) the parties (particularly the defendant) will directly incur the full costs of litigation.[41] But many of these features may be missing or substantially weakened in the majority of capital cases.

The central point of contention in a capital trial is not the expected probability of conviction—approximately 90% of all murder trials result in conviction;[42] rather, it is the likelihood of a death sentence (or a sentence greater than the statutory minimum) at the penalty phase,[43] and perhaps even the expected likelihood of ultimately being executed.[44] Juries wield enormous discretion in deciding whether to impose the death sentence, which is inherently a subjective enterprise.[45] Rigorous examinations of jury

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[41] *See, e.g.*, Gazal-Ayal, *supra* note 15, at 2299 (explaining that prosecutors obtain guilty pleas when they can offer substantial concessions); Landes, *supra* note 13, at 99 (presenting evidence that the likelihood of a plea agreement depends, *inter alia*, on the severity of the crime, differences in the expected probability of conviction, resources available to the parties, and parties' risk aversion).

[42] COHEN & KYCKELHAHN, *supra* note 2, at 11; THOMAS H. COHEN & BRIAN A. REAVES, BUREAU OF JUSTICE STATISTICS, U.S. DEP'T OF JUSTICE, FELONY DEFENDANTS IN LARGE URBAN COUNTIES, 2002, at 24 (2006); BRIAN A. REAVES, BUREAU OF JUSTICE STATISTICS, U.S. DEP'T OF JUSTICE, FELONY DEFENDANTS IN LARGE URBAN COUNTIES, 1994, at 24 (1998).

[43] FRANKLIN E. ZIMRING, THE CONTRADICTIONS OF AMERICAN CAPITAL PUNISHMENT 53–55 (2003) (describing the penalty phase of a capital trial as a "status competition" between the defendant and the victim's family); Jon Kyl et al., *On the Wings of Their Angels: The Scott Campbell, Stephanie Roper, Wendy Preston, Louarna Gillis, and Nila Lynn Crime Victims' Rights Act*, 9 LEWIS & CLARK L. REV. 581, 607–08 (2005) (describing the proliferation of victims' rights legislation and victim-impact statements during the penalty phase of capital trials).

[44] NANCY J. KING & JOSEPH L. HOFFMANN, HABEAS FOR THE TWENTY-FIRST CENTURY: USES, ABUSES, AND THE FUTURE OF THE GREAT WRIT 147 (2011) (explaining that capital cases are thirty-five times more likely to be granted relief upon federal habeas review than noncapital cases); James S. Liebman et al., *Capital Attrition: Error Rates in Capital Cases, 1973–1995*, 78 TEX. L. REV. 1839, 1850, 1852 (2000) (noting that 68% of death sentences were overturned on appeal from 1973 to 1995 and 82% of those defendants ultimately avoided the death penalty at resentencing).

[45] Zant v. Stephens, 462 U.S. 862, 891 (1983) (holding that aggravating circumstances

sentencing patterns are unable to identify any meaningful (i.e., legally legitimate) defendant or crime characteristics that consistently distinguish cases that receive the death penalty from cases that do not.[46] This strongly suggests that prosecutors and defendants in capital cases may significantly differ in their assessments of the expected trial sentence. As a result, prosecutors will only have imperfect information about a defendant's reservation price (i.e., the maximum plea sentence that the defendant would accept to avoid a trial), and might inadvertently make a plea offer exceeding that reservation price.[47] While prosecutors may generally know the probability that a case would result in a plea bargain, they cannot accurately predict the actual result in specific cases.[48] Nationally, only one-third of capital trials result in a death sentence,[49] so a capital defendant may require a larger discount than what a prosecutor is willing to offer. This is

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are only required to narrow death eligibility and not to channel jurors' discretion at the penalty phase, and nonstatutory aggravating circumstances may be considered by the jury as well); *accord* Lee v. State, 365 S.E.2d 99, 105 (Ga. 1988), *cert. denied*, 488 U.S. 879 (1988); *see also* Nance v. State, 623 S.E.2d 470, 473 (Ga. 2005) (stating that there is no requirement under the Georgia capital statute that nonstatutory aggravating circumstances be proven beyond a reasonable doubt), *cert. denied*, 549 U.S. 868 (2006); Chelsea Creo Sharon, *The "Most Deserving" of Death: The Narrowing Requirement and the Proliferation of Aggravating Factors in Capital Sentencing Statutes*, 46 HARV. C.R.-C.L. L. REV. 223, 245 (2011) (describing the U.S. Supreme Court's refusal to place greater restrictions on the factors juries may consider when deciding whether to impose the death sentence).

[46] *See* Richard Berk et al., *Statistical Difficulties in Determining the Role of Race in Capital Cases: A Re-Analysis of Data from the State of Maryland*, 21 J. QUANTITATIVE CRIMINOLOGY 365, 387 (2005) [hereinafter Berk et al., *Statistical Difficulties*] ("It is difficult to imagine that a few covariates exist that if included as predictors would lead to clear and justified distinctions between defendants who are charged with a capital crime and defendants who are not; likewise for death sentences. . . . [I]f idiosyncrasies associated with the case, the defendant, or the adjudication process seem to determine a substantial part of the outcome, the adjudication process is suspect whether race is important or not."); *see also* BARRY NAKELL & KENNETH A. HARDY, THE ARBITRARINESS OF THE DEATH PENALTY 120, 151 (1987) (noting that legally legitimate characteristics in capital cases only explain a small portion of the variation in charging-and-sentencing decisions); Richard A. Berk et al., *Chance and the Death Penalty*, 27 LAW & SOC'Y REV. 89, 107–09 (1993) [hereinafter Berk et al., *Chance and the Death Penalty*] (same); William J. Bowers & Wanda D. Foglia, *Still Singularly Agonizing: Law's Failure to Purge Arbitrariness from Capital Sentencing*, 39 CRIM. L. BULL. 51, 84 (2003) (demonstrating that constitutionally mandated requirements to guide jury discretion and eliminate arbitrariness in sentencing are not working); Deon Brock et al., *Arbitrariness in the Imposition of Death Sentences in Texas: An Analysis of Four Counties by Offense Seriousness, Race of Victim, and Race of Offender*, 28 AM. J. CRIM. L. 43, 70 (2000) (reporting evidence of significant within-jurisdiction arbitrariness in the imposition of the death penalty after taking into account offense seriousness).

[47] Bar-Gill & Ben-Shahar, *supra* note 15, at 757.

[48] Bibas, *supra* note 17, at 2467; Gazal-Ayal, *supra* note 15, at 2321.

[49] RICHARD C. DIETER, DEATH PENALTY INFO. CTR., SMART ON CRIME: RECONSIDERING THE DEATH PENALTY IN A TIME OF ECONOMIC CRISIS 14 (2009).

important because prosecutors are concerned with more than just avoiding trials. They also care about fairness and reputation, and this may lead prosecutors to refuse to adjust plea offers in a manner that would avoid trial, even when prosecutors accurately assess the defendant's reservation price.[50] Pressure from victims' family and the community may also factor into the minimum plea a prosecutor is willing to offer.[51]

Statutory minima in capital cases—typically life with or without the possibility of parole—also preclude prosecutors from offering substantial concessions (at least in the minds of many defendants).[52] Prosecutors are also less willing to drop or reduce homicide charges because such actions are politically costly, so they often feel bound to dedicate resources to trying homicide cases even with evidentiary problems.[53] Even plea offers of a life sentence *with* the possibility of parole may not be considered a meaningful concession relative to life *without* the possibility of parole in the current climate in which determinate-sentencing and truth-in-sentencing laws typically require inmates sentenced to life imprisonment to serve at least twenty-five years, and parole boards are increasingly reluctant to release inmates serving life sentences.[54] As one scholar has explained, plea

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[50] WILLIAM J. STUNTZ, THE COLLAPSE OF AMERICAN CRIMINAL JUSTICE 258 (2011) ("A prosecutor who becomes known as a pushover will be taken advantage of, not once but many times . . . once [a] threat [is] made, it ha[s] to be carried out."); Josh Bowers, *Punishing the Innocent*, 156 U. PA. L. REV. 1117, 1152–53 (2008).

[51] *See, e.g.*, Kyl et al., *supra* note 43, at 621 (advocating increased victim and victim family involvement in plea negotiations, including the ability to reopen a plea or sentence when the accused has pleaded to a reduced offense).

[52] *See, e.g.*, WHITE, LITIGATING IN THE SHADOW OF DEATH, *supra* note 19, at 158 (describing the "free me or fry me" attitude of many capital defendants); Robert L. Misner, *Recasting Prosecutorial Discretion*, 86 J. CRIM. L. & CRIMINOLOGY 717, 742 (1996) (explaining how the prevalence of statutory minima has dramatically increased the importance of charge bargaining relative to sentence bargaining for serious offenses); *see also* Lucian E. Dervan, *The Surprising Lessons from Plea Bargaining in the Shadow of Terror*, 27 GA. ST. U. L. REV. 239, 245 (2011) (suggesting that the ability to offer substantial sentence reductions is key to prosecutors' success in the use of plea bargaining).

[53] Gazal-Ayal, *supra* note 15, at 2306; Daniel C. Richman & William J. Stuntz, *Al Capone's Revenge: An Essay on the Political Economy of Pretextual Prosecution*, 105 COLUM. L. REV. 583, 600–05 (2005) (arguing that state prosecutors are more often politically obliged to prosecute a defendant for the offense she is suspected of committing, and thus cannot drop the case or offer a charge bargain).

[54] MARC MAUER ET AL., THE SENTENCING PROJECT, THE MEANING OF "LIFE": LONG PRISON SENTENCES IN CONTEXT 12 (2004) (discussing the steady increase in time actually served for life with the possibility of parole sentences across the nation); Bibas, *supra* note 16, at 1141 (noting trend in truth-in-sentencing laws and parole board practices); Ehrhard, *supra* note 20, at 316 (explaining that the distinction between life with parole and without parole sentences is disappearing in current political climate because parole boards are resistant to granting early release); Press Release, Ga. State Bd. Pardons & Paroles, More Violent-Crime Lifers Die in Prison Than Are Parole [sic] (June 1, 1998), *available at*

bargaining draws "sustenance . . . from the *principles* of the indeterminate sentence,"[55] so statutory minima and de facto determinate sentences (via extremely inactive parole boards) severely restrict the magnitude of a plea discount.

Many capital defendants also suffer from substantial cognitive and emotional deficits and biases, and consequently are more likely to be risk-seeking (or risk-neutral at best) and less likely to accept favorable plea bargains.[56] As a result, defense counsel in capital cases must be particularly skillful with potential mental health issues affecting their clients.[57] In fact, a recent study of federal habeas corpus actions discovered that client mental health issues continue to provide a strong basis for relief.[58] Capital defendants are also more likely to be highly skeptical of their defense attorneys during plea negotiations, especially in situations when the defendant is a racial or ethnic minority and defense counsel is not.[59]

Pretrial detention, court delays, and litigation costs are much less of a concern for capital defendants as well. Defendants charged with murder are the least likely to be released pending trial (19%), have the highest bail amounts (i.e., represent the largest percentage of defendants with bail exceeding $50,000), and are decreasingly (over the past twenty years) likely to be granted pretrial release.[60] In many jurisdictions, defendants charged with murder are "non-bondable" either through statute or practice (e.g.,

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http://www.pap.state.ga.us/opencms/export/sites/default/press_releases/1998_press_releases/news_0005.html (refuting popular misconception that "straight lifers" are released and reporting that twenty-one "straight lifers" died in prison while serving their sentences in the previous twelve months).

[55] FISHER, *supra* note 14, at 127.

[56] *See, e.g.*, WHITE, LITIGATING IN THE SHADOW OF DEATH, *supra* note 19, at 162 (explaining that capital defendants with mental health problems pose a significant obstacle in plea negotiations and often express a "free me or fry me" position to their defense counsel); Alschuler, *supra* note 17, at 674 (explaining that defendants are executed "for the crime of being [] optimist[s] . . . [the] inability to think 100 yards in front of [themselves]"); Bibas, *supra* note 17, at 2467 (highlighting that the combination of poor lawyering and irrational behavior can lead some defendants to reject bargains they should otherwise accept).

[57] Liebman, *supra* note 22, at 322.

[58] KING & HOFFMANN, *supra* note 44, at 151 (examining habeas corpus petitions after the enactment of the Anti-Terrorism and Effective Death Penalty Act (AEDPA)).

[59] *See, e.g.*, WHITE, LITIGATING IN THE SHADOW OF DEATH, *supra* note 19, at 156–57 (describing how defendants' mistrust of defense counsel in capital cases is often compounded by racial or cultural differences); *cf.* Albert W. Alschuler, *The Defense Attorney's Role in Plea Bargaining*, 84 YALE L.J. 1179, 1180–82 (1975) (claiming that plea bargaining is destructive to attorney–client relationships).

[60] THOMAS H. COHEN & BRIAN A. REAVES, BUREAU OF JUSTICE STATISTICS, U.S. DEP'T OF JUSTICE, PRETRIAL RELEASE OF FELONY DEFENDANTS IN STATE COURTS 3, 6 (2007); BRIAN A. REAVES & JACOB PEREZ, BUREAU OF JUSTICE STATISTICS, U.S. DEP'T OF JUSTICE, PRETRIAL RELEASE OF FELONY DEFENDANTS, 1992, at 2 (1994).

defendants lack the requisite financial resources to post bail),[61] defense counsel has a strategic incentive to delay trial absent any strong claims of actual innocence,[62] and the costs associated with defending a capital trial make it virtually impossible for defendants to finance their own defense,[63] so the state must almost invariably declare them indigent and appoint counsel at the government's expense.[64] Local prosecutors also avoid the burden of incurring the full cost of capital trials—particularly the substantial costs of error correction at the appellate level.[65]

Finally, there are a variety of additional reasons why prosecutors and defendants may not reach plea agreements in capital cases. The highly publicized nature of capital cases, relative to noncapital cases, can increase the reluctance of defendants to admit their participation in the crime in open court.[66] Complicating matters is the fact that many prosecutors and judges (and even some capital statutes) do not permit defendants to enter Alford or *nolo contendere* pleas in capital murder cases, but do allow such pleas in noncapital murder cases.[67] Prosecutors may also seek the death penalty

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[61] COHEN & REAVES, *supra* note 60, at 3–6.

[62] BARRY LATZER & JAMES N.G. CAUTHEN, JUSTICE DELAYED? TIME CONSUMPTION IN CAPITAL APPEALS: A MULTISTATE STUDY 30 (2007) (remarking on the extraordinary amount of time some defense attorneys take to file a notice of appeal in capital cases); Michael E. Tigar, *Judges, Lawyers and the Penalty of Death*, 23 LOY. L.A. L. REV. 147, 148 (1989) (discussing judges' condemnation of defense counsel's conduct in capital cases, including delay tactics).

[63] See *infra* Part VII for a discussion of the specific costs associated with capital trials.

[64] *See, e.g.*, AM. BAR ASS'N, EVALUATING FAIRNESS AND ACCURACY IN STATE DEATH PENALTY SYSTEMS: THE GEORGIA DEATH PENALTY ASSESSMENT REPORT 143 (2006), *available at* http://www.americanbar.org/content/dam/aba/migrated/moratorium/assessment project/georgia/report.authcheckdam.pdf (noting that appointment of counsel is required for a defendant indicted for a capital felony if she can establish that she is indigent). To be declared indigent, a person must "lack[] sufficient income or other resources to employ a qualified lawyer to defend him or her without undue hardship on the individual or his or her dependants [sic]." *Id.* at 143 n.73 (citations omitted) (internal quotation marks omitted); *cf.* Alschuler, *supra* note 17, at 677 (discussing how defense counsel in capital cases often threaten or attempt to make the trial as expensive as possible in order to improve their bargaining positions).

[65] Arthur L. Alarcón & Paula M. Mitchell, *Executing the Will of the Voters?: A Roadmap to Mend or End the California Legislature's Multi-Billion-Dollar Death Penalty Debacle*, 44 LOY. L.A. L. REV. S41, S88 (2011) (reporting the significant costs associated with federal habeas review of state death sentences in California); Liebman, *supra* note 22, at 325 (explaining that state and federal courts incur the financial burden of correcting trial mistakes); Misner, *supra* note 52, at 719–20 (arguing that our current system is seriously flawed because prosecutors are not required to take into account finite criminal justice resources when making charging-and-sentencing decisions).

[66] WHITE, LITIGATING IN THE SHADOW OF DEATH, *supra* note 19, at 157.

[67] An Alford plea is similar to a plea of *nolo contendere* where a defendant pleads guilty to a crime but does not admit guilt. Alford v. North Carolina, 400 U.S. 25, 25–26, 37 (1970)

against a particular defendant in an attempt to extract information that may have otherwise been impossible to obtain—e.g., the names of possible accomplices and additional victims—by inducing the defendant's cooperation in exchange for a sentence reduction. If the defendant refuses to cooperate, the prosecutor may be less likely to offer a favorable plea.[68] Such cooperation may not be forthcoming in capital cases both because of the high-profile nature of the cases and the severity of the potential penalties for possible codefendants implicated by the defendants.

Due to the influence of these competing incentives on plea-bargaining dynamics in the capital context, coupled with the lower likelihood of pleas in murder cases in general, it is far from obvious what role capital punishment is playing in plea negotiations in the aggregate. The empirical analysis of the influence of the threat of the death penalty on parties' propensity to reach a plea agreement assists in informing this debate.[69]

II. PRIOR RESEARCH

To date, only one study has attempted to systematically examine the impact of the death penalty on plea bargaining.[70] Professor Ilyana

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(explaining that "[a]n individual accused of crime may voluntarily, knowingly, and understandingly consent to the imposition of a prison sentence even if he is unwilling or unable to admit his participation in the acts constituting the crime" and there is no "material difference between a plea that refuses to admit commission of the criminal act and a plea containing a protestation of innocence when . . . a defendant intelligently concludes that his interests require entry of a guilty plea and the record before the judge contains strong evidence of actual guilt"); *see also* Henderson v. Morgan, 426 U.S. 637, 644–45 (1976) (explaining the constitutional prerequisites for Alford pleas). Georgia's capital statutes prohibit Alford pleas in capital cases. GA. CODE ANN. § 17-7-95(a) (West 2003).

[68] *See, e.g.,* David Garland, *"Symbolic" and "Instrumental" Aspects of Capital Punishment, in* THE FUTURE OF AMERICA'S DEATH PENALTY, *supra* note 22, at 421, 437.

[69] The focus of the empirical analyses in this Article is whether a plea agreement was *obtained*, not the specific dynamics of the negotiations involved in obtaining a plea. In cases that were ultimately disposed by trial, the data used in these analyses cannot distinguish whether plea negotiations were attempted and, if so, why the negotiation failed. Nevertheless, it is reasonable to assume that in the vast majority of cases, *defendants* rejected the plea offer from the prosecutor because the offer was deemed unacceptable. Although no systematic research on this topic has been conducted, experts estimate between 50% and 75% of inmates on death row rejected plea offers that would have avoided the death sentence. WHITE, LITIGATING IN THE SHADOW OF DEATH, *supra* note 19, at 145–46; Alschuler, *supra* note 17, at 671; Stetler, *supra* note 19, at 1157.

According to a recent empirical study of federal postconviction review of capital cases, 3% of defendants sentenced to death plead guilty at the conviction phase without obtaining a sentence bargain from the prosecutor. KING & HOFFMANN, *supra* note 44, at 147. Some defendants may perceive additional benefits from accepting a plea apart from what the government is willing or able to offer, such as leniency from the judge or jury during sentencing. *See* Dervan, *supra* note 52, at 259.

[70] Kuziemko, *supra* note 20, at 141 ("This work is, to the best of my knowledge, the first

Kuziemko's study of the impact of the death penalty on plea bargaining in New York State is the first study to examine whether the threat of the death penalty deters capital defendants from taking their cases to trial.[71] After the reinstatement of the death penalty in 1995, several district attorneys from across New York's sixty-two counties publicly announced their refusal to seek the death penalty in death-eligible murder cases (i.e., first-degree murder cases).[72] The study used the reinstatement of the death penalty in 1995, coupled with these refusals to seek the death penalty, as a "natural experiment to estimate the effect of the death penalty on plea bargaining."[73] The study identifies defendants who were arrested for first- or second-degree murder as the "treatment group"—that is, the group of defendants potentially susceptible to the death penalty—and defendants who were arrested for burglary, forcible rape, or armed robbery as the "control group," and compares these groups before and after the policy change.[74] The study concludes that the threat of the death penalty in New York did *not* increase defendants' overall propensity to plead guilty, but the death penalty did lead defendants to accept plea bargains with harsher terms.[75]

    The approach taken in the study was sensible considering the available data on New York's capital charging-and-sentencing process, but several deficiencies with the data likely undermine the substantive conclusions. The first problem is the jurisdiction selected for the study: New York State. While it is understandable that New York was chosen because of the "natural experiment" conditions presented by the reinstatement of the death

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to examine the effect of the death penalty on plea bargaining."); *see also* Ehrhard, *supra* note 20, at 315; Scheidegger, *supra* note 20, at 2–3.

[71] *See generally* Kuziemko, *supra* note 20 (studying the effect of this threat on behavior).

[72] *Id.* at 118, 121; *see also* Al Baker, *Effort to Reinstate Death Penalty Law Is Stalled in Albany*, N.Y. TIMES, Nov. 18, 2004, at A1.

[73] Kuziemko, *supra* note 20, at 118.

[74] *Id.* at 118, 122. The capital statute enacted in 1995 also expanded the definition of first-degree murder in the state. Before the act, first-degree murder was limited to individuals who were convicted of willfully killing law enforcement officers, and second-degree murder was a catchall category that included a wide range of homicide offenses. In an attempt to take into account the expanded definition of first-degree murder, and therefore keep the treatment group consistent across time, the study aggregated first- and second-degree homicides. *Id.* at 120.

[75] *Id.* at 140–41. Recognizing the possibly limited generalizability of the New York findings, the study examines a national cross section of murder defendants in 1988 drawn from the thirty-three largest counties in the United States. Results from the national data also corroborate these findings. *Id.* at 135–40. Unfortunately, the national data suffer from important limitations that also limit generalizability (i.e., improper focus on large urban counties and improper identification of treatment and control groups). Stephanie Hindson et al., *Race, Gender, Region and Death Sentencing in Colorado, 1980–1999*, 77 U. COLO. L. REV. 549, 570–77 (2006) (discussing county variation in use of the death penalty within a state).

penalty, New York has a rather inactive death penalty when compared to many other jurisdictions with capital statutes. For example, from 1995 through 2000, district attorneys in New York issued only thirty-six death notices, an average of six notices per year,[76] although New York averaged nearly 500 first- and second-degree murder arrests each year.[77] Furthermore, by the year 2000, only six people sat on death row in New York, and no executions have taken place since the death penalty was reinstated.[78]

The second problem is that the study does not directly examine the impact the death penalty has on the bargaining process in cases that are actually noticed for the death penalty. The study posits that the effect of the death penalty may not be limited to defendants who are actually noticed for the death penalty because "its specter may have encouraged some defendants to secure plea bargains after the [district attorney] merely mentioned a death sentence as a possibility but before he actually issued a death notice."[79] This assumption is problematic because it misrepresents actual capital charging dynamics. District attorneys do not deem all first-degree murders as worthy of the death penalty.[80] While the fact that a defendant is charged with first-degree murder under New York's statute is sufficient to permit the prosecutor to seek the death sentence, the prosecutor's mere mention of the possibility of seeking the death penalty against a defendant is unlikely to be viewed as a credible threat because the death penalty is used so infrequently.[81] Even in cases that are technically

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[76] Kuziemko, *supra* note 20, at 121.

[77] *Id.*

[78] *Id.* (stating the last execution in New York occurred in 1963). Three additional factors may limit the study's generalizability: (1) the limited scope of New York's death penalty (i.e., felony murder is ineligible for the death penalty); (2) New York's provision allowing defendants the right to plead guilty and automatically receive life imprisonment; and (3) the dramatic increase in the quality of defense counsel available to capital defendants resulting from the creation of the state-initiated Capital Defender Office, which was part of the capital punishment statute. *Id.* at 135 & n.14. Furthermore, New York's highest court invalidated the death penalty statute in 2004, just four years after the time frame the study examines. *See* People v. LaValle, 817 N.E.2d 341 (N.Y. 2004).

[79] Kuziemko, *supra* note 20, at 133.

[80] *See* Raymond Paternoster et al., *Justice by Geography and Race: The Administration of the Death Penalty in Maryland, 1978–1999*, 4 U. Md. L.J. Race Religion Gender & Class 1, 17–18 (2004) (explaining that different prosecutors in different offices, or even within the same office, may not evaluate a case as death eligible, even when the case satisfies all of the statutory criteria for death eligibility); Glenn L. Pierce & Michael L. Radelet, *Race, Region, and Death Sentencing in Illinois, 1988–1997*, 81 Or. L. Rev. 39, 41, 46 (2002) (describing the same phenomenon).

[81] This observation is underscored by the fact that prosecutors only formally sought the death penalty thirty-six times over a six-year period. *See, e.g.*, Bar-Gill & Ben-Shahar, *supra* note 15, at 738 (underscoring the importance of "credible threats" by prosecutors in

death eligible, it is more plausible that the defendant would wait until the prosecutor actually carried out her threat to seek the death penalty before agreeing to a plea bargain. In fact, defense counsel, who is typically a repeat player with the prosecutor, is likely to advise her client as to whether the prosecutor's threat is credible.[82]

The study also implausibly assumes, without evidence, that district attorneys (or defense counsel) actually mention the possibility of the death sentence in all cases where an indictment for first-degree murder is obtained. This is especially unlikely because capital defendants are permitted to accept plea bargains allowing them to avoid the death sentence after their cases are noticed for the death penalty, but they do not enjoy a constitutional right to withdraw guilty pleas in capital cases when the pleas were made voluntarily and knowingly.[83] Nearly all death penalty jurisdictions (including New York) permit capital defendants to accept plea bargains up until the penalty phase of their capital trials.[84] As mentioned *supra*, the majority of the thirty-six death notices in the study were withdrawn after plea bargains were reached. Therefore, if the assumption that the mere possibility of a death notice influences defendants' plea calculus is incorrect, then the study's treatment group includes defendants who are not impacted by the possible threat of the death penalty and the treatment effect will be biased towards zero because of systematic measurement error. Stated differently, the treatment group will actually contain individuals who should be either in the control group or entirely excluded from the analysis.

The New York State study defends this approach by characterizing its estimates as "intent to treat" (ITT) measures,[85] rather than the conventional estimates of "average treatment effect" (ATE) or average treatment effect

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the plea-bargaining context).

[82] STUNTZ, *supra* note 50, at 258 ("Plea bargaining is what academics call a 'repeat-play' game; the same lawyers negotiate pleas again and again.").

[83] *Compare* Santobello v. New York, 404 U.S. 257, 260 (1971) (explaining that a defendant does not have a constitutional right to withdraw a guilty plea in all circumstances), *with* Fair v. State, 268 S.E.2d 316, 323–24 (Ga. 1980) (holding that a defendant has no constitutional right to withdraw a permissible guilty plea in a capital case and that motions to withdraw a plea must be assessed on a case-by-case basis).

[84] DAVID C. BALDUS ET AL., EQUAL JUSTICE AND THE DEATH PENALTY: A LEGAL AND EMPIRICAL ANALYSIS 23 (1990) (discussing bifurcated death penalty trials post-*Furman*); Kuziemko, *supra* note 20, at 119–20 (explaining that capital trials are conducted in two parts: in the first phase, the court is only concerned with the question of guilt; if the defendant is convicted of capital murder in the first phase, the same jury proceeds to the sentencing phase of the trial to determine the appropriate punishment); *see also infra* Part III.A (discussing Georgia's capital charging-and-sentencing process and noting that defendants are allowed to accept pleas up until the penalty phase).

[85] Kuziemko, *supra* note 20, at 133.

on the treated (ATT).[86] "The ITT is one of a number of possible parameters of interest and may not always be of greatest scientific or policy relevance."[87] It measures the effect of treatment assignment, but not the effect of the treatment itself.[88] But it is questionable that the study's estimates can be accurately characterized as "intent to treat" estimates because of the reasons previously stated: (1) prosecutors do not deem all death-eligible cases as "death worthy," (2) not all death-eligible defendants (or their counsel) believe their cases are at risk for the death penalty, and (3) prosecutors do not "threaten" the death penalty in all (or even the vast majority) of death-eligible cases. Furthermore, the study does not alleviate this concern because it does not distinguish cases in which a threat was ever mentioned from the larger group of defendants indicted for first-degree murder.[89] Problems of systematic measurement error notwithstanding,[90] scholars have repeatedly remarked that the ATT is both easier to identify and likely to be more theoretically informative because it describes the impact of the treatment only among the units who are actually exposed to it.[91] Formally, assuming some selection on observables, $ATT = \mathrm{E}[Y_{(1)} - Y_{(0)} \mid X, T = 1]$; where $Y_{(1)}$ and $Y_{(0)}$ denote the two potential outcomes under treatment and control conditions, respectively, X indicates observable

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[86] Michael E. Sobel, *Causal Inference in Randomized and Non-Randomized Studies: The Definition, Identification, and Estimation of Causal Parameters*, *in* THE SAGE HANDBOOK OF QUANTITATIVE METHODS IN PSYCHOLOGY 3, 7–8 (Roger E. Millsap & Alberto Maydeu-Olivares eds., 2009) (defining ITT, ATE, and ATT causal effects).

[87] *Id.* at 3, 7. The ITT, ATE, and ATT address different causal questions: (1) ITT measures the average effect of the treatment per person offered the treatment, irrespective of how many treatment group members actually received it; (2) ATE measures the average effect of the treatment if all members in the treatment group actually received the treatment; and (3) ATT measures the average treatment effect per person receiving the treatment. Lisa A. Gennetian et al., *Constructing Instrumental Variables from Experimental Data to Explore How Treatments Produce Effects*, *in* LEARNING MORE FROM SOCIAL EXPERIMENTS: EVOLVING ANALYTIC APPROACHES 75, 86–87 (Howard S. Bloom ed., 2006).

[88] Sobel, *supra* note 87, at 7. It is also important to emphasize that the intent to treat effect "is commonly featured in connection with randomized clinical trials," in order to justify the assumption that the treatment effect is identifiable. *Id.*

[89] *But see* Els Goetghebeur & Tom Loeys, *Beyond Intention to Treat*, 24 EPIDEMIOLOGIC REVS. 85, 85 (2002) (arguing that the "upside" of noncompliance is that it more closely resembles the heterogeneous population of future treatment groups).

[90] *See, e.g.*, Goetghebeur & Loeys, *supra* note 89, at 89 ("The more we seek to tailor possibly dynamic treatments to individual characteristics . . . the more imperative it becomes to acknowledge treatment actually received as an important source of variation in treatment effect.").

[91] *See* STEPHEN MORGAN & CHRISTOPHER WINSHIP, COUNTERFACTUALS AND CAUSAL INFERENCE 43 (2007) ("[T]he average treatment effect among the treated is a theoretically important quantity . . . ."); Markus Gangl, *Causal Inference in Sociological Research*, 36 ANN. REV. SOC. 21, 24 (2010) (same).

covariates in the model, and *T* is an indicator variable for treatment assignment.[92]

The New York State study should be applauded for highlighting this gap in the literature and making an important empirical contribution to the existing debate, although the limitations of the data partly undermine the reliability and generalizability of the conclusions that were reached.[93] A significant improvement on that seminal study would entail several modifications. First, it would examine a jurisdiction that more actively pursues the death penalty with respect to both sentencing individuals to death and carrying out executions.[94] Second, the study would directly examine actual treatment effects and not merely "intent to treat" effects. In fact, prior research has appropriately defined the "treatment effect" of the death penalty as the government's "decision to file a death notice that formally announces [the] state's intention to seek a death sentence."[95] Finally, it would control for a wider range of case factors relevant to charging and plea-bargaining decisions.[96] The present study incorporates all of these improvements by analyzing a rich data set from Georgia, which is better suited to test this hypothesis.

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[92] MORGAN & WINSHIP, *supra* note 91, at 42; *see also* Donald B. Rubin, *Estimating Causal Effects of Treatments in Randomized and Nonrandomized Studies*, 66 J. EDUC. PSYCHOL. 688, 689–90 (1974).

[93] *See infra* Part V.

[94] It is important to make a distinction between those jurisdictions that actively pursue the death penalty but infrequently execute individuals and those that actively pursue the death penalty and execute defendants. California, for example, has nearly double the death row population of any other state (721 death row inmates as of January 1, 2011), but rarely executes inmates who have been sentenced to death. CAL. COMM'N ON THE FAIR ADMIN. OF JUSTICE, REPORT AND RECOMMENDATIONS ON THE ADMINISTRATION OF THE DEATH PENALTY IN CALIFORNIA 21–27 (2008); DEBORAH FINS, NAACP LEGAL DEF. & EDUC. FUND, DEATH ROW U.S.A. 34, 39–45 (2011).

[95] *See* Roman et al., *supra* note 27, at 533.

[96] The New York study examines the following case-level factors: defendant's sex, race/ethnicity, age, number of prior convictions, county of arrest, original charge, and plea charge. Kuziemko, *supra* note 20, at 129. The New York study fails to explore victim characteristics, contemporaneous convictions, and specific case factors identified in the statute that make a case a death-eligible crime. The supplemental national cross-section analysis includes both offender and victim demographic information, but lacks legally relevant, case-specific information outside of the number of prior convictions. *Id.* at 136. Taking into account more case information also permits the analyst to determine whether the assumptions of the "natural experiment" actually hold—that is, whether the treatment and control groups are truly indistinguishable except for the intervention. Richard A. Berk, *Randomized Experiments as the Bronze Standard*, 1 J. EXPERIMENTAL CRIMINOLOGY 417, 421, 428 (2005).

III. GEORGIA'S DEATH PENALTY

Prosecutors in Georgia have aggressively sought the death penalty since the practice first began in the colonies in 1608—Georgia ranks fifth in executions carried out since that time (1,002).[97] Georgia also ranks seventh in the nation with respect to total executions since the death penalty was reinstated (52) and ninth in terms of its death row population (102).[98] At the time of this writing, the most recent execution carried out in Georgia was that of Andrew Cook on February 21, 2013.[99] Georgia has also been the most influential state in shaping national death penalty policy in the modern era of capital punishment.[100] No less than seventeen cases originating in Georgia have set legal precedent with respect to the administration of capital punishment, including *Furman v. Georgia*[101] and *Gregg v. Georgia*,[102] which, respectively, were responsible for placing and lifting the moratorium on executions in the United States in the 1970s.[103] The following section provides a brief history of Georgia's current capital statute.

A. HISTORY AND DESCRIPTION OF THE MODERN STATUTE

On June 29, 1972, in *Furman v. Georgia*,[104] the U.S. Supreme Court invalidated Georgia's death penalty statute, ruling that the lack of

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[97] M. WATT ESPY & JOHN ORTIZ SMYKLA, EXECUTIONS IN THE UNITED STATES, 1608–2002: THE ESPY FILE 2 (ICPSR 4th ed. 2004); DEATH PENALTY INFO. CTR., FACTS ABOUT THE DEATH PENALTY (2012), *available at* http://www.deathpenaltyinfo.org/FactSheet.pdf (providing information about executions in Georgia from 2003 through the present).

[98] DEATH PENALTY INFO. CTR., *supra* note 97, at 2–3.

[99] *Id.*; Rhonda Cook, *Executed Man Makes Apology*, ATLANTA J.-CONST., Feb. 23, 2013, at B1.

[100] BALDUS ET AL., *supra* note 84, at 3.

[101] 408 U.S. 238, 239–40 (1972) (per curiam) (holding that unguided-discretion death penalty statutes are unconstitutional).

[102] 428 U.S. 153, 207 (1976) (holding that guided-discretion capital statutes are constitutionally permissible).

[103] Rhonda Cook, *Georgia Cases Have Set Legal Precedent*, ATLANTA J.-CONST., June 2, 1996, at C4. Other significant cases include *McCleskey v. Kemp*, 481 U.S. 279, 319 (1987) (finding statistical evidence of system-wide discrimination irrelevant; the defendant must show discrimination in the case at hand); *Francis v. Franklin*, 471 U.S. 307, 324–25 (1985) (holding that capital defendants enjoy the presumption of innocence and do not have the burden of proof in capital cases); *Zant v. Stephens*, 462 U.S. 862, 891 (1983) (holding that death penalty may be imposed as long as the jury finds at least one valid aggravating circumstance, and nonstatutory aggravating circumstances may also be considered by the jury when deciding whether to sentence a defendant to death); *Eberheart v. Georgia*, 433 U.S. 917, 917 (1977) (declaring death penalty judgment for nonhomicidal kidnapping with bodily injury unconstitutional); and *Coker v. Georgia*, 433 U.S. 584, 592 (1977) (declaring death penalty for nonhomicidal rape of an adult unconstitutional).

[104] 408 U.S. 238.

sentencing guidance for capital jurors was a violation of the Eighth Amendment, and subsequently invalidated all capital statutes that lacked such standards.[105] The Georgia General Assembly quickly drafted new death penalty legislation the following January and the bill was signed into law by then-Governor Jimmy Carter on March 28, 1973.[106] The legislation was soon codified; it provided for eleven separate instances where the death penalty could be imposed on someone convicted of a capital offense.[107] Less than a year later, Troy Leon Gregg was convicted of murder and armed robbery and sentenced to death under Georgia's new death penalty statute. The U.S. Supreme Court would eventually grant certiorari in Gregg's[108] case (consolidated with two other death penalty cases from Florida[109] and Texas[110]) and ultimately rule that Georgia's new death penalty statute was constitutionally acceptable.[111] The Court's decision officially ended the nation's four-year moratorium on the death penalty.[112]

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[105] *Id.* During the previous year, the Supreme Court ruled by a six-to-three vote that neither the absence of sentencing guidelines nor single-verdict procedures violated the Fourteenth Amendment. McGautha v. California, 402 U.S. 183, 196–208, 210–13 (1971). The *Furman* ruling, which was decided by a five-to-four vote, was particularly surprising because the composition of the Court had not changed from the *McGautha* ruling. HERBERT H. HAINES, AGAINST CAPITAL PUNISHMENT: THE ANTI-DEATH PENALTY MOVEMENT IN AMERICA, 1972–1994, at 37–39 (1996).

The immediate effect of *Furman* was that approximately 558 death row inmates had their sentences commuted to life imprisonment. Although there was widespread speculation by death penalty proponents that many of these inmates would kill again once released from prison, subsequent research revealed that only one of the 239 *Furman*-commuted inmates released from prison committed a second murder in the fifteen years following the *Furman* decision. James W. Marquart & Jonathan R. Sorensen, *A National Study of the* Furman-*Commuted Inmates: Assessing the Threat to Society from Capital Offenders*, 23 LOY. L.A. L. REV. 5, 23–24 (1989).

[106] MICHAEL MEARS, THE DEATH PENALTY IN GEORGIA: A MODERN HISTORY, 1970–2000, at 14–41 (1999) (providing a detailed history of the modern death penalty in Georgia). On December 8, 1972, less than six months after *Furman*, Florida became the first state to officially restore capital punishment when Governor Reubin Askew signed new death penalty legislation into law. HAINES, *supra* note 105, at 45.

[107] 1973 Ga. Laws 163–65, § 3 (originally codified at GA. CODE ANN. § 27-2534.1 (1973); current version at GA. CODE ANN. § 17-10-30 (West 2003)).

[108] Gregg v. Georgia, 428 U.S. 153 (1976).

[109] Proffitt v. Florida, 428 U.S. 242 (1976).

[110] Jurek v. Texas, 428 U.S. 262 (1976).

[111] *Gregg*, 428 U.S. at 169, 195 (holding, seven-to-two, that the death penalty for murder did not by itself violate the Eighth Amendment and all three of the capital statutes contained sufficient procedural reforms to warrant them constitutional under *Furman*); *see also* HAINES, *supra* note 105, at 52–54. Interestingly, the court had no evidence suggesting that the new statutes eliminated arbitrariness and bias in capital sentencing; rather, the court based its decision on whether the procedural reforms enacted in each statute were capable of producing outcomes different from those produced under the pre-*Furman* statutes.

[112] MEARS, *supra* note 106, at 65–69.

As a result of the decision, thirty-four states, the federal government, and the U.S. Armed Forces currently permit the death penalty in their jurisdictions.[113]

As noted *supra*, Georgia's new death penalty was originally enacted in 1973 and enumerated eleven separate instances where the death penalty could be imposed on someone convicted of a capital offense:

(a) The death penalty may be imposed for the offenses of aircraft hijacking or treason, in any case.

(b) In all cases of other offenses for which the death penalty may be authorized, the judge shall consider, or he shall include in his instructions to the jury for it to consider, any mitigating circumstances or aggravating circumstances otherwise authorized by law and any of the following statutory aggravating circumstances which may be supported by the evidence:

(1) The offense of murder, rape, armed robbery, or kidnapping was committed by a person with a prior record of conviction for a capital felony, *or the offense of murder was committed by a person who has a substantial history of serious assaultive criminal convictions.*[114]

(2) The offense of murder, rape, armed robbery, or kidnapping was committed while the offender was engaged in the commission of another capital felony, or aggravated battery, or the offense of murder was committed while the offender was engaged in the commission of burglary or arson in the first degree.

(3) The offender by his act of murder, armed robbery, or kidnapping knowingly created a great risk of death to more than one person in a public place by means of a weapon or device which would normally be hazardous to the lives of more than one person.

(4) The offender committed the offense of murder for himself or another, for the purpose of receiving money or any other thing of monetary value.

(5) The murder of a judicial officer, former judicial officer, district attorney or solicitor or former district attorney or solicitor during or because of the exercise of his official duty.

(6) The offender caused or directed another to commit murder or committed murder as an agent or employee of another person.

(7) The offense of murder, rape, armed robbery, or kidnapping was outragenously or wantonly vile, horrible or inhuman in that it involved torture, depravity of mind, or an aggravated battery to the victim.

(8) The offense of murder was committed against any peace officer, corrections employee or fireman while engaged in the performance of his official duties.

(9) The offense of murder was committed by a person in, or who has escaped from, the lawful custody of a peace officer or place of lawful confinement.

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[113] Death Penalty Info. Ctr., *supra* note 97.

[114] The italicized portion of the death penalty statute was subsequently declared unconstitutionally vague. Arnold v. State, 224 S.E.2d 386, 392 (Ga. 1976).

(10) The murder was committed for the purpose of avoiding, interfering with, or preventing a lawful arrest or custody in a place of lawful confinement, of himself or another.

(c) The statutory instructions as determined by the trial judge to be warranted by the evidence shall be given in charge and in writing to the jury for its deliberation. The jury, if its verdict be a recommendation of death, shall designate in writing, signed by the foreman of the jury, the aggravating circumstance or circumstances which it found beyond a reasonable doubt. In non-jury cases the judge shall make such designation. Except in cases of treason or aircraft hijacking, unless at least one of the statutory aggravating circumstances enumerated in Code section 27-2434.1(b) is so found, the death penalty shall not be imposed.[115]

With very few changes, Georgia's death penalty legislation has remained in place since Governor Jimmy Carter first signed it into law;[116] however, there were several changes mandated by subsequent U.S. Supreme Court rulings. The year after the Court officially reinstated Georgia's death penalty in *Gregg*, it invalidated the death penalty for defendants convicted of non-homicidal rape and kidnapping with bodily injury in, respectively, *Coker v. Georgia* and *Eberheart v. Georgia*.[117] Georgia's juvenile death penalty was also invalidated following the Court's decision in *Roper v. Simmons*,[118] which forbade the death penalty for defendants who were under the age of eighteen during the commission of their crime. The Georgia statute had permitted the death penalty for defendants who were seventeen at the time of their crime.[119]

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[115] 1973 Ga. Laws 163–65, § 3 (emphasis added) (originally codified at GA. CODE ANN. § 27-2534.1 (1973); current version at GA. CODE ANN. § 17-10-30 (West 2003)). Throughout the remainder of this Article, the specific elements of the capital statute listed in subsection (b) of Georgia's capital statute will be referred to as *B1*, *B2*, *B3*, etc.

[116] In 1996 and 1997, there were two unsuccessful proposals to lower the age of eligibility for the death penalty to sixteen. There were also two attempts to add an additional aggravating circumstance that would allow the death penalty in the event a person was convicted of the rape of a child under the age of twelve; however, this legislation was also unsuccessful. MEARS, *supra* note 106, at 46. In 2006, an additional element, *B11*, was added: "The offense of murder, rape, or kidnapping was committed by a person previously convicted of rape, aggravated sodomy, aggravated child molestation, or aggravated sexual battery." GA. CODE ANN. § 17-10-30(b)(11) (West Supp. 2012).

[117] *See* Eberheart v. Georgia, 433 U.S. 917 (1977); Coker v. Georgia, 433 U.S. 584 (1977). The current Georgia statute permits the death penalty for murder (malice or felony), aircraft hijacking, and treason. *See* Collins v. State, 236 S.E.2d 759, 762 (Ga. 1977) (Jordan, J., concurring) ("Of course the crimes of treason and aircraft hijacking, along with murder, remain capital felonies . . . .").

[118] 543 U.S. 551 (2005).

[119] DEATH PENALTY INFO. CTR., *supra* note 97. For a critical treatment of the U.S. Supreme Court's rulings in *Coker* and *Roper*, see generally Adam S. Goldstone, *The Death Penalty: How America's Highest Court Is Narrowing Its Application*, 4 CRIM. L. BRIEF 23 (2009) (arguing that the *Coker* and *Roper* decisions are examples of judicial activism and inappropriately limit the application of the death penalty).

B. LIFE WITHOUT THE POSSIBILITY OF PAROLE

Georgia's life sentence without the possibility of parole statute was enacted in May 1993 and allowed juries to deny parole to defendants convicted of certain high felonies, including murder.[120] Presently, all thirty-four states that authorize the death penalty have enacted similar legislation.[121] Georgia's LWOP legislation may have significantly altered the administration of capital punishment in Georgia by restricting LWOP to murder cases in which the prosecution has filed notices of intent to seek the death penalty.[122] As a result, prosecutors may seek the death sentence in cases they do not believe are deserving of the death penalty, but they do believe warrant LWOP.[123] For example, in 2001, Devonia "Eddie" Inman was convicted in Adel, Georgia, of the murder of Donna Brown and sentenced to life without the possibility of parole.[124] In commenting on the verdict and sentence, Alapaha Judicial Circuit District Attorney Bob Ellis remarked, "Had we not sought the death penalty, we could have not gotten life without parole."[125] Ellis further explained that by seeking the death penalty, he gave the jury the opportunity to deny parole to Inman.[126]

Even in jurisdictions that do not restrict the LWOP sentencing option to death cases, it is unlikely that a defendant charged with a death-eligible homicide offense would agree to plea to an LWOP sentence without the threat of a death sentence at trial. Absent the risk of a death sentence at trial, the defendant could do no worse at trial than the LWOP plea offered by the prosecutor. The defendant would be better off taking her chances,

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[120] 1993 Ga. Laws 1656–57, § 4 (codified at GA. CODE ANN. § 17-10-30.1 (repealed 2009)).

[121] DEATH PENALTY INFO. CTR., *supra* note 97.

[122] In 2009, after two failed attempts, the Georgia General Assembly enacted legislation permitting the imposition of life without the possibility of parole in murder cases, independent of a death penalty prosecution. 2009 Ga. Laws 227, § 10; *see also* H.R. 142, § 17, 151st Gen. Assemb., Reg. Sess. (Ga. 2011) (codifying the 2009 law at GA. CODE ANN. § 17-10-16.1 (West Supp. 2012)).

[123] *See, e.g.*, Tony Perry, *Drug Lord Avoids Death Penalty with Plea Deal: Arellano Felix Pleads Guilty to Charges that Will Put Him in Prison for Life Without the Possibility of Parole*, L.A. TIMES, Sept. 18, 2007, at B1 (discussing defendant agreeing to plea to life without the possibility of parole in exchange for withdrawal of death penalty); Gene Johnson, *Strategy Changing on Death Penalty*, NEWS TRIB. (Tacoma, Wash.) (July 30, 2007, 1:00 AM), http://www.thenewstribune.com/2007/07/30/121534/strategy-changing-on-death-penalty.html (quoting a prosecutor explaining that the threat of the death penalty is the only leverage available in some cases).

[124] Peter Failor, *Man Gets Life for 1998 Adel Murder*, VALDOSTA DAILY TIMES, June 28, 2001, at A1.

[125] *Id.*

[126] *Id.*

however slim, at trial for the possibility of receiving a lesser sentence.[127] This is particularly true in jurisdictions such as Georgia that permit judges and juries to impose a life with the possibility of parole sentence for anyone convicted of murder or felony murder.[128] In Georgia, the defendant and prosecutor may enter into a plea agreement at any time up until the jury renders its sentence in the penalty phase. The following section briefly outlines the major stages of a case from indictment through the penalty phase that differentiate capital from noncapital cases.

C. CAPITAL CASE PROGRESSION[129]

Indictment Through Arraignment.   Georgia is an indictment jurisdiction, so a grand jury is required to decide formally whether there is probable cause to believe that the accused has committed the specified crime.[130]   Following the indictment, the accused may be eligible for the appointment of counsel.[131] If deemed eligible for appointed counsel and the charge is a capital felony, two attorneys must be appointed before the accused is called upon to plea to the charges, which generally occurs at the arraignment. Prior to arraignment, a pretrial conference is held and the prosecuting attorney must announce whether she intends to seek the death penalty and then file a notice of intent with the clerk of the superior

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[127] Ehrhard, *supra* note 20, at 313 (summarizing statements from prosecutors explaining that the death penalty is often the only leverage they have in plea negotiations in murder cases). Indeed, the likelihood of receiving a straight life sentence at trial in a capital murder case in Georgia does not appear to be particularly slim. From 1993 to 2000, 31% of capital cases disposed by trial resulted in straight life sentences, whereas 36% received LWOP and 32% received the death sentence.

[128] GA. CODE ANN. § 17-10-30 (West 2003). In economics parlance, there is no "price" or "penalty" associated with a defendant invoking her constitutional right to trial under the Georgia regime in place at the time of this study if the prosecutor only offers LWOP in a noncapital case. To be sure, individuals who finance their own defenses will incur those costs, but the vast majority of murder defendants are represented by court-appointed counsel. *See generally* Beck & Shumsky, *supra* note 34, at 525; Tabak & Lane, *supra* note 34, at 59.

[129] In the interest of space, only the most relevant stages of the "typical" progression of a Georgia death penalty case through automatic appeal are described. The qualifier "typical" is used because there are numerous factors that may cause a case to deviate from this abbreviated description.

[130] GA. CODE ANN. §§ 15-12-60 *et seq.*

[131] Upon a showing of indigence, an individual indicted for a capital felony is eligible for appointed counsel. Pursuant to the Georgia Indigent Defense Act of 2003 (GIDA), an indigent is "[a] person charged with a . . . [crime] punishable by imprisonment who earns less than 100 percent of the federal poverty guidelines unless there is evidence that the person has other resources that might reasonably be used to employ a lawyer without undue hardship on the person or his or her dependents." GA. CODE ANN. § 17-12-2 (West 2003 & Supp. 2012); *see also* 2003 Ga. Laws 192–217, § 1.

court.[132] The superior court must then transmit the notice to the clerk of the Supreme Court of Georgia.[133] During the arraignment, the court must read the indictment and ask the defendant to plead to the capital felony and any lesser-included offenses charged. The defendant is allowed to plead guilty, not guilty, or mentally incompetent to stand trial.[134]

Capital Trial. The court must empanel forty-two prospective jurors from whom the state and defense must select a total of twelve jurors and one or more alternative jurors, if deemed necessary by the judge.[135] All capital cases are heard before the Georgia Superior Court[136] and conducted in two phases: the conviction phase (also commonly referred to as the guilt/innocence phase) and, if the defendant is found guilty of a capital felony, the penalty phase. Immediately prior to the conviction phase, the court must conduct a conference with the state, defense counsel, and the defendant to resolve several matters, including, *inter alia*, any last-minute motions, stipulations, and objections to defense counsel.[137]

In situations where the defendant is found guilty of capital murder at the conclusion of the conviction phase, the case proceeds to the penalty phase (i.e., a presentencing hearing) where both the prosecutor and defense counsel may present witnesses and evidence regarding the statutory aggravating circumstances, as well as nonstatutory aggravating and mitigating circumstances.[138] The jury may sentence the defendant to death only if they find one or more statutory aggravating circumstances beyond a reasonable doubt, but a death sentence is never required.[139] Following a conviction for a capital felony and a sentence of death, the defendant may challenge her conviction or death sentence by: (1) filing a motion for a new trial with the superior court, or (2) filing a direct appeal with the Georgia

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[132] UNIF. APP. R. IIC(1). The specific aggravating circumstances the government intends to prove at trial need not be included in the indictment. *See generally* Lewis v. State, 620 S.E.2d 778 (Ga. 2005).

[133] UNIF. APP. R. IIC(1).

[134] A defendant indicted for a capital felony may not plead *nolo contendere*. GA. CODE ANN. § 17-7-95(a).

[135] *Id.* §§ 15-12-160, -168.

[136] GA. CONST. art. 6, § 4.

[137] UNIF. APP. R. IIIA(1).

[138] GA. CODE ANN. § 17-10-2(c); *see also* Zant v. Stephens, 462 U.S. 862, 891 (1983) (holding that nonstatutory aggravating circumstances may be considered by the jury during the presentence hearing).

[139] GA. CODE ANN. § 17-10-31.1(c). Prior to *Ring v. Arizona*, 536 U.S. 584 (2002), which prohibited judge-imposed death sentences, judges in Georgia were permitted to sentence a capital defendant to death if the defendant waived her right to a jury at the penalty phase. This situation, however, never occurred in the years under investigation for this study.

Supreme Court.[140] If the defendant does not initiate any sort of review, the case will automatically be appealed to the Georgia Supreme Court within ten days of the filing of the trial transcript by the court reporter of the Georgia Superior Court.[141] This automatic review will occur even if the defendant does not wish to appeal her conviction or sentence.[142]

It is worth emphasizing that it is very common for multiple years to elapse between the initial arrest and the trial in death penalty cases, so both parties have ample time to negotiate a plea agreement. The data analyzed for this study[143] reveal that the average time between arrest and sentencing for defendants noticed for the death penalty and opting for trial was 31.9 months. The average time for defendants noticed for the death penalty but ultimately pleading at some point before the penalty phase was approximately 24.6 months. For defendants noticed for the death penalty, irrespective of whether they pleaded or took their cases to trial, the average amount of time between arrest and sentencing was 27.9 months. By comparison, the average time between arrest and sentencing for death-eligible defendants not facing the death penalty but ultimately convicted of murder was 17.4 months for those opting for trial and 13.5 months for those who pleaded (and 15.9 months irrespective of method of disposition). The specific data collected in Georgia and analyzed in this Article are discussed in the next section.

IV. DATA

The current study analyzes eight years of death penalty charging-and-sentencing data from Georgia (1993–2000) and addresses each of the aforementioned modifications in an effort to assess more accurately the impact of the death penalty on the plea-bargaining process.[144] The data used for these analyses were collected from the Georgia Bureau of Investigation (GBI), the Georgia Department of Corrections (GDC), the Office of the Georgia Capital Defender (GCD), the Clerk's Office of the

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[140] GA. CODE ANN. § 17-10-35; UNIF. APP. R. IVA(1)–(2).

[141] GA. CODE ANN. § 17-10-35.

[142] *Id.*

[143] *See infra* Part IV.

[144] This particular time frame was selected for two important reasons. First, Georgia's life without the possibility of parole legislation was enacted in 1993. The legislation was specifically designed as a sentencing alternative in capital murder trials, therefore potentially having a significant impact on prosecutorial discretion. GA. CODE ANN. § 17-10-30.1 (repealed 2009); 1993 Ga. Laws 1656–57, § 4. Second, in October 1992, the Georgia General Assembly, along with the Georgia Supreme Court, established a statewide agency to actively monitor all death penalty cases in Georgia's 159 counties. MEARS, *supra* note 106, at 4. For a discussion of additional advantages of examining Georgia's capital charging-and-sentencing process, see BALDUS ET AL., *supra* note 84, at 3.

Georgia Supreme Court (CO), the *Atlanta Journal-Constitution* (AJC),[145] and the U.S. Census Bureau.[146] These data contain detailed information on each homicide case in Georgia with respect to the defendant, codefendant(s), victim(s), judge, prosecutor, defense counsel, and the crime. As mentioned *supra*,[147] the Georgia death penalty statute lists eleven elements making a crime eligible for the death penalty.[148] These data allow for the determination of which defendants are actually eligible for the death penalty in Georgia. Information obtained concerning prosecutors' actual decisions to seek the death penalty in each case permit the examination of a *genuine* treatment effect.[149] The more nuanced data also permit the inclusion of a much richer set of statistical controls than were considered in prior research.

During the period under investigation (1993–2000), prosecutors filed a notice of intent to seek the death penalty in 400 cases and fifty-four defendants ultimately received the death penalty.[150] Of the 395 capitally charged cases in which the method of disposition is known, 59% (234) were resolved by plea and 41% (161) were resolved by trial. With respect to cases that were technically death eligible under the Georgia statute but in which the prosecutor declined to seek the death penalty, 39% (350) were disposed by plea and 61% (551) disposed by trial. Of the 724 cases resulting in a murder conviction that were ineligible for the death penalty, 30% (212) were disposed of by plea and 70% (505) by trial.[151] The plea rate for cases noticed for the death penalty ranged from 38.7% (in 1998) to

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[145] Bill Rankin et al., *A Matter of Life or Death: An AJC Special Report: High Court Botched Death Reviews*, ATLANTA J.-CONST., Sept. 26, 2007, at A1 (discussing a collection of data on 2,328 murder convictions in Georgia between 1995 and 2004); Raymond Paternoster, The Death Penalty in Georgia, 1995–2004 (Sept. 17, 2007) (unpublished report) (on file with the Journal of Criminal Law and Criminology).

[146] *See infra* Appendix A.

[147] *Supra* Part III.A.

[148] The original statute permitted the death penalty for the crimes of murder, rape, armed robbery, or kidnapping with bodily injury, but rape, armed robbery, and kidnapping with bodily injury were removed as death-eligible offenses following the Supreme Court's decisions in *Coker v. Georgia*, 433 U.S. 584, 584 (1977) (declaring the death penalty for rape unconstitutional), and *Eberheart v. Georgia*, 433 U.S. 917, 917 (1977) (holding that the death penalty for armed robbery was unconstitutional). *See supra* note 103.

[149] *See* Gangl, *supra* note 91, at 24.

[150] These 400 death notices and the fifty-four death sentences are with respect to incident dates, not disposition dates. Seven of these sentences (12.9%) were imposed after 2000.

[151] Forty-five percent (584) of all death-eligible cases were disposed by plea. Information concerning the method of disposition was missing for seventeen cases in the sample (0.8%). A total of 1,628 non-capitally-charged murder convictions were obtained in the period under study—34% were disposed by plea. In these data, there are twenty-eight cases in which the defendant was initially noticed for the death penalty but was ultimately acquitted, had charges dismissed, or was convicted of a lesser offense.

75% (in 1999). The plea rate for death-eligible cases that were disposed by plea in which the defendant did not face the death penalty ranged from 31% (in 1998) to 53% (in 1993).

V. EMPIRICAL STRATEGY

A. DESIGNATION OF TREATMENT AND CONTROL GROUPS

The "treatment group" for the purposes of the study consists of defendants who were noticed for the death penalty. The "control group" was comprised of defendants eligible for the death penalty, but against whom the prosecutor chose not to seek the death penalty.[152] The difficulty in defining the control group is specifying what qualifies as a "death-eligible" case. Some analysts suggest that any homicide committed in Georgia could be death eligible resulting from the state's felony-murder statute and the *B7* statutory aggravating circumstance.[153] Recall that *B7* reads: "The offense of murder, rape, armed robbery, or kidnapping was outrageously or wantonly vile, horrible, or inhuman in that it involved torture, depravity of mind, or an aggravated battery to the victim."[154] Due to this ambiguity, two different approaches were adopted to identify death-eligible defendants.

The first approach categorizes defendants as eligible for the death penalty based on the presence of at least one of the special aggravating circumstances listed in Georgia's capital statute. The presence of these specific factors in each case was assessed in two ways. First, data from a study conducted by the *Atlanta Journal-Constitution* on 2,328 murder convictions obtained between 1995 and 2004 were used to determine the number of aggravating circumstances present in the 967 murder convictions with incident dates from 1995 through 2000 in that study.[155]

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[152] Roman et al., *supra* note 27, at 533 (defining treatment and control groups in death penalty studies in a similar fashion).

[153] Kuziemko, *supra* note 20, at 137 n.15; Kathryn W. Riley, *The Death Penalty in Georgia: An Aggravating Circumstance*, 30 AM. U. L. REV. 835, 853–54 (1981) (explaining that the vagueness and overbreadth of the *B7* circumstance is in conflict with the narrowing requirement articulated in *Furman* and *Gregg*); Richard A. Rosen, *The "Especially Heinous" Aggravating Circumstance in Capital Cases—The Standardless Standard*, 64 N.C. L. REV. 941, 945 (1986) (arguing that the "especially heinous" aggravating factor is overinclusive, has been applied inconsistently, and fails to guide prosecutorial discretion).

[154] GA. CODE ANN. § 17-10-30(b)(7) (West 2003); *see also supra* Part III.A for a full description of Georgia's capital statute. In *Godfrey v. Georgia*, the Court ruled the *B7* special circumstance was not unconstitutionally vague on its face. 446 U.S. 420, 420 (1980).

[155] *See* Rankin et al., *supra* note 145; Paternoster, *supra* note 145.

Table 1

Death Notices in Georgia by County (1993–2000)

County	Death Notices	% of Total Death Notices	County	Death Notices	% of Total Death Notices
Appling	5	1.3	Henry	5	1.3
Baldwin	5	1.3	Houston	2	0.5
Barrow	2	0.5	Irwin	1	0.3
Bartow	9	2.3	Jackson	3	0.8
Ben Hill	1	0.3	Jeff Davis	3	0.8
Bibb	8	2.0	Jefferson	1	0.3
Bleckley	1	0.3	Jenkins	1	0.3
Brooks	1	0.3	Jones	2	0.5
Bryan	1	0.3	Laurens	1	0.3
Bulloch	5	1.3	Lee	1	0.3
Burke	5	1.3	Liberty	4	1.0
Butts	2	0.5	Long	5	1.3
Camden	1	0.3	Lowndes	7	1.8
Candler	1	0.3	Macon	1	0.3
Carroll	3	0.8	Madison	1	0.3
Catoosa	1	0.3	Marion	2	0.5
Charlton	1	0.3	Meriwether	1	0.3
Chatham	10	2.5	Mitchell	2	0.5
Cherokee	2	0.5	Monroe	2	0.5
Clarke	11	2.8	Morgan	9	2.3
Clayton	19	4.8	Muscogee	15	3.8
Cobb	11	2.8	Newton	3	0.8
Coffee	3	0.8	Oconee	7	1.8
Colquitt	1	0.3	Oglethorpe	1	0.3
Columbia	4	1.0	Paulding	2	0.5
Cook	3	0.8	Pierce	1	0.3
Crawford	1	0.3	Pike	3	0.8
Crisp	2	0.5	Polk	4	1.0
DeKalb	25	6.3	Putnam	8	2.0
Dodge	1	0.3	Rabun	1	0.3
Dougherty	7	1.8	Randolph	1	0.3
Douglas	3	0.8	Richmond	20	5.0
Early	1	0.3	Rockdale	4	1.0
Effingham	2	0.5	Screven	2	0.5
Elbert	2	0.5	Spalding	8	2.0
Emanuel	1	0.3	Stephens	1	0.3
Fayette	4	1.0	Sumter	1	0.3
Floyd	5	1.3	Terrell	1	0.3
Forsyth	1	0.3	Thomas	2	0.5
Fulton	21	5.3	Tift	7	1.8
Gilmer	1	0.3	Toombs	3	0.8
Glynn	5	1.3	Troup	2	0.5
Greene	1	0.3	Upson	2	0.5
Gwinnett	13	3.3	Walker	2	0.5
Hall	11	2.8	Walton	3	0.8
Hancock	1	0.3	Ware	7	1.8
Harris	1	0.3	Washington	2	0.5
Hart	6	1.5	Wayne	1	0.3
			Whitfield	1	0.3

Total Death Notices: 400

Percent of all counties filing a death notice: 61%

Table 2
Death Notices in Georgia by Judicial Circuit (1993–2000)

Judical Circuit	Death Notices	% of Total Death Notices
Alapaha	3	0.8
Alcovy	6	1.5
Appalachian	1	0.3
Atlanta	21	5.3
Atlantic	11	2.8
Augusta	29	7.2
Blue Ridge	3	0.8
Brunswick	16	4.0
Chattahoochee	16	4.0
Cherokee	9	2.3
Clayton	19	4.8
Cobb	11	2.8
Conasauga	1	0.3
Cordele	3	0.8
Coweta	6	1.5
Dougherty	7	1.8
Douglas	3	0.8
Dublin	1	0.3
Eastern	10	2.5
Flint	9	2.3
Griffin	17	4.3
Gwinnett	13	3.3
Houston	2	0.5
Lookout Mountain	3	0.8
Macon	8	2.0
Middle	8	2.0
Mountain	2	0.5
Northeastern	11	2.8
Northern	9	2.3
Ocmulgee	26	6.5
Oconee	2	0.5
Ogeechee	10	2.5
Pataula	3	0.8
Paulding	5	1.3
Rockdale	4	1.0
Rome	5	1.3
South Georgia	2	0.5
Southern	12	3.0
Southwestern	4	1.0
Stone Mountain	25	6.3
Tallapoosa	6	1.5
Tifton	8	2.0
Waycross	12	3.0
Western	18	4.5

Total Death Notices: 400
Percent of all judicial circuits filing a death notice: 94%

The second manner in which the presence of statutorily defined elements was determined was based on the presence of *B1*, *B2*, or *B4* special circumstances from inmate records from the Georgia Department of Corrections and the Georgia Bureau of Investigation. Recall that under *B1*, a defendant is eligible for the death penalty when "[t]he offense of murder, rape, armed robbery, or kidnapping was committed by a person with a prior record of conviction for a capital felony."[156] Under Georgia's statute, capital felonies are defined as murder, rape, armed robbery, or kidnapping.[157] A capital offense refers to statutorily defined capital offenses, not necessarily death-eligible offenses.[158] The predicate offenses for which the death penalty can be imposed are murder (malice or felony), aircraft hijacking, and treason.[159] According to the *B2* statutory aggravating circumstance, a defendant is eligible for the death penalty when "[t]he offense of murder, rape, armed robbery, or kidnapping was committed while the offender was engaged in the commission of another capital felony or aggravated battery, or the offense of murder was committed while the offender was engaged in the commission of burglary or arson in the first degree."[160] Defendants who were convicted of contemporaneously committing these crimes—or had one of these crimes initially listed in their arrest reports—were categorized as death eligible.[161] Defendants convicted

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[156] GA. CODE ANN. § 17-10-30(b)(1); *see also supra* Part III.A.

[157] GA. CODE ANN. § 17-10-30(b)(1).

[158] Merrow v. State, 601 S.E.2d 428, 431 (Ga. Ct. App. 2004) ("A capital offense . . . refers to offenses defined by statute as capital offenses, not necessarily offenses for which the state could or actually does seek the death penalty." (quoting White v. State, 414 S.E.2d 296, 297 (Ga. Ct. App. 1991))); *accord* Peek v. State, 238 S.E.2d 12, 20 (Ga. 1977) (explaining that nonhomicide "capital offenses" listed in the death penalty statute qualify as "capital felonies" for purposes of applying the aggravating circumstance provision of the capital statute).

[159] Collins v. State, 236 S.E.2d 759, 762 (Ga. 1977) (Jordan, J., concurring) ("Of course the crimes of treason and aircraft hijacking, along with murder, remain capital felonies . . . .").

[160] GA. CODE ANN. § 17-10-30(b)(2).

[161] The major limitation of this measure is that the Georgia Department of Corrections does not technically distinguish between offenses committed during the actual commission of the murder and offenses the defendant was simply convicted of during the same trial as the murder. As a check, several cases were randomly selected from the Department of Corrections website that lists the separate offenses (if a multiple-offense case) by the incident date. In the vast majority of these cases, the murder and other felony were committed on the same day. This suggests that, for most cases, the *B2* measure is valid for determining death eligibility. I also cross-referenced the conviction data from the Georgia Department of Corrections with the arrest data from the Georgia Bureau of Investigation in order to determine whether the contemporary felony present at time of arrest was consistent with the conviction data for lesser felonies. This additional check supports the assertion that the murder and the other felony conviction were truly contemporaneous.

of murdering multiple victims were also categorized as death eligible because multiple victim homicides satisfy the requirements of the *B2* statutory aggravating circumstance.[162]

Death eligibility based on the presence of the *B4* circumstance— "offender committed the offense of murder for himself or another, for the purpose of receiving money or any other thing of monetary value"—was determined by a contemporaneous conviction for an economically motivated crime (i.e., robbery and theft). Admittedly, the three factors employed to determine death-eligible defendants are narrow and ignore a host of other factors listed in the statute, but it is worth noting that prior research strongly suggests that the presence of multiple victims and a contemporaneous felony are "the most commonly used factors in death sentence cases, and thus account for a high proportion of death eligible cases."[163] Consequently, these two types of aggravating circumstances are also the most common factors used by judges and jurors to justify death sentences, as well as the strongest predictors of a death sentence, even after holding other legally relevant factors constant.[164]   Perhaps more

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[162] The presence of multiple victims or a contemporaneous felony is commonly employed by researchers to identify death-eligible cases. *See generally* SAMUEL R. GROSS & ROBERT MAURO, DEATH AND DISCRIMINATION: RACIAL DISPARITIES IN CAPITAL SENTENCING (1989); Pierce & Radelet, *supra* note 80, at 72–91 (2002); Glenn L. Pierce & Michael L. Radelet, *The Impact of Legally Inappropriate Factors on Death Sentencing for California Homicides, 1990–1999*, 46 SANTA CLARA L. REV. 1, 21–25 (2005). Not only are these two types of aggravating circumstances the most common set of aggravating circumstances used by prosecutors, jurors, and judges to justify death sentences, but the number of victims is consistently one of the strongest predictors of a death sentence, even after holding other legally relevant factors constant. Pierce & Radelet, *supra* note 80, at 72–91; Steven F. Shatz & Nina Rivkind, *The California Death Penalty Scheme: Requiem for* Furman*?*, 72 N.Y.U. L. REV. 1283, 1328–32 (1997).

   To be sure, the multiple victim measure is imperfect because it is possible that a defendant murdered multiple victims on the same day but in unrelated situations. The vast majority of cases, however, are single victim (87.3%), so this measure, in and of itself, does not influence the categorization of most defendants. Perhaps more importantly, the *B1* and *B2* criteria are not mutually exclusive—in fact, they share considerable overlap. It is possible, even likely, then, that a defendant's categorization as death eligible will be valid on one or more of these measures.

[163] *Compare* Pierce & Radelet, *supra* note 80, at 66, *with* Shatz & Rivkind, *supra* note 162, at 1329 ("[T]he felony murder special circumstances play the predominant role in defining death-eligibility.").

[164] Pierce & Radelet, *supra* note 80, at 61 (noting that juries were most likely to impose the death sentence in cases involving multiple victims); Shatz & Rivkind, *supra* note 162, at 1329–30 (explaining three-quarters of death-sentenced cases involved a felony-murder circumstance); *see also* Gregg v. Georgia, 428 U.S. 153, 225 (1976) (White, J., concurring) ("[T]he standards by which [prosecutors] decide whether to charge a capital felony will be the same as those by which the jury will decide the questions of guilt and sentence."); William J. Bowers & Glenn L. Pierce, *Arbitrariness and Discrimination Under Post-*Furman

importantly, data on death eligibility from the more detailed study conducted by the *Atlanta Journal-Constitution* overlap with nearly 80% of the cases in the current sample, so a more "fine-grained" assessment of statutorily defined elements is available for the vast majority of cases.[165]

Death eligibility was also limited to situations in which the defendant was ultimately convicted of murder. Obviously prosecutors seek the death penalty against defendants prior to obtaining a guilty plea or guilty verdict at trial, but limiting the pool of death-eligible defendants to those who are actually convicted of murder serves as a proxy for strength of evidence. Other scholars have employed this limiting strategy when examining capital charging-and-sentencing processes.[166] Perhaps of equal significance is the fact that Georgia's murder statute does not include "degrees" of murder like many other states. Instead, the statute specifies that individuals may be charged with malice murder (intentional) or felony murder (unintentional, but during the commission of *any* other felony),[167] and only these two types of murder may be death eligible, depending on the presence of at least one statutory aggravating circumstance. "Lesser" degrees of homicide are categorized as voluntary and involuntary manslaughter.[168] It is very unlikely that prosecutors will offer a charge bargain from murder to manslaughter when the available evidence permits a conviction for murder, which requires a mandatory minimum life sentence.[169] Similarly,

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Capital Statutes, 26 CRIME & DELINQ. 563, 627 (1980) (discovering that the vast majority of death sentences imposed in Georgia and Florida involved cases with a felony circumstance).

[165] The "crude" measure of death eligibility based on the presence of *B1*, *B2*, or *B4* special circumstances failed to classify 36% of cases identified by the AJC study (and 16% of cases noticed for the death penalty). Thirty-nine percent of the cases misclassified were technically eligible for death based upon the presence of the *B7* circumstance.

[166] *See, e.g.*, BALDUS ET AL., *supra* note 84, at 40–42, 477 n.72 (discussing the use of murder conviction as a proxy for strength of evidence); *accord* David C. Baldus et al., *Racial Discrimination and the Death Penalty in the Post-*Furman *Era: An Empirical and Legal Overview, with Recent Findings from Philadelphia*, 83 CORNELL L. REV. 1638, 1668–70 (1998); Paternoster et al., *supra* note 80.

[167] GA. CODE ANN. § 16-5-1(a) (West 2003) (malice murder); *id.* § 16-5-1(c) (felony murder).

[168] Voluntary manslaughter carries a maximum sentence of twenty years and involuntary manslaughter carries a maximum sentence of ten years. GA. CODE ANN. § 16-5-2 (voluntary manslaughter); *id.* § 16-5-3(a) (involuntary manslaughter).

[169] COHEN & KYCKELHAHN, *supra* note 2, at 10–11 (noting that, regardless of method of adjudication, the vast majority of defendants initially charged with murder are ultimately convicted of murder). *See* William J. Stuntz, *Plea Bargaining and Criminal Law's Disappearing Shadow*, 117 HARV. L. REV. 2548, 2563 (2004) (commenting that prosecutors generally pursue every murder case they can, which is why the acquittal rate in murder cases is higher than for other violent felonies); *see also* Bowers, *supra* note 50, at 1153 (same); Gazal-Ayal, *supra* note 15, at 2320 (explaining that dropping or reducing murder charges can be politically costly for prosecutors and this is part of the reason they dedicate resources

prosecutors are not likely to seek the death penalty in cases in which they believe a conviction for manslaughter is warranted, even in the presence of aggravating circumstances that would make the case eligible for the death penalty if a murder conviction were obtained.[170]

Focusing exclusively on defendants subsequently convicted of murder suffers from the drawback of excluding death-noticed defendants who are not ultimately convicted of murder. In these data, twenty-eight individuals (7% of death-noticed defendants) were initially noticed for the death penalty, but later were acquitted, had their charges dismissed, or were convicted of an offense other than murder. Nevertheless, a closer inspection of the data supports the previously stated intuition that prosecutors do not typically offer charge bargains in exchange for guilty pleas. Of the twelve cases noticed for the death penalty that resulted in a plea bargain for a charge other than murder, only two were for manslaughter.[171] Thus, the more cautious approach adopted in these analyses (i.e., underinclusion) in an attempt to most accurately compare "apples to apples" would appear to outweigh its disadvantages.

The second approach utilized to identify death-eligible defendants was to define *all* cases that ultimately resulted in a murder conviction as death eligible. Because some scholars claim that capital statutes like Georgia's permit any homicide to be deemed death eligible,[172] this very broad definition of death eligibility was employed in order to determine whether the results are robust to the specific criteria used to identify the control group.

B. STATISTICAL MODEL

There are, essentially, two reasons why death-noticing and plea-bargaining decisions might be related. First, the decisions may be causally related.[173] Second, death noticing and plea bargaining may be related

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to trying even weak murder cases).

[170] *See* Liebman, *supra* note 31, at 2097–98 (charging a case capitally increases the chances of winning, but it also increases the embarrassment and publicity of losing); William J. Stuntz, *The Pathological Politics of Criminal Law*, 100 MICH. L. REV. 505, 570 (2001) (explaining that defeats at trial for prosecutors are so vivid because they are rare, so prosecutors are less likely to pursue cases that are unwinnable).

[171] The remaining plea bargains to nonhomicide charges were for aggravated assault, armed robbery, burglary, concealing the death of another, and kidnapping.

[172] *See, e.g.*, John Blume & Theodore Eisenberg, *Judicial Politics, Death Penalty Appeals, and Case Selection: An Empirical Study*, 72 S. CAL. L. REV. 465 (1999); Rosen, *supra* note 153.

[173] Death noticing typically precedes plea negotiations. In fact, it is common for prosecutors to announce the intent to seek the death penalty before having obtained an indictment or meeting with the defendant. It remains plausible, however, that some

because they are caused by other shared factors (i.e., "third-variables") that may or may not be observed, and if these factors are taken into account, the relationship between death noticing and plea bargaining disappears; that is, the relationship between death noticing and plea bargaining is not independent of those other factors.[174]

In an effort to determine the impact of the death penalty on the decision to go to trial, a conditional fixed-effects logit model is estimated according to the following equation:

$$\Pr(\text{Trial}_{ict} = 1) = \frac{\exp(\alpha_c + \gamma_k X_{ict} + \beta \times \text{DPNotice}_{ict} + \zeta_{ict})}{1 + \exp(\alpha_c + \gamma_k X_{ict} + \beta \times \text{DPNotice}_{ict} + \zeta_{ict})}, \qquad [1]$$

where i indexes the defendant, c indexes the judicial circuit, and t indexes the year.[175] In all of the analyses employed, X_{ict} is a matrix of case characteristics, including, *inter alia*, $t-1$ incident-year dummies, and DPNotice is a dummy (binary) variable indicating whether the prosecutor sought the death penalty against the defendant. The model makes the following assumptions: (a) conditional on X_{ict} and DPNotice, Trial$_{ict}$ is an independent Bernoulli random variable[176] with probability given by Equation [1]; (b) $\Pr(\text{Trial}_{ict} = 1)$ depends on X_{ict} and DPNotice through the logistic function; (c) $\Pr(\text{Trial}_{ict} = 1)$ is governed by parameters γ and β,[177] a

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prosecutors elect to file a death notice following an initial failed attempt to obtain a plea bargain, but ultimately withdraw the death notice after a defendant agrees to a negotiated plea. This potential complication, known as simultaneous causation, is addressed more fully in Part VI.B.

[174] For a detailed discussion of the key requirements of causal inference, see RICHARD A. BERK, REGRESSION ANALYSIS: A CONSTRUCTIVE CRITIQUE 82–83 (2004). It is important to emphasize that researchers need not control for every conceivable variable possibly influencing plea bargaining. Candidate variables must meet three conditions: (1) correlated with the key causal variable (i.e., death-noticing decision); (2) affects the outcome variable (i.e., plea-bargaining decision); and (3) causally prior to the key causal variable. Lee Epstein & Gary King, *The Rules of Inference*, 69 U. CHI. L. REV. 1, 78 (2002). If one of these three conditions is absent, then controlling for the rival variable is not only unnecessary when examining the causal impact of the key variable of interest, but it may also lead to incorrect inferences if the variable is a consequence of the key causal variable (i.e., "post-treatment" bias). *Id.* at 79–80; *see also* GARY KING ET AL., DESIGNING SOCIAL INQUIRY: SCIENTIFIC INFERENCE IN QUALITATIVE RESEARCH 78 (1994) (controlling for a consequence of the cause produces the incorrect causal effect).

[175] WILLIAM H. GREENE, ECONOMETRIC ANALYSIS 839 (4th ed. 2000).

[176] A random variable, Y, that can only take on two values, 0 and 1, with $\Pr(Y=1) = p$ is a Bernoulli random variable with parameter p. This variable has a mean of p and a variance of $p(1-p)$. MORRIS H. DEGROOT & MARK J. SCHERVISH, PROBABILITY AND STATISTICS 276 (4th ed. 2012).

[177] More precisely, the γ and β coefficients represent the expected change in the probability of trial corresponding to changes in each predictor in the model (i.e., X and

unit-specific (e.g., jurisdiction-specific) parameter α_c, and (d) ζ is a vector of residual error terms with a mean of zero and variance of $\pi^2/3$.[178]

The fixed-effects specification is particularly advisable with these data because the models control for unobserved heterogeneity across judicial circuits and years.[179] Failing to account for these fixed effects can result in omitted variable bias and lead to inconsistent estimates of a hypothesized causal effect.[180] Georgia's Administrative Office of the Courts (AOC)

DPNotice, respectively). Gelman et al., *supra* note 40, at 239. There are a total of $k + 1$ parameters estimated in the model.

[178] GREENE, *supra* note 175, at 70. I employ the conditional fixed-effects estimator, *id.* at 839, due to the bias introduced by using the unconditional fixed effects (indicator set) when cluster sizes are relatively small. *See* Tom Coupé, *Bias in Conditional and Unconditional Fixed Effects Logit Estimation: A Correction*, 13 POL. ANALYSIS 292, 295 (2005); Ethan Katz, *Bias in Conditional and Unconditional Fixed Effects Logit Estimation*, 9 POL. ANALYSIS 379, 384 (2001). An acceptable probit alternative specification does not exist because there is no sufficient statistic that allows the fixed effects to be conditioned out of the likelihood function. William Greene, *The Behaviour of the Maximum Likelihood Estimator of Limited Dependent Variable Models in the Presence of Fixed Effects*, 7 ECONOMETRICS J. 98, 102–03 (2004). I also reanalyzed the data with the unconditional estimator and obtained similar results.

Alternative specifications were analyzed employing a random-effects estimator (i.e., random intercept models). ANDERS SKRONDAL & SOPHIA RABE-HESKETH, GENERALIZED LATENT VARIABLE MODELING: MULTILEVEL, LONGITUDINAL, AND STRUCTURAL EQUATION MODELS 49–50 (2004). Random effects models rely on the strong assumption that the unobserved cluster-specific influences are uncorrelated with individual-level case characteristics, so fixed-effects models are preferred when that assumption is unrealistic. GREENE, *supra* note 175, at 576–77. It is possible, however, to allow the random effect (i.e., intercepts) to be correlated with the individual-level variables by creating an aggregated measure of the individual variables for each group and including that measure as a predictor in the model. Any covariance between an individual-level predictor and a group-level random effect must operate through the covariance between the group-level average of the individual-level predictor and that random effect; therefore, inclusion of the group-level average of the predictor as a covariate in the model will eliminate any confounding between the individual-level predictor and omitted variables at the group level. STEPHEN W. RAUDENBUSH & ANTHONY S. BRYK, HIERARCHICAL LINEAR MODELS: APPLICATIONS AND DATA ANALYSIS METHODS 261–62 (2d ed. 2002); *see also* ANDREW GELMAN & JENNIFER HILL, DATA ANALYSIS USING REGRESSION AND MULTILEVEL/HIERARCHICAL MODELS 506 (2007). Results (not reported) from these models were very similar to those obtained from the fixed-effects specifications.

[179] The variance of the jurisdiction-level effects tells us the extent to which there is variability among jurisdictions in the data beyond that explained by the other regression predictors. Similarly, the year effects represent unexplained variation among years. Gelman et al., *supra* note 40, at 238 n.84; *see also* Thomas R. Ten Have et al., *Deviations from the Population-Averaged Versus Cluster-Specific Relationship for Clustered Binary Data*, 13 STAT. METHODS MED. RES. 3, 9 (2004) ("In the binary response case, conditional likelihood estimation is the only approach that is less susceptible [to confounding of treatment effect due to cluster-level unobserved heterogeneity], because it conditions out all cluster-level information that may confound within-cluster effects.").

[180] GREENE, *supra* note 175, at 839–40.

organizes the state's 159 counties into forty-nine superior court judicial circuits.[181]   As a result, county-level data are nested in the judicial circuits for the analyses conducted in this paper.[182]   The distribution of death notices by county and judicial circuit are presented in, respectively, Tables 1 and 2.   The specific variables used, coding conventions adopted, and summary statistics can be found in Appendix A and Tables 3, 4, and 5.

Although the model controls for average differences across jurisdictions and average differences across years, it does not take into account omitted covariates that are case specific.[183]   Prosecutors do not randomly select cases for the death penalty, so the estimation of the true impact of capital punishment on trials may be biased and inconsistent if the death-noticing decision is correlated with some other unobserved variable(s) that also has a causal impact on the decision to go to trial (i.e., endogeneity bias).   Relatedly, if a death-noticing decision is also influenced by a prior failed plea negotiation (i.e., simultaneous causality), death noticing is also endogenous because it will be correlated with an unobserved variable influencing both decisions: preliminary plea negotiation.   The fixed-effects logit model discussed earlier implicitly assumes that all factors simultaneously influencing the death noticing and trial decisions are included in the model via the covariates and circuit and year fixed effects.   This may be a questionable assumption, so several alternative models that explicitly account for confounding omitted variables at the case level are examined in Part VI.B.

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[181] JUDICIAL COUNCIL OF GA., YOUR GUIDE TO THE GEORGIA COURTS (2003).

[182] This is necessary for two important reasons.   First, in Georgia, there is one district attorney per judicial circuit.   While large counties comprise a single judicial circuit, many smaller counties are grouped together to form a single judicial circuit.   As a result, a single prosecutor may be responsible for charging and plea-bargain decisions for several counties in her judicial circuit.   Also, if a judicial circuit consists of multiple counties, trial judges rotate throughout these counties in the circuit.   Treating counties that share a single judicial circuit as if they were independent ignores the similarities they share in the administration of capital punishment resulting from shared decisionmakers.   Second, death penalty cases are extremely rare events, so aggregating county-level data to the judicial-circuit level allows one to observe more cases per contextual unit and better statistically estimate relationships occurring at both the case- and contextual-level without altering the dependence structure of the cases due to their clustering. RAUDENBUSH & BRYK, *supra* note 178, at 45 (noting that aggregating data at the highest level of nesting preserves the dependence structure of the units); Gary King & Langche Zeng, *Logistic Regression in Rare Events Data*, 9 POL. ANALYSIS 137, 163 (2001) (discussing the difficulties associated with analyzing rare events in binary data).

[183] When the death-noticing decision is correlated with the case-specific error term rather than just the judicial-circuit or year effect, a simultaneous equation approach is necessary. John Antonakis et al., *On Making Causal Claims: A Review and Recommendations*, 21 LEADERSHIP Q. 1086, 1092 (2010).

Table 3
Summary Statistics (DE Subsample)

Variable Name	N	Mean	Std. Dev.	Min	Max
Plea/Verdict (Verdict)	852	0.54	0.50	0	1
DP Notice	852	0.32	0.47	0	1
# of Stat Aggs	852	2.28	1.09	1	7
# of Offenders	852	1.80	1.11	1	7
Offender Black	852	0.73	0.45	0	1
Offender White	852	0.25	0.43	0	1
Offender Sex (Male)	852	0.95	0.23	0	1
Offender Age (Yrs)	852	27.14	9.95	17	69
Contemp. Felony	852	1.72	1.60	0	9
Prior Felony	852	0.51	1.33	0	10
Offender HS Grad	852	0.26	0.44	0	1
Offender Employed	852	0.56	0.50	0	1
Offender Married	852	0.18	0.38	0	1
# of Children	852	0.58	0.49	0	1
# of Victims	852	1.18	0.50	1	6
Victim Black	852	0.50	0.50	0	1
Victim White	852	0.44	0.50	0	1
Victim Sex (Female)	852	0.36	0.48	0	1
Victim Age	852	36.66	18.17	0	99
Victim Stranger	852	0.35	0.48	0	1
Interracial Homicide	852	0.28	0.45	0	1

Table 4
Summary Statistics (MC Subsample)

Variable Name	N	Mean	Std. Dev.	Min	Max
Plea/Verdict (Verdict)	1238	0.58	0.49	0	1
DP Notice	1238	0.22	0.42	0	1
# of Stat Aggs	1238	1.57	1.39	0	7
# of Offenders	1238	1.65	1.05	1	7
Offender Black	1238	0.72	0.45	0	1
Offender White	1238	0.26	0.44	0	1
Offender Sex (Male)	1238	0.93	0.25	0	1
Offender Age (Yrs)	1238	28.07	10.50	17	74
Contemp. Felony	1238	1.43	1.49	0	9
Prior Felony	1238	0.46	1.23	0	10
Offender HS Grad	1238	0.28	0.45	0	1
Offender Employed	1238	0.57	0.50	0	1
Offender Married	1238	0.18	0.38	0	1
# of Children	1238	0.60	0.49	0	1
# of Victims	1238	1.13	0.43	1	6
Victim Black	1238	0.56	0.50	0	1
Victim White	1238	0.40	0.49	0	1
Victim Sex (Female)	1238	0.35	0.48	0	1
Victim Age	1238	34.58	17.22	0	99
Victim Stranger	1238	0.29	0.45	0	1
Interracial Homicide	1238	0.22	0.41	0	1
DP Eligible	1238	0.69	0.46	0	1

Table 5

Summary Statistics (Death-Noticed Subsample)

Variable Name	N	Mean	Std. Dev.	Min	Max
Plea/Verdict (Verdict)	395	0.41	0.49	0	1
# of Stat Aggs	391	2.88	1.23	1	7
# of Offenders	400	1.89	1.14	1	7
Offender Black	400	0.59	0.49	0	1
Offender White	400	0.37	0.48	0	1
Offender Sex (Male)	400	0.94	0.23	0	1
Offender Age (Yrs)	400	27.29	9.28	17	66
Contemp. Felony	400	2.11	1.85	0	9
Prior Felony	400	0.52	1.42	0	10
Offender HS Grad	326	0.27	0.44	0	1
Offender Employed	330	0.62	0.49	0	1
Offender Married	344	0.19	0.39	0	1
# of Children	322	0.60	0.49	0	1
# of Victims	400	1.37	0.75	1	6
Victim Black	400	0.30	0.46	0	1
Victim White	397	0.66	0.47	0	1
Victim Sex (Female)	399	0.50	0.50	0	1
Victim Age	400	38.17	19.45	0	90
Victim Stranger	385	0.45	0.50	0	1
Interracial Homicide	397	0.35	0.48	0	1

C. MISSING DATA

An additional complication with analyzing official homicide records is incomplete information (i.e., missing data).[184] The vast majority of statistical analyses must be performed on a full data matrix; therefore, the common practice among social scientists is to perform *casewise* deletion by eliminating observations that have missing data on one or more variables.[185] Casewise deletion is problematic because it (1) potentially forces researchers to discard much useful information about the relationships between variables, (2) results in inefficient parameter estimates due to a

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[184] *See generally* Wendy C. Regoeczi & Marc Riedel, *The Application of Missing Data Estimation Models to the Problem of Unknown Victim/Offender Relationships in Homicide Cases*, 19 J. QUANTITATIVE CRIMINOLOGY 155 (2003) (suggesting ways to deal with missing data problems when analyzing official homicide data).

[185] Roderick J. A. Little, *Regression with Missing X's: A Review*, 87 J. AM. STAT. ASS'N 1227, 1228 (1992).

reduction of sample size, and (3) may bias parameter estimates if the data are not missing completely at random (i.e., if the missing data are not a random subset of the overall population).[186] There is missing data on at least one variable in approximately one-third of the observations in the Georgia data; however, when it is possible to predict the probability that a variable is missing information for an observation (using information from other covariates in the data), the most appropriate strategy is to attempt to predict those missing values.[187] This is particularly true when examining the capital punishment process because death penalty cases in Georgia (and elsewhere) are very rare occurrences, so it is crucial to retain as much information as possible.

Over the past two decades, quantitative methodologists have developed several approaches to "guess" the values of missing data by using information about the association of the variable of interest with other variables in the data. A regression-based multiple imputation approach is employed in these analyses, which provides a significant improvement over simple imputation methods and traditional single imputation strategies.[188] In brief, Stef van Buuren and colleagues' "fully conditional specification" (FCS) approach is used because it offers the greatest flexibility in creating multivariate imputation models by allowing for specialized methods that are impractical under the other approaches.[189] The FCS approach imputes the data on a variable-by-variable basis by specifying an imputation model for each variable, thereby allowing the analyst to preserve unique features of the data such as bounds, skip patterns, interactions, and bracketed responses, and to incorporate appropriate constraints between different variables in order to avoid logical inconsistencies in the imputed data.[190]

A somewhat simplified description of the algorithm is that observed data are used to impute missing values and incorporate estimation uncertainty (resulting from analyzing a finite number of observations) and

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[186] *Id.* at 1227.

[187] *Id.* at 1230, 1233.

[188] *Id.* at 1234–35.

[189] Stef van Buuren, *Multiple Imputation of Discrete and Continuous Data by Fully Conditional Specification*, 16 STAT. METHODS MED. RES. 219, 219 (2007).

[190] *Id.* at 219, 222. The statistical properties of FCS are not fully understood, but simulation studies suggest that FCS performs well in a variety of applications. S. van Buuren et al., *Fully Conditional Specification in Multivariate Imputation*, 76 J. STAT. COMPUTATION & SIMULATION 1049, 1061 (2006); Trivellore E. Raghunathan et al., *A Multivariate Technique for Multiply Imputing Missing Values Using A Sequence of Regression Models*, 27 SURV. METHODOLOGY 85, 92–93 (2001) More importantly, when there are missing variables that follow a mixture of distributions (e.g., continuous, ordinal, categorical), FCS is the only sensible parametric approach. Van Buuren et al., *supra*, at 1061.

fundamental uncertainty (resulting from unmodeled variation in the dependent variable and represented by the stochastic component of the model) in their prediction of plausible values. For the present study, this process was repeated five times to create five complete data sets, with each data set containing different plausible values for missing variables to account for the uncertainty surrounding the imputations. After these data sets were created, a complete-case analysis was repeated on each data set. The overall point estimate of each parameter was obtained by averaging across the five separate point estimates for that particular parameter.[191] The variance of the point estimate was computed by averaging across the five estimated variances from within each completed data set, plus the sample variance in the point estimate across the data sets (multiplied by a factor that corrects for bias because the number of imputed data sets is finite).[192]

The next section presents results from models using both casewise deletion and multiple imputation strategies.

VI. RESULTS

A. FIXED-EFFECTS LOGIT SPECIFICATIONS

Table 6 displays results from four different specifications.[193] Across all four models, defendants noticed for the death penalty were significantly less likely to opt for trial (i.e., significantly more likely to accept a plea).[194] Models 1 and 3 analyze the impact of the death penalty on the probability of going to trial for defendants classified as death eligible according to the first criteria discussed: eligibility based on the presence of statutorily defined elements (hereinafter, "DE"). Models 2 and 4 analyze the impact of the death penalty on defendants classified as death eligible based on the

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[191] Little, *supra* note 185, at 1235.

[192] *Id.*

[193] Binary regression models in this Article report Cragg and Uhler's pseudo-R^2 statistic, defined as:

$$\frac{1-\exp(2\times[LL_{null}-LL_{full}]/N)}{1-\exp(2\times[LL_{null}-LL_{max}]/N)},$$

where LL_0 is the log-likelihood for the null model (i.e., constant-only model), LL_1 is the full regression model, LL_{max} is the maximum possible likelihood (i.e., perfect fit), and N is the sample size. *See* John G. Cragg & Russell S. Uhler, *The Demand for Automobiles*, 3 CAN. J. ECON. 386, 400 n.20 (1970). The Cragg and Uhler pseudo-R^2 statistic is most analogous to the traditional R^2 statistic used in ordinary least squares (OLS) regressions because, unlike most other pseudo-R^2 statistics, it is "normed" so the upward bound approaches unity. *See* J. SCOTT LONG, REGRESSION MODELS FOR CATEGORICAL AND LIMITED DEPENDENT VARIABLES 106 (1997).

[194] Recall that the models estimate the probability of a defendant taking her case to trial, so a negative sign on the DPNotice coefficient indicates that defendants noticed for the death penalty are *less* likely to have their cases resolved by trial, which is equivalent to being *more* likely to have their cases resolved by plea agreement.

second criteria: murder conviction (hereinafter, "MC"). All specifications include judicial-circuit and year fixed effects, as well as controls for the number of codefendants; defendant's race/ethnicity, gender, and age; defendant's employment status at time of arrest; defendant's marital status; number of statutory aggravating factors; contemporaneous felony conviction; prior felony conviction; whether defendant graduated from high school; number of children defendant has; number of victims; victim race/ethnicity, gender, and age; relationship between the victim and offender; and whether the homicide was interracial.[195]

The natural coefficients from the logistic regression model, "logit coefficients or log odds," lack an intuitive interpretation, so marginal effects are presented. The marginal effect represents the change in the probability of a case being disposed by trial, holding all other variables constant.[196] Model 1 (DE) and Model 2 (MC) reveal that being noticed for the death penalty reduces the probability of a defendant taking her case to trial by, respectively, .23 and .22. For Model 1, this means the probability of death-noticed defendants going to trial is .37, whereas the probability of defendants not noticed for death going to trial is .60, all else equal (see Figure 1). For Model 2, the probabilities are .41 and .63, respectively.

Figure 1
Method of Disposition

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[195] See *infra* Appendix A for a detailed description of these variables and Tables 3, 4, and 5 for summary statistics. Appendix B presents the marginal effects for all of the covariates in the fixed-effects logit model. Model 1 lists the point estimates for covariates predicting the probability of a case being disposed by trial. Model 2 displays the effects of the same covariates on the probability a case is noticed for the death penalty.

[196] LONG, *supra* note 193, at 71–74. The conditional fixed-effects model does not provide estimates of the judicial-circuit fixed effects, α_c, which are needed to compute marginal effects. Coupé, *supra* note 178, at 292. Thus, marginal effects were obtained using the unconditional fixed-effects logit model. The conditional and unconditional fixed-effects estimates are essentially the same when cluster sizes average at least eight, and the average cluster sizes are twenty and twenty-seven in, respectively, the DE and MC models. *Id.* The marginal effects obtained from the unconditional fixed-effects linear model were nearly identical, suggesting that the results are quite robust to various model specifications. *See infra* Part VI.B.

   Population-average effects (sometimes referred to as marginal effects) were also obtained, and these estimates were similar to the conditional and unconditional fixed-effects estimates. The unconditional fixed-effects estimates represent the difference in the probability of trial, depending on being noticed for the death penalty, for the *same* defendant. The population-average effect, on the other hand, represents the difference in probability of trial of the *average* defendant noticed for the death penalty versus the *average* defendant not noticed for the death penalty—that is, the estimates do not control unobserved circuit-level effects. RAUDENBUSH & BRYK, *supra* note 178, at 304, 334.
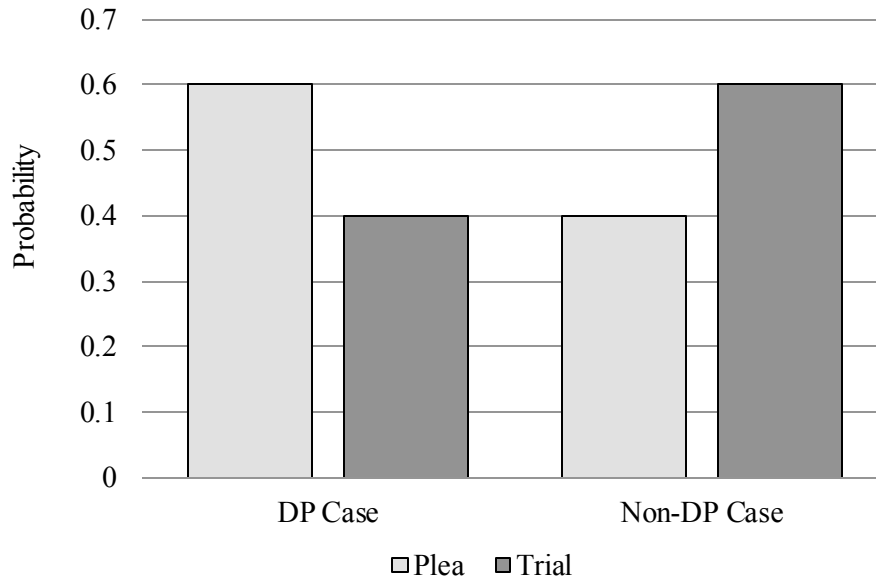
As noted, *supra*, approximately one-third of the cases in the data have missing information on at least one variable. Specifically, the DE models lose 31.2% of the cases and the MC models lose 35.9% of the cases. Table 6 presents results from the multiple imputation models. As with the casewise deletion results previously reported, the coefficient for DPNotice is statistically significant across all specifications, although coefficients are slightly smaller with respect to their absolute value. In the Model 3 (DE), being noticed for the death penalty decreases the probability of trial by .18, and by .17 in Model 3 (MC). The baseline probabilities for the DE (Model 3) and MC (Model 4) specifications are very similar to the casewise deletion models (.60 and .64, respectively).

Table 6
Marginal Effect of Death Penalty on Trial (Fixed-Effects Logit Models)

	Model 1	Model 2	Model 3	Model 4
DP Notice	-0.234***	-0.218***	-0.184***	-0.168***
	(0.038)	(0.038)	(0.032)	(0.031)
Pr(Trial)	0.603	0.628	0.603	0.635
N	847	1238	1236	1932
Fixed-Effects	Y	Y	Y	Y
Year Dummies	Y	Y	Y	Y
R-Squared	0.32	0.28		

*p<.05; **p<.01; ***p<.001
Standard errors adjusted for clustering on judicial circuit.
Models 1 & 3: Death Eligible Subsample.
Models 2 & 4: Murder Conviction Subsample.
Models 3 & 4: Multiple Imputation Estimates.
Pr(Trial) = Probability of trial without a death noticed filed.

All specifications include controls for the number of codefendants, victims, statutory aggravating factors, contemporaneous felony convictions, prior felony convictions, and children of defendant; the race/ethnicity, gender, and age of defendant and victim(s); defendant's employment status at time of arrest, marital status, high school graduation status; offender/victim relationship; and whether the homicide was interracial.

B. SENSITIVITY ANALYSES

Table 7 presents the linear (unconditional) fixed-effects estimates for the DE and MC models using casewise deletion (Models 1 and 2) and multiple imputation (Models 3 and 4). The classic fixed-effects linear model takes the form:

$$E(\text{Trial}) = \text{Pr}(\text{Trial} = 1) = \alpha_c + \gamma X + \beta \times \text{DPNotice} + \zeta \qquad [2]$$

where α, γ, β, ζ, X, and DPNotice are defined in Equation [1], but ζ are now identically and independently normally distributed: $\zeta \sim N(0,\sigma^2)$.[197] Linear regression models applied to binary dependent variables are commonly referred to as linear probability models.[198] These models are generally deemed inappropriate for binary data because of heteroscedasticity,

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[197] *See* GREENE, *supra* note 175, at 560. Some subscripts have been omitted for simplicity.
[198] LONG, *supra* note 193, at 35.

nonnormality, nonsensical predictions, and functional form misspecification.[199]   These results are presented simply as a robustness check for the conditional fixed-effects logit estimates presented in Table 6. Unconditional fixed-effects models are most appropriate in the linear regression context, so the purpose of showing these estimates is to check that the DPNotice coefficients are similar in terms of direction, magnitude, and statistical significance.[200]   The interpretation of coefficients from the linear probability is similar to the linear regression model, so according to Model 1 (DE and casewise deletion), for example, being noticed for the death penalty decreases the probability of going to trial by .22 from a baseline probability of .62, holding all other variables constant.

Table 7
Marginal Effects of Death Penalty on Trial (Fixed-Effects LPMs)

	Model 1	Model 2	Model 3	Model 4

[199] *Id.* at 38–40.

[200] GREENE, *supra* note 175, and accompanying text; *accord* David S. Abrams & Albert H. Yoon, *The Luck of the Draw: Using Random Case Assignment to Investigate Attorney Ability*, 74 U. CHI. L. REV. 1145, 1168 (2007) (employing a linear model for a binary outcome, rather than a logit or probit model, in order to estimate unconditional fixed effects).

DP Notice	-0.217***	-0.212***	-0.186***	-0.173***
	(0.048)	(0.044)	(0.036)	(0.034)
Pr(Trial)	0.618	0.645	0.622	0.658
N	852	1238	1238	1932
Fixed-Effects	Y	Y	Y	Y
Year Dummies	Y	Y	Y	Y
R-Squared	0.18	0.16		

$*p<.05; **p<.01; ***p<.001$
Standard errors adjusted for clustering on judicial circuit.
Models 1 & 3: Death Eligible Subsample.
Models 2 & 4: Murder Conviction Subsample.
Models 3 & 4: Multiple Imputation Estimates.
Pr(Trial) = Probability of trial without a death noticed filed.

All specifications include controls for the number of codefendants, victims, statutory aggravating factors, contemporaneous felony convictions, prior felony convictions, and children of defendant; the race/ethnicity, gender, and age of defendant and victim(s); defendant's employment status at time of arrest, marital status, high school graduation status; offender/victim relationship; and whether the homicide was interracial.

As noted *supra*, another concern with the models estimated in this study is possible endogeneity bias[201] resulting from either case-level

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[201] Endogeneity occurs when "the values our explanatory variables take on are sometimes a consequence, rather than a cause, of our dependent variable." KING ET AL., *supra* note 174, at 185.

  The level of concern over endogeneity bias in observational studies varies across disciplines—e.g., econometricians tend to be much more concerned about endogeneity than, for example, epidemiologists, biostatisticians, psychologists, statisticians, and other social scientists. *See* Antonakis et al., *supra* note 183, at 1100 (remarking that attention to remedying possible endogeneity bias "has not had a big impact on other social science disciplines including psychology and management research"); Robert Gibbons, *What Is Economic Sociology and Should Any Economists Care?*, 19 J. ECON. PERSP. 3, 6 (2005); James J. Heckman, *The Scientific Model of Causality*, 35 SOC. METHODOLOGY 1, 5 (2005) (noting that epidemiological and statistical models often fail to take into account simultaneous causality and other sources of randomness generating unobservables in their models); S. Rabe-Hesketh & A. Skrondal, *Parameterization of Multivariate Random Effects Models for Categorical Data*, 57 BIOMETRICS 1256, 1256 (2001) (explaining that econometricians have given greater attention to identification problems than biostatisticians).

omitted variable bias or possible reverse causality.[202] Due to the fact that in nonexperimental research, predictor and outcome variables may covary because of factors outside the control (and knowledge) of the researcher,[203] standard regression techniques will result in biased and inconsistent estimators when unobserved factors affecting the response are correlated with unobserved factors affecting the causal variable of interest.[204] While the problems of omitted variable bias and reverse causality may be theoretically distinct, they result in the same source of bias—correlation between the causal variable and the unobserved factors affecting the response variable[205]—so similar corrective approaches can be used to address both forms of this potential bias. Three alternative approaches were employed to examine the robustness of the previously reported results.

First, a nonrecursive simultaneous-equation model in which a dependent variable indicating selection into a treatment group (i.e., DPNotice) appears as an explanatory variable in a substantive equation predicting the outcome (i.e., Trial).[206] "[M]ultiple equation models have

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[202] KING ET AL., *supra* note 174, at 185. Measurement error is a third source of endogeneity bias, but is not of particular concern in these analyses.

[203] *Id.* at 186.

[204] James J. Heckman, *Dummy Endogenous Variables in a Simultaneous Equation System*, 46 ECONOMETRICA 931, 931 (1978).

[205] KING ET AL., *supra* note 174, at 185.

[206] Simultaneous equation models can be divided into two major types: recursive and nonrecursive. A nonrecursive model occurs when there are reciprocal relationships (i.e., feedback loops) between the outcome variables of two or more equations in the system or at least some of the disturbances are correlated. PAMELA M. PAXTON ET AL., NONRECURSIVE MODELS: ENDOGENEITY, RECIPROCAL RELATIONSHIPS, AND FEEDBACK LOOPS 13 (2011); *accord* DAVID KAPLAN, STRUCTURAL EQUATION MODELING: FOUNDATIONS AND EXTENSIONS 16–17 (2000) (noting that nonrecursive models have non-zero off-diagonal elements in the residual variance–covariance matrix); Rex B. Kline, *Reverse Arrow Dynamics: Formative Measurement and Feedback Loops*, *in* STRUCTURAL EQUATION MODELING: A SECOND COURSE 43, 56 (Gregory R. Hancock & Ralph O. Mueller eds., 2006) ("*Nonrecursive models* have feedback loops or disturbance covariances for endogenous variables with direct effects between them."). Most econometricians, however, refer to models with correlated disturbances as recursive models if there are no feedback loops present. *E.g.*, GREENE, *supra* note 174, at 659 (explaining that a model is recursive when the matrix of coefficients of the endogenous variables is triangular); *accord* Joachim Wilde, *Identification of Multiple Equation Probit Models with Endogenous Dummy Regressors*, 69 ECON. LETTERS 309, 310 (2000). For the purposes of these analyses, the simultaneous models are labeled nonrecursive to maintain consistency with the larger structural equation modeling literature. Labeling the simultaneous models nonrecursive also underscores the fact that the models take into account possible endogeneity bias resulting from reciprocal causation.

Bivariate logistic models were also estimated and produced nearly identical results. Bivariate probit models are generally preferred in the literature because the various extant multivariate logistic distributions have properties such as restrictions on possible values of correlation coefficients and asymmetric nonelliptical distributions that make such a direct

been the key tools for many researchers [to] study complicated cause-and-effect relationships. . . . The regression equations are explicitly meant to represent the mechanisms by which causes have their effects."[207] This model is typically referred to as an *endogenous bivariate probit* or *endogenous switching model* due to the fact that DPNotice is a binary variable and the observational units (i.e., defendants) are allocated to a specific regime (i.e., death noticed/non-death noticed) depending on the value of this decision variable.[208] The model is estimated from the following equation:

$$\pi_{jk} = \Phi_2[d_2(\gamma_2 X_2 + \beta_2 \times \text{DPNotice} + \lambda\xi + \delta_2) + d_1(\gamma_1 X_1 + \xi + \delta_1)], \quad [3]$$

where π_{jk} can represent four different joint probabilities, depending on the values of the Trial and DPNotice variables (j indexes the binary outcome for Trial and k indexes the binary outcome for DPNotice).[209] So, for example, $\pi_{11} = \text{Pr}(\text{Trial} = 1, \text{DPNotice} = 1)$, $\pi_{10} = \text{Pr}(\text{Trial} = 1, \text{DPNotice} = 0)$, etc., and d_1 and d_2 are signs variables, being equal to 1 or -1 depending on whether the observed binary outcome equals 1 or 0.[210] The parameters γ and β, as well as the variables X and DPNotice, are defined the same as in Equation [1],[211] *delta* ($\delta)$ is the error term that is unique to each equation,

approach less practical, and convergence problems are common. Barry C. Arnold, *Multivariate Logistic Distributions*, *in* HANDBOOK OF THE LOGISTIC DISTRIBUTION 237, 244–45 (N. Balakrishnan ed., 1992); Murray D. Smith & Peter G. Moffatt, *Fisher's Information on the Correlation Coefficient in Bivariate Logistic Models*, 41 AUSTL. & N.Z. J. STAT. 315, 317–19 (1999).

[207] BERK, *supra* note 174, at 190; *accord* ERIC A. HANUSHEK & JOHN E. JACKSON, STATISTICAL METHODS FOR SOCIAL SCIENTISTS 227 (1977) ("[S]tructural [i.e., multiple] equations represent the theoretical model hypothesized to underlie the observed data; this is the causal structure assumed to generate the data.").

[208] SKRONDAL & RABE-HESKETH, *supra* note 178, at 437. The endogenous switching model with a binary outcome is also known as the "multivariate probit model with structural shift." Heckman, *supra* note 204, at 932.

[209] Note that some subscripts have been omitted to simplify the presentation. The standard representation of simultaneous equation models lists β as the effect of endogenous variables and γ as the effect of exogenous variables. *See* PAXTON ET AL., *supra* note 206, at 4.

[210] Alfonso Miranda & Sophia Rabe-Hesketh, *Maximum Likelihood Estimation of Endogenous Switching and Sample Selection Models for Binary, Ordinal, and Count Variables*, 6 STATA J. 285, 288 (2006); *accord* Lorenzo Cappellari & Stephen P. Jenkins, *Calculation of Multivariate Normal Probabilities by Simulation, with Applications to Maximum Simulated Likelihood Estimation*, 6 STATA J. 156, 166 (2006). Technically, $d_m = 2y_m - 1$, where m indexes the particular equation ($m = 1, 2$). So when $y = 1$, $d_m = 1$ and when $y = 0$, $d_m = -1$. *Id.*

[211] GREENE, *supra* note 175, at 852–56 (noting that the endogenous nature of an explanatory variable can be ignored in formulating the log-likelihood in the bivariate probit model). Including observed endogenous variables in a system of probit equations yields

and Φ_2 is the bivariate normal cumulative distribution function (CDF).[212] *Xi* (ξ) is a second-order latent variable—i.e., a latent variable whose indicators are themselves latent variables[213]—and "merely represents the combined effect of all unobserved covariates."[214] The inclusion of latent variables "in statistical models is a common way of taking unobserved heterogeneity into account."[215] *Lambda* (λ) is a factor loading, representing the covariance between the disturbances (i.e., the covariance between the omitted variables after the influence of the included factors are accounted for). Due to the standardized parameterization of the model—i.e., the variables ξ and δ are normally distributed with mean equal to zero and variance equal to one—the covariance (λ) is equal to the correlation, *rho* (ρ).[216] The bivariate probit model assumes that unobserved factors influencing the treatment variable (i.e., death penalty notice) and the outcome variable (i.e., case disposed by trial) manifest themselves in the correlation of the error terms of the two equations.[217]

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likelihoods whose maximization generates consistent parameter estimates. G.S. MADDALA, LIMITED-DEPENDENT AND QUALITATIVE VARIABLES IN ECONOMETRICS 122–23 (1983).

[212] GREENE, *supra* note 175, at 849–52, 854.

[213] The latent indicators are the "first-order" factors and "may be found to satisfy a factor analytic model themselves." KENNETH A. BOLLEN, STRUCTURAL EQUATIONS WITH LATENT VARIABLES 313 (1989) ("Less widely appreciated is that more general and abstract latent variables may determine the 'first-order' latent variables."); SKRONDAL & RABE-HESKETH, *supra* note 178, at 18 ("[L]atent variables pervade modern statistics and . . . are used to represent widely different phenomena such as true variables measured with error, hypothetical constructs, unobserved heterogeneity, missing data, counterfactuals and latent responses underlying categorical variables."); David W. Gerbing & James C. Anderson, *On the Meaning of Within-Factor Correlated Measurement Errors*, 11 J. CONSUMER RES. 572, 574 (1984); Anders Skrondal & Sophia Rabe-Hesketh, *Latent Variable Modelling: A Survey*, 34 SCANDINAVIAN J. STAT. 712, 712 (2007) ("[L]atent variables are referred to by different names in different parts of statistics, examples including 'random effects', 'common factors', 'latent classes', 'underlying variables' and 'frailties'.").

[214] SKRONDAL & RABE-HESKETH, *supra* note 178, at 9; Heckman, *supra* note 204, at 935 ("[T]he error term in each equation consists of the sum of continuous and discrete random variables that are correlated.").

Second-order factor models have at least three distinct advantages: (1) permit the testing of whether the hypothesized factor accounts for the relationships between the first-order factors (i.e., the residuals); (2) impose a structure on the pattern of the covariance between the first-order factors; and (3) separate the variance due to specific factors from measurement error. Fang Fang Chen et al., *Testing Measurement Invariance of Second-Order Factor Models*, 12 STRUCTURAL EQUATION MODELING 471, 473 (2005).

[215] SKRONDAL & RABE-HESKETH, *supra* note 178, at 9; *see also* Francesca Francavilla et al., *Mothers' Employment and Their Children's Schooling: A Joint Multilevel Analysis for India*, 41 WORLD DEV. 183, 186 (2012) ("Systems of random effects [i.e., latent variables] equations have been used to deal with endogenous covariates . . . . In such cases the outcome of an equation appears as a covariate in another equation.").

[216] Miranda & Rabe-Hesketh, *supra* note 210, at 287–88.

[217] Robert C. Luskin, *Estimating and Interpreting Correlations Between Disturbances*

In contrast to Equation [1], the model now represents a system of equations, so the numbered subscripts refer to the different equations (e.g., X_1 and X_2 index the explanatory variables for, respectively, the death-noticing and trial-decision equations), where the main response (i.e., Trial) and the switching dummy (i.e., DPNotice) are nested (i.e., clustered) within cases.[218] This is easily shown by writing the two equations separately:

$$\Pr(\text{DPNotice} = 1) = \Phi(\gamma_1 X_1 + \zeta_1) \qquad [4a]$$

$$\Pr(\text{Trial} = 1) = \Phi(\gamma_2 X_2 + \beta_2 \times \text{DPNotice} + \zeta_2). \qquad [4b]$$

The relationship between the errors across the two equations can be observed with the following equations:

$$\zeta_1 = \xi + \delta_1 \qquad [5a]$$

$$\zeta_2 = \lambda\xi + \delta_2, \qquad [5b]$$

where the error in each equation consists of a part that is unique to that equation, δ, and a second part, ξ, that is common to both.[219] Each error term (ζ) now depends, in part, on the value of ξ, which in turn means that ζ_1 and ζ_2 will be related to one another.[220]

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and Residual Path Coefficients in Nonrecursive (and Recursive) Causal Models, 22 AM. J. POL. SCI. 444, 450 (1978) ("Stated simply, the correlation between the disturbances of the [] structural equations expresses the extent to which those equations fail to recognize major causes of their dependent variables that are either the same or correlated."). These disturbances represent effects of random influences or omitted covariates that are case-specific and immediate, whereas the fixed-effects models represent the effects of omitted influences that remain constant within a particular jurisdiction or year. GREENE, *supra* note 175, at 852–56 (explaining that the key advantage of the bivariate probit model is its ability to explicitly control for unobservable confounding factors); SKRONDAL & RABE-HESKETH, *supra* note 178, at 87. This approach shares similarities with propensity score adjustment, which has been used in prior research to estimate the causal impact of filing a notice to seek the death penalty on associated costs. Roman et al., *supra* note 27, at 556 (noting that propensity score models are a viable solution to modeling selection bias in models with binary treatments); *see also* Paul R. Rosenbaum & Donald B. Rubin, *The Central Role of the Propensity Score in Observational Studies for Causal Effects*, 70 BIOMETRIKA 41, 55 (1983). In fact, sensitivity analyses reveal that the estimates from propensity score models were very similar. *See infra* Part VI.B.

[218] Miranda & Rabe-Hesketh, *supra* note 210, at 288.

[219] BOLLEN, *supra* note 213, at 314; SKRONDAL & RABE-HESKETH, *supra* note 178, at 91; Gerbing & Anderson, *supra* note 213, at 574–76.

[220] "We can induce dependence between responses by including factor structures [i.e., latent variables] in the linear predictor." SKRONDAL & RABE-HESKETH, *supra* note 178, at 91.

Substituting [5a] into [4a] and [5b] into [4b] gives the following equations:

$$\Pr(\text{DPNotice} = 1) = \Phi(\gamma_1 X_1 + \xi + \delta_1) \qquad [6a]$$

$$\Pr(\text{Trial} = 1) = \Phi(\gamma_2 X_2 + \beta_2 \times \text{DPNotice} + \lambda\xi + \delta_2), \qquad [6b]$$

and combining [6a] and [6b] results in Equation [3].[221] The relationship between the two decision processes may be more easily observed in the (causal) path diagram of the model depicted in Figure 2. The bivariate probit model takes into account any unobserved causes influencing both decision processes through ξ, including potential simultaneous/reverse causality,[222] so β_2 can be considered the unbiased causal effect of the threat of the death penalty (via the filing of a notice of intent to seek the death penalty) on the probability of a case being disposed by trial.[223]

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[221] Technically, the combination of Equations [6a] and [6b] results in a specific instance of Equation [3]: when $\pi_{jk} = \pi_{11}$, therefore, Equation [3] represents a more general formulation because it can estimate all four of the joint probabilities.

[222] The model depicted in Figure 2 does take into account both omitted variables and potential reverse causality, even though it does not estimate a causal relationship from the plea-decision variable to the death-noticing variable. Although the statistical literature is replete with incorrect examples of feedback arrows between two endogenous variables in a system of simultaneous equations, as well as correlated disturbances, such a formulation has been shown to be logically inconsistent in the bivariate probit context. The correlated disturbances properly adjust for reciprocal causation. *See* Peter Schmidt, *Constraints on the Parameters in Simultaneous Tobit and Probit Models*, *in* STRUCTURAL ANALYSIS OF DISCRETE DATA WITH ECONOMETRIC APPLICATIONS 422, 427 (Charles F. Manski & Daniel McFadden eds., 1981); *see also* MADDALA, *supra* note 211, at 117–18 (same).

[223] BOLLEN, *supra* note 213, at 314 (explaining that second-order factors can eliminate bias resulting from correlated measurement errors). The model is fitted via maximum likelihood and the unobserved heterogeneity term, ξ, is integrated out using either ordinary Gauss–Hermite quadrature or adaptive quadrature. Miranda & Rabe-Hesketh, *supra* note 210, at 288.

Figure 2
Path Diagram of Model Predicting Trial
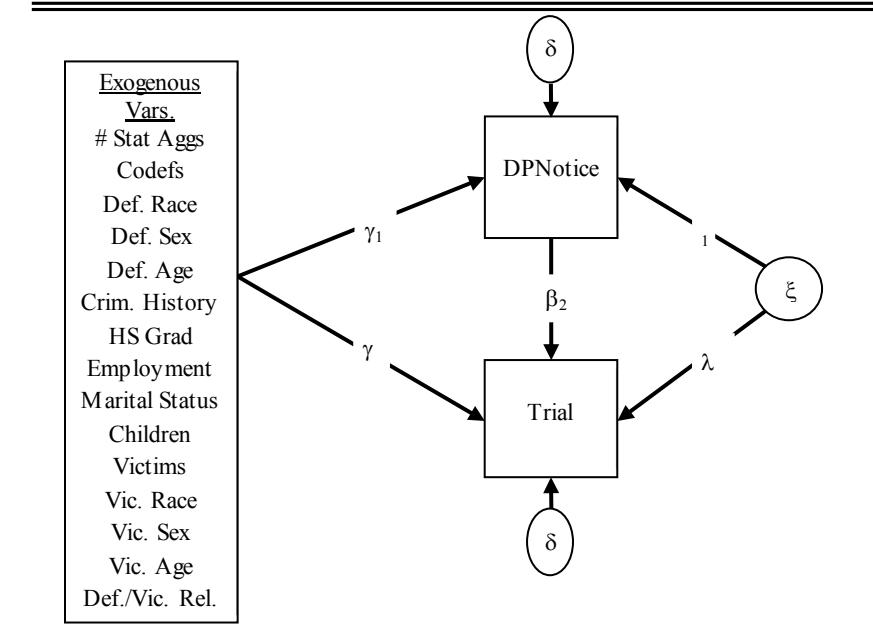
The two equations share identical explanatory variables except for DPNotice, which only appears in the trial equation. No exclusion restrictions are required to identify the model—the multi-equation probit model is identified as long as each equation contains one varying exogenous variable.[224] In fact, it is unlikely that a valid "instrument" exists—that is, a variable that induces substantial variation in the endogenous covariate is independent of unmeasured confounders and has no direct effect on the outcome.[225] Researchers have recognized that

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[224] SKRONDAL & RABE-HESKETH, *supra* note 178, at 438 ("Although beneficial for identification, the [exclusion] restrictions are not necessary for identification."); Heckman, *supra* note 204, at 957 (remarking that "the restriction to exclusion restrictions is overly stringent" and that "[i]dentification through use of covariance restrictions is also permitted"); Giampiero Marra & Rosalba Radice, *Estimation of a Semiparametric Recursive Bivariate Probit Model in the Presence of Endogeneity*, 39 CAN. J. STAT. 259, 263 (2011) (noting that theoretical identification in the recursive bivariate probit context does not require the availability of any instrumental variables because the linear combination of the two equations does not contain the same variables as the original); Wilde, *supra* note 206, at 312 (exclusion restrictions are only necessary if there is no variation in exogenous regressors, and this is a rather weak assumption in economic applications).

[225] This underlying identifying assumption of the instrumental variable approach is both *very* strong and *unverifiable*. MORGAN & WINSHIP, *supra* note 91, at 196–200 (detailing the shortcomings of traditional instrumental variable estimation and explaining how analysts are

situations frequently arise in practice where identical explanatory variables influence selection and a subsequent outcome of interest, and the analysts may be required to base identification on distribution assumptions about the residuals alone.[226] The assumption of joint normality of the residual terms in the bivariate probit model may be reasonable under certain weaker assumptions: (1) the selection equation and the equation of interest represent closely related decisions or goals; (2) the decisions have the same causes; and (3) the decisions occur within a short time frame or are close to each other geographically.[227] These conditions would appear to hold rather well for the current analysis. Prior simulation studies also report that the bivariate probit model outperforms instrumental variable models in many applications and is rather robust to nonnormality of error terms, especially estimated covariate effects and variance of the random effects.[228] Moreover, analysts have established that identification is less of a concern when causal effects, rather than structural parameters, are of primary interest.[229] In fact, calculation of the treatment effect in the bivariate probit model directly lends itself to the counterfactual/potential outcomes

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mistaken when believing the assumption is empirically testable).

[226] *See* Anne E. Sartori, *An Estimator for Some Binary-Outcome Selection Models Without Exclusion Restrictions*, 11 POL. ANALYSIS 111–12 (2003); *cf.* GREENE, *supra* note 175, at 616 ("The case of identical regressors [across a system of equations] is quite common . . . .").

[227] Sartori, *supra* note 226, at 112; *cf.* James J. Heckman et al., *Matching as an Econometric Evaluation Estimator*, 65 REV. ECON. STUD. 261, 264–65 (1998) (discussing bias in estimation of treatment effects resulting from geographic mismatch).

[228] *See, e.g.*, Jay Bhattacharya et al., *Estimating Probit Models with Self-Selected Treatments*, 25 STAT. MED. 389, 399–402 (2006); Marra & Radice, *supra* note 224, at 260 ("[I]t is well known, from both a theoretical and empirical point of view, that simultaneous likelihood estimation methods are superior to conventional two-stage instrumental variable procedures."); Charles E. McCulloch & John M. Neuhaus, *Misspecifying the Shape of a Random Effects Distribution: Why Getting It Wrong May Not Matter*, 26 STAT. SCI. 388, 400 (2011) ("Theory and simulation studies indicate that most aspects of statistical inference are highly robust to this assumption [of normality for random effects] . . . including estimation of covariate effects, [and] estimation of the random effects variance . . . ."); Gary Young et al., *Multivariate Probit Models for Conditional Claim-Types*, 44 INS.: MATHEMATICS & ECON. 214, 222 (2009).

[229] Joshua D. Angrist, *Estimation of Limited Dependent Variable Models with Dummy Endogenous Regressors: Simple Strategies for Empirical Practice*, 19 J. BUS. & ECON. STAT. 2, 3–5 (2001) (endorsing the use of the potential outcomes/counterfactual framework instead of structural parameters, particularly in models examining limited dependent variables (LDV) with dummy endogenous variables and also remarking that identifying assumptions for structural parameters are largely unnecessary for causal inference in LDV models in light of the potential outcomes/counterfactual framework); Guido W. Imbens & Joshua D. Angrist, *Identification and Estimation of Local Average Treatment Effects*, 62 ECONOMETRICA 467, 475 (1994) (same).

framework.[230]   A case "is only allocated to one of the regimes and never both, the responses in the regimes thus represent *potential outcomes*."[231]   As Nobel Prize-winning econometrician James Heckman explains, the "Neyman-Fisher-Cox-Rubin model of potential outcomes . . . is also the switching regression model of Quandt."[232]

The average marginal effect of DPNotice on the likelihood of trial is the difference between two conditional probabilities: $\Pr(\text{Trial} = 1 | \text{DPNotice} = 1, X_1, X_2) - \Pr(\text{Trial} = 1 | \text{DPNotice} = 0, X_1, X_2)$.   In words, the marginal effect is the probability that a case results in trial, given that a death penalty notice has been filed in that case, *minus* the probability that a case results in a trial, given that a death penalty notice has not been filed in that case.[233]   The results from the bivariate probit model support the earlier analyses (see Table 8).   Being noticed for the death penalty decreases the probability of a case going to trial from .61 to .34 in the DE model.   The correlation, *rho* (ρ), of the residuals across the two equations after controlling for the covariates is statistically significant (*rho* = -.559, p < .05).   In the MC model, being noticed for the death penalty decreases the probability of a case going to trial from .61 to .36.   The correlation between the disturbances was statistically insignificant (*rho* = -.518, *p* < .05).[234]   These effect sizes are somewhat larger than those obtained from the previous models, but it is important to emphasize that the bivariate probit models do *not* control for unobserved judicial-circuit-level factors, and this is likely to impact the causal estimates.   The proportion of the variance in the residuals that is attributable to shared omitted variables is equal to the square of the correlation coefficient, *rho*, across the models.

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[230] GREENE, *supra* note 175, at 853; Bhattacharya et al., *supra* note 228, at 400.

[231] SKRONDAL & RABE-HESKETH, *supra* note 178, at 437.

[232] James J. Heckman & Edward J. Vytlacil, *Local Instrumental Variables and Latent Variable Models for Identifying and Bounding Treatment Effects*, 96 PROC. NAT'L ACAD. SCI. 4730, 4730 (1999) (citing Richard E. Quandt, *A New Approach to Estimating Switching Regressions*, 67 J. AM. STAT. ASS'N 306 (1972)).

[233] GREENE, *supra* note 175, at 853.   The conditional probabilities are obtained by: $\Pr(\text{Trial}=1|\text{DPNotice}=1, X_1, X_2)=\Pr(\text{Trial}=1, \text{DPNotice}=1|X_1, X_2)/(\Pr(\text{DPNotice}=1|X_1))$ and $\Pr(\text{Trial}=1|\text{DPNotice}=0, X_1, X_2)=\Pr(\text{Trial}=1, \text{DPNotice}=0|X_1, X_2)/(\Pr(\text{DPNotice}=0|X_1))$.

[234] Even if the error terms from the two equations are not correlated in the overall population (as indicated by significant tests), they are correlated in the selected sample and can bias parameter estimates. *See* CHRISTOPHER H. ACHEN, THE STATISTICAL ANALYSIS OF QUASI-EXPERIMENTS 73–81 (1986); Steven Goodman, *A Dirty Dozen: Twelve* P-*Value Misconceptions*, 45 SEMINARS HEMATOLOGY 135, 136 (2008) (stating that the "effect best supported by the data from a given experiment is always the observed effect, regardless of its significance").   Nonetheless, the close correspondence between the single-equation results and the bivariate probit results strongly suggest that any bias in the estimates is minimal. Moreover, additional sensitivity checks reveal that the parameter estimates were not unduly influenced by endogeneity bias.

Second, a semi-nonparametric version of the bivariate probit model (SNP) was analyzed to check the robustness of the previously estimated parametric bivariate model.[235] The fully parametric bivariate probit model in Equation [3] assumes joint normality of residuals, and although simulation studies suggest the model is rather robust to nonnormality,[236] bias in the causal estimates resulting from the violation of that assumption remains a possibility. The SNP model makes less restrictive assumptions about the distribution of unobservables, and therefore can handle a broader class of error distributions.[237] The intuition behind the SNP approach is to approximate the unknown distributions of the residuals by Hermite polynomial expansions (i.e., the product of a squared polynomial and a normal density) and use the approximations to derive a pseudo-maximum likelihood estimator for the model parameters.[238] The polynomial expansion can handle distributions with arbitrary skewness and kurtosis.[239] The SNP models reveal that the threat of capital punishment reduces probability of trial by .249 (DE) and .258 (MC).[240] These estimates are similar to those obtained via the classic bivariate probit model. The estimates are also somewhat larger than those obtained from the fixed-effects logit and linear probability models, however the SNP models also do not account for judicial-circuit-level fixed effects.

Finally, a propensity score-matching model is used to adjust for nonrandom selection into capital prosecution.[241] The intuition behind the model is that bias in estimates of treatment effects is reduced when the comparison of outcomes is performed using "treated" and "control" subjects who are as similar as possible along a large number of relevant dimensions.[242] Exact matching,[243] or even coarsened exact matching,[244] is typically infeasible when the number of relevant variables is large, so

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[235] Giuseppe De Luca, *SNP and SML Estimation of Univariate and Bivariate Binary-Choice Models*, 8 STATA J. 190, 192 (2008); Marra & Radice, *supra* note 224, at 259–60.

[236] *See* Bhattacharya et al., *supra* note 228; Young et al., *supra* note 228.

[237] Siegfried Gabler et al., *Seminonparametric Estimation of Binary-Choice Models with an Application to Labor-Force Participation*, 11 J. BUS. & ECON. STAT. 61, 63 (1993).

[238] Gabler et al., *supra* note 237, at 63.

[239] De Luca, *supra* note 235, at 194; Mark B. Stewart, *Semi-Nonparametric Estimation of Extended Ordered Probit Models*, 4 STATA J. 27, 30 (2004).

[240] DE model: *rho* = -.324, *p* < .10; MC model: *rho* = -.123, *p* > .10.

[241] *See, e.g.*, Roman et al., *supra* note 27, at 556–58 (employing propensity score models to account for nonrandom selection into prosecution).

[242] Rosenbaum & Rubin, *supra* note 217, at 55.

[243] Daniel E. Ho et al., *Matching as Nonparametric Preprocessing for Reducing Model Dependence in Parametric Causal Inference*, 15 POL. ANALYSIS 199, 217 (2007).

[244] Stefano M. Iacus et al., *Causal Inference Without Balance Checking: Coarsened Exact Matching*, 20 POL. ANALYSIS 1 (2012).

propensity scores summarize pretreatment characteristics into a single-index variable.[245] By definition, capital and noncapital cases with the same value of the propensity score have the same distribution of the full vector of regressors, so it is sufficient to match cases on their propensity score to obtain the same probability distribution of *X* for treated and nontreated match samples.[246] Propensity score models rest on the strong, yet unverifiable, assumption that differences between cases are captured by their observable attributes ("conditional independence assumption").[247] This assumption is unlikely to hold perfectly with these data; nonetheless, propensity score models have been shown to reduce, but not eliminate, the bias generated by unobservable confounding factors. The extent to which this potential bias is reduced depends on the richness and quality of control variables used to compute the propensity scores. Thus, the models are estimated for the simple purpose of comparing their results to the previously estimated models in order to determine how sensitive the estimates are to model specifications. The propensity score (*PS*) is the conditional probability of a death-notice filing and can be expressed as:

$$\Pr(\text{DPNotice} = 1) = \frac{\exp(\alpha_c + \gamma X + \zeta)}{1 + \exp(\alpha_c + \gamma X + \zeta)}, \qquad [7]$$

where α, γ, and ζ are defined in Equation [1].[248] As is customary in the literature, the estimation sample is restricted to the region of common support: 20 cases were dropped from the DE model (*N* = 832) and 175 cases were dropped from the MC model (*N* = 1063).[249] In practice, no two variables will share the exact same propensity score because it is a continuous variable, so a kernel-matching estimator is used.[250] Following

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[245] Rosenbaum & Rubin, *supra* note 217.

[246] The propensity scores satisfy the balance condition when observations with the same propensity score have the same distribution of observable (and hopefully unobservable) characteristics independent of treatment status—i.e., for a given propensity score, exposure to the treatment is random so treatment and control units should be, on average, observationally identical. *Id.*; *see also* Sascha O. Becker & Andrea Ichino, *Estimation of Average Treatment Effects Based on Propensity Scores*, 2 STATA J. 358, 360 (2002) (describing the standard balancing algorithm).

[247] Rosenbaum & Rubin, *supra* note 217, at 43.

[248] Some subscripts have been omitted for simplicity.

[249] The region of common support is the overlapping distribution of propensity scores for the treatment and the control groups. Roman et al., *supra* note 27, at 557 (explaining that "the average treatment effect is defined only in the region of common support"); *see* Gary King & Langche Zeng, *The Dangers of Extreme Counterfactuals*, 14 POL. ANALYSIS 131, 146–151 (2006) (noting that using data outside the region of common support induces some degree of model dependence and increases the risk of bias for almost any model chosen); *see also* Iacus et al., *supra* note 244, at 11 (same).

[250] James J. Heckman et al., *Matching as an Econometric Evaluation Estimator*, 65 REV.

the matching of cases based on propensity scores, the average treatment effect can be estimated by simply taking the difference in the potential outcomes in the two counterfactual situations.[251]   Again, the results from the propensity score models should be viewed with caution because of the likelihood of bias resulting from unobservable confounding factors.   With this caveat in mind, it is worth noting that propensity score models corroborate results from the previously estimated models: a death notice decreased the probability of trial by .25 and .24 in, respectively, the DE and MC models.[252]

     In summary, the current study was able to examine directly the causal impact of the death penalty on defendants' propensity to go to trial. Estimates from the various specifications suggest that the death penalty decreases the probability of a trial anywhere from .17 to .27, from a baseline probability of approximately .60, although estimates in the range of .17 to .23 are likely to be most accurate due to the consideration of unobserved heterogeneity across judicial circuits and years.   As explained earlier this roughly equates to the death penalty deterring two out of every ten death-noticed defendants from pursuing a trial.

ECON. STUD. 261, 271 (1998) (describing kernel-regression-based matching estimators). Matching estimators based on nearest neighbors, local linear regression, and Mahalanobis distances provided similar results.   *See also* MORGAN & WINSHIP, *supra* note 91, at 107–16 (describing various matching estimators).

     [251] Iacus et al., *supra* note 244, at 1; *see also supra* note 92 and accompanying text for discussion of the calculation of treatment effects under the counterfactual framework.

     [252] Results not reported, but available from author upon request.

Table 8
Marginal Effect of Death Penalty on Trial (Multivariate Models)

	Model 1	Model 2	Model 3	Model 4
DP Notice	-0.268***	-0.265***	-0.246***	-0.258***
	(0.048)	(0.041)	(0.047)	(0.034)
Pr(Trial)	0.607	0.606	0.684	0.622
N	852	1238	852	1238
Fixed-Effects	N	N	N	N
Year Dummies	Y	Y	Y	Y
R-Squared	N/A	N/A	N/A	N/A

*p<.05; **p<.01; ***p<.001
Standard errors adjusted for clustering on judicial circuit.
Models 1 & 3: Death Eligible Subsample.
Models 2 & 4: Murder Conviction Subsample.
Models 3 & 4: Semi-Parametric Model.
Pr(Trial) = Probability of trial without a death noticed filed.

All specifications include controls for the number of codefendants, victims, statutory aggravating factors, contemporaneous felony convictions, prior felony convictions, and children of defendant; the race/ethnicity, gender, and age of defendant and victim(s); defendant's employment status at time of arrest, marital status, high school graduation status; offender/victim relationship; and whether the homicide was interracial.

Defendants generally prefer charge bargains to sentencing bargains because a less serious charge is accompanied by a lower penalty (and, perhaps, less severe collateral consequences).[253] Unfortunately, it was impossible to examine directly the impact of the threat of the death penalty on charge bargaining because the data used in this study do not contain information on whether the prosecutor modified her initial charge. As discussed in Part V.A, however, it is debatable whether much charge bargaining occurs when a defendant is initially charged with murder (and a prima facie case exists for the charge).[254] Recall that Georgia's murder statute does not include "degrees" of murder like many other states. A

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[253] Kuziemko, *supra* note 20, at 126.

[254] COHEN & KYCKELHAHN, *supra* note 2, at 10–11 (explaining that the vast majority of defendants initially charged with murder are ultimately convicted of murder, irrespective of method of adjudication).

defendant is either charged with murder (mandatory minimum life sentence), voluntary manslaughter (twenty-year maximum), or involuntary manslaughter (ten-year maximum).[255] The statutory minimum for both manslaughter offenses is one year, and inmates convicted of manslaughter are generally eligible for parole after serving 65% of their sentences.[256] The dramatic reduction in potential punishment can make it politically costly for a prosecutor to offer a charge bargain from murder to manslaughter simply to avoid trial—especially when he is faced with pressure from victims' families and the electorate.[257]

Although prosecutors may lack the flexibility to offer charge or sentence bargains in the noncapital context,[258] they still may present defendants with other incentives to plea. Such incentives might include: (1) dropping less serious offenses against the defendant, (2) dropping charges against codefendants,[259] (3) keeping potentially embarrassing facts about the crime or defendant confidential, (4) asking the judge to impose multiple sentences concurrently rather than consecutively, (5) assisting with detention facility placement, or (6) agreeing to assist with parole board hearings. According to the Georgia data, approximately *40%* of noncapital murder convictions were obtained via a plea bargain. This strongly suggests that noncapital murder defendants are willing to accept plea bargains for consideration other than a charge or sentence reduction. Charge bargaining in the capital context seems equally unlikely.[260] That is, it is doubtful that prosecutors would seek the death penalty against defendants absent a prima facie case for murder solely to obtain a plea for manslaughter.[261] The Georgia data, in fact, support this intuition: only two

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[255] GA. CODE ANN. § 16-5-2(b) (West 2003) (voluntary manslaughter); § 16-5-3(a) (involuntary manslaughter).

[256] *Id.* §§ 16-5-2(b), 16-5-3(a).

[257] *See supra* notes 51–53 and accompanying text. Both scholars and victims' rights groups have advocated expanding victims' involvement in plea negotiations, including the ability to reopen a plea or sentence when the accused has pleaded to a reduced offense. Kyl et al., *supra* note 43, at 621. Others have noted that state prosecutors are more restricted than federal prosecutors with respect to offering charge bargains due to actual and perceived political constraints and consequences. Gazal-Ayal, *supra* note 15, at 2306; Richman & Stuntz, *supra* note 53, at 600–05; *see also* WILLIAM S. MCFEELY, PROXIMITY TO DEATH 19, 80–82 (2000) (describing the intense pressure politicians and prosecutors face from the electorate to aggressively pursue the death penalty).

[258] *See, e.g.*, Ehrhard, *supra* note 20, at 322 (describing interviews conducted with prosecutors and defense attorneys who have litigated capital cases and reporting that both the prosecution and defense believe that LWOP is often necessary to get defendants to take an LS plea).

[259] Prosecutors may also agree not to file charges against potential codefendants.

[260] *See supra* Part V.A.

[261] *See supra* Part V.A.

cases that were noticed for the death penalty during the period of the study resulted in a plea bargain for manslaughter.[262]

VII. FINANCIAL IMPLICATIONS AND DISCUSSION

The U.S. Supreme Court has reasoned that plea bargaining is "an essential component of the administration of justice" when properly conducted.[263] Plea bargaining is purported to provide benefits in the form of reduced costs, increased efficiency, and certainty to defendants, prosecutors, defense counsel, judges, and victims.[264] When plea bargaining in the "shadow of death," incentives for parties to plea bargain may be significantly magnified, although some have suggested that disincentives to bargain may be overriding.[265] Not only has the Court approved the use of the death penalty by prosecutors to secure guilty pleas,[266] but prosecutors have openly stated that they (or other prosecutors with whom they are familiar) routinely use the death penalty as leverage in plea negotiations.[267] Due to the absence of methodologically rigorous research on the subject, however, the actual impact of the threat of capital punishment on plea-bargaining dynamics has been largely speculative. This Article has demonstrated that, at least in Georgia, the death penalty does reduce the total number of cases proceeding to trial. Based on the magnitude of that effect, however, it does not appear that the threat of the death penalty deters enough murder trials to be cost-effective. This is especially relevant because the high price tag associated with pursuing the death penalty—coupled with the infrequency of death sentences and executions[268]—has

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[262] *See supra* Part V.A.

[263] Santobello v. New York, 404 U.S. 257, 260 (1971).

[264] *See supra* note 13 and accompanying text; see also Stephanos Bibas, *Harmonizing Substantive-Criminal-Law Values and Criminal Procedure: The Case of* Alford *and Nolo Contendere Pleas*, 88 CORNELL L. REV. 1361, 1367 (2003) (summarizing procedurally based arguments in favor of plea bargaining).

[265] *See supra* Part I. *See generally* Ehrhard, *supra* note 20, at 313; Hoffmann et al., *supra* note 18, at 2390.

[266] Alford v. North Carolina, 400 U.S. 25, 31 (1970); Brady v. United States, 397 U.S. 742 (1970).

[267] *See supra* note 123 and accompanying text (describing instances of prosecutors admitting using the death penalty as leverage in plea negotiations); *see also* Ehrhard, *supra* note 20, at 319 (describing interviews with prosecutors who admitted that the death penalty is often used as a bargaining chip).

[268] Clark Calhoun, Note, *Reviewing the Georgia Supreme Court's Efforts at Proportionality Review*, 39 GA. L. REV. 631, 632 (2005) (underscoring that less than 2% of homicide cases occurring in the modern era of the death penalty have resulted in a death sentence); Liebman et al., *supra* note 44, at 1844 (showing that 68% of death sentences handed down between 1973 and 1995 were reversed on appeal and less than 2% of death row inmates are executed in any given year).

caused many state and local officials to rethink seriously the feasibility of maintaining the death penalty.[269]   These concerns have only been exacerbated in recent years due to the current financial crisis.

In 2009, at least eleven state legislatures considered bills to abolish the death penalty, citing associated costs as one of their primary concerns.[270] Abolition bills were reintroduced in at least five of those states in 2011.[271] Georgia lawmakers introduced their own abolition bill in early 2012, also citing the financial burden of administering the death penalty.[272] Over the past five years, New Jersey, New Mexico, New York, Illinois, and Connecticut have abolished the death penalty,[273] and the high cost of maintaining a properly functioning death penalty system figured prominently in all of those debates.[274] A recent national study suggests that each additional capital trial causes an increase in county spending of more than $2 million and these costs are borne primarily by increasing taxes.[275]

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[269] Widespread cuts have been made (or proposed) to courthouse staff, attorney general offices, district attorney offices, and public defender offices. *See, e.g.*, Greg Bluestein, *State Budget Cuts Clog Criminal Justice System*, NBC NEWS (Oct. 26, 2011), http://www.nbcnews.com/id/45049812/ns/us_news-crime_and_courts/.   The American Bar Association reported that most states have decreased court funding by 10% to 15%, including significantly scaling back indigent defense and collateral review. *Id.* Nationally, twenty-six states have been unable to fill judgeships for budgetary reasons and 14 states have reduced court staff. In San Francisco, for example, 40% (25 of 63) of the courtrooms have been closed, resulting in huge backlogs in both the civil and criminal dockets. *Id.* State and local governments are also forced to divert funding from hospitals and health care, police and public safety, education, and roads and infrastructure to pay for capital trials. *See* Abby Goodnough, *States Turning to Last Resorts in Budget Crisis*, N.Y. TIMES, June 22, 2009, at A1 (stating that in states across the nation, governors and legislators have recommended increasing taxes and fees, deepening spending cuts, and extending furloughs for government workers in the face of a $121 billion budget gap).

[270] These states included Colorado, Connecticut, Illinois, Kansas, Maryland, Montana, Nebraska, New Hampshire, New Mexico, Texas, and Washington. DIETER, *supra* note 49, at 14; *see also* James S. Liebman, *The New Death Penalty Debate: What's DNA Got to Do with It?*, 33 COLUM. HUM. RTS. L. REV. 527, 528 (2002) (noting that legislation to either abolish or moderate the use of the death penalty was considered in twenty-six death penalty jurisdictions in 2000–2001 and passed a committee vote in at least twelve states).

[271] *Death Penalty Abolished in Illinois*, PROJECT PRESS (Am. Bar Ass'n Death Penalty Representation Project), Spring 2011, at 1.

[272] S. 342, 151st Gen. Assemb., Reg. Sess. (Ga. 2012).

[273] Ashby Jones & Steve Eder, *Costs Test Backing for Death Penalty: Some Former Supporters Say Capital Punishment Isn't Worth Huge Sums Spent on Drawn-Out Cases; Californians to Vote*, WALL ST. J. (Oct. 5, 2012), http://online.wsj.com/article/SB10000 872396390443493304578036792267666794.html.   Prior to 2007, when New Jersey and New York abolished capital punishment, it had been nearly twenty-three years since a state had officially abolished its death penalty. Massachusetts and Rhode Island both dismantled their capital statutes in 1984.

[274] *Id.*

[275] Katherine Baicker, *The Budgetary Repercussions of Capital Convictions*, 4

Such costs have forced many counties to seek help from state legislatures to create programs to diffuse death penalty costs across counties (even those that do not choose to use the death penalty).[276] Total taxes and expenditures for capital trials from 1983 to 1999 were more than $5.5 billion.[277]

Some of the most thorough examinations of costs associated with the death penalty over the past twenty years have expressly noted that the threat of the death penalty may actually produce financial savings by increasing capitally charged defendants' propensity to accept a plea, thereby avoiding trial costs.[278] Unfortunately, none of these studies were able to offer any definitive answers to this question because, based on available evidence, the impact of capital punishment on plea bargaining was too speculative.[279] Studies in California,[280] Indiana,[281] Kansas,[282] and North Carolina[283] all

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ADVANCES ECON. ANALYSIS & POL'Y 1, 10 (2004) (explaining that death penalty convictions have cost counties more than $5.5 billion between 1982 and 1999).

[276] *See* Richard Willing & Gary Fields, *Geography of the Death Penalty*, USA TODAY, Dec. 20, 1999, at 1A (reporting that "[f]ifteen counties account for nearly a third of all prisoners sentenced to death [in the United States] but only one-ninth of the population of the states with capital punishment").

Prosecutors from rural and suburban counties in Georgia account for a disproportionate number of death penalty cases. *See supra* note 75. District attorneys from ninety-two counties in Georgia (57.8%) have filed all of the 400 death penalty notices for homicides occurring between 1993 and 2000 (see Table 1). Three counties (1.9%)—Fulton (Atlanta), Dekalb (Decatur), and Chatham (Savannah)—account for nearly one-half of the reported homicides, but only 13.5% of death notices during this period. Particularly interesting is that nearly one-third of Georgia homicides (and 22% of murder convictions) occurred in Fulton County, although only 4.8% of death notices (and 1.9% of death sentences) came from Fulton County between 1993 and 2000. The seven counties with the highest death-noticing rates (i.e., percentage of murder convictions noticed for the death penalty)—Oconee (88%), Morgan (82%), Putnam (73%), Ware (70%), Appling (63%), Bartow (56%), and Lowndes (54%)—account for approximately 3% of the state's population and less than 4% of murder convictions (and less than 3% of total reported homicides), but 13% of death notices between 1993 and 2000. Collectively, these seven counties sought the death penalty in 68% (52 of 77) of homicide cases that ultimately resulted in a murder conviction.

[277] Baicker, *supra* note 275, at 1321 (also estimating that each capital case costs approximately $2.5 million to prosecute); *see also Public Policy Choices on Deterrence and the Death Penalty: A Critical Review of New Evidence: Hearing on H.B. 3834 Before the J. Comm. on the Judiciary*, 2005 Leg. (Mass. 2005) (statement of Jeffrey Fagan, Professor, Columbia University), *available at* http://www.deathpenaltyinfo.org/MassTestimony Fagan.pdf (summarizing studies of the financial cost of the death penalty).

[278] DIETER, *supra* note 49, at 16–17 (citing studies that have recognized potential savings from capital statutes by increasing the likelihood of pleas).

[279] *Id.*

[280] CAL. COMM'N ON THE FAIR ADMIN. OF JUSTICE, *supra* note 94, at 80–81 (commenting that, in some cases, the risk of the death penalty provides an incentive to plead to life without parole so removing the death penalty might result in more trials, but explaining that even if

acknowledge that a truly comprehensive study of the cost of the death penalty in their respective jurisdictions would require a close examination of the causal impact of the death penalty on plea bargaining in death-eligible cases. Capital trials are extremely expensive, so numerous plea bargains in potentially capital trials may be required to offset the cost of a single capital trial. Capital cases are more expensive and time-consuming than comparable noncapital murder cases at every stage of the process: more time for pretrial preparation, more pretrial motions, more experts, more attorneys for the defense (and typically the government as well), more time to conduct voir dire, longer trials, longer jury deliberations, and more appeals that take longer.[284] Georgia has yet to conduct a comprehensive study of the costs of its capital punishment system, but trial costs for the median capital case have been estimated as at least four times more expensive than the median noncapital murder trial.[285] The elapsed time from arrest to murder conviction in capital cases in Georgia for the period under investigation in this study was nearly 1.8 times longer than the elapsed time from arrest to murder conviction in death-eligible noncapital

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all murder cases eligible for life without parole went to trial, both trial and appellate costs would be considerably less expensive than capital cases, in large part because of the absence of a penalty phase and right to counsel for habeas petitions).

[281] KATHRYN JANEWAY, THE APPLICATION OF INDIANA'S CAPITAL SENTENCING LAW: FINDINGS OF THE INDIANA CRIMINAL LAW STUDY COMMISSION 120 (2002) (report prepared for the Office of the Governor and the Indiana General Assembly) (recognizing that plea bargaining also influences the cost of resolving a capital case, but also acknowledging that the impact of the death penalty on plea bargaining may not always be in both parties' best interests).

[282] LEGIS. DIV. OF POST AUDIT, STATE OF KAN., PERFORMANCE AUDIT REPORT: COSTS INCURRED FOR DEATH PENALTY CASES: A K-GOAL AUDIT OF THE DEPARTMENT OF CORRECTIONS 19, 32 (2003) (stating a potential benefit of the death penalty savings from avoiding trials, but acknowledging the instant study did not examine those potential savings).

[283] Philip J. Cook & Donna B. Slawson, The Costs of Processing Murder Cases in North Carolina 31 (May 1993) (unpublished manuscript) (on file with the Terry Sanford Inst. of Pub. Policy, Duke Univ.) (noting that 21% of capitally charged defendants plead guilty to murder and avoid trial, but concluding that "[s]ince we have no direct evidence on the effect of the death penalty option on the likelihood of trial, and since there are plausible arguments in both directions, we proceed on the assumption that there are neither more nor fewer trials as a result of the death penalty option").

[284] *See* Roman et al., *supra* note 27, at 536 (explaining that case processing is more expensive at every stage of a capital case relative to a noncapital murder case); Robert L. Spangenberg & Elizabeth R. Walsh, *Capital Punishment or Life Imprisonment? Some Cost Considerations*, 23 LOY. L.A. L. REV. 45, 46–47 (1989) (conducting the first cost analysis of every stage of the capital charging-and-sentencing process and concluding that life imprisonment is a more economical alternative).

[285] Stephen Gurr, *The High Cost of Death*, GAINESVILLE TIMES, Aug. 10, 2008, at 1D (reporting that defense expenses alone average about $150,000, and juror and bailiff costs are seven times higher in capital cases).

murder cases (27.9 months versus 15.9 months). Interestingly, the average time between arrest and conviction via trial in death-eligible noncapital murder cases (17.4 months) was less than the time between arrest and plea in capital cases in Georgia (24.6 months).[286]

A recent study in New Jersey revealed that capital cases resulted in two to five times more pretrial motions filed, three to five times longer pretrial defense investigation, sixty-six times longer voir dire, and thirty more court days.[287] Capital cases were also ten times as likely to proceed to trial, had twice as many lawyers (by statute), and resulted in longer and more complicated appeals.[288] An examination of death penalty costs in Kansas discovered that, relative to noncapital murder cases, capital cases had investigation costs that were three times higher, trial costs that were sixteen times greater, and appeal costs that were twenty-one times more.[289] The added expense associated with capital cases at every stage of the process has also been documented in the administration of the federal death penalty: attorney costs, expert costs, transcript costs, and out-of-court costs were significantly greater for capital cases.[290] In general, capital cases were four times more expensive than noncapital cases for death-eligible defendants from 1989 to 1997, and 6.5 times more expensive from 1998 to 2004.[291]

One of the few methodologically rigorous studies attempting to take both state and federal costs into account when comparing cost differentials between capital and noncapital death-eligible cases revealed that prosecuting a single capital case in Maryland adds *at minimum* $1 million in total costs even after taking into account differential imprisonment costs.[292] Trial costs were five times more expensive in capital cases compared to noncapital cases ($823,000 versus $160,000), and appellate

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[286] *See supra* Part III.C.

[287] N.J. DEATH PENALTY STUDY COMM'N, NEW JERSEY DEATH PENALTY STUDY COMMISSION REPORT (2007).

[288] *Id.*

[289] LEGIS. DIV. OF POST AUDIT, *supra* note 282 (discovering that, relative to noncapital murder cases, capital cases had investigation costs that were three times higher, trial costs that were sixteen times greater, and appeal costs that were twenty-one times more).

[290] JON B. GOULD & LISA GREENMAN, REPORT TO THE COMMITTEE ON DEFENDER SERVICES JUDICIAL CONFERENCE OF THE UNITED STATES: UPDATE ON THE COST AND QUALITY OF DEFENSE REPRESENTATION IN FEDERAL DEATH PENALTY CASES 28–32 (2010) (reporting 4.6 times more hours worked by defense counsel and 15.7 times more spent in expert fees in federal capital cases versus death-eligible noncapital cases).

[291] *Id.* (reporting that mean capital case was $490,000 and the mean noncapital murder case was $76,000; the median costs for capital and noncapital cases were, respectively, $350,000 and $45,000).

[292] Roman et al., *supra* note 27.

costs were almost four times more expensive ($340,000 versus $88,000).[293] Another relevant study, coauthored by Senior Judge Arthur L. Alarcón of the U.S. Court of Appeals for the Ninth Circuit, suggests that federal habeas review of a state capital conviction adds between $635,000 and $1.58 million to each capital case.[294] These federal costs are in addition to the $1.2 million more California spends on each capital case at the state level.[295]

It is important to underscore that because capital cases are more expensive and time-consuming at every stage, those cases that are ultimately resolved by plea bargain may be more expensive than noncapital trials because of pretrial and pre-penalty-phase costs. According to data from the federal death penalty system, capital cases eventually disposed by plea were over four times more expensive than the median noncapital case, regardless of method of disposition.[296] Costs for noncapital cases were not disaggregated according to trial and plea, but given the fact that capital trials were 1.3 times more expensive than the median capital case, irrespective of method of disposition ($465,602 versus $353,185), it may be reasonable to assume that noncapital trial costs exceed noncapital plea costs by a similar multiplier. Based on that assumption, the median capital case resolved by plea is over 3.3 times more costly than the median noncapital trial in the federal system ($200,933 versus $60,000).

Similar estimates have been discovered at the state level. For example, in North Carolina (2002–2006) the median cost of a capital case ultimately disposed by plea bargain was 1.6 times more expensive than the median cost of a death-eligible noncapital case disposed by trial ($31,000 versus $19,000).[297] Pleas obtained in capital cases were also three times as costly as pleas obtained in death-eligible noncapital cases ($31,000 versus $10,000).[298] Capital trials were nearly 4.5 times more expensive than death-eligible noncapital trials ($82,000 versus $19,000), and 2.6 more expensive than capital cases disposed by plea ($82,000 versus $31,000).[299] Even dismissals in capital cases were four times more expensive than

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[293] *Id.*

[294] *See* Alarcón & Mitchell, *supra* note 65, at S88.

[295] CAL. COMM'N ON THE FAIR ADMIN. OF JUSTICE, *supra* note 94 (noting the difference between the least expensive capital trial and most expensive noncapital trial was $1.1 million).

[296] GOULD & GREENMAN, *supra* note 290, at 27 (reporting a total cost of $200,993 for capital cases disposed by plea compared to $44,809 for noncapital cases, irrespective of method of disposition).

[297] N.C. OFFICE OF INDIGENT DEF. SERVS., FY07 CAPITAL TRIAL CASE STUDY: PAC AND EXPERT SPENDING IN POTENTIALLY CAPITAL CASES AT THE TRIAL LEVEL (2008).

[298] *Id.*

[299] *Id.*

dismissals in death-eligible noncapital cases ($19,000 versus $4,500).[300] The bulk of these cost differentials can be attributed to the fact that once a case is noticed for the death penalty, most death penalty statutes (including North Carolina's) require the appointment of two attorneys for the defendant, and attorney fees comprise the bulk of the cost of capital cases.[301] It should be emphasized that these cost estimates only include the defense's attorney fees and expert witness expenses; they do not take into account expenses incurred by the government.[302] We would expect government expenditures to be significantly higher in capital cases, but assuming arguendo that the cost to the government is similar for capital and noncapital cases, the relative gap in spending would remain the same (although the multiplier would change).

Now consider a few examples to fix ideas. Using the rather conservative estimates obtained from a recent Maryland study, the government can save, at most, $250,000 in a death-eligible noncapital case by avoiding trial and subsequent appeals.[303] Of course, there are still costs associated with obtaining a plea. The Maryland study did not report estimates of costs in cases disposed by plea prior to the start of trial, but based on estimates from the federal government and North Carolina, it is reasonable to assume that significant costs are associated with pleas in both capital and noncapital cases. Discounting potential trial savings by plea costs by a conservative estimate of one-third suggests that the government can save approximately $195,000 by avoiding trial (and subsequent appeals) in a noncapital case (plea costs = $160,000 trial costs × .33 = $53,280). Also recall that a capital case in Maryland costs at least an additional $1 million to process fully, even after considering prison costs. This suggests that the threat of the death penalty would need to deter more than five murder defendants from pursuing trial to offset the price of one capital trial. If the cost of obtaining a plea is higher—e.g., 50% as in North Carolina—then the death penalty would have to deter more than six murder defendants from opting for trial. *Based on the analysis presented in this Article, the death penalty only deters between 1.5 and 2 murder defendants*

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[300] *Id.*

[301] *Id.* North Carolina compensates capital defense attorneys at a rate of $85 per hour, whereas the federal government paid attorneys $125 per hour during a similar time period. *Id.* at 5; *see also* GOULD & GREENMAN, *supra* note 290, at 28 (explaining that attorney fees constitute a large fraction of the cost of capital cases).

[302] N.C. OFFICE OF INDIGENT DEF. SERVS., *supra* note 297, at 1, 10.

[303] Roman et al., *supra* note 27, at 565. The estimates of costs associated with capital trials obtained from the Maryland study are likely to be biased downward. For example, the study estimated the median cost of federal habeas review at $25,000 (std. dev. $105,000), whereas a recent California study estimated federal habeas costs between $635,000 and $1.58 million.

from opting for trial for every one capital trial in Georgia.

Of course these calculations ignore the fact that obtaining a plea bargain in a capital case may be more expensive than the total trial and appellate costs for a noncapital death-eligible case. This would preclude the possibility of the death penalty serving any cost-saving function in light of the fact that it does not appear that there is a corresponding decrease in prison costs.[304] More cost estimates from death penalty jurisdictions based on methodologically rigorous study designs are necessary to explore fully this counterintuitive implication. But even if the costs associated with obtaining pleas in capital cases merely constituted half of the total trial and appellate savings, then the threat of capital punishment would need to dissuade eight defendants from choosing trial. And more than twelve defendants would need to be discouraged from going to trial if plea expenses comprised two-thirds of total noncapital trial savings.

Due to the fact that most capitally prosecuted defendants are not sentenced to death, perhaps it is more illuminating to explore cost estimates that take account of cases that begin as capital cases, but do not accomplish the stated purpose of a death penalty system: executions.[305] These "cohort costs" (i.e., per-execution costs) have been estimated at $3.2 million in North Carolina,[306] $3.5 million in Texas,[307] $24 million in Florida,[308] $37.2 million in Maryland,[309] and $250 million in California.[310] New York and

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[304] In fact, prison costs appear to be greater for death row inmates than non-death row inmates, although death row inmates' total incarceration time is less. *Id.*

[305] Nationally, only one in every three capital trials results in a death sentence (because of mercy from the judge or jury) and only one in every ten death sentences may result in an execution, so the total cost to reach that one execution may be prohibitively high. DIETER, *supra* note 49, at 14 (discussing different approaches to assessing the cost of the death penalty); *see also supra* note 127 and accompanying text (noting that in Georgia, from 1993 to 2000, only 32% of capital cases disposed by trial received the death sentence).

[306] This figure represents the cost per execution *above* life imprisonment. The $3.2 million price tag is the inflation-adjusted number from $2.16 million in 1993.

[307] This is the inflation-adjusted figure. *Costs of the Death Penalty and Related Issues: Hearing on H.B. 1094 Before the H. Comm. on the Judiciary*, 2007 Leg. (Colo. 2007) (statement of Richard C. Dieter, Executive Director, Death Penalty Information Center) (stating that Texas spends three times more on capital cases from trial through execution than for life imprisonment for forty years in a maximum security single cell). Reliable data on the cost of the death penalty are lacking, but recent reports suggest that the average nonmurder trial in Texas costs about $3,000, whereas death penalty trials range from $200,000 to $1 million. Logan Carver, *Paying the Price: Death Penalty Cases More Expensive than Lifetime Imprisonment, but Local CDA Says Cost Never a Consideration*, LUBBOCK AVALANCHE-J., Dec. 13, 2009, at A1.

[308] S.V. Dáte, *The High Price of Killing Killers: Death Penalty Prosecutions Cost Taxpayers Millions Annually*, PALM BEACH POST, Jan. 4, 2000, at 1A.

[309] Jennifer McMenamin, *Death Penalty Costs Md. More than Life Term*, BALTIMORE SUN, Mar. 6, 2008, at 2B.

New Jersey have spent, respectively, $170 million and $253 million on their capital punishment systems, but have failed to execute a single condemned inmate.[311]   Even so, conservative estimates based on continued annual expenditures would place cost-per-execution in the $20–$40 million range for these two jurisdictions.[312]   The number of plea bargains induced by the threat of the death penalty required to offset per-execution costs, obviously, would be significantly higher.   Continuing with the Maryland example, and assuming no cost to obtain a plea, nearly 150 death-eligible defendants would need to be deterred from opting for trial to offset the cost of one execution.   Assuming that plea costs constitute one-third of trial costs, then 190 death-eligible defendants would need to be discouraged from going to trial.

Based on these stark differences in costs between capital and noncapital cases, it is quite possible that prosecutors are fully aware that the threat of capital punishment cannot serve any cost-saving function, and they merely leverage the death penalty to impose harsher bargaining terms— most notably, life imprisonment.   More than 70% of inmates serving life sentences were convicted of murder, and more than one in four of all inmates serving a life sentence have no possibility of parole.[313]   But this use of the death penalty has important cost implications as well.   The mandatory minimum for most first-degree murder (and equivalent) convictions is life with the possibility of parole,[314] and several states only allow life without parole, so it is not clear that the threat of the death penalty (and the associated expenses) is necessary to obtain a sufficiently harsh sentence (the average time served for an inmate serving life imprisonment is thirty years across all offenses).   In most death penalty jurisdictions, governors and pardon and parole boards are extremely reluctant to grant convicted murderers early release, so in practice, facially indeterminate sentences have become de facto determinate life sentences.[315]

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[310] Rone Tempest, *Death Row Often Means a Long Life*, L.A. TIMES, Mar. 6, 2005, at B1.

[311] DIETER, *supra* note 49, at 14 (citing studies and compiling statistics).

[312] *Id.* at 15. New York sentenced seven individuals to death from 1995 through 2004— a cost of $24 million per death sentence. JOSEPH LENTOL ET AL., THE DEATH PENALTY IN NEW YORK 7 (2005). Juries in New Jersey returned sixty death sentences ($4.2 million per death sentence), but fifty-seven were overturned on appeal and only nine inmates were on death row as of 2007 ($28 million per death sentence). *See* N.J. DEATH PENALTY STUDY COMM'N, *supra* note 287, at 7.

[313] ASHLEY NELLIS & RYAN KING, NO EXIT: THE EXPANDING USE OF LIFE SENTENCES IN AMERICA (2009).

[314] *See supra* note 54 and accompanying text.

[315] *See supra* Part III.B.

VIII. CONCLUSION

When the Supreme Court ruled in *Furman* that the death penalty was unconstitutional as applied, the majority was particularly concerned that the death penalty was not being reserved exclusively for the worst crimes and worst criminals.[316]   Many commentators have remarked that the death penalty is an incredibly powerful tool at the disposal of prosecutors, especially when it is used as leverage to induce defendants to forfeit their right to trial (and accompanying rights).   The empirical findings in this Article suggest that the threat of the death penalty has a substantial *causal* effect on the likelihood that a defendant accepts a plea agreement. Nevertheless, the magnitude of the effect is clearly insufficient to offset the substantial administrative and financial costs arising from the occasional capital defendant taking her chances at trial (or, in some instances, even the capital case that incurs significant pretrial or pre-penalty-phase costs prior to a plea agreement).   The government's use of the death penalty to obtain convictions quickly and cheaply appears to fail on both of these dimensions—and this may be particularly true in marginal cases because the likelihood of trial, a sentence other than death, or a reversal on appeal is particularly high.   Prosecutors are likely to continue to use the threat of the death penalty in this highly inefficient manner unless they are required to internalize more of the costs of making poor screening decisions on the front end.   Given the tremendous human and financial costs associated with the use of the "ultimate punishment," prosecutors must be made to think carefully about using the death penalty as a "bargaining chip" in situations when such a severe sanction may be unwarranted.[317]

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[316] There was no controlling opinion in *Furman*. Each of the Justices comprising the 5–4 majority (Brennan, Marshall, Douglas, Stewart, and White) differed over the basis of the decision; nonetheless, three recurring themes ran through their individual opinions. The *Furman* court was primarily troubled by three glaring problems with the existing practice of capital punishment: (1) the small number of death sentences handed out relative to potentially capital crimes; (2) the lack of statutory restrictions upon the sentencing discretion of judges and jurors; and (3) sentencing disparities based on social class and race. DAVID GARLAND, PECULIAR INSTITUTION: AMERICA'S DEATH PENALTY IN AN AGE OF ABOLITION 225–30 (2010); *see also* Calhoun, *supra* note 268, at 632; Schornhorst, *supra* note 31, at 301.

[317] "[T]he practice of charging the death penalty solely for the purpose of obtaining plea bargains is an unethical and unconstitutional interference with a defendant's Sixth Amendment right to trial [and impermissibly] risks convicting innocent defendants who plead guilty solely to avoid the possibility of a death sentence—which has occurred on numerous occasions." DIETER, *supra* note 49, at 17.

Appendix A
Variables

VARIABLE NAME	VARIABLE DESCRIPTION	DATA SOURCE(S)
DP Notice	Death Penalty Notice Filed (Yes=1)	CO; GCD; AJC
Plea/Verdict	Case Disposed by Trial or Plea Bargain (Trial=1)	GDC; CO; GCD; AJC
Incident Year	Date of Incident (YYYY)	GDC; CO; GCD; AJC
Offender Age	Defendant's Age at Time of Incident (in Years)	GDC; CO; GCD; AJC
Offender Sex	Defendant's sex/gender (Male=1)	GDC; CO; GCD; AJC
Offender Race	Defendant's Race (Asian, Black, Hispanic, Other, White)	GDC; CO; GCD; AJC
Offender HS Grad	Defendant Graduated from High School (Yes=1)	GDC; CO; GCD
Offender Married	Defendant's Marital Status (Married=1)	GDC
# of Children	Defendant's Number of Children	GDC
Contemp. Felony	Defendant was convicted of committing a contemporaneous felony (Yes=1)	CO; GCD
Prior Felony	Defendant had prior felony conviction (Yes=1)	CO; GCD
# of Offenders	Total Number of Codefendants	CO; GCD
Murder Conviction	Defendant Convicted of Murder (Yes=1)	GDC; CO; AJC
Statutory Aggravators	Number of statutory aggravating circumstances present in case	GDC; GCD; SHR; AJC

VARIABLE NAME	VARIABLE DESCRIPTION	DATA SOURCE(S)
# of Victims	Number of deceased victims in the case	CO; GCD; SHR; AJC
Victim Age	Victim's age at time of incident (in Years)	CO; GCD; SHR; AJC
Victim Race	Victim's race (Asian, Black, Hispanic, Other, White)	CO; GCD; SHR; AJC
Victim Sex	Victim's sex/gender (0=No; 1=Yes)	CO; GCD; SHR; AJC
Victim Stranger	Victim(s) and defendant were strangers (Yes=1)	CO; GCD; SHR; AJC
Interracial Homicide	The defendant differed in race from at least one of the victims (Yes=1)	GCD; SHR; AJC
County	County in which the trial took place	GDC; CO; GCD; AJC
Circuit	Circuit in which the trial took place	GDC; CO; GCD
DP Eligible	Defendant was eligible for the DP based on a murder conviction and the presence of *at least* one Statutory Aggravating Circumstance	GDC; GCD; SHR; AJC

LEGEND: U.S. Bureau of the Census (CENSUS); Ga. Department of Corrections (GDC); Ga. Sup. Ct. Clerk's Office (CO); Ga. Bureau of Investigation (GBI); Office of the Georgia Capital Defender (GCD); Supplementary Homicide Reports (SHR); Atlanta-Journal Constitution (AJC).

Appendix B
Fixed-Effects Logit Models (Marginal Effects)

	Pr(Trial)		Pr(Notice)	
DP Notice	-0.234***	(0.038)	--	--
# of Stat Aggs	-0.042*	(0.019)	0.108***	(0.020)
# of Offenders	-0.038*	(0.017)	-0.005	(0.013)
Offender Black	-0.033	(0.048)	-0.107*	(0.044)
Offender Male	-0.149	(0.076)	-0.102	(0.065)
Offender Age	0.000	(0.002)	-0.002	(0.002)
Contemp. Felony	0.043***	(0.013)	0.029*	(0.013)
Prior Felony	0.040***	(0.010)	0.006	(0.010)
High School Grad	0.142***	(0.035)	0.032	(0.036)
Offender Employed	0.073*	(0.035)	0.072**	(0.025)
Offender Married	0.085	(0.063)	-0.029	(0.030)
# of Children	-0.045	(0.027)	0.017	(0.033)
# of Victims	0.028	(0.037)	0.104***	(0.024)
Victim White	-0.097*	(0.044)	0.115***	(0.035)
Victim Female	-0.085**	(0.033)	0.117***	(0.027)
Victim Age	-0.001	(0.001)	0.000	(0.001)
Victim Stranger	0.055	(0.036)	0.087**	(0.031)
Interracial Homicide	0.006	(0.046)	-0.012	(0.038)
N	852		856	
Year Dummies	Y		Y	
Pseudo *R*-Squared	0.32		0.37	

*p<.05, **p<.01, ***p<.001

Standard errors adjusted for clustering on judicial circuit.