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The Fragile Promise of Open-File Discovery

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The Fragile Promise of Open-File Discovery

BEN GRUNWALD

Under traditional rules of criminal discovery, defendants are entitled to little prosecutorial evidence and are thus forced to negotiate plea agreements and prepare for trial in the dark. In an effort to expand defendants' discovery rights, a number of states have recently enacted "open-file" statutes, which require the government to share the fruits of its investigation with the defense. Legal scholars have widely supported these reforms, claiming that they level the playing field and promote judicial efficiency by decreasing trials and speeding up guilty pleas. But these predictions are based largely on intuition and anecdotal data without extended theoretical analysis or systematic empirical testing.

This Article aims to fill both of these gaps in the literature. It begins by developing a dynamic theory of the effects of open-file on the behavior of police, prosecutors, defense attorneys, and defendants. The theory leads to the conclusion that the anticipated effects of open-file are fragile and contingent on a range of extrinsic institutional circumstances, including the distribution of cases in which defendants over- and under-estimate the strength of the government's evidence, the availability of public defense funding, and the adaptive behavior of police and prosecutors in the collection of evidence and assembly of the file. The Article then examines the effects of open-file empirically using data from two states that have expanded their discovery statutes in the last decade. It finds relatively little evidence that defendants fared significantly better in terms of charging, plea bargaining, and sentencing or that the trial rate fell as a result of the legislation.

If the effects of open-file are indeed so fragile and contingent, then it may offer little utility as a standalone fix. We need, instead, to find the will to integrate discovery legislation into a package of reforms that increase funding for indigent defense and that establish stronger enforcement mechanisms to ensure the government complies with its discovery obligations.

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The Fragile Promise of Open-File Discovery

BEN GRUNWALD*

INTRODUCTION

Traditional discovery gets it backwards. In civil cases—where money is so often the only thing at stake—discovery is endless. But in criminal court—where life and liberty are on the line—defendants are entitled to little prosecutorial evidence and must negotiate plea agreements and prepare for trial in the dark.

Since the 1970s, many states have addressed this problem by substantially expanding criminal discovery through statute. The last decade has witnessed a new wave of reform, often referred to as “open” or “open-file” discovery.¹ In 2004, for example, North Carolina abandoned “a highly traditional, restrictive discovery procedure that guaranteed only minimal disclosure to the defense”² and adopted the “broadest criminal discovery rights and duties in the nation.”³ Roughly a decade later, Texas enacted a discovery statute nearly as broad.⁴ And around the same time, Ohio expanded its discovery rules as well.⁵

The scholarly reception of these reforms has been overwhelmingly positive, emphasizing two primary claims—one about the content of case outcomes and the other about efficiency. First, legal scholars, including Darryl Brown and Daniel Medwed, uniformly maintain that open-file helps level the investigative playing field by sharing the fruits of the government’s superior investigative apparatus.⁶ And others, like Stephen Schulhofer and

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¹ Robert P. Mosteller, *Exculpatory Evidence, Ethics, and the Road to the Disbarment of Mike Nifong: The Critical Importance of Full Open-File Discovery*, 15 GEO. MASON L. REV. 257, 263 (2008).

² *Id.* at 260.

³ Janet Moore, *Democracy and Criminal Discovery Reform after Connick and Garcetti*, 77 BROOK. L. REV. 1329, 1380 (2012).

⁴ See TEX. CODE CRIM. PROC. ANN. art. 39.14(a) (West 2015).

⁵ See OHIO R. CRIM. P. 16.

⁶ See, e.g., Darryl K. Brown, *The Decline of Defense Counsel and the Rise of Accuracy in Criminal Adjudication*, 93 CAL. L. REV. 1585, 1624 (2005) (“[B]road discovery partially compensates for restricted defense counsel; it helps make up for the deficiency in adversary process of constrained defense advocacy.”); Daniel S. Medwed, *Brady’s Bunch of Flaws*, 67 WASH. & LEE L. REV. 1533, 1558–59

Máximo Langer, assert that broad discovery “directly address[es] the flaws of plea bargaining”⁷ and creates “a strong check to prevent prosecutors from making plea proposals [when] conviction at trial is unlikely.”⁸ Under this view, defendants obtain more favorable outcomes as a result of discovery reform. Second, scholars and policy advocates widely claim that open-file discourages trials and speeds up guilty pleas.⁹ They reason that greater disclosure reduces information asymmetries between the parties and thus increases the chance they can agree on a settlement.

The problem is that these predictions are based largely on intuition and anecdotal data without extended theoretical analysis¹⁰ or systematic

(2010) (“Open file discovery more generally would level the playing field by giving defendants a bird’s eye view into the exact nature of the government’s case.”); see also THE JUSTICE PROJECT, EXPANDED DISCOVERY IN CRIMINAL CASES 2–4 (2007) [hereinafter JUSTICE PROJECT] (“[Open-file] protects against wrongful imprisonment and renders more reliable convictions” and “creates a more level playing field on which the quality of evidence can be challenged and tested.”); Kevin C. McMunigal, *Disclosure and Accuracy in the Guilty Plea Process*, 40 HASTINGS L.J. 957, 968–97 (1989) (arguing that increased disclosure of evidence improves the accuracy of plea agreements); Moore, *supra* note 3, at 1372 (“Providing defendants with information obtained through [the] government’s superior investigative resources levels the playing field.”); Eleanor J. Ostrow, *The Case for Preplea Disclosure*, 90 YALE L.J. 1581, 1608–09 (1981) (arguing that pre-plea discovery would produce “bargains that are fairer to the defendant”); Dan Svitsky, *The Cost of Strict Discovery: A Comparison of Manhattan and Brooklyn Criminal Cases*, 38 N.Y.U. REV. L. & SOC. CHANGE 523, 528 (2014) (“[Discovery] counteracts the government’s financial and investigative advantages [and] levels the playing field . . .”).

⁷ Stephen J. Schulhofer, *Plea Bargaining as Disaster*, 101 YALE L.J. 1979, 1998 (1992); see also Stephanos Bibas, *Plea Bargaining Outside the Shadow of Trial*, 117 HARV. L. REV. 2464, 2469, 2531 (2004) (arguing that liberal discovery decreases uncertainty and checks prosecutorial bluffing).

⁸ Máximo Langer, *Rethinking Plea Bargaining: The Practice and Reform of Prosecutorial Adjudication in American Criminal Procedure*, 33 AM. J. CRIM. L. 223, 276 (2006); see also *id.* (“[F]rom the perspective of eliminating . . . the coercive character of plea proposals based on weak evidence, the broader the pre-guilty-plea discovery, the better. This is why an open-file policy at the prosecutor’s office would be the best option.”).

⁹ See, e.g., Moore, *supra* note 3, at 1383 (concluding based on anecdotal evidence that “[f]ull open file discovery appears to be increasing the speed . . . of plea bargaining.”); Jenny Roberts, *Too Little Too Late: Ineffective Assistance of Counsel, the Duty to Investigate, and Pretrial Discovery in Criminal Cases*, 31 FORDHAM URB. L.J. 1097, 1100, 1154–55 (2004) (“[T]here will be . . . savings in the probability that pleas will happen earlier if the defendant has an opportunity to view the government’s evidence.”); Richard A. Rosen, *Reflections on Innocence*, 2006 WIS. L. REV. 237, 274 (noting that in the “European continental justice system, the defense and prosecution have access to the same collection of evidence” and “[t]here is not a shred of evidence that these criminal justice systems have suffered any drop in efficiency as a result”); see also BILL ANALYSIS, S. 83-1611, 83rd Reg. Sess., 1 (Tex. 2013) (supporting open-file bill because it would contribute to “increasing efficient resolution of cases”); JUSTICE PROJECT, *supra* note 6, at 9 (“Early discovery . . . will likely result in fewer trials . . .”); LEGAL AID SOC’Y, CRIMINAL DISCOVERY REFORM IN NEW YORK 30 (2009) (“[F]ar more guilty pleas will be entered earlier in the case when defendants receive a prompt opportunity to actually see tangible proof of the strength of the prosecution’s evidence . . .”); N.Y. STATE BAR ASS’N, TASK FORCE ON CRIMINAL DISCOVERY 4 (2014) (“Open discovery . . . encourages guilty people to plead guilty earlier in the proceedings by showing them the evidence against them.”); REPORT OF THE ADVISORY COMMITTEE ON CRIMINAL LAW AND PROCEDURE TO THE CHIEF ADMINISTRATIVE JUDGE OF THE COURTS OF THE STATE OF NEW YORK 3–4 (2003) (arguing that open-file encourages faster plea agreements); TEX. DEF. SERV., IMPROVING DISCOVERY IN CRIMINAL CASES IN TEXAS: HOW BEST PRACTICES CONTRIBUTE TO GREATER JUSTICE 1–2 (2013) (arguing that open-file discourages trials).

¹⁰ One exception is John G. Douglass, *Fatal Attraction? The Uneasy Courtship of Brady and Plea*

empirical testing.¹¹ This Article aims to fill both gaps in the literature by developing a dynamic theory of the effects of open-file on the behavior of police, prosecutors, defense attorneys, and defendants, and then by testing the resulting hypotheses with data from two jurisdictions that have adopted open-file.

My theoretical analysis proceeds in several steps. Drawing inspiration from a larger body of work on civil discovery,¹² I begin in Section II by observing that incentives built into the plea bargaining process already encourage voluntary prosecutorial disclosure, even in jurisdictions with traditional discovery rules. Expanding discovery should have the biggest impact on disclosure where these incentives are weak due to prosecutorial resource constraints, pooling advantages, the value of trial surprise, and a few other considerations. In Section III, I turn to open-file statutes and demonstrate that prior scholarship, which generally examines each statute in isolation,¹³ overlooks significant inter-jurisdictional variation. Certain discovery statutes—for example, those that impose fewer disclosure costs on the defense, that establish stronger compliance mechanisms for the government, and that require immediate judicial oversight when prosecutors elect to withhold discoverable evidence—likely encourage more disclosure, earlier in the process. In Section IV, having fleshed out the effects of open-file on disclosure, I then explore how changes in disclosure reshape the behavior of the parties throughout the criminal process. The resulting theory produces three primary claims.

First, while there are good grounds to believe that open-file leads to more favorable outcomes for defendants,¹⁴ the effects may not be as big as we hope due to other systemic features of the criminal justice system. For

Bargaining, 50 EMORY L.J. 437, 487–504 (2001), which examines disclosure incentives under *Brady* but does not consider the effect of discovery statutes, the focus of this Article.

¹¹ To my knowledge, the only empirical study of open-file discovery that uses objective court data examined the time-to-disposition in just two hundred cases in two criminal courts in New York City—one with a stingy prosecutor's office, the other with a liberal one. See Svirsky, *supra* note 6, at 543. The author detected no statistically significant difference. *Id.* Another recent study surveyed prosecutors and defense attorneys in North Carolina and Virginia to measure subjective perceptions of disclosure practices in those two states. Jenia I. Turner & Allison D. Redlich, *Two Models of Pre-Plea Discovery in Criminal Cases: An Empirical Comparison*, 73 WASH. & LEE L. REV. 285, 288 (2016).

¹² See e.g., Lucian Arye Bebchuk, *Litigation and Settlement Under Imperfect Information*, 15 RAND J. ECON. 404, 406–12 (1984) (modeling disclosure behavior in civil court); Steven Shavell, *Sharing of Information Prior to Settlement or Litigation*, 20 RAND J. ECON. 183, 184–92 (1989) (same); Bruce L. Hay, *Civil Discovery: Its Effects and Optimal Scope*, 23 J. LEGAL STUD. 481, 483–97 (1994) (same).

¹³ See, e.g., Cynthia E. Hujar Orr & Robert G. Rodery, *The Michael Morton Act: Minimizing Prosecutorial Misconduct*, 46 ST. MARY'S L.J. 407, 409, 413–19 (2015) (examining the Texas open-file statute); Charles L. Grove, *Criminal Discovery in Ohio: "Civilizing" Criminal Rule 16*, 36 U. DAYTON L. REV. 143, 145–64 (2011) (examining Ohio's rules of criminal procedure); Moore, *supra* note 3, at 1372 (examining the North Carolina open-file statute); Mosteller, *supra* note 1, at 260, 275–76 (same).

¹⁴ Indeed, it has made a big difference in a number of highly publicized cases. See, e.g., Mosteller, *supra* note 1, at 292–93 (discussing the role of the North Carolina open-file statute in the Duke lacrosse case).

one thing, in many cases the file may not contain material of much use to the defense. One reason is that the file does not represent an impartial construction of the crime.¹⁵ Rather, it is the product of a highly routinized process that is designed to produce inculpatory evidence and that is carried out by police and prosecutors who seek convictions.¹⁶ Even more important, indigent defense is chronically underfunded in many areas of the country.¹⁷ Burdened by heavy caseloads, many defense attorneys may lack the time and resources to carefully examine the contents of a discovery package or to conduct a vigorous follow-up investigation.¹⁸

Second, it's not clear that open-file reduces the trial rate or speeds up pleas. When the defense underestimates the government's evidence, open-file discourages trials by decreasing the optimism of the defendant's estimate of the expected outcome at trial. But when the defense overestimates the prosecution's evidence, discovery increases the distance between the parties' trial estimates and, in turn, decreases the chance of settlement. The effect of open-file on the trial rate depends, then, on the relative distribution of these different cases—an empirical question for which we have little information. The empirical literature also shows that litigants form biased estimates of the strength of evidence.¹⁹ By increasing the evidence available—and particularly exculpatory evidence—open-file may increase the distance between the parties' trial estimates and decrease the probability of settlement.

Third, the arms of open-file discovery are longer than prior scholarship has appreciated. Open-file may reach both forward and backward in time, affecting stages in the criminal process other than plea bargaining and trial. Increased disclosure, for example, may discourage some police officers from collecting or recording exculpatory evidence or from engaging in investigative activities likely to produce it. Added discovery costs may also lead prosecutor's offices with tight budgets to file charges in fewer cases to reduce their discovery burdens. Increased disclosure of inculpatory evidence may invigorate enforcement of the Fourth Amendment through motions to suppress. It might also lead defense attorneys to shift pre-trial litigation away from factual claims of substantive criminal law and towards procedural claims, which are less time-consuming to litigate.²⁰ And higher discovery

¹⁵ See *infra* Section IV.A.

¹⁶ *Id.*

¹⁷ See *infra* Section IV.F.

¹⁸ See, e.g., Mosteller, *supra* note 1, at 298–99 (noting that “few defense attorneys” could afford to invest sixty to one hundred hours learning about DNA analysis and reviewing over a thousand pages of test results to uncover key exculpatory evidence, as one defense attorney did in the Duke lacrosse case).

¹⁹ See *infra* notes 60–64 and accompanying text.

²⁰ See William J. Stuntz, *The Uneasy Relationship Between Criminal Procedure and Criminal Justice*, 107 YALE L.J. 1, 37–40 (1997) (arguing that defense attorneys focus on procedural defenses, rather than merits defenses, because they are on average more cost-effective for their clients in the aggregate).

costs may also increase trial penalties or plea discounts. Indeed, one defendant's right to discovery is another's right to exchange it for lenience.

For these three reasons, the plea bargaining and discovery process is more complicated than the literature has appreciated. We simply cannot theorize our way out of this puzzle. To understand the full effect of open-file on criminal justice outcomes, we need data. Pushing the scholarly literature one step forward in that direction, Section V next examines data on several million cases from North Carolina and Texas.

Estimating the effect of discovery reform poses several big challenges. First, case-level data on state criminal court is difficult to obtain. Instead, I rely on monthly or annual aggregate data. Second, changes to statutory law affect all courts in a given jurisdiction at the same time, making causal inference difficult. While I flirt at times with more sophisticated approaches to causal inference—e.g., exploiting subsets of cases where open-file does not formally apply—I primarily rely on before-and-after comparisons. Still, basic descriptive data on how case processing does or does not change after the adoption of open-file adds valuable empirical insight in an area where we know so little.

I begin by examining prosecutorial disclosure activity. Although there is some anecdotal evidence that open-file increases the volume of disclosure, we have relatively little systematic data.²¹ As a second-best proxy, I examine data on motion-to-suppress hearings in Texas based on the assumption that defense attorneys file more motions to suppress when they receive more information about the inculpatory evidence collected by the prosecution. I find that the number of hearings increased substantially in the year after the state enacted its open-file statute. It is difficult to translate these results into an estimate of the size of the change in disclosure and litigation activity, but they support the hypothesis that open-file affected both.

Next, I explore the effect of open-file on intermediate and final case outcomes: the rate of charges, trials, pleas to lesser-included offenses, dismissals, and sentences, and the time-to-disposition. While my methods are rough, and there are a few bumps and blips in the data, I find relatively little evidence that defendants fared significantly better in terms of charging, plea bargaining, and sentencing, or that the trial rate or time-to-disposition fell as a result of open-file.

Why aren't defendants faring better? And, if these results hold up to more rigorous empirical scrutiny, what normative implications do they have? I suggest that the effects of open-file are fragile and contingent on a range of extrinsic institutional circumstances: most importantly, on the availability of resources for public defense; on the myopia of police investigations; and on the adaptive behavior of police and prosecutors in the collection of evidence and assembly of the file. As a result, open-file may

²¹ For one useful and recent exception, see Turner & Redlich, *supra* note 11.

not work as a standalone fix. We may need to find the will to integrate discovery legislation into a package of reforms that increase funding for indigent defense and that ensure police and prosecutors comply with their discovery obligations.

The remainder of the Article proceeds as follows. In Section I, I discuss the limited rights of defendants under the traditional framework of criminal discovery. In Section II, I identify incentives built into the plea bargaining process to explore how and when prosecutors engage in voluntary disclosure under this framework. Section III explores how variations in the design of open-file statutes can affect the volume and timing of prosecutorial disclosure. Section IV, in turn, examines how changes in prosecutorial disclosure influence behavior in both downstream and upstream phases of the criminal process. Section V introduces data to test some of my theoretical hypotheses and discusses the normative implications of my findings. The Conclusion then outlines a research agenda for future empirical work in this area. Perhaps most importantly, it shows how the theory of discovery developed in this paper generates new empirical predictions that can help reveal whether the difference in sentences in cases disposed by guilty plea and trial represents a plea discount or a trial penalty—a question that is closely connected to the motivation for open-file and that has broader implications for the criminal justice system.

I. TRADITIONAL CRIMINAL DISCOVERY

In jurisdictions with traditional systems of criminal discovery, the rights of defendants to the prosecution's evidence arise from the United States Constitution, state statutes, and local court rules.

The United States Supreme Court first recognized a constitutional right to discovery in *Brady v. Maryland*.²² There, the court held that criminal defendants are entitled to receive “material” and “exculpatory” evidence held by the government.²³ Evidence is exculpatory if it tends to decrease the probability of guilt or the severity of punishment.²⁴ It is material if there is “a reasonable probability” that disclosure would have led to a different result of the proceeding.²⁵

In states with traditional discovery, *Brady* is supplemented by a patchwork of statutes and court rules that vary in scope. Commentators often group these provisions in relation to two models.²⁶ The first and narrowest

²² 373 U.S. 83 (1963).

²³ *Id.* at 87.

²⁴ *Id.* at 87–88.

²⁵ *United States v. Bagley*, 473 U.S. 667, 682 (1985).

²⁶ See, e.g., WAYNE R. LAFAYE ET AL., CRIMINAL PROCEDURE § 20.2(b) (5th ed. 2009) (categorizing discovery provisions).

model is Rule 16 of the Federal Rules of Criminal Procedure. Over a dozen states model their defense discovery rights on this federal rule,²⁷ as did both North Carolina and Texas before their recent discovery reforms.²⁸ Painting with a broad brush, these states only grant defendants discovery of their own statements, their own criminal record, and “a limited list of evidence that is either material to the defense or that the prosecution intends to introduce” at trial.²⁹ Further, with respect to the prior statements of witnesses the prosecution intends to introduce, the federal courts and many states permit the prosecution to wait to disclose until after those witnesses have testified at trial.³⁰ Even then, the defendant is only entitled to prior written statements that are signed or adopted by the witness or are “verbatim” transcriptions.³¹

The second model comes from the first edition of the ABA’s recommended standards for discovery.³² About thirty states provide defendants with broader discovery than the federal rule by partially or fully embracing these standards,³³ which are more generous with respect to both witness lists and witnesses’ prior statements. For example, they require disclosure of written or recorded statements of the prosecution’s witnesses *before* trial.³⁴

The limitations of the traditional approach to discovery are well-known.³⁵ Perhaps most clearly, its substantive scope is narrow. *Brady* only requires disclosure of exculpatory evidence that satisfies a stringent materiality standard³⁶ and does not require disclosure of inculpatory evidence at all.³⁷ Traditional discovery statutes and court rules expand defendants’ discovery rights further, but they often leave out key categories

²⁷ *Id.*

²⁸ See JOHN RUBIN & ALYSON A. GRINE, NORTH CAROLINA DEFENDER MANUAL § 4.3 (2d ed. 2013), <http://defendermanuals.sog.unc.edu/defender-manual/2> [<https://perma.cc/V5QW-M7VV>] (noting that North Carolina’s prior statute provided discovery that was “comparable to the discovery available in federal criminal cases”); see also LAFAVE ET AL., *supra* note 26, § 20.2(b) (noting that Texas’s prior discovery statute was “roughly equivalent in scope to Federal Rule 16”).

²⁹ Mosteller, *supra* note 1, at 274.

³⁰ See Jencks Act, 18 U.S.C. § 3500(a) (2012). Some jurisdictions modify the federal rule, requiring disclosure at least ten days before trial. See, e.g., GA. CODE ANN. § 17-16-4 (2010).

³¹ 18 U.S.C. § 3500(e).

³² ABA, STANDARDS FOR CRIMINAL JUSTICE, DISCOVERY AND PROCEDURE BEFORE TRIAL (1st ed. 1970).

³³ LAFAVE ET AL., *supra* note 26, § 20.2(B).

³⁴ *Id.* § 20.3(i).

³⁵ For more extensive discussion of this issue, see Medwed, *supra* note 6, at 1539–44; Moore, *supra* note 3, at 1342–46; Mosteller, *supra* note 1, at 309–10.

³⁶ See KATHLEEN RIDOLFI ET AL., MATERIAL INDIFFERENCE: HOW COURTS ARE IMPEDING FAIR DISCLOSURE IN CRIMINAL CASES 14 (2014), <https://www.nacdl.org/discoveryreform/materialindifference/> [<https://perma.cc/Y457-ZYFQ>] (reporting that withheld exculpatory evidence was deemed material in just 21 out of 145 surveyed judicial decisions).

³⁷ See Weatherford v. Bursey, 429 U.S. 545, 559 (1977) (“It does not follow from [*Brady*] that the prosecution must reveal before trial the names of all witnesses who will testify unfavorably. There is no general constitutional right to discovery in a criminal case, and *Brady* did not create one . . .”).

of evidence like the prior statements of witnesses the prosecution does not intend to call at trial.

Timing is another problem, particularly for *Brady*. Among cases that go to trial, courts generally agree that *Brady* is satisfied if the evidence is disclosed “in time for its effective use at trial.”³⁸ In many jurisdictions, disclosure *during* trial is sufficient for many kinds of evidence.³⁹ Even worse, *Brady* may very well not apply in cases disposed by guilty plea, which account for the vast majority of convictions. Indeed, the Supreme Court unanimously held in *United States v. Ruiz* that *Brady* does not require the disclosure of impeachment evidence before a plea agreement.⁴⁰ And the Court could extend *Ruiz* to non-impeachment evidence in the future.⁴¹

Furthermore, even when prosecutors are legally obligated to disclose, they may still fail to comply. First, cultural and professional norms may overemphasize convictions over justice, leading some prosecutors to withhold discoverable evidence to protect conviction rates,⁴² particularly if they learn about the evidence late in the criminal process.⁴³ Second,

³⁸ *United States v. Higgs*, 713 F.2d 39, 44 (3d Cir. 1983); *see also* *United States v. Smith Grading and Paving, Inc.*, 760 F.2d 527, 532 (4th Cir. 1985); *State v. Taylor*, 473 S.E.2d 596, 607 (N.C. 1996).

³⁹ *See* LAFAVE ET AL., *supra* note 26, § 20.3(m).

⁴⁰ 536 U.S. 622, 633 (2002).

⁴¹ The Court rejected a functional distinction between impeachment and non-impeachment evidence in the context of *Brady* in the past. *See* *United States v. Bagley*, 473 U.S. 667, 676 (1985) (“This Court has rejected any such distinction between impeachment evidence and exculpatory evidence.”); *see also* *Friedman v. Rehal*, 618 F.3d 142, 154 (2d Cir. 2010) (“[T]he Supreme Court has consistently treated exculpatory and impeachment evidence in the same way for the purpose of defining the obligation of a prosecutor to provide *Brady* material . . .”). And in the wake of *Ruiz*, a number of courts and commentators have concluded that *Brady* does not require pre-plea disclosure of non-impeachment evidence. *See* *United States v. Mathur*, 624 F.3d 498, 507 (1st Cir. 2010) (rejecting the defendant’s argument that *Brady* applies pre-plea); *Friedman*, 618 F.3d at 154 (asserting as alternative grounds for the decision that *Ruiz* applies to exculpatory evidence); *United States v. Conroy*, 567 F.3d 174, 178 (5th Cir. 2009) (holding that “a guilty plea precludes the defendant from asserting a *Brady* violation”); *Jones v. Cooper*, 311 F.3d 306, 315 n.5 (4th Cir. 2002) (asserting that *Ruiz* forecloses the argument that undisclosed exculpatory evidence can invalidate an otherwise voluntary plea); *People v. Philips*, 30 A.D.2d 621, 621–22 (N.Y. App. 2d Dep’t 2006) (rejecting the defendant’s claims since “[b]y pleading guilty, the defendant forfeited his right to seek review of any alleged . . . *Brady* violation”); *see also* LAFAVE ET AL., *supra* note 26, § 20.3(m); *Bibas*, *supra* note 7, at 2494 n.125 (noting that the “Court’s reasoning [in *Ruiz*] would apply with almost as much force to classic *Brady* exculpatory material”); Brian Gregory, Comment, *Brady is the Problem: Wrongful Convictions and the Case for “Open File” Criminal Discovery*, 46 U.S.F. L. REV. 819, 826 (2012) (recognizing that prior to *Ruiz* the court rejected any distinction between impeachment evidence and exculpatory evidence); JUSTICE PROJECT, *supra* note 6, at 20 (“[T]he *Brady* ruling only applied to cases that go to trial . . .”). *But see* *Ferrara v. United States*, 456 F.3d 278, 297–98 (1st Cir. 2006) (holding that the prosecution violated *Brady* by failing to disclose certain exculpatory information prior to the defendant’s guilty plea).

⁴² *See* Alafair S. Burke, *Revisiting Prosecutorial Disclosure*, 84 IND. L.J. 481, 488 (2009) (“[S]cholars have focused less on the *Brady* doctrine itself than on the prosecutors whom *Brady* governs, arguing that the materiality requirement enables overzealous prosecutors to avoid their constitutional and ethical obligations to disclose exculpatory evidence to the defense.”).

⁴³ *See* Miriam Baer, *Timing Brady*, 115 COLUM. L. REV. 1, 35–38 (2015) (explaining how, for the prosecutors assigned to a case, the costs of disclosing exculpatory evidence grow over time).

discovery rules are under-enforced. Violations are rarely detected, and even when they are, sanctions are rarely imposed due to stringent materiality and harmless-error standards.⁴⁴ When sanctions are imposed, they rarely impose significant costs on the prosecution. Indeed, when violations are detected before conviction, the most common remedy is for the court to order the violating party to disclose. Courts rarely exclude evidence, dismiss charges, or vacate convictions for discovery violations,⁴⁵ and prosecutors rarely face professional discipline.⁴⁶ Third, it is difficult for prosecutors to determine whether evidence is “material”—a standard that defines both the scope of *Brady* and some traditional discovery statutes. The standard is vague and its application is subject to wide disagreement.⁴⁷ Moreover, prosecutors must apply it before trial—before they know what evidence will be admitted and what strategy the defense will adopt.⁴⁸ Their judgments about materiality may also be distorted by a variety of psychological biases.⁴⁹ And due to high caseloads, prosecutors may lack the time to closely review the files for discoverable evidence.⁵⁰ For these reasons, many legal scholars have concluded that traditional discovery is inadequate.⁵¹

II. VOLUNTARY PROSECUTORIAL DISCLOSURE

Despite the limited prosecutorial duties under traditional discovery and their associated compliance problems, the government may nonetheless disclose significant evidence to defendants voluntarily. Yet criminal law scholars have given relatively little attention to voluntary disclosure. The

⁴⁴ RIDOLFI ET AL., *supra* note 36, at 14.

⁴⁵ See LAURAL HOOPER ET AL., A SUMMARY OF RESPONSES TO A NATIONAL SURVEY OF RULE 16 OF THE FEDERAL RULES OF CRIMINAL PROCEDURE AND DISCLOSURE PRACTICES IN CRIMINAL CASES 29 (2011), www.uscourts.gov/file/17996/download [<https://perma.cc/KSY6-Q5BF>] (surveying discovery practices in federal district courts).

⁴⁶ See, e.g., KATHLEEN M. RIDOLFI & MAURICE POSSLEY, PREVENTABLE ERROR: A REPORT ON PROSECUTORIAL MISCONDUCT IN CALIFORNIA 1997–2009 3 (2010) (finding that the California Bar “almost never disciplines” prosecutors for *Brady* violations); Bill Moushey, *Hiding the Facts: Discovery Violations Have Made Evidence-Gathering a Shell Game*, PITTSBURGH POST-GAZETTE, Nov. 24, 1998, at A1 (finding that prosecutors who violated discovery rules were “seldom punished” even though “[m]any violated discovery rules over and over again”).

⁴⁷ One study asked over thirty prosecutors to answer whether specific evidence was material under *Brady* and found wide disagreement in a number of different factual circumstances. See Bennett L. Gershman, *Reflections on Brady v. Maryland*, 47 S. TEX. L. REV. 685, 690 (2006) (citing JOHN JAY LEGAL CLINIC, DOMESTIC VIOLENCE VICTIM STATEMENTS: *BRADY* OR NOT? 1–6 (2000)).

⁴⁸ See Gregory, *supra* note 41, at 829 (“[T]he current rule forces prosecutors and appellate judges to engage in speculation, before trial and on appeal respectively, as to whether disclosure of a piece of evidence would ‘deprive the defendant of a fair trial.’”); Moore, *supra* note 3, at 1343 (“*Brady*’s materiality test imposes upon prosecutors as much a duty of divination as disclosure.”).

⁴⁹ See Burke, *supra* note 42, at 494–95 (“*Brady* amplifies confirmation bias, selective information processing, and the resistance to cognitive dissonance in a manner that guarantees that when prosecutors err they will do so by systematically underestimating materiality.”).

⁵⁰ Moore, *supra* note 3, at 1342.

⁵¹ See, e.g., Medwed, *supra* note 6, at 1560; Moore, *supra* note 3, at 1350.

largely unspoken conventional view appears to be that prosecutors disclose inculpatory evidence and withhold exculpatory evidence unless disclosure is required by *Brady*. But this view oversimplifies a more complicated story.

In this Section, I outline a more complete account of voluntary disclosure. I begin by introducing a classic theory of litigation in which the parties' behavior is governed by the shadow of trial—that is, the expected outcome of trial. Then, drawing on insights from the civil discovery literature, I explain how incentives built into the plea bargaining process encourage the prosecution to eliminate information asymmetries through voluntary disclosure even absent formal discovery requirements. This analysis clarifies where the incentives for voluntary disclosure are weakest and where open-file may therefore have the biggest effect.

A. *The Shadow of Trial*

Scholars of both civil and criminal law have widely adopted a basic theory of litigation that predicts when a dispute will be settled out of court, and if so, the content of the settlement agreement.⁵² It begins by observing that a trial is an expensive way to resolve a dispute. If the parties can accurately estimate the expected outcome of trial, they can obtain the same outcome through settlement and share the avoided costs of further litigation. Two key variables affect the likelihood and content of settlement.

First, the parties form estimates of the expected outcome at trial. The closer the parties' estimates are to each other, the more likely a settlement can be reached. And, the higher the estimates, the higher the settlement will be. In arriving at their estimates, the parties consider the balance of favorable and unfavorable evidence they anticipate will be introduced in court and the burden of proof for the relevant legal standard.

The second key variable is the parties' willingness to accept a suboptimal settlement—a settlement that is less desirable than their trial estimates. Greater willingness among the parties increases the likelihood of settlement. And the more willing a party tends to receive a worse bargain.

Under this standard theory of litigation, parties generally settle their disputes. And if they share a similar willingness to accept a suboptimal settlement, the content of the settlement is, on average, equal to the expected outcome at trial minus avoided litigation costs.

⁵² This theory of litigation has been discussed at length in both the civil and criminal litigation literatures. For more details, see generally Frank Easterbrook, *Plea Bargaining as Compromise*, 101 YALE L.J. 1969, 1969–74 (1992); Robert H. Mnookin & Lewis Kornhauser, *Bargaining in the Shadow of the Law: The Case of Divorce*, 88 YALE L.J. 950, 966, 968–77 (1979); George L. Priest & Benjamin Klein, *The Selection of Disputes for Litigation*, 13 J. LEGAL STUD. 1, 6–17 (1984); Robert E. Scott & William J. Stuntz, *Plea Bargaining as Contract*, 101 YALE L.J. 1909, 1925–26 (1992); Yoon-Ho Alex Lee & Daniel Klerman, *Updating Priest and Klein*, at 1–5 (Aug. 12, 2015) (unpublished manuscript) (on file with USC Gould School of Law).

As others have argued before, a number of facts about litigation—and particularly criminal litigation—complicate these predictions.⁵³ To begin with, the parties' trial estimates are not always accurate. For our purposes, the most important cause of this inaccuracy is information asymmetry between the parties—a point to which I return in the next subsection. But even if the parties have the same information, trial estimates may still be distorted by a range of cognitive biases.⁵⁴ People are generally overconfident about their abilities⁵⁵ and the probability of their success.⁵⁶ They also tend to remember⁵⁷ and interpret⁵⁸ information selectively based on their opinions and interests. One study by George Loewenstein and colleagues, for example, randomly assigned undergraduate students to the role of plaintiff or defendant in an imaginary tort suit.⁵⁹ Although they received the same

⁵³ See, e.g., Bibas, *supra* note 7, at 2465–69 (arguing that the shadow-of-trial model fails to account for “[s]tructural forces and psychological biases” that affect criminal trials and plea bargaining, such as “[p]oor lawyering, agency costs, lawyers’ self interest[,] . . . overconfidence, self-serving biases[,] . . . and risk preferences.”).

⁵⁴ For a review of the empirical evidence on cognitive biases and their implications for negotiations and mediation, see Bibas, *supra* note 7, at 2498–2502; Russell B. Korobkin, *Psychological Impediments to Mediation Success: Theory and Practice*, 21 OHIO ST. J. DISP. RESOLUTION 281, 284–94, 298–304, 308–14 (2006).

⁵⁵ See, e.g., David Dunning et al., *Ambiguity and Self-Evaluation: The Role of Idiosyncratic Trait Definitions in Self-Serving Assessments of Ability*, in *HEURISTICS AND BIASES: THE PSYCHOLOGY OF INTUITIVE JUDGMENT* 324, 324 (Thomas Gilovich et al. eds., 2002) (surveying high school students and finding that 60% reported believing they were in the top 10% in terms of their ability to get along with others and only 2% reported having below-average leadership skills); David Dunning et al., *Flawed Self-Assessment: Implications for Health, Education, and the Workplace*, 5 PSYCHOL. SCI. PUB. INT. 69, 72 (2004) (“Of college professors, 94% say they do above average work.”).

⁵⁶ See Marie Helweg-Larsen & James A. Shepperd, *Do Moderators of the Optimistic Bias Affect Personal or Target Risk Estimates? A Review of the Literature*, 5 PERSONALITY & SOC. PSYCH. REV. 74, 74 (2001) (“Among the most robust findings in research on social perceptions and cognitions over the last two decades is the *optimistic bias*—the tendency for people to report that they are less likely than others to experience negative events and more likely than others to experience positive events.”). The overconfidence bias is particularly strong where—as in the plea bargaining context—individuals have some control over the outcome or the task is difficult. *Id.* at 85–88; see also Dale Griffin & Amos Tversky, *The Weighing of Evidence and the Determinants of Confidence*, 24 COGNITIVE PSYCHOL. 411, 425–28 (1992) (providing empirical evidence that overconfidence bias increases across tasks of varying mathematical difficulty).

⁵⁷ See George Loewenstein et al., *Self-serving Assessments of Fairness and Pretrial Bargaining*, 22 J. LEGAL STUD. 135, 150 (1993) (reporting that students randomly assigned to serve as plaintiffs or defendants recalled more arguments favoring their own positions).

⁵⁸ See Leigh Thompson & George Loewenstein, *Egocentric Interpretations of Fairness and Interpersonal Conflict*, 51 ORG. BEHAV. & HUM. DECISION PROCESSES 176, 180–81 (1992) (reviewing the relevant empirical literature); see also Albert H. Hastorf & Hadley Cantril, *They Saw a Game: A Case Study*, 49 J. ABNORMAL & SOC. PSYCHOL. 129, 130–32 (1954) (finding that, after watching a football game, respondents who supported a particular football team reported observing fewer and less severe violations than respondents who supported the opposite team); Charles G. Lord et al., *Biased Assimilation and Attitude Polarization: The Effects of Prior Theories on Subsequently Considered Evidence*, 37 J. PERSONALITY & SOC. PSYCHOL. 2098, 2105, 2107 (1979) (finding that supporters and opponents of the death penalty interpret mixed evidence of its effectiveness as supporting their own position).

⁵⁹ Loewenstein et al., *supra* note 57, at 145–46.

information about the case and had little stake in the outcome, students assigned to be plaintiffs predicted trial outcomes that were 59% higher than those assigned to the role of defendants.⁶⁰ Moreover, students with greater bias were less likely to settle.⁶¹ Other empirical work has found that the availability of more information can exacerbate bias, as more data points create more opportunities for self-serving interpretation.⁶² Taken together, these biases lead the parties to overestimate the probability of their success at trial. In turn, the trial estimates grow further apart.

Asymmetries in the parties' willingness to accept a suboptimal offer also complicate predictions based on the shadow of trial. Parties in criminal cases often have very different stakes from one another. The stakes of a non-violent drug offender facing a twenty-year mandatory minimum, for example, far outweigh those of the prosecution. A risk-averse defendant may, therefore, be more willing to accept a suboptimal settlement. Moreover, the parties in criminal cases frequently have different litigation costs.⁶³

Finally, predictions based on the shadow of trial are further skewed by the limited universe of possible plea agreements.⁶⁴ Plea negotiations often focus on charge bargaining,⁶⁵ but in most cases there are few possible charges and each one carries a very different penalty. Charge bargaining thus "leaps from one charge to another," allowing little fine calibration.⁶⁶ In turn, parties may have difficulty finding a mutually agreeable settlement that accurately represents the expected trial outcome.

⁶⁰ *Id.* at 151 tbl.2 (indicating that, on average, defendants estimated a trial verdict of \$24,426 while plaintiffs estimated a verdict of \$38,953).

⁶¹ See *id.* at 151. Using the same hypothetical case, a second study delayed assigning roles to a random subset of subjects until after they had read the case file. Linda Babcock et al., *Biased Judgments of Fairness in Bargaining*, 85 AM. ECON. REV. 1337, 1338–41 (1995). The paper found no evidence of self-serving bias for this subgroup. *Id.* at 1340.

⁶² Thompson & Loewenstein, *supra* note 58, at 188, 193–94 (finding that subjects in a lab experiment reached more divergent trial estimates when given more information about the case); see also Babcock et al., *supra* note 61, at 1337 ("The fact that people interpret information in a self-serving manner means that . . . giving two parties more information may cause their expectations to diverge.").

⁶³ Most defendants do not pay for their own attorneys. See CAROLINE WOLF HARLOW, BUREAU OF JUST. STAT., NCJ 179023, DEFENSE COUNSEL IN CRIMINAL CASES 1 (2000) (reporting that in 1996, 82% of felony state court defendants in the largest seventy-five counties in the United States were represented by publicly funded attorneys). Moreover, some defendants may prefer trial over a plea agreement if delay fades witnesses' memories or allows evidence to grow stale.

⁶⁴ See Albert W. Alschuler, *The Trial Judge's Role in Plea Bargaining, Part I*, 76 COLUM. L. REV. 1059, 1144–45 (1976) (stating that "accidents of 'spacing'" in criminal codes affect the magnitude and rationality of discounts that defendants receive in charge bargaining).

⁶⁵ Parties can also bargain over sentence lengths. But the prosecutor can only recommend a sentence to the court, and the ultimate decision is up to the judge. See Ronald Wright & Marc Miller, *The Screening/Bargaining Tradeoff*, 55 STAN. L. REV. 29, 112 (2002) ("[A]ny prosecutorial agreement to recommend a particular sentence will become known and could well provoke a veto or modification from one of those other actors. Any concessions to the defendant at sentencing remain in the control of the judge, who explains her decision on the public record.").

⁶⁶ Alschuler, *supra* note 64, at 1144.

Perhaps unsurprisingly, we have little systematic evidence about the accuracy of the shadow-of-trial theory in the criminal context. But what little evidence we do have suggests that, despite all these complications, the theory provides reasonably accurate predictions of prosecutors' and defense attorneys' beliefs about acceptable plea agreements in particular cases.⁶⁷

B. *Effects of Information Asymmetry*

As noted earlier, for our purposes the most important complication for the shadow-of-trial theory is that parties' trial estimates can be skewed by information asymmetries regarding relevant and admissible evidence. The precise effects of these asymmetries on the probability and severity of a plea agreement depend on the content of the evidence.

Suppose, for example, that the prosecution has more inculpatory evidence than the defense knows about.⁶⁸ This evidence increases the prosecution's optimism without exerting a corresponding decrease in the defendant's. In turn, the distance between the parties' trial estimates expands and the probability of a plea agreement drops.⁶⁹ Moreover, because the defense cannot incorporate the inculpatory evidence into its trial estimate, any plea agreement that is reached will reflect the defense's low trial estimate and will accordingly be less severe.

The effects of information asymmetry about exculpatory evidence are more complicated because they depend on whether the prosecution anticipates that the defense will or will not obtain the evidence before trial. If the prosecutor believes that the defense will never obtain the evidence—perhaps because she believes the requirements of *Brady* are not satisfied—then the information asymmetry has no effect on the distance between the parties' trial estimates and thus has no effect on the probability of a plea agreement. The defendant cannot incorporate the evidence into the trial estimate without knowing that the evidence exists. And since the prosecution has no incentive to introduce the exculpatory evidence at trial, the prosecution does not incorporate the evidence into its own estimate of the

⁶⁷ A recent study randomly assigned prosecutors and defense attorneys to read different hypothetical case files that varied in quality of evidence and defendant characteristics. See Shawn D. Bushway et al., *An Explicit Test of Plea Bargaining in the "Shadow of Trial,"* 52 CRIMINOLOGY 723, 735–39 (2014). It then asked them to estimate the probability of conviction, the expected sentence at trial, and the least favorable plea deal that they would be willing to accept. *Id.* at 725. The results for prosecutors and defense attorneys were generally consistent with the shadow-of-trial theory. *Id.* at 740–47.

⁶⁸ The same basic analysis can be conducted in the reverse position with the defendant in possession of evidence the prosecution does not know about. I focus on the prosecution because open-file statutes impose substantially broader discovery obligations on the prosecution than the defense.

⁶⁹ Robert D. Cooter & Daniel L. Rubinfeld, *An Economic Model of Legal Discovery*, 23 J. LEGAL STUD. 435, 444 (1994) (“[T]rials occur when plaintiff expects a large trial judgment . . . and defendant expects a relatively small trial judgment.”).

trial outcome either. But if the parties settle, the settlement is on average more severe because the defendant is unaware of the evidence.⁷⁰

The effects of information asymmetry differ if the prosecution anticipates that the defense will obtain the exculpatory evidence prior to the close of trial, either through discovery or the defense's investigative efforts.⁷¹ This time, the prosecution anticipates that the defense will obtain and present the evidence prior to the close of trial, and thus the prosecution decreases its optimism. The information asymmetry may also increase the prosecution's willingness to accept a suboptimal settlement because it has a special incentive to settle quickly before the defense obtains the evidence.⁷² Thus, the asymmetry increases the probability of settlement by decreasing the distance between the parties' trial estimates (as the defense does not know there is more evidence in his favor) and by increasing the willingness of the prosecution to accept a suboptimal settlement.⁷³ If a settlement is reached, the asymmetry likely increases the severity of the plea agreement because the defendant's trial estimate is unduly pessimistic. Though, this effect may be diminished by the prosecution's greater willingness to accept a suboptimal settlement to avoid the need to disclose at trial.

C. *Incentives for Voluntary Disclosure*

As information asymmetries affect both the content and probability of plea agreements, they incentivize the prosecution to disclose evidence voluntarily, even in the absence of discovery requirements. But because these incentives are weak in certain contexts, they do not lead the prosecution to fully show its cards. I consider voluntary disclosure of inculpatory and exculpatory evidence separately.

1. *Inculpatory Evidence*

Generally speaking, a prosecutor seeking an optimal plea agreement has strong incentives to disclose inculpatory evidence in order to decrease the optimism of the defendant's trial estimate.⁷⁴ Still, a number of conditions stop the prosecution from disclosing *all* inculpatory evidence.

First, unlike in civil cases where parties often have deep pockets, high caseloads and sharp resource constraints may limit the ability of prosecutors to disclose everything.⁷⁵ Second, the prosecution can sometimes gain an

⁷⁰ *Id.*; Bebachuk, *supra* note 12, at 413; see also Hay, *supra* note 12, at 494–97.

⁷¹ See Hay, *supra* note 12, at 484–94.

⁷² *Id.*

⁷³ *Id.*

⁷⁴ Douglass, *supra* note 10, at 459–60; Hay, *supra* note 12, at 487–88.

⁷⁵ See Don Stemen & Bruce Frederick, *Rules, Resources, and Relationships: Contextual Constraints on Prosecutorial Decision Making*, 31 QUINNIPAC L. REV. 1, 39–45 (2013).

advantage by introducing surprising new evidence at trial that was not previously disclosed.⁷⁶

Third, unlike in civil litigation where it may be plausible to assume parties are not repeat players, prosecutors and defense attorneys often handle hundreds of cases each year in the same jurisdiction.⁷⁷ Repeat interactions lead them to incorporate strategic considerations into their disclosure activity. A prosecutor seeking to maximize convictions across all her cases may not always disclose strong inculpatory evidence because, if she did, defense attorneys could infer weakness in other cases where she does not disclose inculpatory evidence. Thus, the prosecutor may withhold inculpatory evidence in at least some strong cases to pool the weak and strong together and secure convictions in a larger number of cases.⁷⁸

Ex ante, it's hard to predict the level of this pooling behavior that optimizes the prosecution's goals,⁷⁹ but there must be a limit. In addition to seeking convictions, prosecutors also seek efficiency. And a prosecutor that has a reputation for making plea offers without sufficient evidence will have trouble convincing defendants to accept them.⁸⁰ As trials are incredibly time consuming, a prosecutor seeking a large number of convictions must usually make plea offers that are supported by the government's evidence.

So far, I have assumed that the prosecution only has two options: disclose a piece of evidence or not. But it may also gain an advantage from disclosing only some information about particular evidence. It might, for example, inform the defense that it has two eyewitnesses who can put the defendant at the scene of the crime but withhold particular details about exactly what they saw. Doing so helps convince the defense that the prosecution has strong evidence without providing the opportunity to weave an innocent story around the details of the prosecution's case. Thus, prosecutors may disclose inculpatory evidence differentially depending on its level of generality.

⁷⁶ Hay, *supra* note 12, at 482.

⁷⁷ I am grateful to Daniel Richman for a fruitful conversation on this point.

⁷⁸ For a valuable introductory discussion of pooling strategies, see DOUGLAS G. BAIRD, ROBERT H. GERTNER & RANDAL C. PICKER, *GAME THEORY AND THE LAW* 122–157 (1994).

⁷⁹ Scholars frequently note that “many” prosecutors open their files to defendants. Russell Covey, *Reconsidering the Relationship Between Cognitive Psychology and Plea Bargaining*, 91 MARQ. L. REV. 213, 234 (2007); H. Lee Sarokin & William E. Zuckerman, *Presumed Innocent? Restrictions on Criminal Discovery in Federal Court Belie This Presumption*, 43 RUTGERS L. REV. 1089, 1107 (1991); see also Mary Prosser, *Reforming Criminal Discovery: Why Old Objections Must Yield to New Realities*, 2006 WIS. L. REV. 541, 593–94 (2006) (“[S]tate and county prosecutors in numerous jurisdictions have some sort of open file policy in practice.”). But whether a defendant will be “the beneficiary of an open file policy may depend on the particular prosecutor, the relationship between defense counsel and the prosecutor, the identity of the defendant, and the nature of the case.” Prosser, *supra* at 593–94.

⁸⁰ See Rebecca Hollander-Blumoff, *Getting to “Guilty”: Plea Bargaining as Negotiation*, 2 HARV. NEGOT. L. REV. 115, 136 (1997) (“Cooperative relationships based on a reputation for trustworthiness and credibility may simply grease the wheels of a plea negotiation, making it faster and more efficient.”).

2. *Exculpatory Evidence*

In some circumstances, prosecutors also have incentives to disclose exculpatory evidence voluntarily. As Steven Shavell argues in the civil context, litigants voluntarily disclose unfavorable evidence through a process of natural unraveling.⁸¹ Because the defendant may infer from the prosecutor's silence that the government's case is weak and thus become more optimistic about the trial outcome, the government may voluntarily disclose exculpatory evidence—even if it is not yet obligated to do so under *Brady*—to correct the defendant's optimism.⁸² Complete unraveling of exculpatory evidence, however, is unlikely. Most importantly, the unraveling process can't begin if the defendant is completely unaware that the withheld evidence exists.⁸³

* * *

In summary, even in a traditional system of discovery, the prosecution has significant incentives to disclose some inculpatory and exculpatory evidence voluntarily. There are two key takeaways. First, preexisting incentives for voluntary disclosure may mean that open-file statutes have a smaller effect on prosecutorial disclosure than we anticipate. And second, the strength of the incentives for voluntary disclosure depend on a variety of factors, including the nature of the evidence, resource constraints, the value of trial surprise, and pooling considerations. Expanding discovery requirements through open-file has the biggest effect where the incentives to disclose are weak.

III. THE EFFECTS OF OPEN-FILE ON PROSECUTORIAL DISCLOSURE

To address the limitations of traditional discovery and the incomplete incentives for voluntary disclosure, a number of states have recently adopted rules that dramatically expand defendant discovery rights.⁸⁴ A small number of other states, including New Jersey and Florida, adopted similarly expansive statutes beginning in the 1970s.⁸⁵

As prior scholarship acknowledges, these statutes require prosecutors to disclose far more evidence earlier in the criminal process. But this broad

⁸¹ Shavell, *supra* note 12, at 184.

⁸² See *id.* at 184 ("The amount these silent plaintiffs obtain in settlements reflects the inference rationally made by defendants that silent plaintiffs are those who would obtain low expected judgments from trial.").

⁸³ Cooter & Rubinfeld, *supra* note 69, at 444; see also Hay, *supra* note 12, at 489 (noting that a party must first become aware that something is being concealed before drawing an adverse inference from concealment).

⁸⁴ See *supra* notes 3–6 and accompanying text.

⁸⁵ See, e.g., N.J. CT. R. 3:13-3(b)(1)(A)–(J) (listing a wide variety of discoverable materials); FL. ST. R. CRIM. PROC. art. 3.220(b)(1)–(4) (same).

generalization overlooks significant interjurisdictional variation.⁸⁶ Indeed, expansive discovery statutes differ on several important policy dimensions, each of which condition their effects on both the *volume* and *timing* of prosecutorial disclosure.

A. *Volume of Disclosure*

I consider the effects of four design dimensions on the volume of disclosure: (1) substantive scope; (2) compliance mechanisms; (3) witness protection tools; and (4) methods of disclosure.

1. *Substantive Scope*

States have reshaped the substantive scope of their discovery statutes in three primary ways. First, they have expanded the universe of discoverable evidence. The most common approach is to insert into the statute new, discrete categories of discoverable evidence for police reports, tangible objects, books, documents, medical examinations, scientific tests, and the statements of defendants, codefendants, and witnesses the prosecution intends to present at trial.⁸⁷ Some states have gone further, granting access to statements of witnesses the prosecution does not intend to introduce,⁸⁸ statements of grand jury witnesses,⁸⁹ prosecution witnesses' criminal histories,⁹⁰ investigating officers' notes,⁹¹ crime scenes,⁹² information on eyewitness identifications,⁹³ information about promises of inducements or rewards for state witnesses,⁹⁴ and information on confidential informant sources.⁹⁵ They have also clarified that these requirements apply not only to evidence in the prosecution's possession, but also to evidence in the possession of other state agencies involved in the case.⁹⁶

An even more expansive approach is to require disclosure of *all* materials associated with the case. Minnesota's discovery rule guarantees

⁸⁶ Scholars have given relatively little attention to variation across open-file statutes. One exception is Mosteller, who coined the term "full open-file discovery" to distinguish discovery systems with the broadest substantive scope, encompassing all materials in the investigative file. Mosteller, *supra* note 1, at 275.

⁸⁷ See, e.g., N.J. CT. R. 3:13-3(b)(1)(A)-(J).

⁸⁸ See, e.g., N.C. GEN. STAT. ANN. § 15A-903(a)(1)(a) (West 2016); TEX. CODE CRIM. PROC. ANN. art. 39.14(a) (West 2015).

⁸⁹ See, e.g., OHIO R. CRIM. P. 16(B)(1); MASS. R. CRIM. P. 14(a)(1)(A)(ii).

⁹⁰ See, e.g., MINN. R. CRIM. P. 9.01(1)(1)(a).

⁹¹ N.C. GEN. STAT. ANN. § 15A-903(a)(1)(a) (West 2016).

⁹² OHIO R. CRIM. P. 16(A)-(E)(1).

⁹³ MASS. R. CRIM. P. 14(a)(1)(A)(viii); see also N.C. GEN. STAT. ANN. § 15A-284.52(b) (West 2016).

⁹⁴ MASS. R. CRIM. P. 14(a)(1)(A)(ix).

⁹⁵ FLA. R. CRIM. P. 3.220(b)(1)(G).

⁹⁶ TEX. CODE CRIM. PROC. ANN. art. 39.14(a) (West 2015); see also N.C. GEN. STAT. ANN. § 15A-903(a)(1) (West 2016); OHIO R. CRIM. P. 16(B).

the defendant access to “all matters within the prosecutor’s possession or control that relate to the case,”⁹⁷ and North Carolina requires the prosecution to disclose the “complete files of all law enforcement agencies, investigatory agencies, and prosecutor’s offices involved in the investigation of the crimes committed or the prosecution of the defendant.”⁹⁸ This standard is frequently interpreted to cover “everything” collected and produced, including handwritten and electronic notes, video recordings, and even e-mails and text messages exchanged between officers.⁹⁹ If construed as broadly as in North Carolina, requiring disclosure of all materials likely encourages the greatest volume of disclosure.

Second, some jurisdictions have also encouraged more disclosure by eliminating vague legal standards such as materiality.¹⁰⁰ This prevents prosecutors from arguing after the fact that they were not obligated to disclose. It also strips them of their discretionary role as gatekeepers.¹⁰¹ Indeed, they no longer need to make difficult *ex ante* predictions about whether evidence will be relevant at trial, and their biases are muted by the presumption that everything must be disclosed.¹⁰² By reducing prosecutorial discretion, open-file statutes can lead to disclosure of exculpatory evidence that otherwise might have fallen through the deep cracks in *Brady*.¹⁰³

Finally, the kinds of cases to which an open-file statute applies matters as much as the kinds of evidence it covers. Presumably as a cost-saving device, Minnesota limits open-file to charges punishable by more than ninety days of jail time¹⁰⁴ and North Carolina limits it to felonies.¹⁰⁵ Texas,

⁹⁷ MINN. R. CRIM. P. 9.01(1); see also *id.* cmt. R. 9 (referring to this provision as “open-file”); State v. Hunt, 615 N.W.2d 294, 298 (Minn. 2000) (“The rules require the prosecuting attorney to allow the defense access to ‘all matters . . . which relate to the case.’”).

⁹⁸ N.C. GEN. STAT. ANN. § 15A-903(a)(1) (West 2016). The statute supplements this broad requirement with a short list of items included in the “file” but makes clear the list is not exhaustive. *Id.*

⁹⁹ See, e.g., Robert Campbell, *Discovery Techniques*, Spring Pub. Def. Attorney & Investigator Conference, at 6 (2010), <http://www.ncids.org/Defender%20Training/2010%20Spring%20Conference/AgressiveDiscoveryTechniques.pdf> [<https://perma.cc/5QYA-L266>] (providing training to defense attorneys on discovery practice in North Carolina); Mike Klinkosum, *Getting Started: Developing an Investigation and Discovery Plan*, New Felony Def. Training, at 8–9 (Feb. 26–27, 2009), <http://www.ncids.org/Defender%20Training/2009%20New%20Felony%20Defender%20Training/DevelopingAnInvestigation.pdf> [<https://perma.cc/PEA2-LQHL>]; see also CHARLOTTE-MECKLENBURG POLICE DEP’T, DIRECTIVES MANUAL (2006), www.aele.org/law/2010all03/charlotte.html [<https://perma.cc/JQ2N-G25H>] (detailing the process of recording interviews and making them available to the prosecution).

¹⁰⁰ See, e.g., HOOPER ET AL., *supra* note 45, at 16–17 (noting that some courts have eliminated the materiality requirement by local court rule).

¹⁰¹ See Mosteller, *supra* note 1, at 310 (“The beauty of full open-file discovery is obvious as a remedy for the difficulty of subjective choice in a competitive adversarial environment. It does not require a prosecutor to make difficult discretionary decisions.”).

¹⁰² See *supra* notes 422–50 and accompanying text.

¹⁰³ *Id.*

¹⁰⁴ MINN. R. CRIM. P. 9.01.

¹⁰⁵ N.C. GEN. STAT. ANN. §§ 15A-901, 7A–271(a) (West 2016).

in contrast, applies the same broad discovery rules to nearly all criminal cases.¹⁰⁶

2. Compliance Mechanisms

Even if evidence falls within the broad substantive scope of an open-file statute, the government may still fail to comply with its obligation to disclose. Open-file statutes may therefore increase the volume of prosecutorial disclosure by imposing compliance mechanisms on police, prosecutors, and other government employees.

First, some states have adopted procedural devices to diminish the chance that discoverable evidence falls through the cracks due to good-faith mistakes or negligence. In Massachusetts, for example, after the parties disclose all discovery materials, they must submit a “certificate of compliance” stating that “[t]o the best of [their] knowledge and after reasonable inquiry, the[y] ha[ve] disclosed” all necessary materials.¹⁰⁷ Some jurisdictions also require the parties to specifically enumerate every item disclosed.¹⁰⁸ This enables the receiving party to verify receipt and also serves as a comprehensive list to help adjudicate claims of discovery violations later on.

Second, the government can sometimes skirt its disclosure responsibilities by exploiting the institutional cracks between multiple agencies involved in an investigation. Police officers, for example, may avoid disclosure of specific materials by failing to transfer them to the prosecution.¹⁰⁹ North Carolina thus requires police to “make available to the prosecutor’s office a complete copy of the complete files related to the investigation of the crimes committed or the prosecution of the defendant.”¹¹⁰

Government agencies can also circumvent broad discovery requirements by failing to collect or record evidence. Some open-file statutes impose collection and recording obligations on investigative agencies for certain evidence and information. North Carolina requires police officers to record or reduce to writing the oral statements of witnesses,¹¹¹ and a number

¹⁰⁶ TEX. CODE CRIM. PROC. ANN. art. 39.14 (West 2015).

¹⁰⁷ MASS. R. CRIM. P. 14(a)(3).

¹⁰⁸ *Id.*; TEX. CODE CRIM. PROC. ANN. art. 39.14(i) (West 2015).

¹⁰⁹ See Medwed, *supra* note 6, at 1564–65 (“Even when the police record exculpatory information that material might not be made available to the prosecution. Before its practices were exposed in the late 1980s, the Chicago Police Department employed a double-file system. Detectives kept two sets of books: official files and shadow ‘street files.’ Absent from the former, which were turned over to the prosecution, were any number of exculpatory items dutifully recorded and retained in the latter.”).

¹¹⁰ N.C. GEN. STAT. ANN. § 15A-903(c) (West 2016).

¹¹¹ *State v. Shannon*, 642 S.E.2d 516, 525 (N.C. Ct. App. 2007); see also N.C. GEN. STAT. ANN. § 15A-903(a)(1) (West 2016) (requiring disclosure of the “complete files of all law enforcement agencies” and that “[o]ral statements shall be in written or recorded form”).

of jurisdictions require the police to record interrogations¹¹² or eyewitness identifications.¹¹³

Third, because discovery violations are rarely detected and sanctions are rarely imposed, government officials have weak personal incentives to comply with discovery rules.¹¹⁴ States can increase these incentives with criminal sanctions. In 2011, North Carolina amended its open-file statute to enact a felony prohibition against “willfully omit[ing] or misrepresent[ing] evidence or information required to be disclosed” under the statute.¹¹⁵ Prosecutions under these statutes are no doubt rare, but the threat of prison could deter some intentional misconduct. A criminal sanction could also promote cultural change by communicating to new police officers and prosecutors how seriously the government takes discovery.

Fourth, prosecutors can circumvent even the most expansive substantive discovery requirements by making exploding plea offers that expire before the right to discovery attaches. In response, some states have adopted procedural devices to protect defendants from these coercive practices. In New Jersey, if the prosecution makes a plea offer before indictment, it must disclose at the time of the offer nearly everything that would be discoverable thereafter.¹¹⁶ Arizona takes a narrower approach, expediting discovery rights only in cases where the prosecution attaches a deadline to a plea offer.¹¹⁷ In those cases, the prosecution must satisfy its discovery duties at least thirty days before the deadline.¹¹⁸ Regardless of whether the defendant accepts or rejects the offer, if the prosecution fails to meet this requirement and the court determines that the discovery violation “materially impacted the defendant’s decision,” the prosecutor must reinstate the lapsed plea offer or else the undisclosed evidence is presumptively barred at trial.¹¹⁹

Of course, none of these compliance mechanisms can ensure that the government always satisfies its discovery obligations. But, on the margins, they may increase compliance and thus also increase the volume of disclosure in some cases.

¹¹² N.C. GEN. STAT. ANN. § 15A–211(d) (West 2016); TEX. CODE CRIM. PROC. ANN. art. 38.22(3) (West 2015); N.J. CT. R. 3:17.

¹¹³ N.C. GEN. STAT. ANN. § 15A–284.52(b)(15) (West 2016); MASS. R. CRIM. P. 14(a)(1)(A)(viii).

¹¹⁴ See *supra* notes 424–46 and accompanying text.

¹¹⁵ N.C. GEN. STAT. ANN. § 15A–903(d) (West 2016).

¹¹⁶ N.J. CT. R. 3:13–3(a).

¹¹⁷ ARIZ. R. CRIM. P. 15.8(a).

¹¹⁸ *Id.*

¹¹⁹ ARIZ. R. CRIM. P. 15.8(c).

3. *Witness Protection*

Open-file statutes are designed to give defendants broad access to investigative files, but they must also take seriously the need to protect the safety of witnesses.¹²⁰ The precise balance struck between these competing values can influence the volume of disclosure. States have adopted a number of statutory mechanisms in an attempt to strike the optimal balance.

First, some states have limited how the defendant can access the materials. Unlike in North Carolina and Ohio, which do not appear to restrict the rights of counsel or defendant to review and *possess* the file,¹²¹ Texas has adopted a two-tiered system in which counsel receives possession of the file and “may allow a defendant . . . to view the information” but “may not allow that person to have copies.”¹²² Defense counsel must also “redact” any identifying information from the documents that the defendant reviews.¹²³ Some states only require this two-tiered access for specified categories of the most sensitive evidence.¹²⁴ Others, like Ohio, empower prosecutors to stamp specific materials as “counsel only.”¹²⁵ Defense counsel can “orally communicate the content” of stamped material to the defendant but cannot “show[]” it to them directly.¹²⁶

Second, in order to protect witnesses, some states have also carved out certain categories of evidence that would otherwise be discoverable. These categories include witness impact statements, the identity of confidential informants, and the identity of citizens who report the crime through organizations that guarantee anonymity.¹²⁷

Third, broad discovery statutes also include procedural devices that allow the government to withhold specific evidence that otherwise must be disclosed. The most common approach is the protective order. In North Carolina and New Jersey, for example, the party seeking a protective order must file a motion, which can be *ex parte*, requesting to withhold otherwise

¹²⁰ See, e.g., N.Y. STATE BAR ASS'N, *supra* note 9, at 81–85 (objecting to a proposal for New York to expand its discovery statute due to inadequate protections for state witnesses).

¹²¹ N.C. GEN. STAT. ANN. § 15A-903(a)(1)(d) (West 2016) (“The defendant shall have the right to inspect and copy or photograph any materials [in the file] . . .”); see also Grove, *supra* note 13, at 153 (discussing the relevant provision in Ohio).

¹²² TEX. CODE CRIM. PROC. ANN. art. 39.14(f) (West 2015).

¹²³ *Id.*

¹²⁴ OHIO R. CRIM. P. 16(E) (allowing defense counsel, but not the defendant, to review the photographs and results of medical examinations in sexual assault cases); see N.Y. STATE BAR ASS'N, *supra* note 9, at 18–19 (recommending a two-tiered system for the names and contact information of prosecution witnesses).

¹²⁵ OHIO R. CRIM. P. 16(C); Grove, *supra* note 13, at 153.

¹²⁶ OHIO R. CRIM. P. 16(C).

¹²⁷ N.C. GEN. STAT. ANN. § 15A-904(a1)–(a4) (West 2016).

discoverable evidence.¹²⁸ The court may grant the motion after a “finding of good cause.”¹²⁹

A less common alternative to protective orders is certification. In some states, the prosecution can avoid discovery requirements by certifying that it has concerns related to witness safety, economic harm, or interference with other ongoing criminal investigations.¹³⁰ At the time of certification, the prosecution need not “disclose the contents or meaning” of the withheld evidence.¹³¹ The key difference between a protective order and certification is that the latter is not subject to judicial review until late in the criminal process. In Ohio, for example, the court must review the certification “seven days prior to trial” under the deferential standard of review of “abuse of discretion.”¹³² As between the protective order and certification procedure, the latter appears more vulnerable to prosecutorial gamesmanship. Prosecutors can withhold evidence without providing justification until the eve of trial, long after a defendant decides whether to accept a plea offer.

4. *Method of Disclosure*

Open-file statutes can also influence the volume of disclosure to which the defense has access by changing the method of disclosure. Under the most restrictive discovery policies in the country, the defense is entitled to review the case file in the prosecutor’s office but not to make copies or photographs.¹³³ It is highly burdensome to take down by hand every potentially significant fact in the record. Open-file statutes allow the defense to make copies at its own expense.¹³⁴ While less burdensome, this arrangement nonetheless requires defense counsel to travel to the prosecutor’s office, review the files during working hours, and photocopy key individual records. To smooth out this cumbersome process, many prosecutors in these jurisdictions generate photocopies of the entire file for the defense. Others produce and provide electronic copies via CD or the internet.¹³⁵ At least one state affirmatively requires the prosecution to generate copies for the defense, thus shifting disclosure costs to the

¹²⁸ *Id.* § 15A-908(a); N.J. CT. R. 3:13-3(e)(1).

¹²⁹ N.C. GEN. STAT. ANN. § 15A-908(a) (West 2016); N.J. CT. R. 3:13-3(e)(1).

¹³⁰ OHIO R. CRIM. P. 16(D).

¹³¹ *Id.* at Staff Notes (2010).

¹³² *Id.* at 16(F).

¹³³ Some prosecutor’s offices in jurisdictions with this rule have affirmatively prohibited defense attorneys from photocopying any materials. See TEX. DEF. SERV., *supra* note 9, at 19.

¹³⁴ See, e.g., N.C. GEN. STAT. ANN. § 15A-903(a)(1)(d) (West 2016); TEX. CODE CRIM. PROC. ANN. art. 39.14(a) (West 2015); OHIO R. CRIM. P. 16(B).

¹³⁵ See Ellen Yaroshefsky, *Ethics and Plea Bargaining: What’s Discovery Got to Do with It?*, 23 CRIM. JUST. 28, 33 (2008) (“In other[] [prosecutor’s offices], including offices in Dade County, Florida, defense attorneys are provided, at minimal cost, a CD-ROM containing these materials. A few but growing number of prosecutors provide the information via e-mail through PDF files.”).

prosecution.¹³⁶ This makes a substantial difference for overworked defense attorneys who can save a trip to the prosecutor's office and review discovery on their own time.

B. *Timing of Disclosure*

In addition to expanding the volume of disclosure, open-file statutes can also speed up its timing. The precise timing requirements vary. Some statutes require disclosure on “a timely basis”¹³⁷ or “as soon as practicable.”¹³⁸ In response, local police regulations and court rules often create more specific deadlines. In North Carolina, many departments require officers to submit an initial package to the prosecutor's office between three and thirty days after arrest.¹³⁹ And local court rules may require prosecutors to transfer discovery to the defense within three or four weeks of indictment or the defense's request.¹⁴⁰

A few discovery statutes provide stronger temporal protections by requiring disclosure at a specified time in the criminal process. New Jersey's discovery statute, for example, requires the prosecution to disclose “upon

¹³⁶ N.J. CT. R. 3:13-3(a)–(b).

¹³⁷ N.C. GEN. STAT. ANN. § 15A-903(c) (West 2016).

¹³⁸ TEX. CODE CRIM. PROC. ANN. art. 39.14(a) (West 2015).

¹³⁹ See e.g., DURHAM POLICE DEP'T, GENERAL ORDER NO. 4070 R-4, DISTRICT ATTORNEY SCREENING PACKAGE 726 (last revised Nov. 30, 2011), <https://durhamnc.gov/DocumentCenter/View/9671> [<https://perma.cc/P9Y9-9ZAZ>] (three days); GREENVILLE POLICE DEP'T, POLICY AND PROCEDURES MANUAL § 42.1.5 (last revised Mar. 12, 2015), <http://www.greenvillenc.gov/home/showdocument?id=10344> [<https://perma.cc/VVA6-PLPG>] (four days); CHAPEL HILL POLICE DEP'T, STANDARD OPERATING PROCEDURES § 200.1, <http://www.townofchapelhill.org/home/showdocument?id=28621> [<https://perma.cc/Q5TH-75UD>] (seven days); TWENTY-SIXTH PROSECUTORIAL/JUDICIAL DIST. MECKLENBURG CTY., CASE MANAGEMENT PLAN AND ADMINISTRATIVE ORDER ADOPTING CRIMINAL RULES R. 4.2 (July 9, 2010), <http://www.nccourts.org/Courts/CRS/Policies/LocalRules/Documents/1168.pdf> [<http://web.archive.org/web/20160128112554/http://www.nccourts.org/Courts/CRS/Policies/LocalRules/Documents/1168.pdf>] (seven days); CHARLOTTE-MECKLENBURG POLICE DEP'T, INTERACTIVE DIRECTIVES GUIDE § 900-013 (Jul. 21, 2014), <https://assets.documentcloud.org/documents/2661081/Charlotte-Police-Department-Directives-2015.pdf> [<https://perma.cc/H2KR-Q2TC>] (fourteen days); FAYETTEVILLE POLICE DEP'T, WRITTEN DIRECTIVES AND OPERATING PROCEDURES § 5.6.2(F) (Oct. 15, 2015), <https://www.bwccscorecard.org/static/policies/2015-12-18%20Fayetteville%20-%20BWC%20Policy.pdf> [<https://perma.cc/BPA4-6Z8T>] (thirty days).

¹⁴⁰ See, e.g., N.C. DIST. 5 R. CRIM. P. 3.2, <http://nccourts.org/Courts/CRS/Policies/LocalRules/Documents/438.pdf> [<https://perma.cc/R73E-KVAR>]; N.C. DIST. 9 R. CRIM. P. 3.2, <http://www.nccourts.org/Courts/CRS/Policies/LocalRules/Documents/379.pdf> [<https://perma.cc/K45S-9A2B>]; N.C. DIST. 11A R. CRIM. P. 3.2, <http://www.nccourts.org/Courts/CRS/Policies/LocalRules/Documents/127.pdf> [<https://perma.cc/5LFL-2RP2>]; N.C. DIST. 16B R. CRIM. P. 16(e)(1), <http://www.nccourts.org/Courts/CRS/Policies/LocalRules/Documents/157.pdf> [<https://perma.cc/72BZ-9KXH>]; N.C. DIST. 27B R. CRIM. P. 3.1, <http://www.nccourts.org/Courts/CRS/Policies/LocalRules/Documents/1700.pdf> [<https://perma.cc/Q49V-G38T>]. Others require disclosure ten or fourteen days before an administrative setting—an early proceeding that takes place before the defendant enters a plea. N.C. DIST. 9 R. CRIM. P. 3.2, <http://www.nccourts.org/Courts/CRS/Policies/LocalRules/Documents/379.pdf> [<https://perma.cc/9CNV-9CAR>]; N.C. DIST. 15B R. CRIM. P. 5.2, <http://www.nccourts.org/Courts/CRS/Policies/LocalRules/Documents/1068.pdf> [<https://perma.cc/WR52-DKND>].

the return or unsealing of the indictment.”¹⁴¹ This gives the greatest protection for defendants because it leaves little discretion up to local policymakers.

* * *

As this discussion has revealed, the decision to go open-file is not a binary one. Indeed, policymakers must choose from a wide array of policy options, each of which may affect both the volume and timing of disclosure. Certain statutes—those that delineate a broader substantive scope and specific timing requirements, that establish stronger compliance mechanisms to ensure that the government fulfills its disclosure duties, that impose fewer disclosure costs on the defense, and that require immediate judicial oversight when prosecutors elect to withhold discoverable evidence—produce more informative discovery packages earlier in the criminal process.

IV. THE EFFECTS OF EXPANDED PROSECUTORIAL DISCLOSURE

I next examine how changing the volume and timing of disclosure influences the behavior of actors in other phases of the criminal process. In doing so, I develop three primary claims. First, there are good reasons to believe the conventional wisdom that open-file helps “level” the playing field in both plea bargaining and trial,¹⁴² but the effects may not be as big as we hope due to other systematic features of the criminal justice system. Second, contrary to the predictions of scholars and policy advocates,¹⁴³ a dynamic theoretical account of plea bargaining shows that open-file may not reduce the trial rate or speed up pleas. And third, the arms of open-file discovery are longer than prior scholarship has appreciated. Open-file may reach both backward and forward in time, reshaping stages in the criminal process other than plea bargaining and trial.

To develop these claims, I move chronologically through each stage of the criminal process, examining the effect of increased disclosure on police investigations, charging, plea bargaining, defense litigation strategy, and sentencing. At the end, I also consider how resource constraints on public defense interact with each of the hypothesized effects.

A. *Criminal Investigations*

Prior scholarship on criminal discovery has given little consideration to the possibility that changing disclosure practices could reshape incentives in criminal investigations. To understand the relationship between disclosure and investigations, it is useful to begin by examining the government’s incentives in a world where the probability of disclosure is zero. Under these

¹⁴¹ N.J. CT. R. 3:13-3(b).

¹⁴² See *supra* note 6 and accompanying text.

¹⁴³ See *supra* note 9 and accompanying text.

conditions, subject to resource and legal constraints, police officers and prosecutors seek to maximize inculpatory evidence against suspects they believe are guilty in order to maximize the probability of conviction.

To obtain inculpatory evidence, the government must investigate the crime. While investigative activities may also generate exculpatory evidence, this possibility has little effect on the incentives of police officers and prosecutors in a world without disclosure. They are not obliged to record evidence. And any evidence they do record can be removed from the investigative file before its transfer to the defense. In short, absent disclosure, finding exculpatory evidence imposes few costs on the government in terms of reducing the probability of conviction.

But as the probability of disclosure to the defense increases—due to voluntary disclosure, *Brady*, or statutory requirements—then finding exculpatory evidence becomes increasingly costly to the government. As a result, if police and prosecutors can predict the probability that investigative activities produce exculpatory evidence, they may be less likely to engage in those activities that are likely to produce it. And, if they find exculpatory evidence, they may be less likely to record, collect, or insert it into the file.¹⁴⁴

Two implications follow. First, if open-file substantially increases the probability that exculpatory evidence is disclosed,¹⁴⁵ less *exculpatory* evidence may find its way into the investigative file. Strategic behavior by police and prosecutors might therefore diminish the positive effects of liberal discovery.

Second, in a world with broad discovery, less *inculpatory* evidence may find its way into the investigative file. Investigative activity with a high probability of yielding exculpatory evidence also has some non-zero probability of yielding inculpatory evidence. So, if the government refrains from such activities, it may also obtain less inculpatory evidence. The normative implications of this result are less clear. On the one hand, less inculpatory evidence hinders convictions. On the other, the prosecution would tend to lose inculpatory evidence in cases where there is a higher probability of undetected exculpatory evidence.

¹⁴⁴ See Medwed, *supra* note 6, at 1564 (“Still, these reforms may not stymie one of the worst threats to the success of open file discovery, which is not the reluctance of the police to turn over exculpatory evidence to the prosecution, but their propensity *never to record* such information at all.”); see also Stanley Z. Fisher, “*Just the Facts, Ma’am*: Lying and the Omission of Exculpatory Evidence in Police Reports,” 28 NEW ENG. L. REV. 1, 30 (1993) (reviewing social science research on police deception and omission in reports and noting that “researchers have found that some police believe that detailed reports will, through defense discovery, ‘facilitate the impeachment of prosecution witnesses, frequently policemen,’ and that police should therefore communicate details orally to prosecutors” (citations omitted)); *id.* at 31 (reporting that a writing instructor for police stated that “while ‘of course we have to document anything that is exculpatory,’ knowledge of the fact that defense attorneys will read the report definitely ‘affects the way the report is written’” (citation omitted)).

¹⁴⁵ There are many reasons why exculpatory evidence might not be disclosed under traditional systems of discovery, including the fact that in many jurisdictions *Brady* only applies to the few cases that go to trial. See *supra* notes 35–62 and accompanying text.

B. *Prosecutorial Charging*

Prior scholarship has also given little consideration to the interaction between expanded discovery and prosecutorial charging. Open-file could affect charging decisions in at least two ways. First, implementing open-file discovery is costly for prosecutor's offices, which may already be operating under tight budgets. Due to limited resources, a prosecutor's office may file charges in fewer cases. The normative implications of this result are unclear. Fewer prosecutions mean fewer convictions of law-breakers, but they also mean fewer false convictions. Efforts to conserve resources may also incentivize another change in charging practices: if open-file only applies to specific categories of offenses, prosecutors may file *different* charges against defendants to avoid their discovery duties. In North Carolina, for example, prosecutors might file misdemeanors instead of felonies to avoid open-file obligations, which only apply to the latter.¹⁴⁶

Second, open-file could change prosecutorial incentives to overcharge. On the one hand, open-file might discourage overcharging by reducing the effectiveness of the practice for securing guilty pleas.¹⁴⁷ Indeed, defendants armed with all of the prosecution's evidence can better predict the risk of conviction at trial. Open-file may, therefore, embolden defendants to refuse plea offers in cases with overcharged indictments. Alternatively, in some jurisdictions open-file might encourage prosecutors to overcharge in order to induce quick guilty pleas before discovery must be provided.

C. *Plea Bargaining*

I next turn to plea bargaining and consider the effect of increased disclosure on the content, probability, and timing of settlement.

1. *Content and Probability of Settlement*

The conventional wisdom is that open-file reduces the trial rate.¹⁴⁸ This is no doubt true in some cases. Indeed, greater disclosure of inculpatory evidence in cases where the defendant otherwise underestimates the prosecution's evidence will reduce the defendant's optimism and thus bring the parties' trial estimates closer together. But there are some reasons to expect that open-file may not reduce the trial rate. I consider them separately for inculpatory and exculpatory evidence.

¹⁴⁶ See Paul T. Crane, *Charging on the Margin*, 57 WM. & MARY L. REV. 755, 805–06 (2016) (arguing that differential procedural costs across charge categories can incentivize prosecutors to engage in strategic undercharging).

¹⁴⁷ See R. MICHAEL CASSIDY, PROSECUTORIAL ETHICS 18 (2005) (explaining that so long as a charge is supported by probable cause, prosecutors may engage in the practice of "overcharging" a defendant with a more serious offense with the hope that the defendant will plead guilty to a lesser charge).

¹⁴⁸ *Supra* note 9.

a. Inculpatory Evidence

In many cases, increased disclosure of inculpatory evidence has little effect. When, for example, defendants accurately estimate that the prosecution has strong evidence or, alternatively, that the prosecution has weak evidence, then disclosure is unlikely to affect the defendant's trial estimate.

But in other cases, open-file can affect the defendants' trial estimates through two pathways. First, it can increase prosecutorial disclosure, thus informing the defense about what evidence the prosecution has. And second, assuming prosecutorial compliance, open-file also enables the defense to draw negative inferences about what evidence the prosecution does *not* have.

The first pathway—disclosure itself—only affects the defendant's trial estimate if the prosecution's inculpatory evidence is strong and the defendant had perceived it to be weak. Disclosure decreases the defendant's optimism, causing the parties' estimates to converge, and thus increases the chance of settlement. This decrease in optimism also leads defendants to accept more severe plea agreements.

By contrast, where the prosecution's evidence is weak, and the defense perceives it to be strong, disclosure alone has little effect on the defendant's trial estimate. The fact that the prosecution has shared some weak inculpatory evidence does not necessarily mean it has no other evidence. To extract more information, the defendant must be able to infer from the prosecution's silence that there is no other evidence. Discovery makes this negative inference possible through the second causal pathway: assuming prosecutorial compliance, the defendant can conclude that the prosecution has no more discoverable evidence. Thus, where the prosecution's inculpatory evidence is weak but the defense perceives that evidence to be strong, discovery increases the defendant's optimism. As a result, it leads to less severe plea agreements. And it increases the trial rate as the parties' estimates diverge.¹⁴⁹ In sum, the aggregate effect of discovery rules on the mean of defendants' trial estimates depends on the unknown relative distribution of cases where the defense overestimates or underestimates the strength of the prosecution's inculpatory evidence.

b. Exculpatory Evidence.

While much of the analysis of inculpatory evidence applies to exculpatory evidence too (in reverse), there is at least one important wrinkle. Open-file primarily *expedites* discovery of inculpatory evidence. Indeed, all defendants are, in some sense, entitled to disclosure of inculpatory evidence

¹⁴⁹ Unlike the defendant's trial estimate, which becomes more optimistic as a result of the disclosure, the prosecution's estimate does not change because it had already accounted for the evidence.

due to their constitutional right to trial,¹⁵⁰ which requires the prosecution to introduce evidence of guilt beyond reasonable doubt before a jury. Discovery is more complicated for exculpatory evidence. There, open-file can not only *expedite* discovery—by, for example, requiring earlier disclosure of *Brady* material¹⁵¹—but can also *increase* the total amount of discovery—by, for example, requiring disclosure of exculpatory evidence even if the prosecution perceives it fails *Brady*. The effects of discovery depend, then, on whether the disclosure is expedited or increased.

Starting with expedited disclosure, if the prosecution has strong exculpatory evidence and the defendant is unaware, expedited disclosure decreases the probability of settlement and decreases the severity of settlements on average for two reasons. First, expedited disclosure increases the optimism of the defendant's trial estimate but has no effect on that of the prosecutor, who was aware that the evidence would be discoverable at trial under *Brady* and thus had already accounted for it. As a result, the parties' estimates diverge. And the divergence is enhanced by psychological biases that skew the parties' interpretation of the evidence.¹⁵² Second, requiring expedited disclosure decreases the prosecutor's willingness to accept a suboptimal settlement because she no longer has a special incentive to dispose of the case early to avoid disclosure under *Brady*, which would likely require disclosure at trial.¹⁵³ Taken together, expedited disclosure decreases the probability of settlement by increasing the distance between the parties' trial estimates and decreasing the prosecution's willingness to accept a suboptimal settlement. It also decreases the severity of plea agreements on average by encouraging the defendant's optimism.

The size of these effects differ when open-file *increases* rather than *expedites* disclosure of exculpatory evidence. Increased disclosure has a smaller negative effect on the probability of settlement because, in this context, the prosecutor never had a special incentive to secure an early guilty plea to avoid disclosure at trial under *Brady*. On the other hand, increased disclosure has a larger positive effect on the severity of plea agreements. That's because it not only increases the optimism of the defendant's trial estimate, but also diminishes the optimism of the prosecutor, who previously ignored the evidence while estimating the outcome of trial because it was not discoverable.

What about cases where the prosecution has little exculpatory evidence

¹⁵⁰ They also have a right to see some inculpatory evidence at a preliminary hearing, though, in practice that right is frequently waived.

¹⁵¹ See, e.g., FLA. R. CRIM. P. 3.220(b)(4) ("As soon as practicable after the filing of the charging document the prosecutor shall disclose any material information that tends to negate the guilt of the defendant . . ."). This change is particularly important for *Brady* witness statements, which under the discovery statutes in some states, including North Carolina and Texas prior to their recent discovery reforms, were sometimes withheld until after the witness testified.

¹⁵² See *infra* notes 154–62 and accompanying text.

¹⁵³ See *supra* notes 71–72 and accompanying text.

but the defendant perceives it has strong exculpatory evidence? Assuming prosecutorial compliance with the discovery rules, the defendant draws a negative inference from the absence of exculpatory evidence in the discovery package. The defendant's trial estimate, thus, becomes less optimistic. As a result, both the probability and severity of settlements increase.

Given all this complexity, what can we say about the effect of open-file on the content and probability of plea agreements? The causal arrows are pointing in different directions. In cases where the defense underestimates the prosecution's exculpatory evidence, open-file increases the defendant's optimism and thus decreases trials and produces less severe settlements. The precise size of the effects depends on whether open-file has increased the amount of exculpatory evidence disclosed, or has merely expedited disclosure. On the other hand, in cases where the defense overestimates the prosecution's exculpatory evidence, open-file makes the defendant less optimistic and thus decreases trials and increases the severity of settlements. *Ex ante*, it's hard to say which of these effects is stronger, particularly given that we do not know the relative distribution of overestimating and underestimating defendants. But all of these considerations give reason to question the conventional wisdom that open-file decreases the trial rate.

2. *Timing of Settlement*

The conventional wisdom that open-file speeds up dispositions is based on several observations. First, in some cases the content of a discovery package may be the direct cause of settlement. Early and expeditious disclosure would presumably mean earlier settlement. Second, even if a defendant is generally aware of the government's evidence, it may be easier to persuade clients to accept fair plea agreements when they have the evidence in their own hands.¹⁵⁴ Third, a defense attorney who receives discovery early in the criminal process has less need to engage in time-consuming investigative work: she can go straight to the witnesses already disclosed by the government without needing to identify them first.¹⁵⁵ Fourth, defense attorneys often need to jump through hoops—like filing and litigating discovery motions—to obtain evidence from unwilling prosecutors in jurisdictions with narrow pretrial discovery statutes. Broader pretrial discovery rights can help avoid these costs.

On the other hand, a number of considerations suggest pretrial discovery may slow down some plea agreements too. First, as a discovery package contains more useful material, a defendant is less likely to settle before receiving it. Second, preparing discovery is time consuming and

¹⁵⁴ LEGAL AID SOC'Y, *supra* note 9, at 30.

¹⁵⁵ See N.Y. STATE BAR ASS'N, TASK FORCE ON CRIMINAL DISCOVERY 19 (2014) ("[T]he defense lawyer in many cases is unable to investigate or to develop defenses until he or she is provided with addresses or contact information for finding and/or investigating the witnesses.").

burdensome—particularly for broad open-file statutes—and it may take months for police and prosecutors to gather, compile, and transfer evidence to the defense in compliance with the statute. Third, in recent years, broad discovery statutes and the digitalization of discovery records have together created a deluge of information that is challenging to review.¹⁵⁶ One attorney in North Carolina described to me an extreme case where discovery included 10,000 text messages exchanged by police officers during the course of an investigation. Finally, while broad pretrial discovery statutes can decrease litigation about whether a defendant has a right to discovery of specific evidence, some attorneys in North Carolina reported to me that open-file has fueled a surge in litigation about whether the government has satisfied its discovery obligations. One prosecutor claimed that in many cases, he spends more time litigating whether the prosecution has adequately disclosed than litigating the merits of the case.

On balance, discovery requirements may speed up the timing of guilty pleas, but it is far from clear, and the effects likely vary based on the specifics of the statute.

D. *Pre-Trial Defense Strategy*

Prior scholarship has emphasized that open-file discovery promotes more robust litigation of substantive criminal law claims.¹⁵⁷ But it could impact defense litigation strategy in other unanticipated ways too. It could, for example, stimulate more vigorous enforcement of the Fourth Amendment. Open-file provides defense attorneys more information earlier in the process about evidence the government has seized. Where the defendant does not know the government has obtained the evidence and this fact cannot be inferred from the complaint, discovery fills the gap. Disclosure of arrest reports, investigator notes, and recorded police communications also provide information about the process by which evidence was seized—information the defendant may not know, remember,

¹⁵⁶ See Randall Sims & R. Marc Ranc, *Two Views of Morton*, 77 TEX. B.J. 964, 966 (2014) (describing open-file discovery as a “double-edged sword” because there is “[s]o much information even in what we may consider the simplest of cases” such as DWI cases, which generate extensive video evidence); JEFFREY ROSEN, CRIMINAL JUSTICE CONVERSATIONS PODCAST WITH DAVID ONEK, EPISODE #24 10–11 (2011), [https://www.law.berkeley.edu/files/CrimJusPod_Episode24_\(final\).pdf](https://www.law.berkeley.edu/files/CrimJusPod_Episode24_(final).pdf) [<https://perma.cc/2FH9-MTX3>] (“[T]he amount of discovery that is available in criminal cases [has] really exploded in the last 15 or 20 years and the reason for that is, when I started as a prosecutor in 1995, there were police reports and photos. Now, many statements are audio- and videotaped, which creates additional amounts of discovery. The number of photos that are taken at crime scenes are well into the hundreds and, sometimes, thousands and, once statements are taken, transcripts are done of those statements. This creates thousands and thousands of more pages and so just the sheer volume of discovery is enormous.”).

¹⁵⁷ See, e.g., Medwed, *supra* note 6, at 1559 (“The most obvious benefit of open file discovery [is] reducing the rate of wrongful convictions”); McMunigal, *supra* note 6, at 967–72 (arguing increased disclosure of evidence improves the accuracy of plea agreements).

or appreciate as legally significant. Thus, by informing the defense both of the universe of seized items and the process by which they were obtained, open-file may help defense attorneys generate more suppression claims.

Increased enforcement of the Fourth Amendment is a good thing. It's worth noting, however, that the legislative goals of discovery reform are less about enforcement of procedural rights and more about stimulating litigation of substantive criminal law. And the two might be in tension. Due to inadequate indigent defense budgets, many attorneys can devote only limited time to their clients and can only raise a limited number of claims on their behalf.¹⁵⁸ In turn, they are pressured to adopt a litigation strategy across their docket that achieves the best results for all their clients with the fewest resources.¹⁵⁹ Bill Stuntz argued that public defenders are thus encouraged to raise procedural claims through motions to suppress rather than claims of substantive criminal law—the former being much cheaper to investigate and litigate and, in many cases, similarly effective at securing dismissals.¹⁶⁰ If that's right, then the availability of cheaper suppression strategies could displace efforts to litigate claims about substantive criminal law, which are more central to the legislative goals of discovery reform.

E. Sentencing

Of course, open-file decreases sentences in cases where it enables defendants to obtain more dismissals, lenient plea agreements, or acquittals. But it can affect sentencing in other more complex ways too—by modifying the costs of litigation and thus by changing the plea-trial differential. Significant anecdotal and quantitative evidence suggests that defendants who plead guilty receive more lenient sentences than similarly situated defendants who go to trial.¹⁶¹ Some view this difference as a plea discount—the prosecutor seeks to reward defendants who plead guilty as compensation for waiving their constitutional rights and saving the prosecution and court further litigation costs.¹⁶² Most scholars, however, view it as a trial penalty—

¹⁵⁸ Stuntz, *supra* note 20, at 39–40.

¹⁵⁹ *Id.*

¹⁶⁰ *Id.*

¹⁶¹ See, e.g., Nancy J. King et al., *When Process Affects Punishment: Differences in Sentences After Guilty Plea, Bench Trial, and Jury Trial in Five Guidelines States*, 105 COLUM. L. REV. 959, 973–75 (2005) (examining the differences in sentences between cases disposed by trial and guilty plea).

¹⁶² See, e.g., *Lafler v. Cooper*, 132 S. Ct. 1376, 1398 (2012) (Scalia, J., dissenting) (“The Court today embraces the sporting-chance theory of criminal law, in which the State functions like a conscientious casino-operator, giving each player a fair chance to beat the house, that is, to serve less time than the law says he deserves. And when a player is excluded from the tables, his constitutional rights have been violated. I do not subscribe to that theory.”); Frank H. Easterbrook, *Criminal Procedure as a Market System*, 12 J. LEGAL. STUD. 289, 309 (1983) (“The defendant, who buys the plea, pays by surrendering his right to impose costs on the prosecutor by demanding trial and by surrendering his chance of acquittal at trial.”); Scott W. Howe, *The Value of Plea Bargaining*, 58 OKLA. L. REV. 599, 617

the prosecutor seeks to punish defendants who exercise their right to trial by seeking higher sentences.¹⁶³

Whether the plea-trial differential represents a penalty or discount influences the effect of open-file on sentencing. Under the discount theory, a defendant who pleads guilty early in the process, before discovery is provided, should receive a bigger discount after the enactment of open-file because his plea saves the prosecution more resources. In contrast, under the penalty theory, that same defendant would experience no change in sentence because the enactment of open-file does not change the costs the prosecution would be forced to expend in securing the early guilty plea.

At least two implications follow. The first is that one defendant's right to discovery is another's right to exchange it for lenience. Thus, particularly if the plea-trial differential represents a plea discount, open-file could help guilty defendants obtain more lenient sentences simply by giving them a valuable bargaining chip to trade away.

The second implication is a methodological one to which I return later.¹⁶⁴ It is no exaggeration to say that huge normative implications ride on whether plea-trial differentials represent discounts or penalties. If the former, then plea bargaining merely expands the range of choices available to defendants and is not coercive.¹⁶⁵ If, on the other hand, the penalty theory is correct, then plea bargaining is a deeply troubling and coercive practice that punishes defendants for exercising their legal rights.¹⁶⁶

Despite the importance of this empirical question, the scholarly literature offers little guidance on whether plea discounts or trial penalties better explain the plea-trial differential. Indeed, many voices in the theoretical literature question whether there is any conceptual distinction

(2005) ("[P]arties commonly strike deals in part because of the anticipated costs of the trial that a guilty plea would obviate.").

¹⁶³ See, e.g., Albert W. Alschuler, Lafler and Frye: *Two Small Band-Aids for a Festering Wound*, 51 DUQ. L. REV. 673, 685–86 (2013) ("If post-trial sentences are unjust and are imposed simply for the purpose of inducing guilty pleas (as the Supreme Court recognizes five-to-four), plea bargaining surely merits criticism. This process then benefits both parties only in the sense that a gunman's demand for your money or your life benefits you as well as the gunman."); Stephanos Bibas, *Regulating the Plea-Bargaining Market: From Caveat Emptor to Consumer Protection*, 99 CALIF. L. REV. 1117, 1138 (2011) ("The expected post-trial sentence is imposed in only a few percent of cases. It is like the sticker price for cars: only an ignorant, ill-advised consumer would view full price as the norm and anything less as a bargain."); Donald G. Gifford, *Meaningful Reform of Plea Bargaining: The Control of Prosecutorial Discretion*, 1983 U. ILL. L. REV. 37, 47 (1983) ("[O]ne can conclude that in most cases the prosecutor unilaterally determines what concessions the defendant will receive for his guilty plea because of the state's ability to punish those defendants who do not plead."); John H. Langbein, *Land Without Plea Bargaining: How the Germans Do It*, 78 MICH. L. REV. 204, 213 (1979) ("[T]hat terrible attribute that defines our plea bargaining and makes it coercive and unjust: the sentencing differential by which the accused is threatened with an increased sanction for conviction after trial by comparison with that which is offered for confession and waiver of trial.").

¹⁶⁴ See *infra* notes 243–49 and accompanying text.

¹⁶⁵ Scott & Stuntz, *supra* note 52, at 1963.

¹⁶⁶ *Id.*

between discounts and penalties at all in this context.¹⁶⁷ And despite the efforts of scholars,¹⁶⁸ we cannot infer the trial penalty theory from empirical evidence of the mere existence of a plea-trial differential—in a world of static litigation costs, both the penalty and discount theories fit observed reality equally well.

Fortunately, we do not live in a static world. As the foregoing theoretical analysis reveals, open-file changes the distribution of litigation costs at different phases of the criminal process. In future work, empirical scholars could try to test the plea discount and trial penalty theories by examining the theoretical predictions laid out above.

F. *Limits of Indigent Defense Resources*

The sizes of the effects identified in the previous subsections depend, at least in part, on whether and how defense attorneys use discovery. Defense attorneys cannot secure better plea agreements for their clients unless they have the time and resources to use the discovery package properly. And if they don't, then police are unlikely to change their investigative practices, prosecutors are unlikely to change their charging practices, and courts are

¹⁶⁷ See, e.g., Albert Alschuler, *The Changing Plea Bargaining Debate*, 69 CALIF. L. REV. 652, 659 (1981) ("If the concepts of reward and penalty are relative—if the concepts derive their meaning only from each other—the assertion that some defendants are rewarded [by plea bargaining] and none penalized is simply schizophrenic."); John C. Coffee Jr., *'Twisting Slowly in the Wind': A Search for Constitutional Limits on Coercion of the Criminal Defendant*, 1980 SUP. CT. REV. 211, 251 ("The defendant facing the plea/trial decision is facing an essentially either/or decision, and in this binary context, the credit and a penalty are too reciprocally related to pretend that crediting one who pleads guilty is not equivalent to penalizing him for going to trial."); Russell D. Covey, *Fixed Justice: Reforming Plea Bargaining with Plea-Based Ceilings*, 82 TUL. L. REV. 1237, 1243 n.27 (2008) ("Plea discounts and trial penalties are simply two sides of the same coin, a logical conclusion many courts have reluctantly reached."); Howe, *supra* note 162, at 625 ("Critics assert . . . that a reward for abandoning trial can only sensibly be understood as a penalty for going to trial."); Note, *Influence of Defendant's Plea on Judicial Determination of Sentences*, 66 YALE L.J. 204, 220 (1956) ("An accused who receives a harsher punishment than the court would have decreed had he waived a costly and time-consuming trial pays a judicially imposed penalty for exercising constitutionally guaranteed rights. Nor can such an objection be overcome by the rationale that judges, rather than penalizing defendants convicted at trial, instead reward those who plead guilty. This distinction is illusory; the fact is that, whether by means of forfeiting a reward or incurring a penalty, a demand for trial will result in a more severe punishment than would be imposed following a guilty plea.") (footnote omitted); see also *Scott v. United States*, 419 F.2d 264, 278 (D.C. Cir. 1969) ("[I]n reality there are winners and losers. The 'normal' sentence is the average sentence for all defendants, those who plead guilty and those who plead innocent. If we are 'lenient' toward the former, we are by precisely the same token 'more severe' toward the latter."); *State v. Burgess*, 943 A.2d 727, 737 (N.H. 2008) ("[W]e doubt that a principled distinction may be drawn between 'enhancing' the punishment imposed upon the [defendant] and denying him the 'leniency' he claims would be appropriate if he had expressed remorse, since, ultimately, the result is the same: a sentence within the statutory limits for the specified crime." (citation omitted)); *Coles v. United States*, 682 A.2d 167, 169 (D.C. 1996) ("The line between affording leniency to a defendant who has admitted guilt by pleading guilty and punishing one who has denied his guilt and proceeded to trial is elusive, to say the least.")

¹⁶⁸ See, e.g., Thomas M. Uhlman & N. Darlene Walker, *"He Takes Some of My Time; I Take Some of His": An Analysis of Judicial Sentencing Patterns in Jury Cases*, 14 L. & SOC'Y REV. 323, 338 (1980).

unlikely to impose different sentences.

The vast majority of criminal cases in the United States are handled by publicly funded attorneys.¹⁶⁹ In some jurisdictions, their wages are so low that the “only way that appointed lawyers can . . . break even is to plead out most of their cases very quickly, earning a series of small fees.”¹⁷⁰ Low wages also create a conflict of interest, incentivizing attorneys to focus their energies on their private cases that pay better.¹⁷¹ Moreover, high caseloads mean that many publicly funded defense attorneys cannot devote sufficient time and resources to each case.¹⁷² In 2007, 73% of county-based public defender’s offices “exceeded the maximum recommended limit of cases received per attorney.”¹⁷³ That number was even higher, 88%, for offices that handled more than 5,000 cases per year.¹⁷⁴ As a result, in many jurisdictions, defense attorneys often only meet with clients for a few minutes before entering a guilty plea¹⁷⁵ and they lack the time to perform meaningful investigation.¹⁷⁶

¹⁶⁹ See HARLOW, *supra* note 63, at 1 (reporting that 82% of felony state court defendants in the largest seventy-five counties in the United States were represented by publicly funded attorneys in 1996).

¹⁷⁰ Stephanos Bibas, *Shrinking Gideon and Expanding Alternatives to Lawyers*, 70 WASH. & LEE L. REV. 1287, 1292 (2013); see also AM. BAR ASS’N, STANDING COMM. ON LEGAL AID & INDIGENT DEFENDANTS, GIDEON’S BROKEN PROMISE: AMERICA’S CONTINUING QUEST FOR EQUAL JUSTICE 7 (2004) (“Attorneys who do not receive sufficient compensation have a disincentive to devote the necessary time and effort to provide meaningful representation or even participate in the system at all.”).

¹⁷¹ AM. BAR ASS’N, *supra* note 170, at 27.

¹⁷² See, e.g., THE CONSTITUTION PROJECT, JUSTICE DENIED: AMERICA’S CONTINUING NEGLECT OF OUR CONSTITUTIONAL RIGHT TO COUNSEL 7 (2009) (“Frequently, public defenders are asked to represent far too many clients [T]heir caseloads make it impossible to practice law as they are required to do according to the profession’s rules. They cannot interview their clients properly, effectively seek their pretrial release, file appropriate motions, conduct necessary fact investigations, negotiate responsibly with the prosecutor, [and] adequately prepare for hearings”); THE SUPREME COURT OF OHIO, REPORT AND RECOMMENDATIONS OF THE SUPREME COURT TASK FORCE ON PRO SE & INDIGENT LITIGANTS 36–37 (2006) (“Currently, criminal and civil indigent representation in Ohio is seriously under-funded. Competent representation of indigent criminal defendants is constitutionally mandated, yet the level of funding provided for that defense fails to allow for the minimum level of competent representation to be universally provided.”); see also AM. BAR ASS’N, *supra* note 170, at 18 (discussing excessive caseloads and the effect it has on an attorney’s ability to make contact with clients).

¹⁷³ BUREAU OF JUSTICE STATISTICS, U.S. DEP’T OF JUSTICE, PUB. NO. NCJ 231175, COUNTY-BASED AND LOCAL PUBLIC DEFENDER OFFICES, 2007, at 1 (2010).

¹⁷⁴ *Id.* at 10; see also *id.* (stating that 23% of all offices had “less than half of the number of litigating attorneys required to meet the professional guidelines for the number of cases [they] received”).

¹⁷⁵ See Benjamin H. Barton & Stephanos Bibas, *Triaging Appointed-Counsel Funding and Pro Se Access to Justice*, 160 U. PA. L. REV. 967, 975 (2012) (“[Non-capital felony] defenders . . . have little time to meet with their clients, particularly when a face-to-face meeting would require a long trip to a distant jail. Their only communication with each client may be no more than a hurried conversation in a courtroom hallway or holding cell in the few minutes before a court appearance. To manage their crushing workloads, defense lawyers very often ‘meet ‘em and plead ‘em,’ pressing their clients to plead guilty immediately before doing any investigation.”); see also AM. BAR ASS’N, *supra* note 170, at 16 (reporting that 83% of cases in a county in Louisiana and 42% of cases in a county in Mississippi were resolved before defendants had the chance to meet with their attorneys out of court).

¹⁷⁶ See Michael McConville & Chester L. Mirsky, *Criminal Defense of the Poor in New York*

Due to heavy caseloads, many defense attorneys may be unable to use open-file to their clients' full advantage. They may lack the time and resources to examine the contents of a discovery package carefully. And many files may not have a "smoking gun" that helps the defense without requiring significant investigative follow-up.¹⁷⁷ Indeed, the prosecution's file does not represent an impartial construction of the crime. It is instead the product of a highly routinized process that is designed to produce inculpatory evidence and that is carried out by police and prosecutors who seek convictions. As an example, from the perspective of police officers, the arrest report is "primarily an 'internal memorandum' serving the perceived needs of the police department."¹⁷⁸ Its "primary function for the police is 'to justify the arrest and clear the case,' [which] can be achieved by confining reports to what is necessary to satisfy the probable cause standard, ignoring exculpatory evidence."¹⁷⁹ There is also evidence that officers often fail to collect, record, or transfer exculpatory evidence to the prosecution.¹⁸⁰

In this context, the various effects of open-file—on police investigations, on prosecutorial charging, on plea-bargaining, and on sentencing—may be limited. Attorneys that lack the time to consult with their clients also lack the time to closely review a case file or conduct a rigorous follow-up investigation on its basis. This problem is particularly acute given the broad substantive scope of open-file discovery and, in at least some cases, the large size of the file.¹⁸¹

City, 15 N.Y.U. REV. L. & SOC. CHANGE 581, 762 (1987) (finding that defense attorneys in New York visited crime scenes or interviewed witnesses in approximately 4% of non-homicide felonies, and that they did so in just about 12% and 21% of homicides, respectively); see also Richard Klein, *The Emperor Gideon Has No Clothes: The Empty Promise of the Constitutional Right to Effective Assistance of Counsel*, 13 HASTINGS CONST. L.Q. 625, 665–66 (1986) ("[C]aseload pressures and insufficient funding have led to widespread failings by defenders of their duty to investigate.").

¹⁷⁷ See *supra* Section IV.F.

¹⁷⁸ Fisher, *supra* note 144, at 7–8.

¹⁷⁹ *Id.* (citation omitted); see also Myron W. Orfield, Jr., *Deterrence, Perjury, and the Heater Factor: An Exclusionary Rule in the Chicago Criminal Courts*, 63 U. COLO. L. REV. 75, 100 (1992) (reporting on a non-randomly sampled survey of judges, public defenders and prosecutors, which found that 86% of respondents "believe[d] that fabrication in case reports occurs at least 'some of the time'" and that 33% of respondents believed that "police fabricate evidence to create probable cause in case reports between 'half of the time' and 'most of the time'").

¹⁸⁰ A study of the arrest-report writing process concluded that "[m]ost police probably do not generally report exculpatory evidence." Fisher, *supra* note 1644, at 18. Officers are incentivized to withhold exculpatory evidence from the file to prevent its use by the defense, to protect themselves from embarrassment or liability, and because they lack time to investigate, collect, or record exculpatory evidence. *Id.* at 8–9, 21, 30. Police training materials are also partially responsible. See *id.* at 30 (concluding based on a review of writing manuals from six different states that "none of the training materials addresses the importance of investigating, recording, or reporting exculpatory facts to avoid punishment of a possibly innocent arrestee[, but rather they] reflect a psychological set in which the arrestee's guilt is presumed, and the only use of notes and reports in the criminal process is to ensure conviction").

¹⁸¹ See *supra* note 156.

V. EMPIRICAL TRENDS

I next examine empirical evidence to help answer three main questions. First, does prosecutorial disclosure increase as a result of open-file? Second, do defendants fare better as a result of open-file—in charging, plea bargaining, or sentencing? And third, does open-file decrease the trial rate or speed up dispositions? After presenting the evidence, I consider how the answers to these questions implicate some of the theoretical predictions discussed earlier.

In attempting to answer these questions, I rely primarily on before-and-after comparisons using aggregate monthly or annual administrative data. Of course, there are significant limitations to this methodological approach both in terms of data and causal identification. Still, basic descriptive information on how case processing does or does not change after the adoption of open-file in two different states adds meaningful empirical insight in an area of the literature where we know so little.

A. *More Disclosure?*

For open-file to affect the criminal process it must, at the very least, change disclosure activity. The literature widely assumes that open-file both increases and speeds up disclosure, but it offers relatively little empirical evidence for support. One recent study surveyed prosecutors and defense attorneys in North Carolina and Virginia—an adjacent state with a narrow discovery statute—about how frequently particular categories of evidence were disclosed.¹⁸² The respondents reported that prosecutors disclosed a number of categories of evidence more frequently in North Carolina, suggesting that open-file increased disclosure.¹⁸³ Without data from before open-file went into effect in North Carolina, however, we cannot know how big the effect was.

To examine the effect of open-file statutes on disclosure activity we would ideally have systematic data on the volume of discovery—perhaps measured by the number of pages in the file—in a jurisdiction before and after open-file went into effect.¹⁸⁴ As a second-best proxy, I look to a measure of suppression litigation: if prosecutors are disclosing more evidence earlier in the criminal process before defendants enter guilty pleas, then we would expect to see an increase in defendants filing motions to suppress.

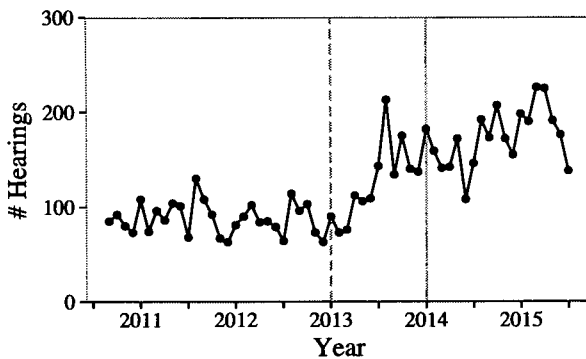
¹⁸² Turner & Redlich, *supra* note 11, at 293–96 (explaining the results of a recent study that surveyed prosecutors and defense attorneys in North Carolina and Virginia).

¹⁸³ *Id.*

¹⁸⁴ I tried to obtain this information by requesting access to the discovery logs held by a number of public defender's and district attorney's offices. Most did not maintain such logs before the law went into effect and one office refused to share its logs.

Figure 1 depicts the number of motion-to-suppress hearings in the Texas district courts each month from mid-2010 to mid-2015.¹⁸⁵ The state legislature enacted discovery reform in January 2013 (demarcated by the dotted gray line) and the statute went into effect in January of the next year (solid gray line).¹⁸⁶ The number of hearings was relatively stable from mid-2010 until the end of 2012 but then almost doubled in 2013 after the law was enacted, suggesting that some counties may have begun implementing the statutory requirements before they were legally required to do so. Hearings continued to increase in 2014, after the law went into effect. This pattern cannot be explained by an increase in cases, nor an increase in funding for public defense.¹⁸⁷

FIGURE 1: MONTHLY NUMBER OF MOTION-TO-SUPPRESS HEARINGS IN TEXAS DISTRICT COURTS, 2010–2015¹⁸⁸



¹⁸⁵ The Texas district courts are trial courts of general jurisdiction over all felony cases. *About Texas Courts*, TEX. JUDICIAL BRANCH, <http://www.txcourts.gov/about-texas-courts/trial-courts/> [<https://perma.cc/BRF7-2Q9W>]. Some ambiguity in the data-reporting manual for the Texas Office of Court Administration suggests that court clerks should include the number of motions to suppress rather than the number of motion to suppress hearings. See OFFICE OF COURT ADMIN., TEX. JUDICIAL COUNCIL, OFFICIAL DISTRICT COURT MONTHLY REPORT INSTRUCTIONS 10 (2013). As a result, the figure may sometimes include both.

¹⁸⁶ S.B. 1611, 83rd Leg., Reg. Sess. (Tex. 2013) (codified as amended at TEX. CRIM. P. CODE ANN. art. 39.14 (West 2015)).

¹⁸⁷ See TEX. LEGISLATIVE BUDGET BD., ID 1365, INDIGENT DEFENSE 2 (2014), http://www.tidc.texas.gov/media/24677/1408LBB_Indigent_Defense.pdf [<https://perma.cc/TK2H-E63W>] (showing that indigent defense funding in Texas increased by just 9% from 2012 to 2014); see also *infra* Figure 2 (showing that the number of cases filed in Texas district courts before and after the enactment of open-file was relatively stable).

¹⁸⁸ The data were obtained from the Texas Judicial Branch's *Trial Court Activity Database*, TXCOURTS, <http://www.txcourts.gov/statistics/trial-court-activity-database.aspx> (follow "Run Reports" hyperlink for Sept. 2010 to present; then select "District Court Data Reports" in the Report Type field; then select "District Court Activity Detail" in the Report Field; then select continue; then choose appropriate date range; then check box for "Separate Monthly Report;" then click Run Report) (last visited Aug. 15, 2015). Data were not available from North Carolina.

Figure 1 supports two empirical conclusions. First, it suggests that open-file increased enforcement of the Fourth Amendment by stimulating more motions to suppress. Second, and more important for our purposes, it provides systematic evidence—albeit through a proxy—that open-file increased prosecutorial disclosure soon after the state enacted discovery reform.

B. *More Favorable Defense Outcomes?*

Next, I present data to assess whether defendants obtained better case outcomes as a result of open-file. I focus on charging, plea bargaining, and sentencing.

1. *Prosecutorial Charging*

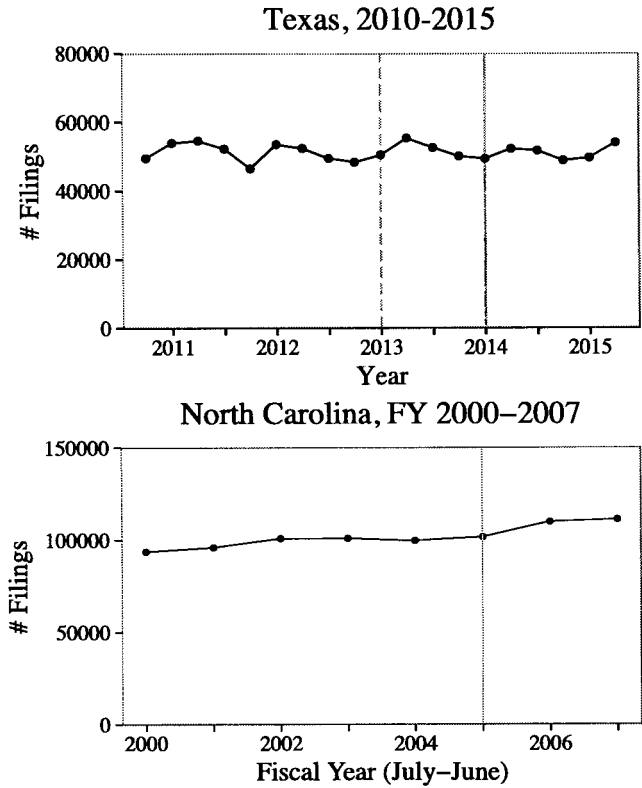
As noted earlier, open-file discovery could produce more favorable outcomes for defendants at the charging stage by increasing the stringency of prosecutors' charging standards or diminishing the incentive to overcharge.¹⁸⁹ We can look for evidence of such changes by examining several kinds of data.

Most simply, open-file statutes might decrease the number of cases in which the government files criminal charges. Figure 2 displays filing data over time for Texas and North Carolina. The upper panel shows that the number of felony filings in the Texas district courts was relatively stable before and after the state's open-file statute was enacted in January 2013 and went into effect one year later. The lower panel shows the number of felony cases filed in the North Carolina superior courts by fiscal year (July–June). Felony filings increased slightly after the state's open-file statute was enacted and went into effect in fiscal year 2005.¹⁹⁰ The data provide little evidence that discovery reform resulted in fewer criminal filings.

¹⁸⁹ See *supra* Section IV.B.

¹⁹⁰ S.B. 52, 2003 Gen. Assemb., Reg. Sess. (N.C. 2004) (codified at N.C. GEN. STAT. ANN. § 15A-902 (West 2016)).

FIGURE 2: NUMBER OF FELONY COURT FILINGS IN TEXAS AND NORTH CAROLINA¹⁹¹



Admittedly, the number of cases filed per year is a rough measure of the stringency of prosecutorial charge screening practices. A prosecutor’s office could increase charging standards *and* file an equal number of criminal cases if the crime rate increased, thus expanding the pool of cases with sufficient evidence to meet the heightened charging standards. State-level measures of reported index offenses and all arrests from the FBI’s Uniform Crime Reports help diminish these concerns. Indeed, none of the examined states experienced substantial increases in reported person or property index crimes after discovery reform.¹⁹² And arrests for person, property, drug, and other offenses remained relatively stable or decreased after discovery reform in those states.¹⁹³

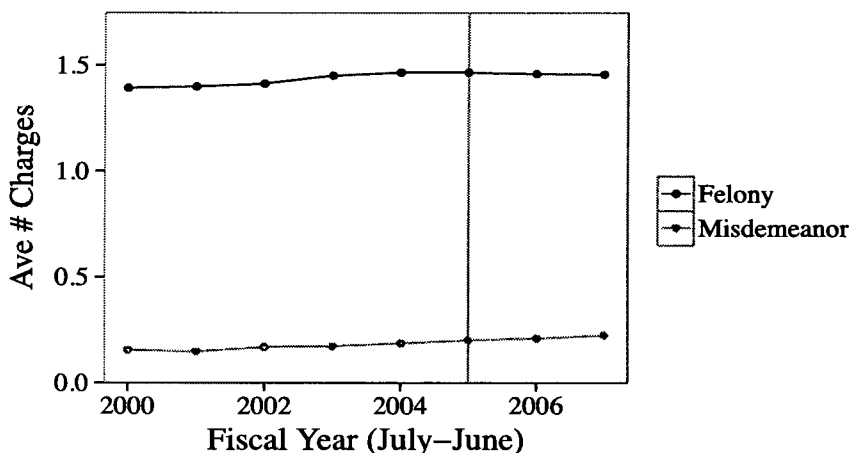
¹⁹¹ The North Carolina data were obtained from the North Carolina Courts’ annual statistical summaries. See, e.g., N.C. COURTS, STATISTICAL AND OPERATIONAL SUMMARY OF THE JUDICIAL BRANCH OF GOVERNMENT FOR YEAR JULY 1, 2005–JUNE 30, 2006 (2006). The Texas data were obtained from the Trial Court Activity Database. See *supra* note 188.

¹⁹² See *infra* App. Figure 1.

¹⁹³ See *infra* App. Figure 2.

Even if open-file has little effect on whether the prosecutor's office files charges against a suspect, it might still affect the number of charges or counts brought in individual cases. Thus, a second useful source of data about charging is the average number of charges brought per case. Figure 3 displays the average number of felony and misdemeanor charges filed in cases in North Carolina Superior Court by fiscal year.¹⁹⁴ The average number of felonies was relatively stable in the years before and after the state adopted open-file in fiscal year 2005. Other than a continuation of a preexisting trend, there is no evidence of an increase in misdemeanors either. Thus, Figure 3 provides little evidence that open-file led prosecutors in North Carolina to file fewer felony or misdemeanor charges in individual cases.

FIGURE 3: AVERAGE NUMBER OF CHARGES PER CASE IN NORTH CAROLINA SUPERIOR COURT, FY 2000–2007¹⁹⁵



Finally, even if open-file has little effect on the number of cases or the average number of charges filed, it might still affect the composition of cases brought. It might, for example, lead prosecutors to downgrade robbery charges to theft, or downgrade burglary charges to breaking and entering.

Beginning with North Carolina, the number of criminal cases filed in superior court for most charge categories—including burglaries, larceny, robbery, assault, arson, murder, manslaughter, rape, and other sex

¹⁹⁴ Data on the average number of charges filed in Texas were not available.

¹⁹⁵ N.C. Admin. Office of the Courts, *Automatic Criminal/Infractions System* (2015). For more information, see N.C. Admin. Office of the Courts, *Automatic Criminal/Infractions System*, N.C. COURT SYS., http://www.nccourts.org/Citizens/JData/Documents/Technology_ACIS_Facts.pdf [<https://perma.cc/GQ4E-FZ8K>] (last visited Nov. 25, 2016). Data are on all charge categories.

offenses—was relatively stable over time.¹⁹⁶ There are only three exceptions: drug, forgery and uttering, and “other” offenses.¹⁹⁷

Based on the data available, I cannot identify with certainty the precise cause of these changes in filing volume. But there isn’t much reason to think that open-file was responsible. The filing rate for forgery and uttering was relatively stable before North Carolina adopted its open-file statute, and then it dropped precipitously soon after,¹⁹⁸ which is consistent with the theory that open-file leads prosecutors to file charges in fewer cases. But the *arrest* rate for financial crimes in North Carolina followed precisely the same precipitous pattern,¹⁹⁹ which was also consistent with a national trend during the same period.²⁰⁰ Indeed, from 2004 to 2010, the number of arrests for “forgery/counterfeiting” fell by 33% nationwide.²⁰¹ The increase in filings for drug crimes is harder to explain given that the number of arrests for both drug possession and trafficking offenses was stable while court filings increased.²⁰² Nevertheless, this pattern is not consistent with the theory that discovery reform led to more *stringent* charging standards. The same can be said for the increase in filings for “other” crimes.²⁰³

Moving on to Texas, the volume of criminal filings in the district court for most charges—including capital murder, murder, other homicides, robbery, aggravated assault, sexual assault of a minor, family violence, automobile theft, theft, “other” felonies, and “other” misdemeanors—remained relatively stable after the open-file law was adopted and went into effect.²⁰⁴ The exceptions are drug trafficking and drug possession—which increased after Texas’s discovery statute was enacted in 2013—and burglary, driving while intoxicated (DWI), and sexual assault of an adult—which decreased.²⁰⁵ As in North Carolina, the increase in drug filings cannot be fully explained by an increase in drug arrests, but it is also not consistent with the direction of the theorized effect of open-file on charging.²⁰⁶ On the other hand, the decrease in filings for burglary, DWI, and sexual assaults is

¹⁹⁶ See *infra* App. Figure 3. The data indicate the most severe charge in each case.

¹⁹⁷ See *infra id.*

¹⁹⁸ See *infra id.*

¹⁹⁹ See *infra* App. Figure 5.

²⁰⁰ BUREAU OF JUST. STATISTICS, ARREST DATA ANALYSIS TOOL, <http://www.bjs.gov/index.cfm?ty=datool&surl=/arrests/index.cfm> [https://perma.cc/RYM2-G79A] (last visited Feb. 1, 2016) (click “National Estimates”; then click “Trend Graphs by Sex”; then select “Forgery and Counterfeiting”; then click “Make Counts Graph”).

²⁰¹ *Id.*

²⁰² Compare *infra* App. Figure 3 and *infra* App. Figure 5.

²⁰³ The increase in “other” filings is at least partially attributable to administrative data collection procedures. Charges are assigned a crime category using a statute look-up table. Because the look-up table was not updated between 1999 and 2007, charges filed under new statutes enacted by the legislature during that period are labeled as “other.”

²⁰⁴ See *infra* App. Figure 4. More precisely, the data indicate the most severe charge in each case.

²⁰⁵ See *infra id.*

²⁰⁶ See *infra* App. Figure 6.

consistent with the theory that open-file encourages more stringent charging standards. But, at least for the first two crime categories, for which there is arrest data, this trend more likely reflects a drop in arrests.²⁰⁷

To summarize, the filing rates for a large majority of crime categories in North Carolina and Texas were stable before and after each state adopted its respective discovery statute. A few of the exceptions to this general pattern reflect *increases* in filings, which is not consistent with the theory that open-file encourages more stringent charging standards. And the few charge categories that decreased in filings after discovery reform were also accompanied by substantial reductions in arrests. While my data cannot fully resolve whether open-file affected charging—we need charge-level data from each state to do so—they provide relatively little evidence that open-file led prosecutors to file fewer cases, or to file fewer or different charges within cases.

Still, the data clearly show some changes in the composition of the judicial caseload. While changes in the caseload are common,²⁰⁸ they pose a methodological challenge for exploring the effects of open-file on subsequent stages in the criminal process. As a partial solution, in the following subsections I try where possible to present data that exclude the crime categories for which there is a significant compositional change.²⁰⁹

2. *Plea Bargaining*

Many scholars and policymakers have predicted that open-file may enable defendants to obtain more favorable outcomes through plea bargaining. They might, for example, obtain more dismissals. My data suggest otherwise. Figure 4 shows the dismissal rate in the Texas district courts, which was relatively stable after the law was enacted and went into effect.

²⁰⁷ See *infra id.*

²⁰⁸ See, e.g., ADMIN. OFFICE OF THE U.S. COURTS, FEDERAL JUDICIAL CASELOAD STATISTICS, TABLE D-2, U.S. DISTRICT COURTS—CRIMINAL DEFENDANTS COMMENCED, BY MAJOR OFFENSE (EXCLUDING TRANSFERS), DURING THE 12-MONTH PERIODS ENDING MARCH 31, 2000 THROUGH 2004 (2004), <http://www.uscourts.gov/statistics-reports/federal-judicial-caseload-statistics-2004> [<https://perma.cc/E8GC-HQCQ>] (showing substantial inter-year variation in the composition of charges in federal court).

²⁰⁹ In North Carolina, those crimes are drug, forgery and uttering, and “other” offenses. In Texas, they are drug possession, drug trafficking, burglary, sexual assault of adults, and DWI.

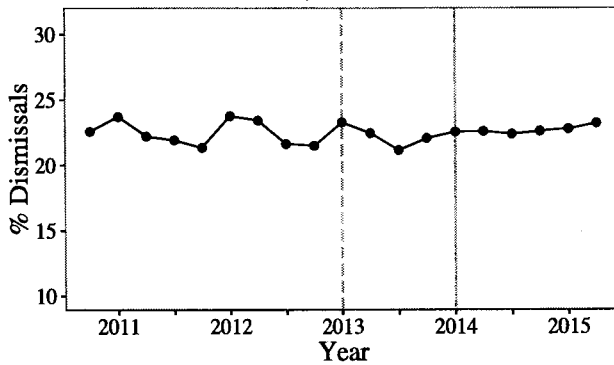
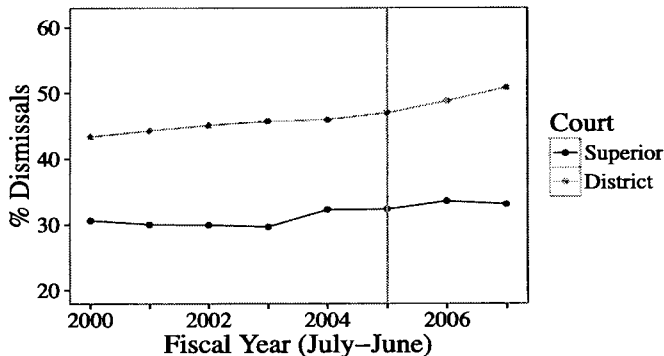
FIGURE 4: DISMISSAL RATES IN TEXAS, 2010–2015²¹⁰

Figure 5 depicts the dismissal rate in North Carolina by fiscal year (July–June) for the superior courts (black line), which primarily handle felonies, and where the open-file statute applies. Other than a continuation of a preexisting trend, there is no evidence of an uptick in dismissals. Moreover, the dismissal rate in the district courts (gray line)—which primarily handle misdemeanors to which the open-file statute does not apply—followed a roughly similar upward trend.

FIGURE 5: DISMISSAL RATES IN NORTH CAROLINA BY COURT, 2000–2007²¹¹

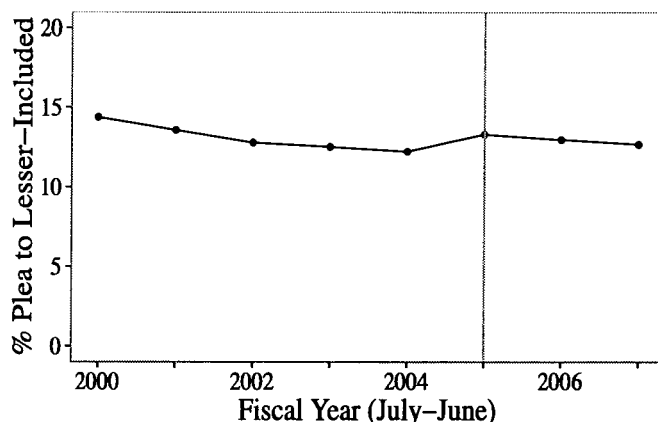
Even if defendants do not obtain more dismissals, they might still negotiate more favorable plea agreements. Again, my data suggest

²¹⁰ The Texas data were obtained from the Trial Court Activity Database. See *supra* note 188.

²¹¹ The North Carolina data were obtained from annual statistical reports published by the state's court system. See *supra* note 191. Throughout the paper, the denominator for North Carolina district court disposition rates—the total number of misdemeanor cases disposed in district court—is calculated by subtracting felony intermediate dispositions (i.e., felony bound over to superior court, felony probable cause not found, felony hearing waived) from the total number of dispositions for criminal non-motor vehicle offenses in district court.

otherwise. To test this claim we would ideally have data on the charges filed and convicted in each case disposed by guilty plea. While publicly available data at this level of granularity on state courts is rare, North Carolina publishes data on the proportion of cases in which the defendant enters a guilty plea to a reduced charge on the top charge in a case. Figure 6 shows that the rate of these dispositions was relatively stable after open-file went into effect, with a very small increase in fiscal year 2005.²¹²

FIGURE 6: PROPORTION OF CASES IN NORTH CAROLINA DISPOSED BY GUILTY PLEA TO LESSER CHARGE, FY 2000–2007²¹³



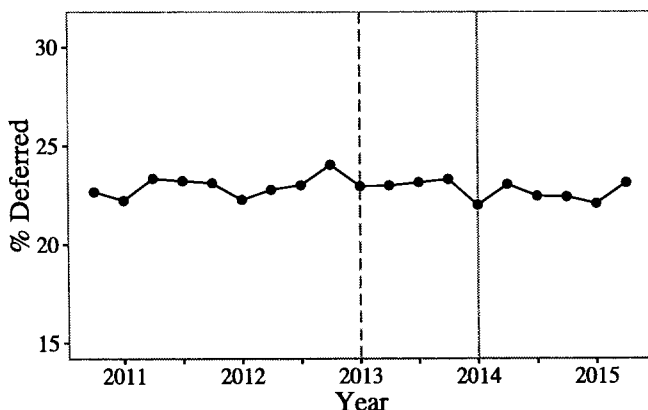
In many jurisdictions, defendants can also obtain more favorable plea agreements through pretrial diversion procedures. In Texas, a substantial fraction of felony cases are disposed by a deferred adjudication, which allows first-time offenders to enter a guilty plea and receive probation without a criminal conviction.²¹⁴ Figure 7 displays the proportion of disposed cases by year that result in a deferred adjudication. It offers little evidence that defendants secured more deferred adjudications as a result of Texas's discovery law.

²¹² Unlike for dismissals, data on the rate of pleas to lesser offenses are not available for the district courts in North Carolina. Data on Texas were also not available.

²¹³ The North Carolina data were obtained from annual statistical reports published by the state's court system. *See supra* note 191.

²¹⁴ TEX. CODE CRIM. P. ANN. art. 42.12 § 5 (West 2015). Deferred adjudications are also available in North Carolina, but they are used in just a few hundred of the roughly 100,000 felony cases disposed per year.

FIGURE 7: PERCENT OF TEXAS DISTRICT COURT CASES DISPOSED THROUGH A DEFERRED ADJUDICATION, 2010–2015²¹⁵



3. Sentencing

Open-file could result in more favorable outcomes for defendants at the sentencing stage by increasing the probability of receiving probation rather than incarceration or by decreasing the average sentence length.

Figure 8 shows the proportion of convicted defendants in felony cases where the court imposed jail time, prison time, or probation in Texas. The most glaring feature of the data is the abrupt increase in prison sentences and decrease in probation sentences in the first quarter of 2013. The precise timing of these disruptions—that is, just a few months after the Texas legislature adopted the new discovery statute—suggests that open-file cannot offer any explanation (and if it could, it would only suggest that open-file led to more severe sentences).²¹⁶ The more important pattern is that sentencing was otherwise stable from 2013 to 2015, with a slightly larger number of convicted defendants receiving jail time rather than probation.

Figure 9 provides similar data for North Carolina, showing the proportion of convicted felony defendants who receive a sentence of community supervision, broken down by charge type. For all crime categories except “Other,” which accounts for just 10% of convictions, the proportion of cases receiving community supervision decreased or remained stable after open-file went into effect.”

²¹⁵ The Texas data were obtained from the Trial Court Activity Database. *See supra* note 188.

²¹⁶ One possibility is that these patterns reflect a change in data collection.

FIGURE 8: PROPORTION OF CONVICTED FELONY DEFENDANTS IN TEXAS DISTRICT COURT RECEIVING JAIL, PRISON, AND PROBATION SENTENCES, 2010–2015²¹⁷

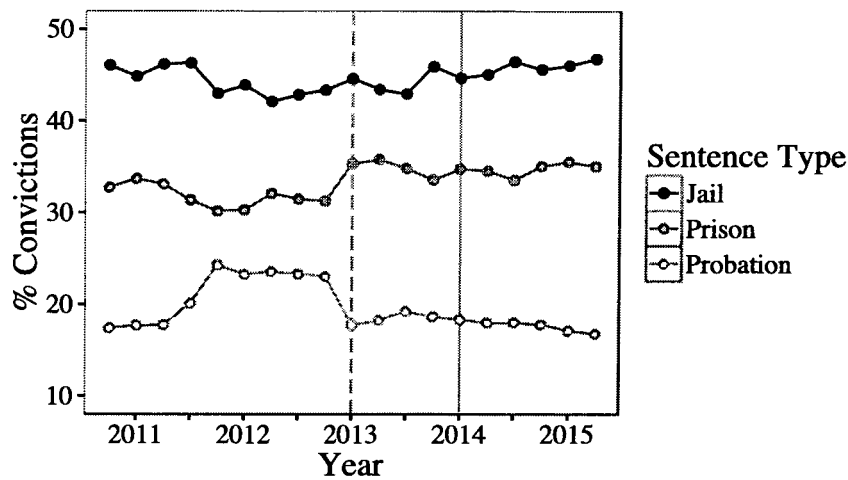
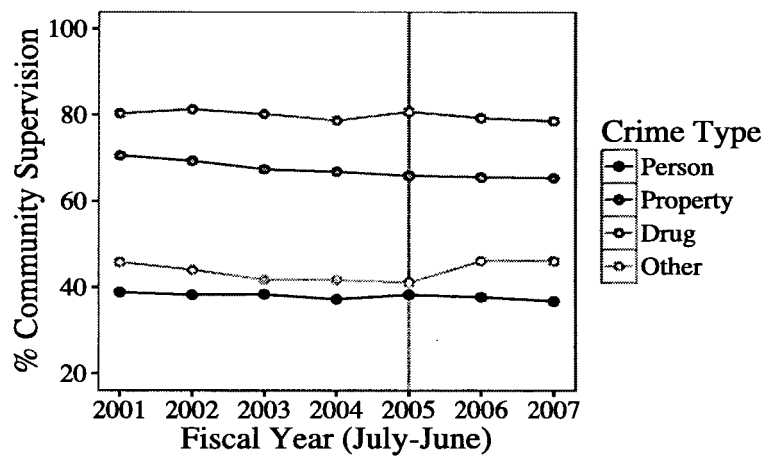


FIGURE 9: PROPORTION OF CONVICTED FELONY DEFENDANTS IN NORTH CAROLINA SUPERIOR COURT RECEIVING COMMUNITY SUPERVISION BY CRIME CATEGORY, FY 2001–2007²¹⁸



²¹⁷ The Texas data were obtained from the Trial Court Activity Database. *See supra* note 188. “Jail” includes sentences to both state and local jails.

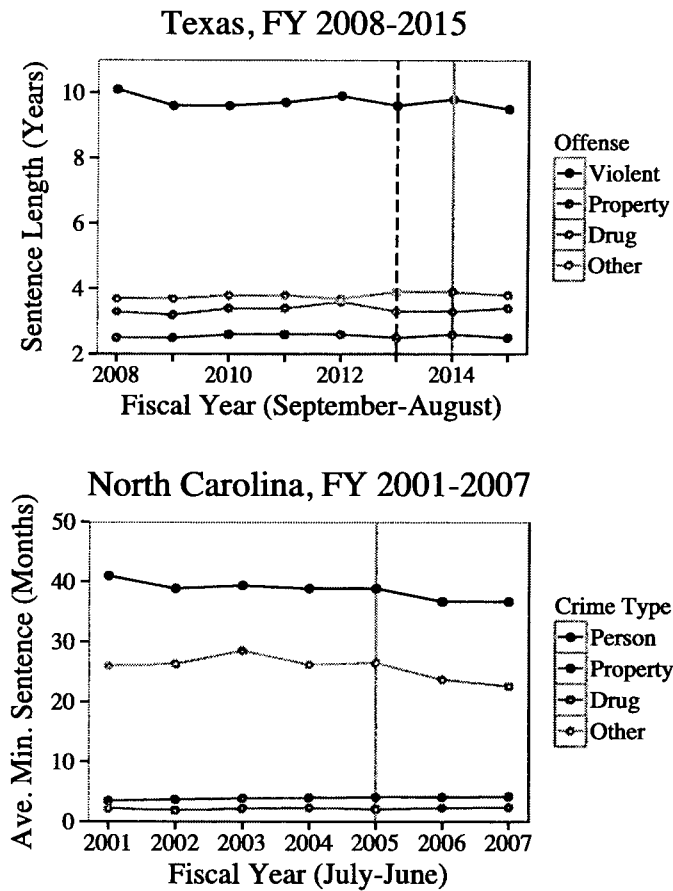
²¹⁸ Data were obtained from annual reports published by the North Carolina sentencing commission. *See, e.g.*, N.C. SENTENCING & POL’Y ADVISORY COMM’N, STRUCTURED SENTENCING STATISTICAL REPORT FOR FELONIES AND MISDEMEANORS, FISCAL YEAR 2003/04 tbl.5 (2005) (showing all felony convictions for the fiscal year broken down by crime category and sentence type). Community supervision includes both “intermediate” and “community” punishment.

Open-file might also help defendants decrease the length of prison sentences. The upper panel of Figure 10 shows the average sentence length over time in fiscal years (September–August) in Texas among defendants who received a sentence of incarceration. The graph shows that the average sentence of defendants convicted of violent, property, drug, and other offenses remained relatively stable in fiscal years 2013, 2014, and 2015, after the law was enacted and put into effect.

The lower panel of Figure 10 shows the average minimum jail or prison sentence in North Carolina among all convicted defendants (including those that did not receive any jail or prison time at all) by fiscal year. Sentence lengths for property and drug offenders increased slightly after open-file went into effect. Sentence lengths decreased very slightly for person crimes in fiscal years 2005 and 2006 and somewhat more for “Other” offenses. On the whole, there is little evidence of a substantial reduction in sentences due to open-file. This pattern of continuity is present even if we focus in on the most serious cases, such as homicide, rape, robbery, and burglary,²¹⁹ where the effect of open-file may be greatest due to higher volumes of evidence.

²¹⁹ See App. Figure 7. Data on sentence lengths for specific charge categories were not available in Texas.

FIGURE 10: AVERAGE LENGTH OF PRISON/JAIL SENTENCE AMONG CONVICTED FELONY DEFENDANTS IN TEXAS AND NORTH CAROLINA²²⁰



²²⁰ The Texas data were obtained from annual statistical reports published by the Texas Department of Criminal Justice. *See, e.g.*, TEXAS DEP'T OF CRIM. JUST., STATISTICAL REPORT FISCAL YEAR 2008 (2008) (showing separately the average sentence length of defendants who receive jail and prison sentences). I combine the jail and prison sentence length averages together by multiplying each by the number of relevant convicted defendants, and then by dividing that number by the total number of convicted defendants. Thus, the data reflect the average sentence length among defendants who received a sentence of incarceration (whether in prison or jail). The North Carolina data were obtained from annual reports published by the North Carolina sentencing commission. *See supra* note 218. They reflect the average incarceration spell among all convicted defendants, including those who did not receive any incarceration. To calculate the average prison sentence among all convicted defendants, I multiplied the average minimum active sentence by the number of convicted defendants receiving active sentences and divided it by the number of all convicted defendants.

To summarize, the data examined here provide little evidence that defendants obtained more favorable outcomes after the adoption of open-file in North Carolina or Texas. Indeed, defendants on average did not receive more favorable charges, negotiate more favorable settlements, or obtain less severe sentences.

C. Fewer Trials, Faster Dispositions?

I next bring data to bear on the conventional wisdom that open-file decreases trials and speeds up dispositions. On the whole, that wisdom is not supported. Figure 11 shows that the proportion of cases going to trial in the North Carolina superior courts—where the open-file law applies—decreased slightly after open-file went into effect, though the downward trend began several years earlier and mirrored a similar trend in the district courts, where the open-file law does not apply.

FIGURE 11: TRIAL RATE IN NORTH CAROLINA, 2000–2007²²¹

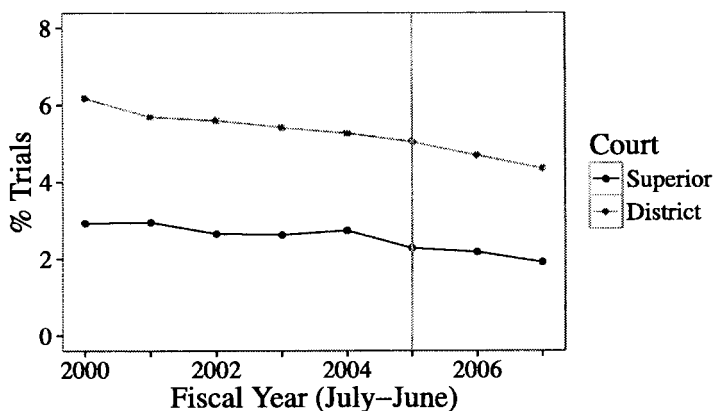
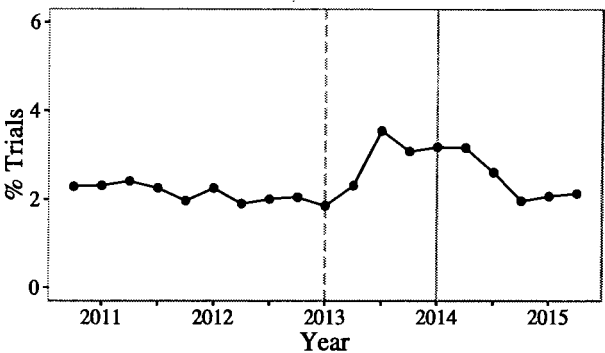


Figure 12 tells a more complicated story in Texas. There, the trial rate increased dramatically in 2013—the year the state enacted its open-file law—and then promptly fell back down to its pre-2013 level in the end of 2014—the year the law went into effect. One possibility is that an exogenous shock triggered a surge in trials in 2013, which then may have been reduced by open-file. But a better explanation is that—as suggested by Figure 1—counties in Texas began implementing open-file discovery in 2013 before the legal requirements took effect, which introduced a shock into case processing that eventually fell back to the original level. Longer follow-up data would be helpful to better assess these trends.

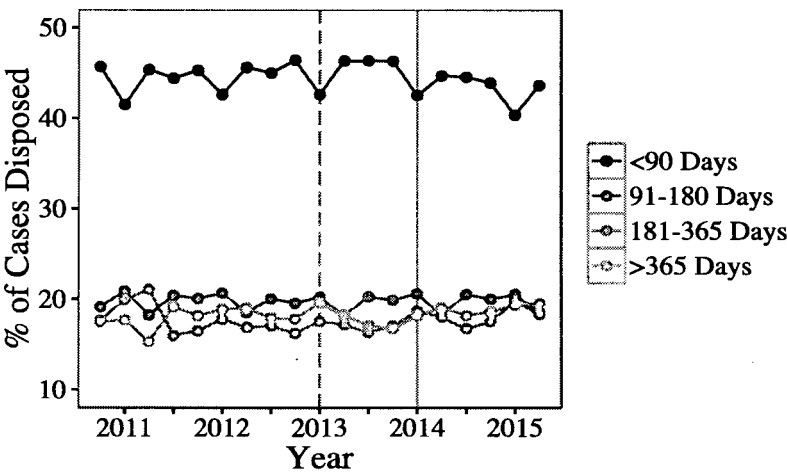
²²¹ The North Carolina data were obtained from annual statistical reports published by the state's court system. See *supra* note 191.

FIGURE 12: TRIAL RATE IN TEXAS, 2010–2015²²²



Scholars and policy advocates have also predicted that open-file speeds up guilty pleas. To test this hypothesis, Figure 13 depicts the proportion of cases in the Texas district courts that were disposed within 90 days, 91–180 days, 181–365 days, and over 365 days. Contrary to the predictions, each of the curves are relatively stable after the open-file statute was enacted and went into effect.

FIGURE 13: DISTRIBUTION OF AGE OF CASES IN TEXAS, 2010–2015²²³



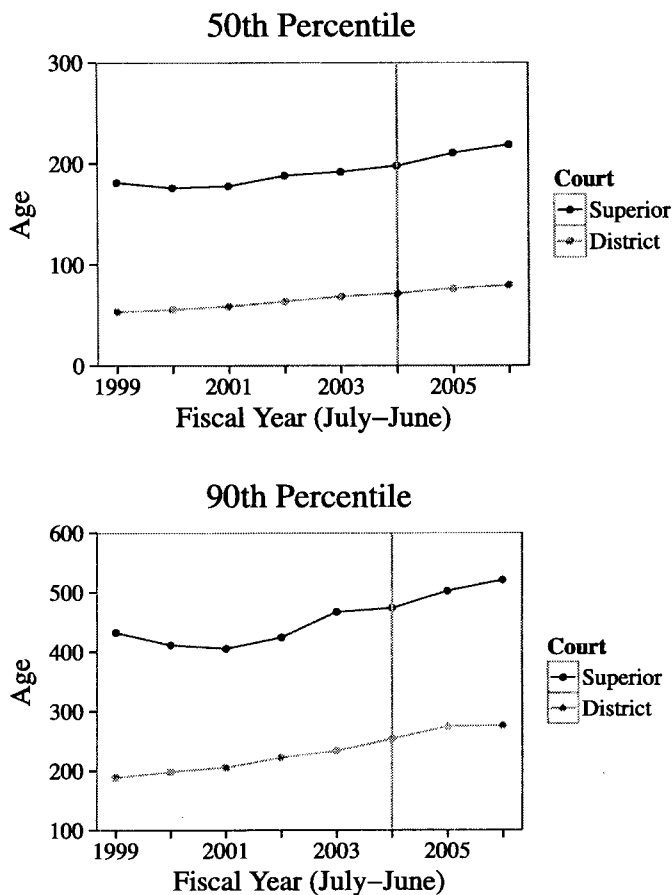
Turning to North Carolina, Figure 14 shows the average county-level age of the fiftieth- (or median) and ninetieth-percentile case in each county in the superior courts by fiscal year. The fiftieth-percentile case, which is

²²² The Texas data were obtained from Trial Court Activity Database. See *supra* note 188.

²²³ *Id.*

most likely disposed by guilty plea or dismissal, increases over time at a stable rate both before and after open-file went into effect in North Carolina. The curve for the age of the ninetieth-percentile case, which is disproportionately likely to go to trial, follows a similar pattern. Taken together, the publicly available data on time-to-disposition—while far from perfect—provide little evidence that cases were disposed more quickly after states adopted more liberal discovery policies.

FIGURE 14: AVERAGE COUNTY-LEVEL 50TH AND 90TH PERCENTILE AGE OF CASES AT DISPOSITION BY COURT, FY 1999–2006²²⁴



²²⁴ The data were obtained from annual statistical reports published by the state's court system. See *supra* note 191.

D. *Why Has Open-File Fallen Short?*

Painting with a broad brush, the data presented here do not support the conventional wisdom about the effects of open-file discovery. Indeed, defendants in North Carolina and Texas did not, on average, fare better in terms of the charges they faced, the pleas they negotiated, or the sentences they received after the adoption of open-file. And there's little evidence that open-file reduced the trial rate or sped up dispositions. I now step back for a moment to consider why.

One possibility is that open-file had little effect on prosecutorial disclosure in North Carolina or Texas, not because of non-compliance, but because prosecutors already had significant incentives to engage in voluntary disclosure beforehand.²²⁵ In other words, in many counties there may have been little room for improvement. This explanation seems unlikely for a few reasons. To begin with, survey data from North Carolina suggests that disclosure rates are higher than in neighboring Virginia, where the governing discovery statute is especially narrow.²²⁶ Moreover, my data show that motions to suppress in Texas increased dramatically after the state enacted its open-file statute.²²⁷ This suggests that defense attorneys filed more motions to suppress because they began to receive more disclosure, earlier in the process.

The flip side is the possibility that open-file had little effect because of widespread government non-compliance. While I can't conclusively reject this possibility, my own conversations with defense attorneys in North Carolina suggest that the government is reasonably compliant with the statute. The recent survey of defense attorneys in North Carolina provides more systematic data in support of that conclusion.²²⁸ If defense attorneys—the people most likely to complain—are not dissatisfied, that provides good evidence that the government is complying most of the time.

A third possible explanation is that, prior to open-file, defendants systematically overestimated the amount of inculpatory evidence held by the prosecution rather than systematically underestimating it.²²⁹ And a fourth, related explanation is that after the enactment of open-file, psychological biases may have led the defense to interpret the contents of the prosecutorial file in a self-serving manner.²³⁰ But if either of these two theories held, after the implementation of open-file we would expect an increase in the trial rate, an increase in the time-to-disposition, and more favorable outcomes for the

²²⁵ See *supra* Section II.

²²⁶ Turner & Redlich, *supra* note 11, at 293–94.

²²⁷ See discussion *supra* Section V.A.

²²⁸ Turner & Redlich, *supra* note 11, at 323 tbl.2a.

²²⁹ See *supra* Section IV.C.

²³⁰ *Id.*

defendant at some stage in the process.²³¹ The data support none of these predictions.

A fifth—and perhaps best—explanation is that heavy caseloads prevented defense attorneys from effectively using the prosecutorial file to their clients' advantage.²³² Indeed, many attorneys may have lacked the time and resources to examine the contents of discovery packages carefully. Moreover, the typical package likely contains no “smoking guns”—only suggestive leads that would require time-consuming investigative follow-up.²³³ That's particularly true if, as I have suggested, police and prosecutors may adapt to open-file by changing their investigative practices.²³⁴

This theory appears most consistent with the basic pattern of my results: if many defense attorneys lack the time and resources to use open-file to their clients' advantage, we would expect little change in charging, plea bargaining, or sentencing. The theory is also consistent with data on public defense funding in North Carolina and Texas: around the time of their discovery reforms, per capita indigent defense funding in both states was below the national average.²³⁵ Texas had the third lowest in the nation.²³⁶

If my interpretation of the data is right, then the effects of open-file are fragile and contingent on institutional circumstances. And, as a result, open-file may not level the criminal justice playing field as much as we hope. It may simply not be possible to substitute an independent investigation led by the defense with an investigation by the government. We may therefore need to integrate discovery legislation into a package of reforms that both increase funding for indigent defense²³⁷ and further reinforce the government's duty to disclose. A number of legislative enforcement options could help, including recording requirements for police investigations, statutory duties on the police to transfer all discoverable evidence to the prosecution, a

²³¹ See *supra* Sections II.A & IV.C.

²³² See *supra* Section IV.F.

²³³ See *supra* Section IV.F.

²³⁴ See *supra* Section IV.A.

²³⁵ See HOLLY R. STEVENS ET AL., STATE, COUNTY AND LOCAL EXPENDITURES FOR INDIGENT DEFENSE SERVICES, FISCAL YEAR 2008, at 75–76 (2010) (providing data on indigent defense spending in each state in 2008).

²³⁶ *Id.*; see also Brandi Grissom, *Advocates: Texas Indigent Defense Nearing Crisis*, TEX. TRIB. (May 19, 2010, 5:00 AM), <https://www.texastribune.org/2010/05/19/advocates-texas-indigent-defense-nearing-crisis/> [<https://perma.cc/ZL6M-3KBV>] (“Texas is reaching a crisis point, putting itself at risk of a civil rights lawsuit—or worse, a total meltdown of the criminal justice system—because it so severely shortchanges the system designed to ensure impoverished accused criminals get adequate legal representation . . .”).

²³⁷ An extensive legal literature discusses the political obstacles to increasing public defense funding. See, e.g., Darryl K. Brown, *Rationing Criminal Defense Entitlements: An Argument from Institutional Design*, 104 COLUM. L. REV. 801, 808–10 (2004); Donald A. Dripps, *Why Gideon Failed: Politics and Feedback Loops in the Reform of Criminal Justice*, 70 WASH. & LEE L. REV. 883, 894–906 (1993). And admittedly, substantial increases may not be politically feasible in many jurisdictions. My point is simply that open-file may make little difference without adequate public defense funding.

criminal prohibition on intentional non-compliance with the discovery statute, protections against exploding plea offers, and access to indexed or electronic and searchable versions of the file.²³⁸

CONCLUSION

Aside from evidence that open-file increased prosecutorial disclosure and invigorated enforcement of the Fourth Amendment, the data presented here provide little evidence that open-file discovery had much of an effect on charging, plea bargaining, sentencing, trial rates, or time-to-disposition in North Carolina or Texas. While I cannot rule out all theoretical possibilities, this pattern of results is most consistent with the theory that, due to heavy caseloads, defense attorneys lacked the time and resources to use the file to their clients' advantage. The potential effects of open-file might also have been mitigated by the adaptive behavior of police and prosecutors in the collection of evidence and assembly of the file.

While my analysis therefore suggests that discovery reform should be coupled with increased funding for indigent defense and stronger compliance mechanisms, there is still much work to be done before we can draw firm normative conclusions. To nudge the literature in that direction, I close by sketching out a research agenda for future empirical work on open-file discovery that identifies key research questions, promising methodological approaches, and potential sources of data.

A first strand of research would examine the same questions explored here—the effects of open-file on the content, timing and method of disposition of case outcomes—but with more granular data and stronger methods of causal inference. To begin with, we need case-level or, even better, charge-level data on criminal cases in a given jurisdiction before and after the enactment of open-file. To obtain more precise causal estimates, empirical scholars should employ multivariate regression or matching to adjust for observable changes in the composition of the criminal caseload. Studies could also apply difference-in-differences designs by exploiting subsets of cases that are not affected by a state's discovery reform (e.g., misdemeanors in North Carolina).²³⁹

Future research could also examine whether open-file is more effective in certain groups of cases than others. For example, it could explore the effect of open-file for defendants represented by private attorneys who have more resources to leverage discovery materials.

The second area of research concerns how open-file discovery affects

²³⁸ For a more detailed discussion of these mechanisms, see *supra* Section III.

²³⁹ The difference-in-differences design is a common methodological approach in the court literature. See, e.g., Albert Yoon, *Damage Caps and Civil Litigation: An Empirical Study of Medical Malpractice Litigation in the South*, 3 AM. L. ECON. REV. 199, 212–15 (2001) (examining the effect of damage caps in civil litigation on plaintiff recovery).

the disclosure practices of prosecutors. The scholarly literature widely assumes that open-file increases the volume and speeds up the timing of disclosure, but we have relatively little systematic data to test this hypothesis directly. One recent study surveyed prosecutors and defense attorneys in North Carolina and Virginia about the frequency with which particular categories of evidence are currently disclosed.²⁴⁰ The data show that prosecutors disclose many categories of evidence more frequently in North Carolina than in Virginia, suggesting that open-file increases disclosure. Additional data on disclosure practices in North Carolina before open-file went into effect would be particularly helpful in answering these questions. Some public defender's offices maintain a discovery log that captures basic information like the case number, the date of receipt, and the number of pages or boxes. Such logs could be used to measure both the timing and volume of formal discovery before and after open-file goes into effect.

A third potential area of research would evaluate a long-standing counter-argument to discovery reform: that broad discovery policies increase witness intimidation and evidence tampering.²⁴¹ We have little systematic empirical evidence on point. The strongest methodological strategy would combine administrative data on the number of witness-intimidation and evidence-tampering charges filed over time with qualitative data on the experiences of prosecutors and defense attorneys.²⁴² Evidence about whether and when open-file encourages witness intimidation and evidence tampering would be valuable to other states in deciding whether to enact open-file legislation and in crafting discovery provisions that minimize these risks.

A fourth potential strand could use open-file to answer a distinct but related empirical question. For decades, legal scholars have debated whether the plea-trial differential—that is, the difference between the sentences of defendants who plead guilty and those that go to trial—represents a plea discount or a trial penalty.²⁴³ As noted earlier, much rides on this question.²⁴⁴ If the differential is a discount, then plea bargaining is not coercive; it merely expands the range of choices available to defendants. But if the differential is a penalty, then, it coerces defendants to plead guilty by otherwise

²⁴⁰ Turner & Redlich, *supra* note 11, at 323.

²⁴¹ See *State v. Tune*, 98 A.2d 881, 884 (N.J. 1953) (“[Liberal fact-finding procedures] will lead . . . to perjury and the suppression of evidence . . . [Moreover] the criminal defendant who is informed of the names of all the State’s witnesses may take steps to bribe or frighten them . . .”).

²⁴² One survey asked attorneys in North Carolina about the “major disadvantages of ‘open-file’ pre-plea discovery.” Turner & Redlich, *supra* note 11, at 395. Six (out of fifty-eight) surveyed prosecutors identified witness intimidation as a problem, but none provided a specific example where they believed open-file was causally responsible. *Id.* at 359–60.

²⁴³ See, e.g., Alschuler, *supra* note 167, at 659 (analyzing the distinction between penalties and discounts in plea bargaining).

²⁴⁴ See *supra* Section IV.E.

punishing them for exercising their constitutional rights.²⁴⁵ There are few more important empirical questions for the American criminal justice system, which is dominated by plea bargaining.²⁴⁶

Once again, the literature offers little empirical guidance. Despite the efforts of some scholars,²⁴⁷ we cannot infer trial penalties from the mere existence of a plea-trial differential: in a world of static litigation costs, both the penalty and discount theories fit observed reality equally. But as I have argued here, open-file discovery changes the distribution of litigation costs at different phases of the criminal process.²⁴⁸ If the plea-trial differential represents a discount, we would expect the differential to increase for defendants who enter guilty pleas early and waive their open-file rights, and thus save the prosecution discovery costs. On the other hand, if the differential represents a penalty, we would expect no change for early pleaders but would expect an increase for late pleaders who exercise their open-file rights. Open-file, then, offers an opportunity to test whether the plea-trial differential primarily represents a discount or a penalty. And if the latter is the answer, it is all the more important for legislatures to invigorate public defense through broader discovery, stronger government enforcement mechanisms, and increased funding.

²⁴⁵ *Id.*

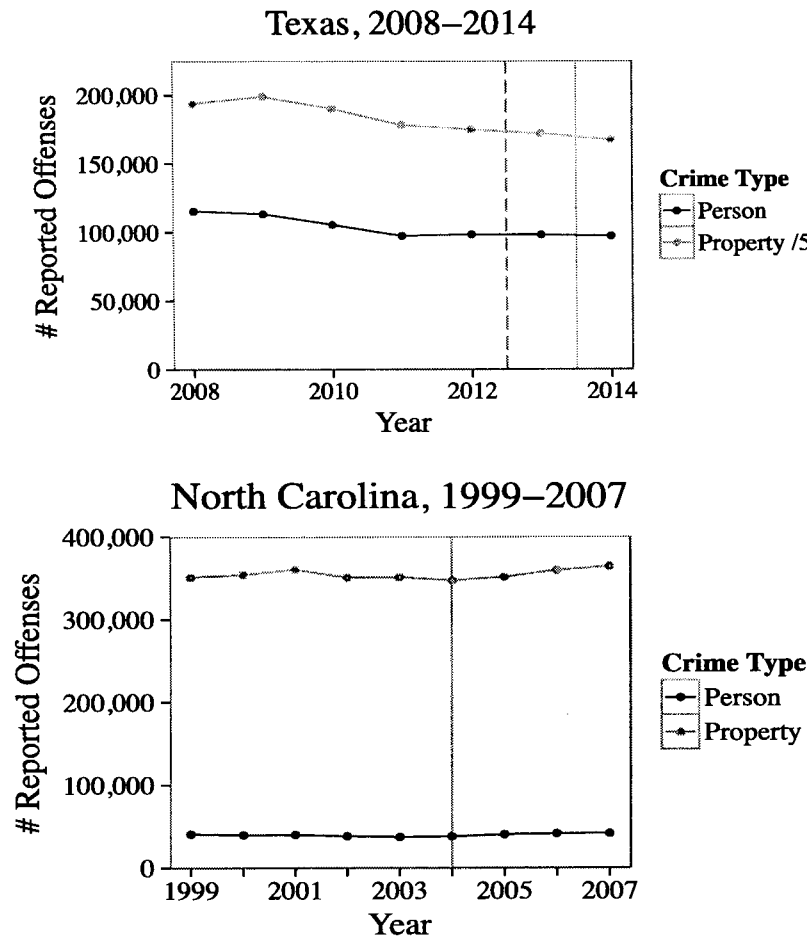
²⁴⁶ See *Missouri v. Frye*, 132 S. Ct. 1399, 1407 (2012) (“[Plea bargaining] is the criminal justice system.”).

²⁴⁷ See, e.g., Uhlman & Walker, *supra* note 168, at 338.

²⁴⁸ See *supra* Section IV.E.

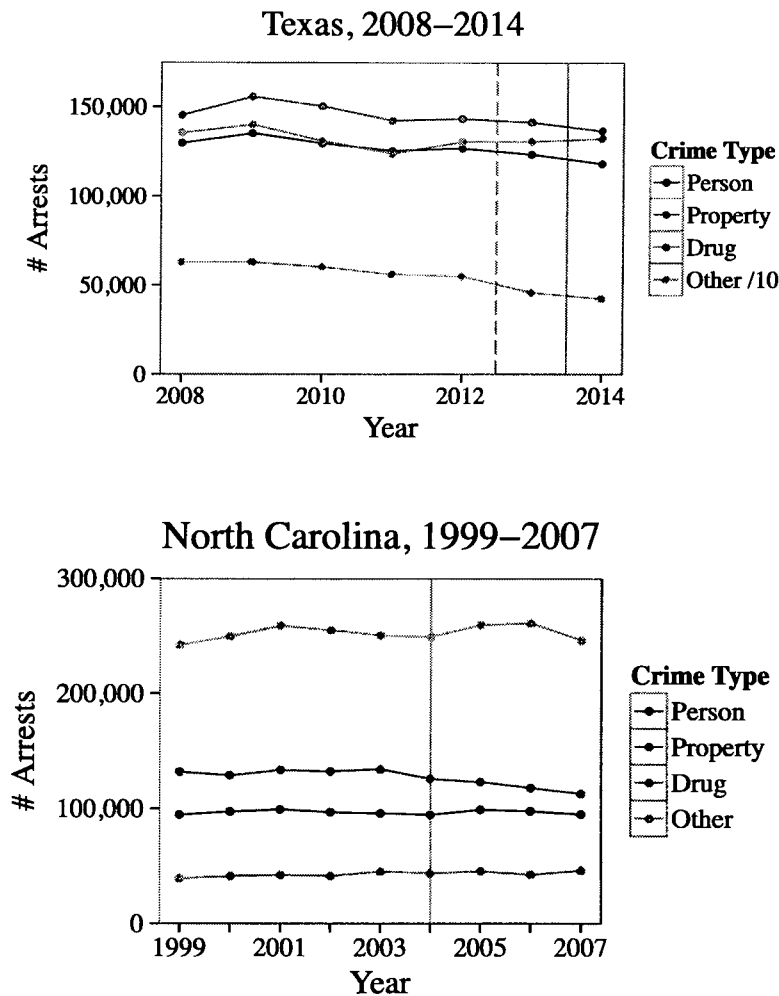
APPENDIX

APP. FIGURE 1: UCR INDEX OFFENSES IN TEXAS AND NORTH CAROLINA, BY OFFENSE TYPE²⁴⁹



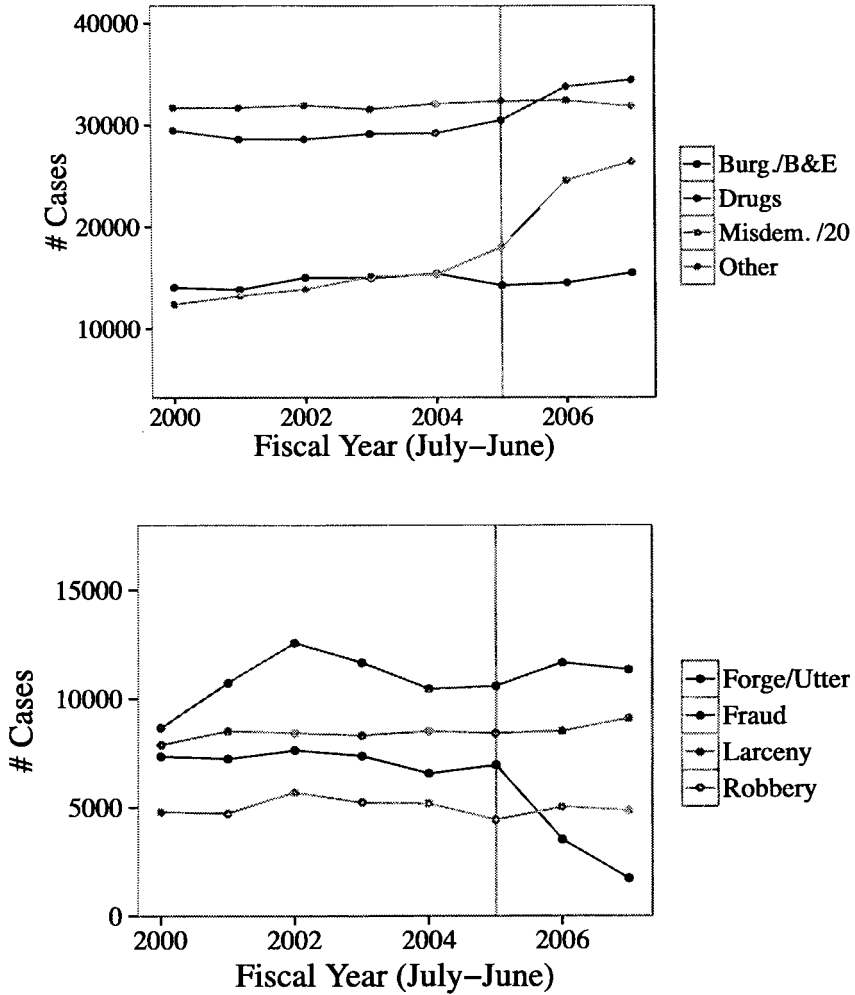
²⁴⁹ The Texas data were obtained from the Texas Department of Public Safety’s annual statistical reports. See, e.g., TEXAS DEP’T OF PUB. SAFETY, THE TEXAS CRIME REPORT FOR 2010 (2010). These data exclude rape because the UCR updated coding procedures for that crime in 2014. See DEPT. OF JUST., UNIFORM CRIME REPORT: CRIME IN THE UNITED STATES, 2013 (2013) (released fall 2014), <https://ucr.fbi.gov/recent-program-updates/reporting-rape-in-2013-revised> [<https://perma.cc/RQ7N-CNZG>]. The number of reported property offenses was divided by five. The North Carolina data were obtained from the North Carolina Department of Public Safety’s annual summary reports. See *View Crime Statistics*, CRIMEREPORTING, <http://crimereporting.ncsbi.gov/Reports.aspx> (last visited Feb.1, 2016) (select year “2007”; then click “submit”; then click “Statewide Offenses and Rates, Ten Year Trend”).

APP. FIGURE 2: UCR ARRESTS IN TEXAS AND NORTH CAROLINA²⁵⁰

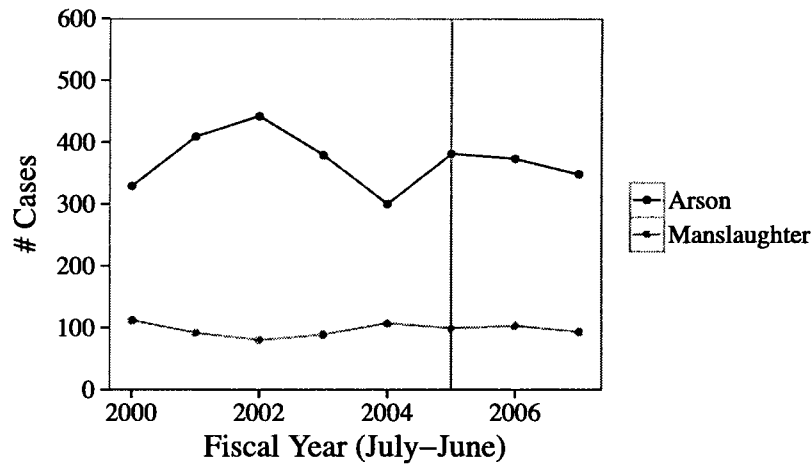
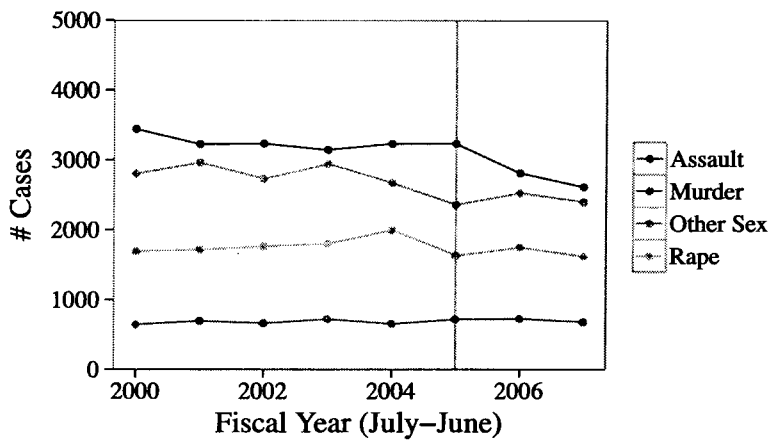


²⁵⁰ The Texas data were obtained from the Texas Department of Public Safety’s annual statistical crime reports. *See supra* note 250. The number of “Other” arrests in Texas was divided by 10. The North Carolina data were obtained from the North Carolina Department of Public Safety’s annual summary reports. *See* N.C. Dep’t of Pub. Safety, *View Crime Statistics*, CRIMEREPORTING, <http://crimereporting.ncsbi.gov/Reports.aspx> (last visited Feb.1, 2016) (select year “2007”; then click “submit”; then click “Arrests and Clearances”; then click “Arrests of Offense, Ten Year Trends”).

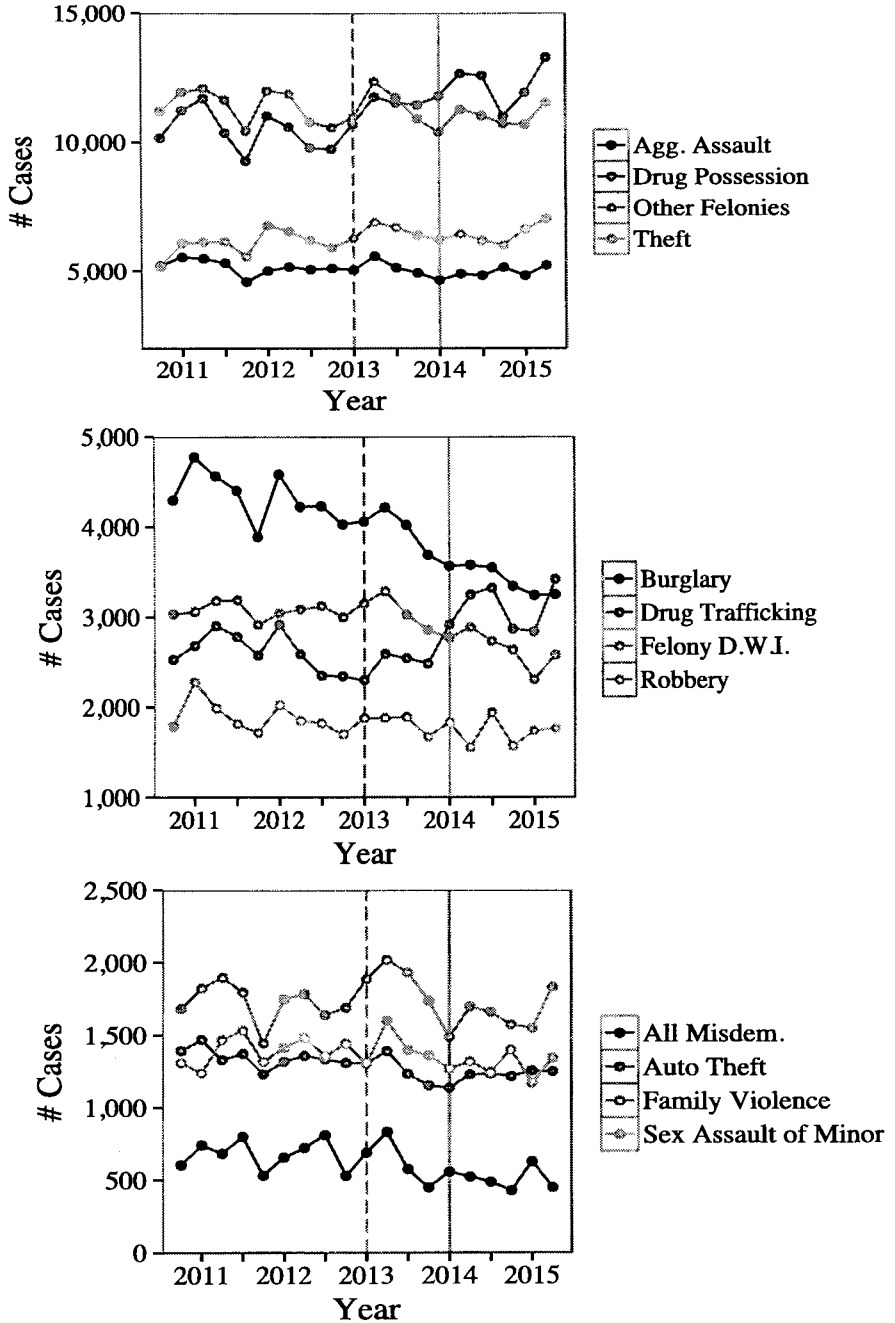
APP. FIGURE 3: CASES FILED IN NORTH CAROLINA COURTS, BY MOST SEVERE CHARGE²⁵¹



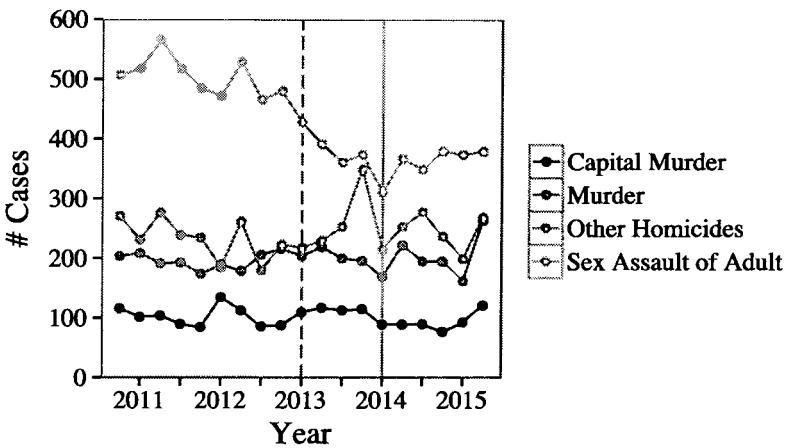
²⁵¹ The North Carolina data were obtained from annual statistical reports published by the state's court system. See *supra* note 191.



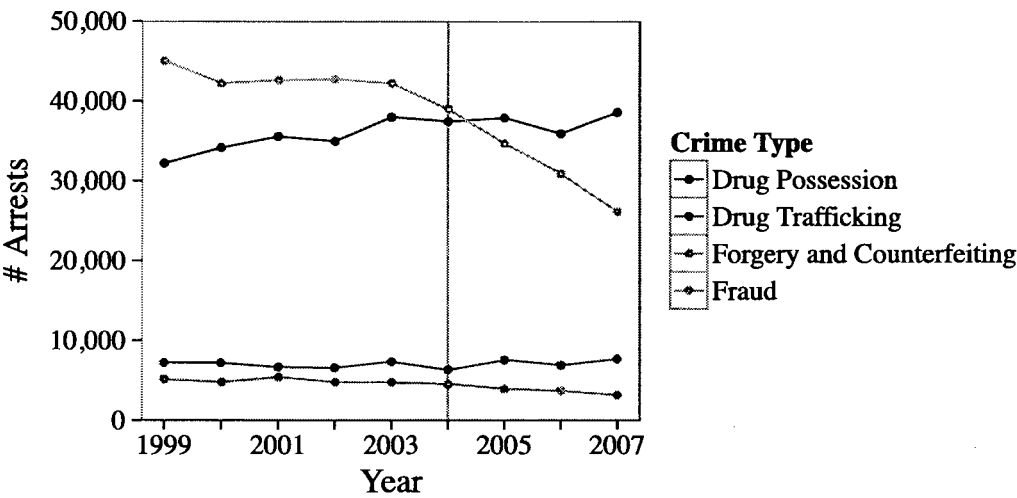
APP. FIGURE 4. CASES FILED IN TEXAS DISTRICT COURTS, BY MOST SEVERE CHARGE²⁵²



²⁵² The Texas data were obtained from the Trial Court Activity Database. See *supra* note 188.

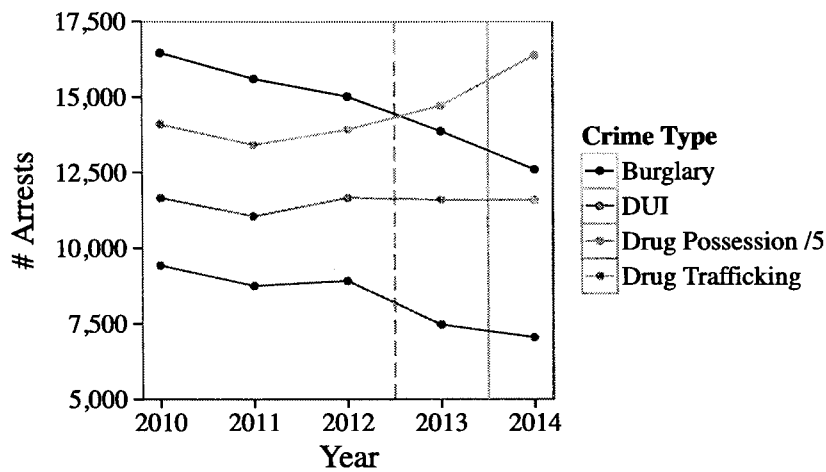


APP. FIGURE 5: NUMBER OF ARRESTS IN NORTH CAROLINA FOR SPECIFIC CRIME CATEGORIES, 1999-2007²⁵³

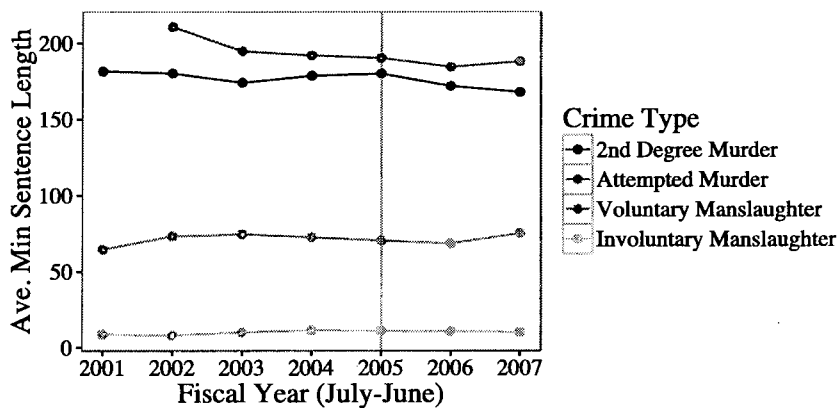


²⁵³ The data were obtained from the North Carolina Department of Public Safety annual summary reports. See *supra* N.C. Dep't of Pub. Safety, *supra* note 251.

APP. FIGURE 6: NUMBER OF ARRESTS IN TEXAS FOR SPECIFIC CRIME CATEGORIES, 2010-2014²⁵⁴



APP. FIGURE 7: AVERAGE SENTENCE LENGTH FOR SPECIFIC CHARGE CATEGORIES IN NORTH CAROLINA, FY 2001–2007²⁵⁵



²⁵⁴ The data were obtained from the Texas Department of Public Safety’s annual statistical reports. See *supra* note 250.

²⁵⁵ Data were obtained from annual reports published by the North Carolina sentencing commission. For more information, see *supra* note 218. They reflect the average incarceration spell among all convicted defendants, including those who did not receive any incarceration. To calculate the average prison sentence among all convicted defendants, I multiplied the average minimum active sentence by the number of convicted defendants receiving active sentences and divided it by the number of all convicted defendants. Data on first-degree-murder were excluded because state law mandates a sentence of life without parole or death.

